

ATTACHMENT F

BIOLOGICAL TECHNICAL MEMORANDUM

BIOLOGICAL MEMORANDUM

To: City of Roseville
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Roseville, CA 95678

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Project: Roseville Regional Sports Complex Project

Date: 6/23/2022

1.0 INTRODUCTION

This memorandum has been prepared for the Roseville Regional Sports Complex Project (Proposed Project) located in Roseville, CA on an approximately 51-acre property (Project Site). The Proposed Project consists of the construction of ten soccer fields, a universally accessible playground, parking lots, restrooms, and picnic areas. The Project Site is not located within a regulatory floodway and is found on the USGS 7.5-minute Pleasant Grove quadrangle (**Figures 1, 2, and 3**). A site plan is shown in **Figure 4**. Project Site elevations range from approximately 90 feet to 100 feet above mean sea level. The purpose of this assessment is to identify sensitive biological resources that could occur within the area of impact and be affected by the Proposed Project.

2.0 METHODOLOGY

The following information was obtained and reviewed:

- Aerial photographs of the Project Site and surrounding area;
- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) list, updated April, 2022 (**Attachment A**);
- California Natural Diversity Database (CNDDb) list, updated January, 2022 (**Attachment A**);
- California Native Plant Society (CNPS) list, updated January, 2022 (**Attachment A**);
- USFWS National Wetlands Inventory (NWI) map of wetland features, updated April, 2022 (**Figure 6**); and
- Natural Resources Conservation Service (NRCS) custom soils report, updated April, 2022 (**Attachment B**).

A biological resources survey was conducted on the Project Site on April 4, 2022. The survey was conducted by walking transects throughout the entirety of the Project Site. The majority of time spent conducting the survey was focused on primarily identifying sensitive habitat areas such as any possible riparian areas or wetlands. Binoculars were used to assist in surveying efforts. Data was collected using a Trimble TDC150 GPS receiver. Survey goals consisted of identifying habitat types, sensitive habitats, wetlands and waters of the U.S., and special-status species. Sensitive habitats include those that are

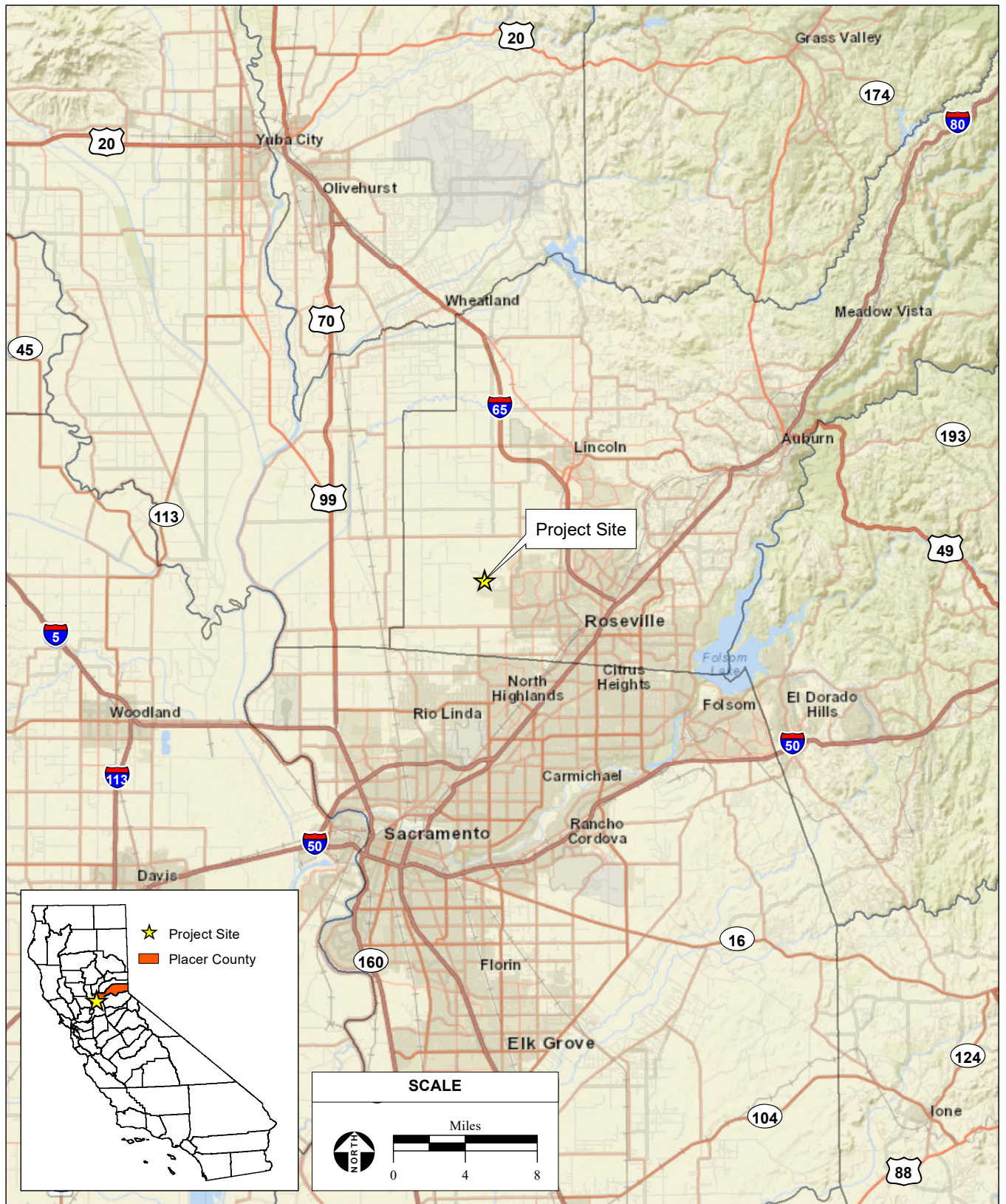
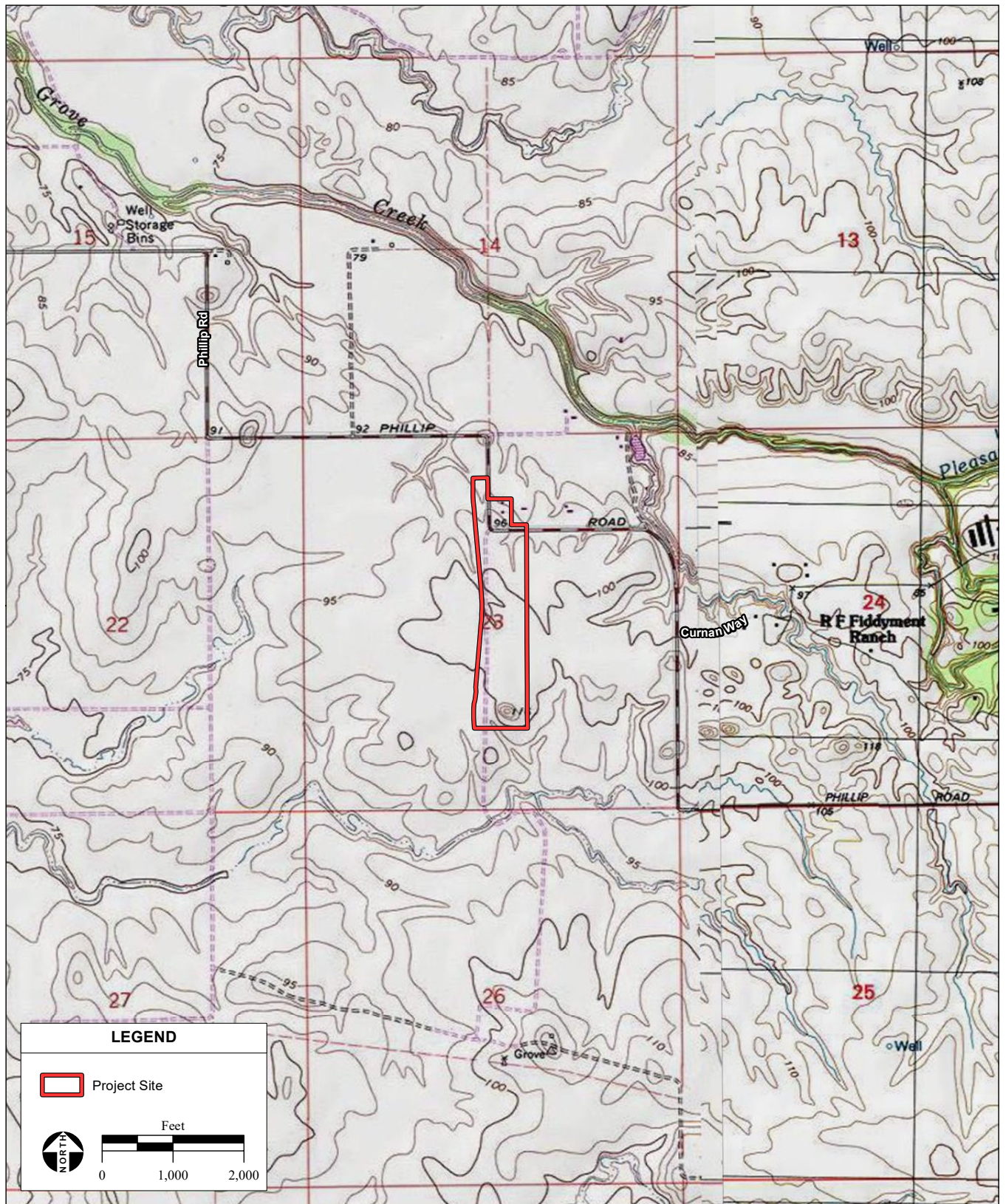


