Biological Resources Assessment

Mill Creek

Placer County, California
May 2018

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1.0 INTRODUCTION

This report presents the results of a Biological Resources Assessment (BRA) conducted for the Mill Creek Property and associated off-site sewer alternatives (Study Area) (**Figures 1 and 2**). The Mill Creek property is located south of PFE Road, east of Cook Riolo Road, north of the Sacramento County line, and west of Antelope Oaks Court in southwestern Placer County, California. There are two off-site sewer alignment alternatives; Alternative 2 and Alternative 4 (prior alternatives 1 and 3 have since been dismissed). Alternative 2 heads due north where PFE turns into Atkinson Street, and continues north across Dry Creek almost to Booth Road. Alternative 4 continues along PFE Road, and then Atkinson Street across Dry Creek, and then terminates with a slight jog to the west. The approximately 126-acre Study Area is located in portions of Sections 9, 10, and 16, Township 10 North, Range 6 East (MDB&M) of the "Citrus Heights, California" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2013) (**Figure 1**).

1.1 Project Description

The Proposed Project is a residential subdivision, which will also include open space areas, parks, a trail network, installation of utilities along existing roadways, and upgrades to portions of those roadways. The current site plan is included as **Attachment A**. The utilities will be installed along the existing roadways (including where PFE Road crosses intermittent drainages) either via an open trench, or jack and bore. As the open trench would result in the greatest area of disturbance, for the purposes of this document, impacts have been analyzed based on the assumption that the open trench installation will be implemented.

1.2 Improvements to PFE Road

One component of the Project is widening of the portion of PFE Road that is adjacent to the development area (the Proposed Widening). Subsequent to Project implementation, Placer County (County) may elect to install additional improvements just east of the Project development area (the Potential Ultimate Widening). For the purposes of this document, the Proposed Widening is considered to be part of the Project, while any impacts and mitigation associated with the Potential Ultimate Widening are discussed in this document separately. If the County later determines it is necessary to widen PFE Road along its south side (versus the possibility of shifting the road alignment such that the widening would occur on the north side, the Potential Ultimate Widening would result in the need to realign the intermittent drainages that currently run just south of PFE Road in that eastern location. The preliminary Potential Ultimate Widening plan for this area is included as **Attachment B**, and the location of this work, relative to other Project components, is shown in **Figure 2**.

2.0 REGULATORY SETTING

This section describes federal, state and local laws and policies that are relevant to this assessment of biological resources.

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 protects species that are federally listed as endangered or threatened with extinction. FESA prohibits the unauthorized "take" of listed wildlife species. Take includes harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such activities. Harm includes significant modifications or degradations of habitats that may cause death or injury to protected species by impairing their behavioral patterns. Harassment includes disruption of normal behavior patterns that may result in injury to or mortality of protected species. Civil or criminal penalties can be levied against persons convicted of unauthorized "take." In addition, FESA prohibits malicious damage or destruction of listed plant species on federal lands or in association with federal actions, and the removal, cutting, digging up, damage, or destruction of listed plant species in violation of state law. FESA does not afford any protections to federally listed plant species that are not also included on a state endangered species list on private lands with no associated federal action.

2.1.2 Clean Water Act, Section 404

Section 404 of the Federal Clean Water Act requires that a Department of the Army permit be issued prior to the discharge of any dredged or fill material into waters of the United States, including wetlands. The U. S. Army Corps of Engineers (USACE) administers this program, with oversight from the U. S. Environmental Protection Agency. Waters of the United States include all navigable waters; interstate waters and wetlands; all intrastate waters and wetlands that could affect interstate or foreign commerce; impoundments of the above; tributaries of the above; territorial seas; and wetlands adjacent to the above.

2.1.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase or barter, any native migratory bird, their eggs, parts, and nests, except as authorized under a valid permit (50 CFR 21.11.). Likewise, Section 3513 of the California Fish & Game Code prohibits the "take or possession" of any migratory non-game bird identified under the MBTA. Therefore, activities that may result in the injury or mortality of native migratory birds, including eggs and nestlings, would be prohibited under the MBTA.