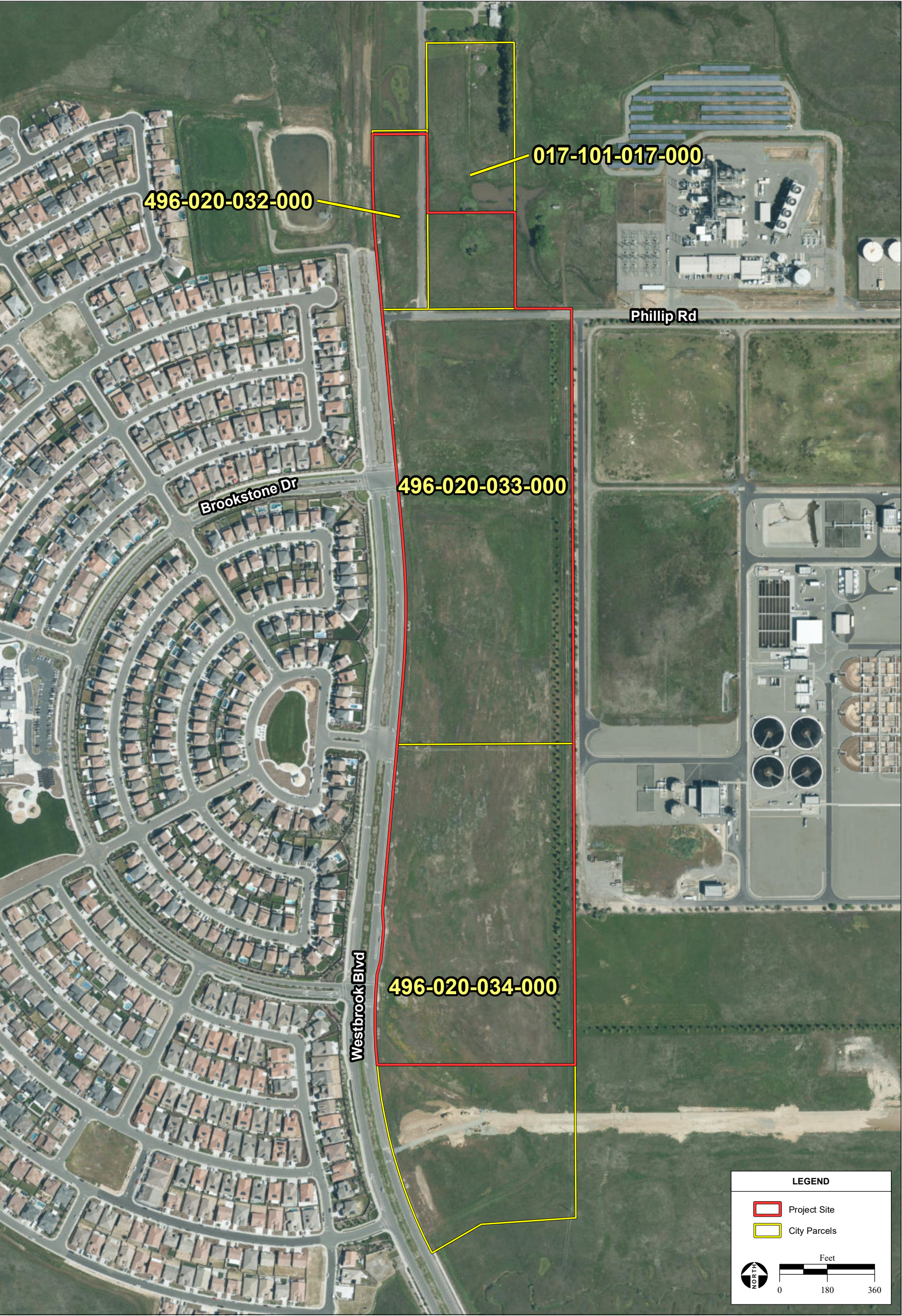
Figure 1
Regional Location



SOURCE: "Pleasant Grove, CA" USGS 7.5 Minute Topographic Quadrangle, T11N R5E, Section 23, Mt Diablo Baseline & Meridian; ESRI, 2022; Montrose Environmental, 6/9/2022

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Figure 2
Site & Vicinity

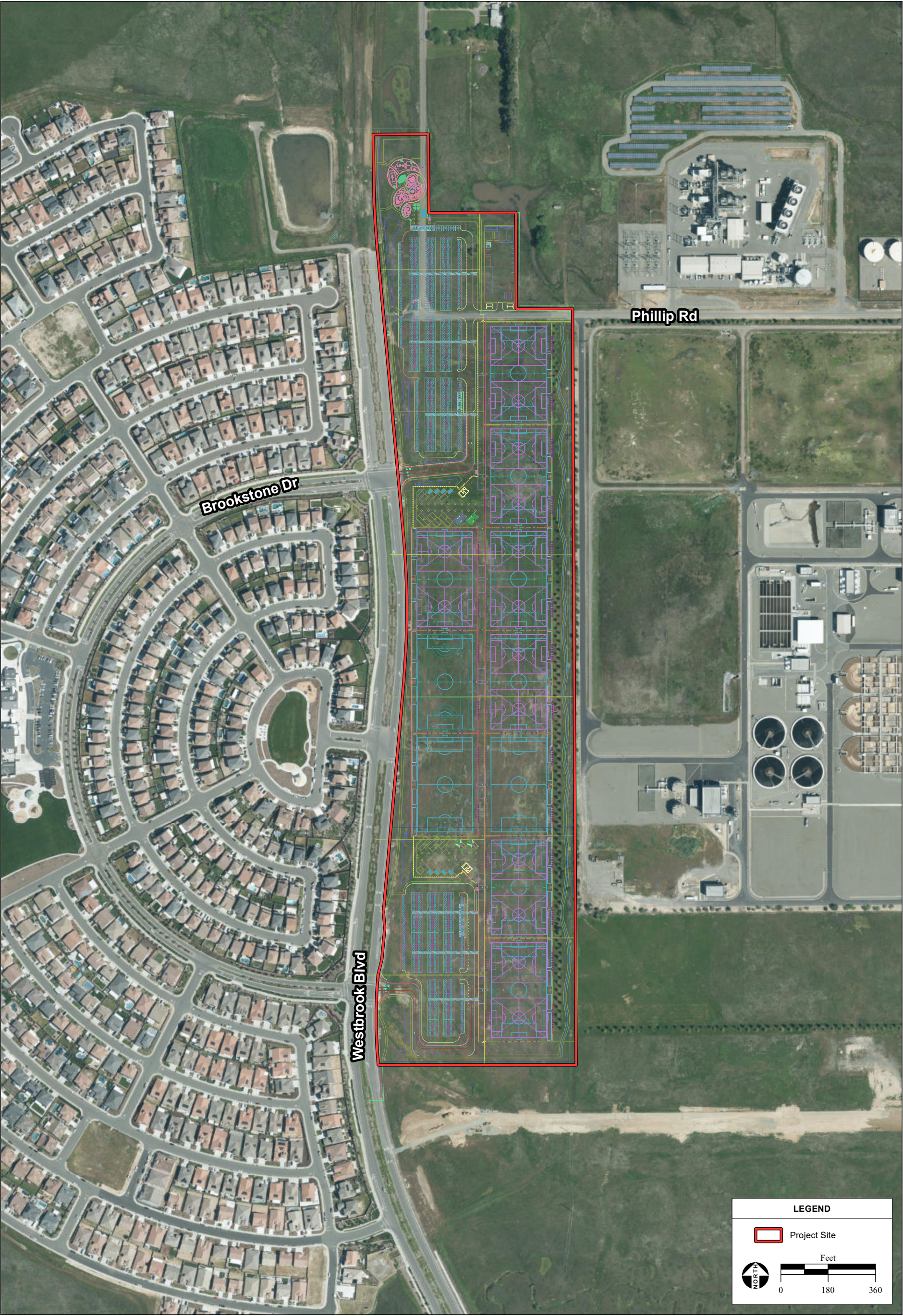


SOURCE: Placer County Parcels, 2018; City of Roseville aerial photograph, 4/22/2019; Montrose Environmental, 6/20/2022

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Figure 3

Aerial Photography



SOURCE: Verde Design, 6/6/2022; City of Roseville aerial photograph, 4/22/2019; Montrose Environmental, 6/9/2022

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Figure 4
Site Plan

designated by the California Department of Fish and Wildlife (CDFW), considered by local experts to be communities of limited distribution, or likely to be waters of the U.S. or State by the appropriate regulatory agencies. Habitat requirements of special-status species were compared to habitats observed, which were determined based on aerial photographs, ground-truthing, and background data review.

3.0 ENVIRONMENTAL SETTING

3.1 SOIL TYPES

The Project Site is comprised of the Cometa-Fiddymont complex and Cometa-Ramona sandy loams. Cometa-Fiddymont complex is a well-drained soil with a high runoff class and does not flood. Cometa-Ramona sandy loams is a well-drained soil with a very high runoff class and does not flood. An extremely minor soil component of the Project Site consists of San Joaquin-Cometa sandy loams covering less than one percent of the Project Site. A custom soils report for the Project Site can be found in **Attachment B**.

3.2 HABITAT TYPES

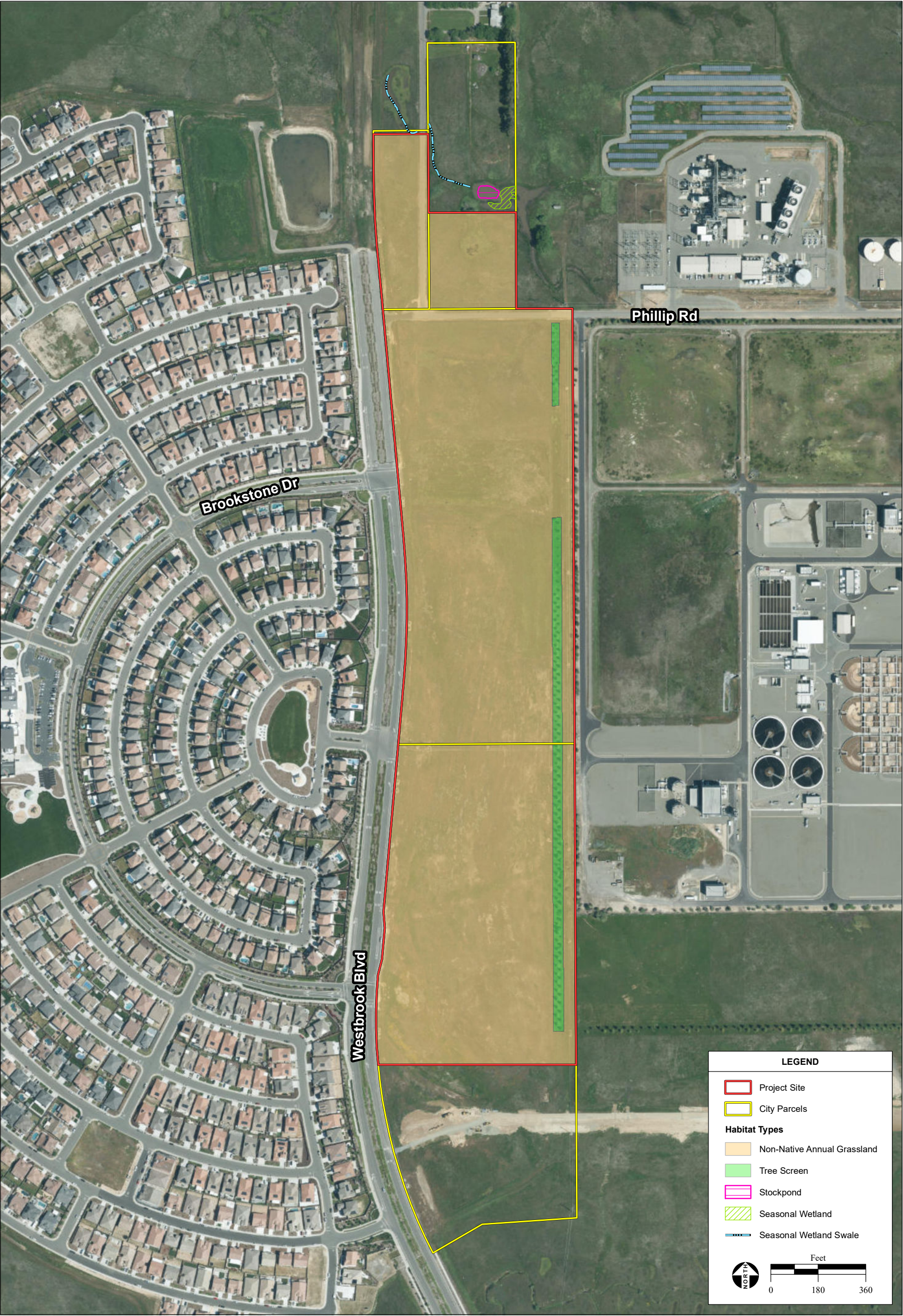
Habitat types identified on the Project Site are shown in **Figure 5**. Tree screen habitat occurs along the eastern boundary of the Project Site. NWI classifies linear areas of the northern, eastern, and southern portion of the Project Site as freshwater emergent wetland and also identifies a freshwater pond outside the northern extent of the Project Site (**Figure 6**). NWI identifies aquatic habitat based on features visible from available aerial photography, and boundaries may not be accurate if older imagery is used, or if the interpretation of aerial imagery is inaccurate. Therefore, the actual boundaries should be ground-truthed to identify the current and accurate location of aquatic features. During the April 4, 2022 biological survey, the emergent wetlands were not observed, but the pond was present, and seasonal wetlands and a seasonal wetland swale were identified in its vicinity. These features are located to the north of the northern Project Site boundary (**Figure 5**). The Project Site is not located in a FEMA-designated flood hazard zone (FEMA, 2022). A “Regulatory Floodway” is defined by FEMA as the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height (FEMA, 2021). Habitat types on the Project Site are further discussed below.

Non-Native Annual Grassland

Non-native annual grassland habitat is the dominant habitat type present throughout the Project Site. Trees are largely absent within this community type and it is generally dominated by non-native annual grasses and forbs. Sparsely distributed clusters of living and dead interior live oaks (*Quercus wislizeni*) are found within this habitat type. Weedy forbs and non-native grasses were the dominant ground cover of this habitat type. These species included bromes (*Bromus* sp.), filaree (*Erodium* sp.), prickly sowthistle (*Sonchus asper*), and lesser hop trefoil (*Trifolium dubium*). Evidence of game trails and small mammal burrows were observed within this habitat type.

Tree Screen

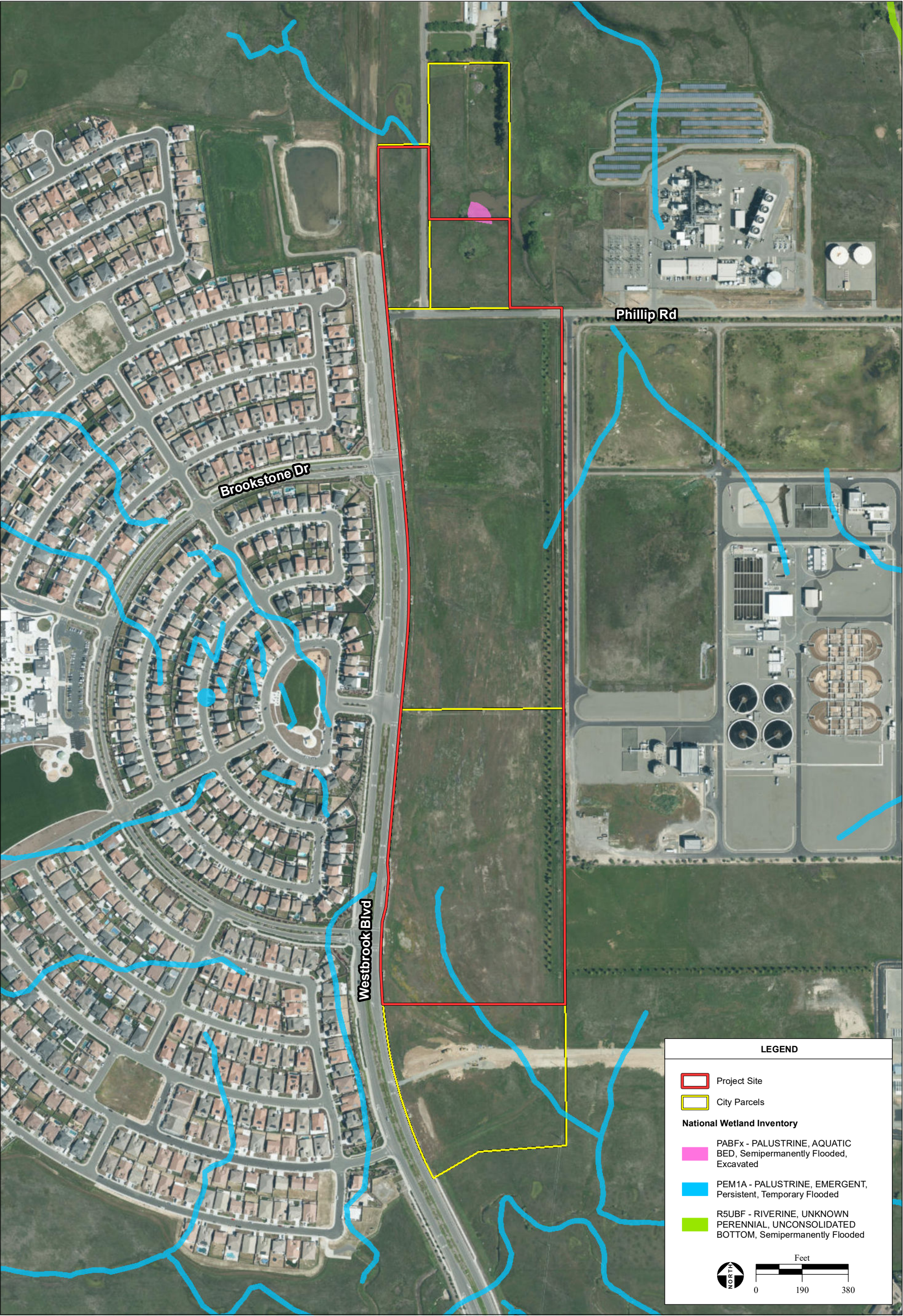
Tree screen habitat covers almost the entirety of the Project Site’s eastern border. Coast redwood (*Sequoia sempervirens*) and true firs (*Abies* sp.) comprise the majority of the canopy in this habitat type. Fremont cottonwood (*Populus fremontii*) and interior live oak are variably and infrequently present within this habitat type. These trees are even-aged and planted for viewshed screening purposes to block views of the transmission powerlines and the wastewater treatment plant. The herbaceous forbs and grasses described in the annual grassland habitat type are present as ground cover.