2.2 State Regulations

2.2.1 California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires evaluations of project effects on biological resources. Determining the significance of those effects is guided by Appendix G of the CEQA guidelines. These evaluations must consider direct effects on a biological resource within the project site itself, indirect

effects on adjacent resources, and cumulative effects within a larger area or region. Effects can be locally important but not significant according to CEQA if they would not substantially affect the regional population of the biological resource. Significant adverse impacts on biological resources would include the following:

- Substantial adverse effects on any species identified as candidate, sensitive, or special-status in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife (CDFW) or the U.S. Fish and Wildlife Service (USFWS) (these effects could be either direct or via habitat modification);
- Substantial adverse impacts to species designated by the California Department of Fish and Game (2009) as Species of Special Concern;
- Substantial adverse effects on riparian habitat or other sensitive habitat identified in local or regional plans, policies, or regulations or by CDFW and USFWS;
- Substantial adverse effects on federally protected wetlands defined under Section 404 of the Clean Water Act (these effects include direct removal, filling, or hydrologic interruption of marshes, vernal pools, coastal wetlands, or other wetland types);
- Substantial interference with movements of native resident or migratory fish or wildlife species population, or with use of native wildlife nursery sites;
- Conflicts with local policies or ordinances protecting biological resources (e.g. tree preservation policies); and
- Conflict with provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan.

2.2.2 State Endangered Species Act

With limited exceptions, the California Endangered Species Act (CESA) of 1984 protects state-designated endangered and threatened species in a way similar to FESA. For projects on private property (i.e. that for which a state agency is not a lead agency), CESA enables CDFW to authorize take of a listed species that is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code Section 2081).

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants that are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants, but includes some exceptions for agricultural and nursery operations; emergencies; and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

2.2.4 Clean Water Act, Section 401

Section 401 of the Clean Water Act requires any applicant for a 404 permit in support of activities that may result in any discharge into waters of the United States to obtain a water quality certification with the Regional Water Quality Control Board (RWQCB). This program is meant to protect these waters and wetlands by ensuring that waste discharged into them meets state water quality standards. Because the water quality certification program is triggered by the need for a Section 404 permit (and both programs are a part of the Clean Water Act), the definition of waters of the United States under Section 401 is the same as that used by the USACE under Section 404.

2.2.5 California Water Code, Porter-Cologne Act

The Porter Cologne Act, from Division 7 of the California Water Code, requires any person discharging waste or proposing to discharge waste that could affect the quality of waters of the state to file a report of waste discharge (RWD) with the RWQCB. The RWQCB can waive the filing of a report, but once a report is filed, the RWQCB must either waive or adopt water discharge requirements (WDRs). "Waters of the state" are defined as any surface water or groundwater, including saline waters, within the boundaries of the state.

2.2.6 California Fish and Game Code, Section 1600 – Streambed and Lake Alteration

The CDFW is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the Fish and Game Code, Section 1602, requires notification to CDFW of any proposed activity that may substantially modify a river, stream, or lake. Notification is required by any person, business, state or local government agency, or public utility that proposes an activity that will:

- substantially divert or obstruct the natural flow of any river, stream or lake;
- substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

For the purposes of Section 1602, rivers, streams and lakes must flow at least intermittently through a bed or channel. If notification is required and CDFW believes the proposed activity is likely to result in adverse harm to the natural environment, it will require that the parties enter into a Lake or Streambed Alteration Agreement (LSAA).

2.2.7 California Fish and Game Code, Section 3503.5 - Raptor Nests

Section 3503.5 of the Fish and Game Code makes it unlawful to take, possess, or destroy hawks or owls, unless permitted to do so, or to destroy the nest or eggs of any hawk or owl.

2.3 Local Regulations

2.3.1 Placer County Tree Ordinance

The Placer County (County) Tree Ordinance (Chapter 12.16 of the Placer County Code) (Tree Ordinance) regulates the removal and preservation of trees within the County. "Trees" under the Tree Ordinance includes all tall woody plants native to California (except grey pines and "brush"), with a single main stem or trunk at least six inches in diameter at breast height (DBH), or with multiple trunks with an aggregate of at least ten inches DBH. Each Tree has a "Protected Zone," which is a circle equal to the largest radius of a protected tree's dripline plus one foot. The radius is measured from the trunk at the base of the tree to the greatest extent of the tree's dripline. The Tree Ordinance requires a Tree Permit for any activity within the Protected Zone of a Tree related to a discretionary project. In addition, a Tree Permit is required for the removal of any Protected Tree, unless otherwise exempted.