SOURCE: Placer County Parcels, 2018; City of Roseville aerial photograph, 4/22/2019; Montrose Environmental, 6/20/2022

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Figure 5
Habitat Types



SOURCE: USFWS National Wetland Inventory for "Sacramento, CA" USGS 100k Topographic Quadrangle, 1975, 1976, 1977; Placer County Parcels, 2018; City of Roseville aerial photograph, 4/22/2019; Montrose Environmental, 6/20/2022

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Figure 6
National Wetland Inventory

3.3 SPECIAL-STATUS SPECIES

Data review and special-status species searches list 8 special-status plant species and 15 special-status wildlife species with the potential to occur in the region of the Project Site (**Attachment A**). The name, regulatory status, distribution, habitat requirements, period of identification, and potential to occur for each species are listed in **Table 1**.

Based on the site-specific habitats and special-status species habitat requirements for each species that may occur within the vicinity of the Project Site, as shown in **Table 1**, the Project Site does not contain suitable habitat for special-status plants, but does provide marginal foraging habitat for two special-status animal species, white-tailed kite and Swainson's hawk. Species with no potential to occur on the Project Site were ruled out based on lack of suitable habitat, soils, elevation, necessary substrate, and negative results during the survey if it coincided with the identifiable bloom period for plant species. Special-status species were not observed during the survey.

3.4 WILDLIFE MOVEMENT

Wildlife movement is currently restricted to the west by Westbrook Boulevard and residential developments. Barring roads, areas of non-native annual grassland are contiguous between the riparian corridor within Pleasant Grove Creek to the north and the channelized unnamed tributary of Curry Creek to the south. Pleasant Grove Creek and Curry Creek occur approximately 0.33 miles northeast and 2.1 miles southwest of the Project Site respectively, both of which may foster wildlife movement along their riparian and channel fringes. Both of these off-site watercourse features may facilitate wildlife movement through or around the Project Site via the continuous non-native annual grassland habitat. Tree screen habitat may facilitate arboreal wildlife movement longitudinally within the Project Site.

3.5 CRITICAL HABITAT AND ESSENTIAL FISH HABITAT

No designated critical habitat or essential fish habitat occurs on the Project Site (**Attachment A**).

4.0 RESULTS AND RECOMMENDATIONS

4.1 SENSITIVE HABITAT

Habitat types within the Project Site include non-native annual grassland and tree screen habitats. The area of impact consists of non-native annual grassland and removal of individual trees within the tree screen. A freshwater pond and its associated seasonal wetland and seasonal wetland swale occur north of the northern boundary of the Project Site and flow to the north when drained. These aquatic resources are avoided as part of Project design. A buffer which excludes Project development within the high water mark of the pond and wetland has been incorporated into the design of the Proposed Project. The Proposed Project will not impact any aquatic features nor trigger permitting, as Project component footprints do not extend into the jurisdictional boundaries of these features. Additionally, a Stormwater Pollution Prevention Plan (SWPPP) will be necessary for the construction of the Project and would include Best Management Practices (BMPs) to reduce erosion, sedimentation, and contamination that could indirectly impact the wetland habitats and other aquatic resources during construction. Standard precautions would be employed by the construction contractor to prevent the accidental release of fuel, oil, lubricant, or other hazardous materials associated with construction activities into potentially jurisdictional features.

TABLE 1 - REGIONALLY OCCURRING SPECIAL-STATUS SPECIES

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR ON PROJECT SITE
Plants					
<i>Balsamorhiza macrolepis</i> var <i>macrolepis</i> Big-scale balsamroot	--/--/1B.2	Known to occur in Alameda, Amador, Butte, Colusa, El Dorado, Lake, Mariposa, Napa, Placer, Santa Clara, Shasta, Solano, Sonoma, Tehama, and Tuolumne counties.	Perennial herb that sometimes occurs in serpentine soils found in chaparral, cismontane woodland, and valley and foothill grassland habitats. Elevations range from 145-5100 feet.	March-July	No. The Project Site lacks suitable habitat.
<i>Brodiaea rosea</i> (Synonym: <i>Brodiaea coronaria</i> ssp. <i>rosea</i>) Indian Valley brodiaea	--/CE/1B.1	Known to occur in Colusa, Glenn, Lake, Shasta, Tehama, and Trinity counties.	A perennial bulbiferous herb that occurs in serpentine, closed-cone coniferous forest, chaparral, cismontane woodland, valley, and foothill grasslands. Elevation range: 1100-1450 meters.	May-June	No. The Project Site lacks suitable habitat.
<i>Chloropyron molle</i> ssp. <i>hispidus</i> Hispid bird's-beak	FE/CR/1B.2	Known to occur in Alameda, Fresno, Kern, Merced, Placer and Solano counties.	A hemiparasitic annual herb found in alkaline conditions within meadows, seeps, playas, valley and foothill grasslands. Elevations: 1-155 meters.	June-September	No. The Project Site lacks suitable habitat.
<i>Downingia pusilla</i> Dwarf downingia	--/--/2B.2	Known to occur in Amador, Fresno, Merced, Napa, Placer, Sacramento, San Joaquin, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties. Also occurs in South America.	Valley and foothill grassland (mesic) and vernal pools and roadside ditches. Elevations: 1-445 meters.	March-May	No. Suitable habitat is not present within the Project Site.
<i>Fritillaria agrestis</i> Stinkbells	--/--/4.2	Known range of this species includes Alameda, Contra Costa, Fresno, Kern, Mendocino, Merced, Monterey, Mariposa, Placer, Sacramento, Santa Barbara, San Benito, Santa Clara, Santa Cruz*, San Luis Obispo, San Mateo*, Stanislaus, Tuolumne, Ventura and Yuba Counties (CNPS, 2013).	A bulbiferous herb in the lily family (Liliaceae). It occurs in chaparral, cismontane woodland, pinyon and juniper woodland, and on clay, sometimes serpentine substrates of valley and foothill grassland habitats. Found at elevations from 10 to 1,555 meters above mean sea level.	March -June	No. The Project Site lacks suitable habitat.
<i>Gratiola heterosepala</i> Boggs Lake hedge- hyssop	--/CE/1B.2	Known to occur in Fresno, Lake, Lassen, Madera, Merced, Mendocino, Modoc, Placer, Sacramento, Shasta, Siskiyou, San Joaquin, Solano, Sonoma, and Tehama counties in CA and in Oregon.	Annual herb found on clay soils along the lake margins of marshes and swamps, shallow water, and margins of vernal pools. Elevations range from 10 to 2,375 meters.	April-September	No. Suitable habitat is not present within the Project Site.
<i>Juncus leiospermus</i> var. <i>leiospermus</i> Red Bluff dwarf rush	--/--/1B.1	Occurs in Butte, Placer, Shasta and Tehama counties, California.	Annual herb found in vernal mesic soils in chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation: 35 – 1250 meters.	March – June	No. The Project Site lacks suitable habitat.
<i>Legenere limosa</i>	--/--/1B.1	Known to occur in Alameda, Lake, Monterey,	Annual herb occurs in wet areas, ponds, and	April-June	No. The Project Site

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR ON PROJECT SITE
Legenere		Napa, Placer, Sacramento, Santa Clara, Shasta, San Joaquin, San Mateo, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties.	vernal pools. Elevations range from 1-950 meters.		lacks suitable habitat.
Animals					
Fish					
<i>Hypomesus transpacificus</i> Delta smelt	FT/CE/--	Occurs almost exclusively in the Sacramento-San Joaquin estuary, from the Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo counties. May also occur in the San Francisco Bay.	Estuarine waters. Majority of life span is spent within the freshwater outskirts of the mixing zone (saltwater-freshwater interface) within the Delta.	Consult Agency	No. The Project Site lacks suitable habitat.
<i>Oncorhynchus mykiss irideus</i> pop. 11 [Steelhead-Central Valley DPS]	FT/--/--	Spawn in the Sacramento and San Joaquin rivers and tributaries before migrating to the Delta and Bay Area.	Found in cool, clear, fast-flowing permanent streams and rivers with riffles and ample cover from riparian vegetation or overhanging banks. Spawning: streams with pool and riffle complexes. For successful breeding, require cold water and gravelly streambed.	Consult Agency	No. The Project Site lacks suitable habitat.
Amphibians					
<i>Spea hammondi</i> western spadefoot toad	--/CSC/--	Known to occur from the north end of California's great central valley near Redding, south, east of the Sierras and the deserts, into northwest Baja California.	Mostly below 3,000 feet in elevation. Their aquatic habitat is vernal pools, temporary wetlands, rivers creeks, or temporary rain pools. Their terrestrial habitat is typically lowland habitats such as washes, river floodplains, alluvial fans, playas, alkali flats, foothills, or mountains. They prefer sandy or gravelly soil with open vegetation and short grasses (often in valley and foothill grasslands, open chaparral, and pine-oak woodland).	November-March	No. The Project Site lacks suitable habitat. Aquatic habitats are not wetted during the dry season. Vernal pools not present. CNDDB observations are from 2004 or prior.
Reptiles					
<i>Thamnophis gigas</i> giant garter snake	FT/CT/--	Endemic to the San Joaquin and Sacramento Valley floors. Counties include Butte, Colusa, Contra Costa, Fresno, Glenn, Kern, Madera, Merced, Sacramento, San Joaquin, Solano, Sutter, Yolo, and Yuba.	Inhabits agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands. Requires adequate water during its active season (early spring through mid-fall) to provide food and cover, emergent, herbaceous wetland vegetation for foraging and	March-October	No. The Project Site lacks suitable habitat. Aquatic habitats are not wetted during the dry season.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR ON PROJECT SITE
			cover, grassy banks and openings in waterside vegetation for basking, and higher elevation uplands for cover and refuge from floodwaters during its dormant season (winter). Inhabits small mammal burrows and other soil crevices with sunny exposure along south and west-facing slopes, above prevailing flood elevations when dormant.		
Birds					
<i>Agelaius tricolor</i> Tricolored blackbird	--/CT/--	California and Baja California, Mexico.	Nests in dense thickets of cattails, tules, willow, blackberry, wild rose, and other tall herbs near freshwater.	All Year	No. The Project Site lacks suitable habitat.
<i>Athene cunicularia</i> Burrowing owl	--/CSC/--	Formerly common within the described habitats throughout the state except the northwest coastal forests and high mountains.	Yearlong resident of open, dry grassland and desert habitats, as well as in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats.	All Year	No. The Project Site lacks suitable habitat. CNDDB notes a 2003 observation within 1 mile.
<i>Ammodramus savannarum</i> Grasshopper sparrow	--/CSC/--	Breeding range occurs in portions of western California, including most coastal counties south to extreme northwest Baja California (where resident). Also, the western Sacramento Valley and along the western edge of the Sierra Nevada. Wintering range is extreme Southern California and Baja.	Consists of moderately open grasslands and prairies with patchy bare ground. Selects different components of vegetation depending on grassland ecosystem. In the southwest and west, occupies more lush areas with shrub cover in arid grasslands.	March- September Year Round	No. The Project Site lacks suitable habitat.
<i>Buteo swainsoni</i> Swainson's hawk	--/CT/--	In California, breeds in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert. Very limited breeding reported from Lanfair Valley, Owens Valley, Fish Lake Valley, Antelope Valley, and in eastern San Luis Obispo County.	Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. Requires adjacent suitable foraging areas such as grasslands, alfalfa, or grain fields supporting rodent populations.	March – October	Yes. Suitable foraging habitat is present within the Project Site. Nesting habitat is not present on site as trees present are of insufficient size.
<i>Elanus leucurus</i> white-tailed kite	--/FP/--	Permanent resident of coastal and Valley lowlands.	Habitats include savannah, open woodland, marshes and swamps, partially cleared lands and cultivated fields, mostly in lowland habitats. Open groves, river valleys, marshes, grasslands.	All Year	Yes. Suitable foraging habitat is present within the Project Site. Suitable nesting

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			Nesting occurs in trees. Found in a wide variety of open habitats in North America, including open oak grassland, desert grassland, farm country, marshes. Main requirements seem to be trees for perching and nesting, and open ground with high populations of rodents.		habitat located north of the Project Site near Pleasant Grove Creek.
<i>Progne subis</i> purple martin	--/CSC/--	Local summer resident in wooded low-elevation habitats throughout California; rare migrant in spring and fall, absent in winter. In the south, now only a rare and local breeder on the coast and in interior mountain ranges.	Inhabits open forests, woodlands, and riparian areas in breeding season. Found in a variety of open habitats during migration, including grassland, wet meadow, and fresh emergent wetland, usually near water. Nests in conifer stands, often in woodpecker holes. Uses valley foothill and montane hardwood and conifer, and riparian habitats.	March-August	No. The Project Site lacks suitable habitat. No cavity-bearing trees.
Invertebrates					
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	FT/--/--	Vernal pool fairy shrimp are known from a total of 32 populations located in an area extending from Shasta County through most of the length of the Central Valley to Tulare County, and along the central coast range from northern Solano County to Pinnacles in San Benito County. Five additional, disjunctive populations exist near Soda Lake in San Luis Obispo County, in the mountain grasslands of northern Santa Barbara County, on the Santa Rosa Plateau in Riverside County, near Rancho California in Riverside County.	Vernal pools in the Central Valley, coast ranges, and a limited number of sites in the Transverse Ranges and Riverside County, California.	December-May	No. The Project Site lacks suitable habitat. No vernal pools.
<i>Branchinecta conservatio</i> Conservancy fairy shrimp	FE/--/--	The species is currently known from several disjunct populations: the Vina Plains in Tehama County, south of Chico in Butte County, the Jepson Prairie Preserve and surrounding area in Solano County, Sacramento National Wildlife Refuge in Glenn County, Mapes Ranch west of Modesto, San Luis National Wildlife Refuge and the Haystack Mountain/Yosemite Lake area in Merced County, and two locations on the Los	Endemic to the northern two-thirds of the Central Valley. Found in vernal pools, seasonally ponded areas within vernal swales, rock outcrop ephemeral pools, playas, and alkali flats. Require ephemeral habitats that pool in the winter or spring.	December-May	No. The Project Site lacks suitable habitat. No vernal pools.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	IDENTIFICATION PERIOD	POTENTIAL TO OCCUR ON PROJECT SITE
		Padres National Forest in Ventura County.			
<i>Danus plexippus</i> Monarch butterfly	--/FC/--	Known to occur in Mexico and north America. Populations that occur where winter conditions are not suitable travel along well-established migratory routes to overwintering areas. Overwintering sites are known to occur in Mexico and coastal California.	Migratory populations begin migration in the fall and can be found along established migratory routes where nectar sources are available. During breeding (typically February to March), monarch butterflies require milkweed to lay their eggs on. Overwintering monarchs require sites with sufficient roosts for the population (such as eucalyptus trees) that provide appropriate sunlight and shelter from the wind. Where climate is suitable for year-round habitation, monarchs are found in areas with nectar sources and milkweed as breeding can occur year-round.	Year-round	No. The Project Site lacks suitable habitat. Host plant absent during surveys and not within host plant range.
<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle (VELB)	FT/--/--	Restricted to the Central Valley from Redding to Bakersfield. Counties include Amador, Butte, Calaveras, Colusa, El Dorado, Fresno, Glenn, Kern, Madera, Mariposa, Merced, Napa, Placer, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Yolo, and Yuba counties; 0-762 meters elevation.	Riparian forest communities. Exclusive host plant is elderberry (<i>Sambucus</i> species), which must have stems \geq 1-inch diameter for the beetle.	Year-round	No. The Project Site lacks suitable habitat. Host plant not observed during surveys.
<i>Lepidurus packardii</i> vernal pool tadpole shrimp	FE/--/--	Known from 18 populations in the Central Valley, ranging from east of Redding in Shasta County south to the San Luis National Wildlife Refuge in Merced County, also from a single vernal pool complex on the San Francisco Bay National Wildlife Refuge in the City of Fremont.	Life cycle within vernal pools and valley foothill grassland swales.	December-May	No. The Project Site lacks suitable habitat. No vernal pools.