2.3.2 Placer County Interim Oak Woodland Guidelines

The County enforces the above Tree Ordinance for cases of impacts to individual, isolated native trees; however, where tree crown canopy coverage is 10 percent/acre or greater and the dominant tree species are native California oaks, the County regulates impacts to these areas as impact to oak woodland under the 2008 *Interim Guidelines for Evaluating Development Impacts on Oak Woodland* (Interim Guidelines). Under the Interim Guidelines, impacts to oak woodlands include all areas within 50 ft of the development footprint, and for every acre of oak woodland impacted, two acres of the same woodland type must be preserved off-site. In addition, any "significant trees" (generally trees >24 inches in diameter at breast height or clumps >72 inches in circumference measured at ground level) impacted within the oak woodland must also be mitigated separately in accordance with the Tree Ordinance, above.

3.0 METHODOLOGY

3.1 Literature Review

A list of special-status species with potential to occur within the Study Area was developed by conducting a query of the following databases:

- California Natural Diversity Database (CNDDB) (CNDDB 2017) query of the Study Area and all areas within 5 miles of the Study Area (**Figures 3 and 4**);
- USFWS Information for Planning and Conservation (IPaC) (USFWS 2017a) query for the Study Area (**Attachment C**);
- California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (CNPS 2017) query of the "Citrus Heights, California" USGS topo quadrangle, and the eight surrounding quadrangles (**Attachment D**); and
- Western Bat Working Group (WBWG) Species Matrix (WBWG 2017).

In addition, any special-status species that are known to occur in the region, but that were not identified in any of the above database searches were also analyzed for their potential to occur within the Project area.

The *Biological Resources Assessment for the 65-acre PFE Assemblage Study Area* (Salix 2015a) and the *Biological Resources Assessment for the 45-acre Placer Greens Study Area* (Salix 2015b) were reviewed and incorporated into this document as appropriate. In addition, Abacus Consulting Arborists prepared three arborist reports for portions of the Study Area: *Preliminary Arborist Report & Tree Inventory for PFE Road Widening Study* (Abacus 2018), *Arborist Report & Tree Inventory & Assessment for Placer Greens South East Corner of PFE Road & Antelope Road* (Abacus 2015a), and *Arborist Report & Tree Inventory & Assessment for PFE Road Project* (Abacus 2015b). These reports were reviewed and utilized to evaluate tree impacts associated with the Project.

For the purposes of this Biological Resources Assessment, special-status species is defined as those species that are:

- listed as threatened or endangered, or proposed or candidates for listing by the USFWS or National Marine Fisheries Service;
- listed as threatened or endangered and candidates for listing by CDFW;
- identified as Fully Protected species or species of special concern by CDFW;
- identified as Medium or High priority species by the WBWG (WBWG 2017); and
- plant species considered to be rare, threatened, or endangered in California by the CNPS and CDFW [California Rare Plant Rank (CRPR) 1, 2, and 3]:
  - CRPR 1A: Plants presumed extinct.
  - CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere.
  - CRPR 2A: Plants extirpated in California, but common elsewhere.
  - CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere.
  - CRPR 3: Plants about which the CNPS needs more information – a review list.

3.2 Field Surveys

Madrone senior biologist Daria Snider and Sarah VonderOhe conducted field surveys of various portions of the Study Area on 28 February, 18 May, 21 June, 18 July, 26 August, and 17 October 2017 to assess the suitability of habitats on-site to support special-status species. Meandering pedestrian surveys were performed on foot throughout the Study Area. Vegetation communities were classified in accordance with *The Manual of California Vegetation, Second Edition* (Sawyer, Keeler-Wolf and Evens 2009), and plant taxonomy was based on the nomenclature in the *Jepson eFlora* (Jepson Flora