SOURCE: **Attachment A****STATUS CODES****Federal:** U.S. Fish and Wildlife Service

FE Federally Endangered

FT Federally Threatened

FC Candidate for Federal Listing

CNPS: California Native Plant Society

1A Plants Presumed Extinct in California

1B Plants Rare, Threatened, or Endangered in California and Elsewhere

2B Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

State: California Department of Fish and Game

CE California Listed Endangered

CT California Listed Threatened

CSC California Species of Special Concern

CNPS Threat Ranks:

0.1 – Seriously Threatened in California

0.2 – Fairly Threatened in California

The Proposed Project would remove 24 trees. This includes a stand of living interior live oaks composed of nine small-diameter oaks estimated as not exceeding a 10-inch diameter at breast height (DBH) for an individual stem. These nine trees would be removed to accommodate the northern parking lot component of the Proposed Project and are located northeast of the intersection of Westbrook Boulevard and Phillip Drive (**Figure 4**). Additionally, the Proposed Project would remove six redwood and fir trees on the eastern border of the Subject Property to accommodate the north-south foot path component of the Proposed Project. These trees were installed in the past for landscaping and sightline screen purposes to block views of the wastewater treatment plant and transmission powerlines located to the east of the Subject Property. Lastly, nine cottonwoods located mid-field of the Project Site southeast of the northern terminus of Brookstone Drive would be removed. Removal of trees on the Subject Property as part of the Proposed Project would require the submittal and approval of a Tree Permit pursuant to City of Roseville Municipal Code Section 19.66.030 and any oak trees over 6-inches diameter at breast height (dbh) would be required to be mitigated for in accordance with the City's tree preservation Ordinance (City of Roseville Municipal Code Section 19.66).

CDFW requires notification prior to commencement of work and acquisition of a Lake or Streambed Alteration Agreement (LSAA) if a project were to result in the alteration or degradation of a stream, river, or lake in California. Sections 401 and 404 of the Clean Water Act (CWA) afford protection to wetlands and waters of the U.S. from direct disturbance and indirect impacts to water quality. The Regional Water Quality Control Board (RWQCB) may require a CWA Section 401 permit. Project design avoids impacts to the stockpond, seasonal wetland, and seasonal wetland swale habitats.

Projects that involve working in wetlands and navigable waters of the U.S., including the discharge of dredged or fill material, must first obtain authorization from the U.S. Army Corps of Engineers (USACE) under Section 404 of the CWA. As discussed above, the Proposed Project has been designed with a buffer between the Project Site and the seasonal wetland, stockpond, and seasonal wetland swale. Indirect impacts would be managed through implementation of a SWPPP and associated BMPs.

4.2 NESTING MIGRATORY BIRDS

Migratory birds and their nests are protected from "take" by the Migratory Bird Treaty Act (16 U.S.C. 703-711), which makes it unlawful to "...pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess or any part, nest, or egg of any such bird..." (50 CFR 10). Potentially occurring nesting migratory birds (including special-status birds included in **Table 1** and **Attachment A**) within 500 feet of the project site could be affected if vegetation removal or loud noise-producing activities associated with construction occur during the general nesting season (February 15 through August 30). **Measure 1** is recommended to reduce potential impacts to nesting migratory birds.

Measure 1

- If construction activities (e.g., building, grading, ground disturbance, removal of vegetation) are scheduled to occur during the general nesting season (February 15 – August 30), a preconstruction nesting bird survey shall be conducted by a qualified biologist throughout areas of suitable habitat within 500 feet of proposed construction activity. The survey shall occur no more than 5 days prior to the scheduled onset of construction. If construction is delayed or halted for more than 5 days, another preconstruction survey for nesting bird species shall be conducted. If no nesting birds are detected during the preconstruction survey, no additional surveys or mitigation measures are required.
- If nesting bird species are observed within 500 feet of construction areas during the survey,

appropriate “no construction” buffers shall be established. The size and scale of nesting bird buffers shall be determined by a qualified biologist and shall be dependent upon the species observed and the location of the nest. Buffers shall be established around active nest locations. The nesting bird buffers shall be completely avoided during construction activities. The buffers may be removed when the qualified wildlife biologist confirms that the nest(s) is no longer occupied and all birds have fledged.

4.3 SPECIAL-STATUS SPECIES

Based on survey observations and site characteristics, the Project Site contains foraging habitat for white-tailed kite and Swainson’s hawk (**Table 1** and **Attachment A**). White-tailed kite and Swainson’s hawk were not observed during the survey, and although suitable nesting habitat does not occur on the Project Site, these species may nest in the off-site vicinity. However, potential impacts to nesting migratory birds, including white-tailed kite and Swainson’s hawk, are discussed in **Section 4.2** and mitigated via implementation of **Measure 1**.

4.4 WILDLIFE MOVEMENT

Open spaces and retention of tree screen habitat are incorporated into Project design, and non-native annual grassland on and off-site are contiguous between named creeks and tributaries which may foster wildlife movement. Thus, the Proposed Project would not significantly impede potential wildlife movement.

5.0 CONCLUSION

There are no sensitive habitats on the Project Site. The Project Site generally does not contain habitat for special-status species with the exception of limited foraging habitat for white-tailed kite. Additionally, birds have the potential to nest on and in the vicinity of the Project Site. Should construction occur during the nesting season (February 15 – August 30), a preconstruction nesting bird survey would be required by CDFW and the USFWS.

6.0 REFERENCES

- California Department of Fish and Wildlife (CDFW), 2022. California Natural Diversity Database. Available online at: <https://wildlife.ca.gov/Data/CNDDDB>. Accessed April 2022.
- U. S. Fish and Wildlife Service (USFWS), 2022a. Information for Planning and Consultation. Available online at: <https://www.fws.gov/ipac/>
- USFWS, 2022b. National Wetlands Inventory. Available online at: <https://ecos.fws.gov/wetlands/>
- USFWS, 2021c. Critical Habitat Mapper. Available online at: <https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>
- Federal Emergency Management Agency (FEMA), 2022. FEMA Flood Map Service Center: Search By Address. Available online at <https://msc.fema.gov/portal/search?AddressQuery=Roseville%20ca#searchresultsanchor>. Accessed April 2022.
- FEMA, 2021. Definition of Floodway. Available online at <https://www.fema.gov/floodway>. Accessed January 2022.

ATTACHMENTS



ATTACHMENT A

USFW, CNDDB, AND CNPS DATABASE QUERIES



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713



In Reply Refer To:
Project Code: 2022-0034183
Project Name: Roseville Soccer Complex

April 20, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2))

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Project Code: 2022-0034183
Event Code: None
Project Name: Roseville Soccer Complex
Project Type: Recreation - New Construction
Project Description: Sports field complex development.
Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.7895203,-121.38564530660031,14z>



Counties: Placer County, California

Endangered Species Act Species

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp <i>Branchinecta conservatio</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency: Roseville city
Name: Jedidiah Dowell
Address: 1801 7th St
City: Sacramento
State: CA
Zip: 95811
Email: jedowell@analyticalcorp.com
Phone: 9164473479



U.S. Fish and Wildlife Service

National Wetlands Inventory

2500 Westbrook



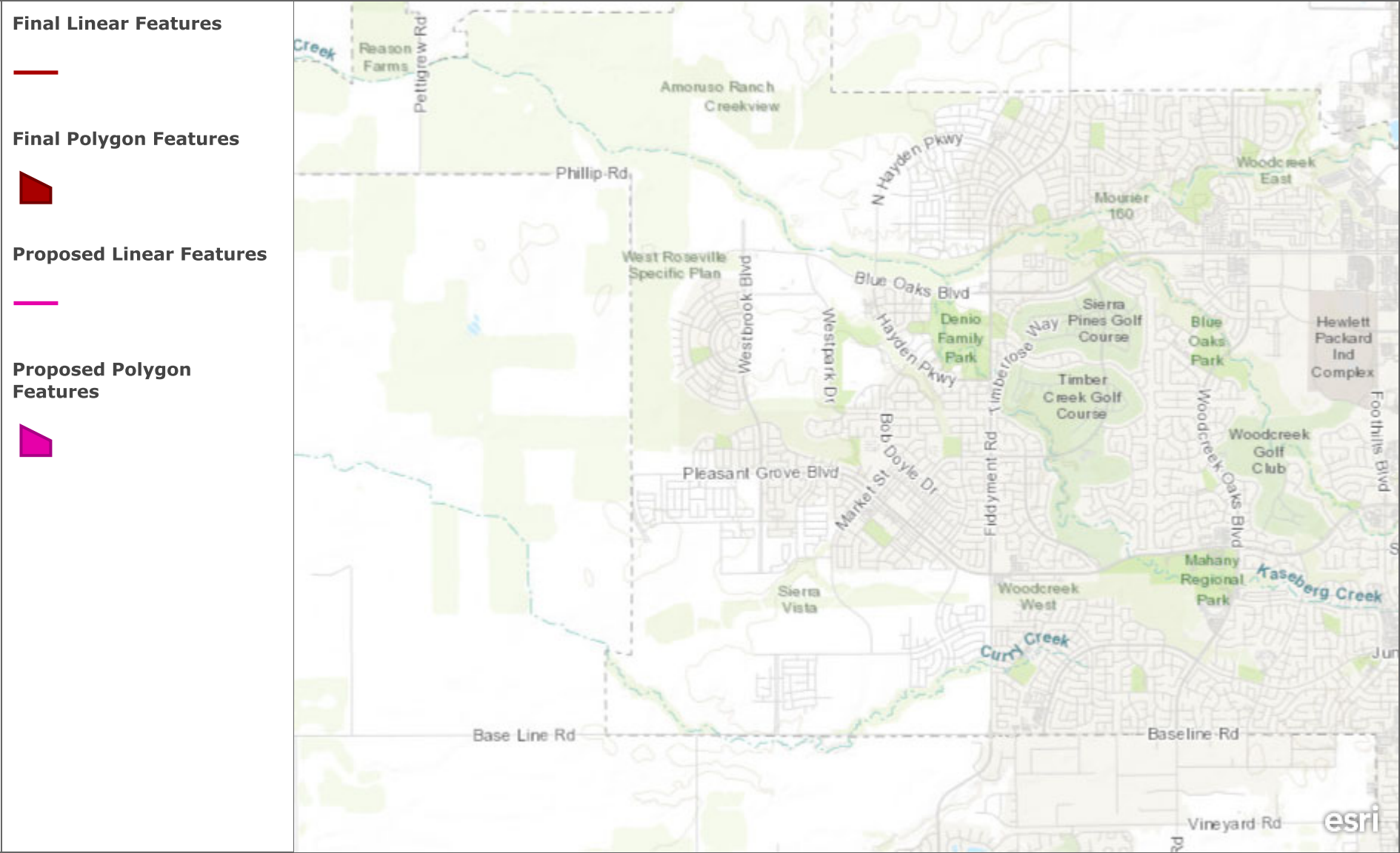
January 25, 2022

Wetlands

	Estuarine and Marine Deepwater		Freshwater Emergent Wetland		Lake
	Estuarine and Marine Wetland		Freshwater Forested/Shrub Wetland		Other
			Freshwater Pond		Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Critical Habitat for Threatened & Endangered Species [USFWS]



A specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

U.S. Fish and Wildlife Service | City of Roseville, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, NGA, EPA, USDA



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad (Pleasant Grove (3812174)) OR (Roseville (3812173))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
<i>Alkali Meadow</i> Alkali Meadow	CTT45310CA	None	None	G3	S2.1	
<i>Alkali Seep</i> Alkali Seep	CTT45320CA	None	None	G3	S2.1	
<i>Ammodramus savannarum</i> grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
<i>Andrena subapasta</i> An andrenid bee	IIHYM35210	None	None	G1G2	S1S2	
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Balsamorhiza macrolepis</i> big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
<i>Chloropyron molle ssp. hispidum</i> hispid salty bird's-beak	PDSCR0J0D1	None	None	G2T1	S1	1B.1
<i>Downingia pusilla</i> dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
<i>Elanus leucurus</i> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<i>Gratiola heterosepala</i> Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2
<i>Hydrochara rickseckeri</i> Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
<i>Juncus leiospermus var. leiospermus</i> Red Bluff dwarf rush	PMJUN011L2	None	None	G2T2	S2	1B.1
<i>Legenere limosa</i> legenere	PDCAM0C010	None	None	G2	S2	1B.1
<i>Lepidurus packardi</i> vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
<i>Linderiella occidentalis</i> California linderiella	ICBRA06010	None	None	G2G3	S2S3	
<i>Northern Hardpan Vernal Pool</i> Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
<i>Northern Volcanic Mud Flow Vernal Pool</i> Northern Volcanic Mud Flow Vernal Pool	CTT44132CA	None	None	G1	S1.1	



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Oncorhynchus mykiss irideus pop. 11</i> steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
<i>Progne subis</i> purple martin	ABPAU01010	None	None	G5	S3	SSC
<i>Spea hammondi</i> western spadefoot	AAABF02020	None	None	G2G3	S3	SSC

Record Count: 23

Search Results

8 matches found. Click on scientific name for details

Search Criteria: Quad is one of [3812174:3812173]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	BLOOMING PERIOD	FED LIST	STATE LIST	CA RARE PLANT RANK	GENERAL HABITATS
<i>Balsamorhiza macrolepis</i>	big-scale balsamroot	Asteraceae	Mar-Jun	None	None	1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland
<i>Brodiaea rosea</i> ssp. <i>vallicola</i>	valley brodiaea	Themidaceae	Apr-May(Jun)	None	None	4.2	Valley and foothill grassland, Vernal pools
<i>Chloropyron molle</i> ssp. <i>hispidum</i>	hispid salty bird's-beak	Orobanchaceae	Jun-Sep	None	None	1B.1	Meadows and seeps, Playas, Valley and foothill grassland
<i>Downingia pusilla</i>	dwarf downingia	Campanulaceae	Mar-May	None	None	2B.2	Valley and foothill grassland, Vernal pools
<i>Fritillaria agrestis</i>	stinkbells	Liliaceae	Mar-Jun	None	None	4.2	Chaparral, Cismontane woodland, Pinyon and juniper woodland, Valley and foothill grassland
<i>Gratiola heterosepala</i>	Boggs Lake hedge-hyssop	Plantaginaceae	Apr-Aug	None	CE	1B.2	Marshes and swamps, Vernal pools
<i>Juncus leiospermus</i> var. <i>leiospermus</i>	Red Bluff dwarf rush	Juncaceae	Mar-Jun	None	None	1B.1	Chaparral, Cismontane woodland, Meadows and seeps, Valley and foothill grassland, Vernal pools
<i>Legenere limosa</i>	legenere	Campanulaceae	Apr-Jun	None	None	1B.1	Vernal pools

Showing 1 to 8 of 8 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2022. Inventory of Rare and Endangered Plants of California (online edition, v9-01 1.0). Website <https://www.rareplants.cnps.org> [accessed 25 January 2022].

CONTACT US

Send questions and comments to rareplants@cnps.org.

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CONTRIBUTORS

[The Calflora Database](#)
[The California Lichen Society](#)
[California Natural Diversity Database](#)
[The Jepson Flora Project](#)
[The Consortium of California Herbaria](#)
[CalPhotos](#)



Developed by
Rincon Consultants, Inc.

ATTACHMENT B

NRCS SOILS REPORT



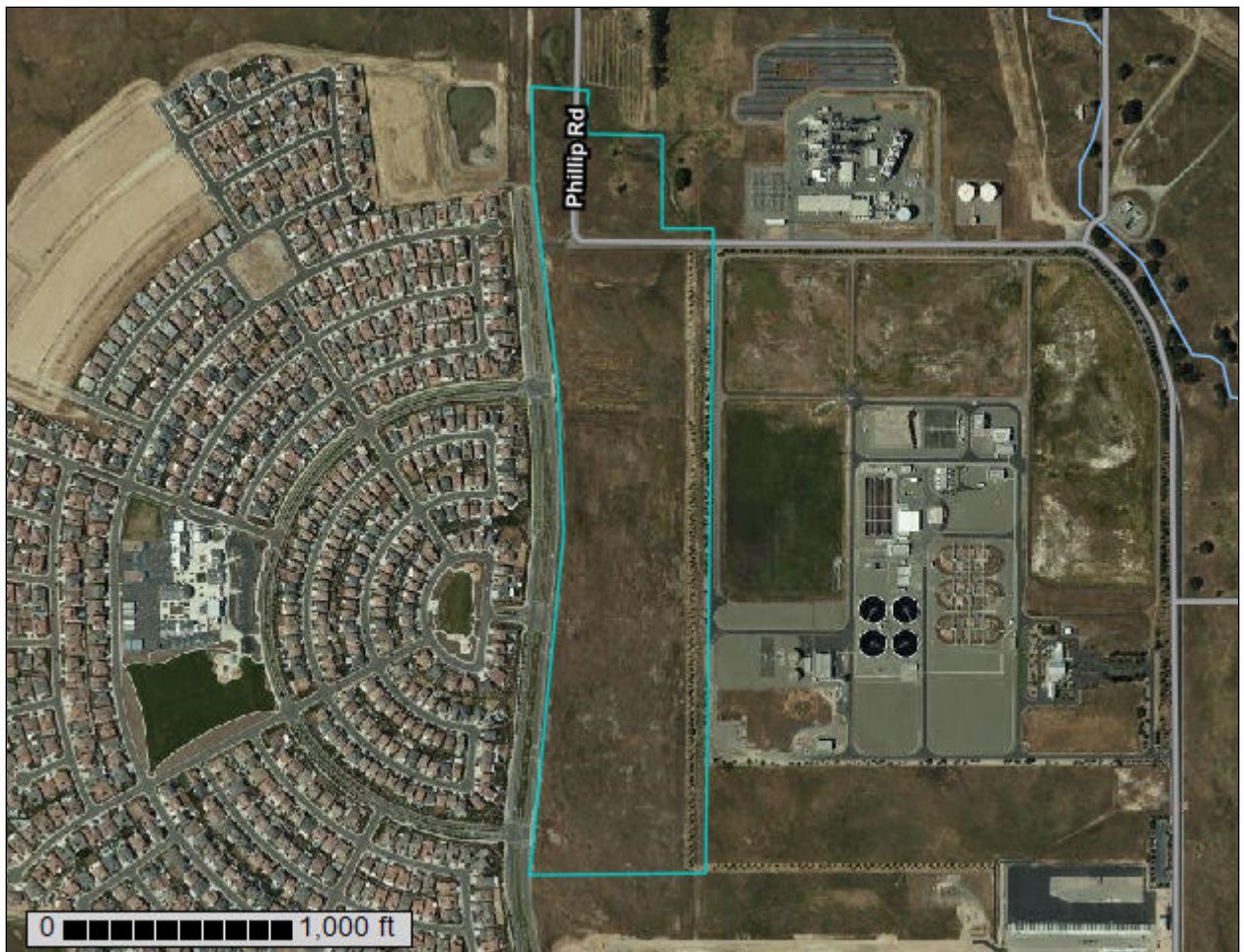
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Placer County, California, Western Part**



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

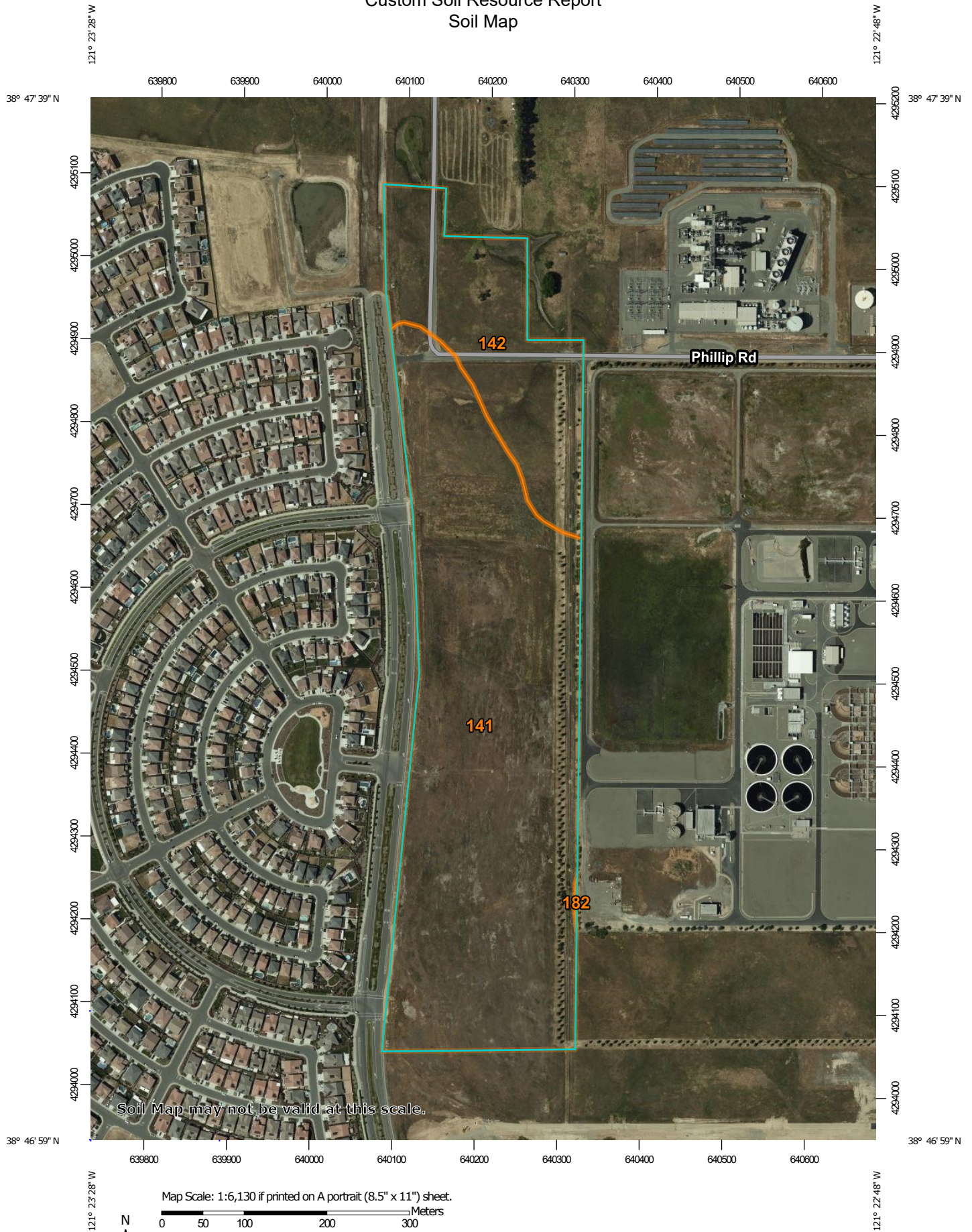
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.


Custom Soil Resource Report Soil Map



Custom Soil Resource Report


MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)


Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit


 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole


 Slide or Slip

 Sodic Spot


 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals


Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Placer County, California, Western Part

Survey Area Data: Version 13, Sep 3, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 11, 2019—May 12, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
141	Cometa-Fiddymont complex, 1 to 5 percent slopes	39.3	76.5%
142	Cometa-Ramona sandy loams, 1 to 5 percent slopes	12.0	23.4%
182	San Joaquin-Cometa sandy loams, 1 to 5 percent slopes	0.0	0.1%
Totals for Area of Interest		51.4	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Placer County, California, Western Part

141—Cometa-Fiddymment complex, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: hfzk
Elevation: 20 to 400 feet
Mean annual precipitation: 10 to 23 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 230 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

Cometa and similar soils: 40 percent
Fiddymment and similar soils: 30 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cometa

Setting

Landform: Terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 18 inches: sandy loam
H2 - 18 to 29 inches: clay
H3 - 29 to 60 inches: sandy loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.2 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R017XD093CA - CLAYPAN
Hydric soil rating: No

Description of Fiddymment

Setting

Landform: Ridges

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Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from siltstone

Typical profile

H1 - 0 to 12 inches: loam
H2 - 12 to 28 inches: clay loam
H3 - 28 to 35 inches: indurated
H4 - 35 to 39 inches: weathered bedrock

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: 20 to 35 inches to duripan; 35 to 39 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R017XD093CA - CLAYPAN
Hydric soil rating: No

Minor Components

Kaseberg, loam

Percent of map unit: 10 percent
Hydric soil rating: No

San joaquin, sandy loam

Percent of map unit: 10 percent
Hydric soil rating: No

Ramona, sandy loam

Percent of map unit: 5 percent
Hydric soil rating: No

Alamo, clay

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

142—Cometa-Ramona sandy loams, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: hfzl
Elevation: 20 to 3,500 feet
Mean annual precipitation: 10 to 23 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 230 to 320 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Cometa and similar soils: 50 percent
Ramona and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cometa

Setting

Landform: Terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 18 inches: sandy loam
H2 - 18 to 29 inches: clay
H3 - 29 to 60 inches: sandy loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.2 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Ramona

Setting

Landform: Terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 6 inches: sandy loam
H2 - 6 to 14 inches: loam
H3 - 14 to 55 inches: sandy clay loam
H4 - 55 to 73 inches: gravelly sandy loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

San joaquin

Percent of map unit: 5 percent
Hydric soil rating: No

Fiddymment

Percent of map unit: 5 percent
Hydric soil rating: No

Xerofluvent

Percent of map unit: 5 percent
Landform: Drainageways
Hydric soil rating: Yes

Alamo

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

182—San Joaquin-Cometa sandy loams, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: hg0w

Elevation: 20 to 500 feet

Mean annual precipitation: 10 to 23 inches

Mean annual air temperature: 61 to 63 degrees F

Frost-free period: 250 to 300 days

Farmland classification: Not prime farmland

Map Unit Composition

San joaquin and similar soils: 40 percent

Cometa and similar soils: 30 percent

Minor components: 30 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of San Joaquin

Setting

Landform: Terraces

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 15 inches: sandy loam

H2 - 15 to 35 inches: clay loam

H3 - 35 to 50 inches: indurated

H4 - 50 to 60 inches: stratified sandy loam to loam

Properties and qualities

Slope: 1 to 5 percent

Depth to restrictive feature: More than 80 inches; 35 to 50 inches to duripan

Drainage class: Well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): 4e

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: D

Ecological site: R017XD093CA - CLAYPAN

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Hydric soil rating: No

Description of Cometa

Setting

Landform: Terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 18 inches: sandy loam
H2 - 18 to 29 inches: clay
H3 - 29 to 60 inches: sandy loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.2 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R017XD093CA - CLAYPAN
Hydric soil rating: No

Minor Components

Ramona

Percent of map unit: 10 percent
Hydric soil rating: No

Fiddymment

Percent of map unit: 10 percent
Hydric soil rating: No

Kaseberg

Percent of map unit: 5 percent
Hydric soil rating: No

Alamo

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

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United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf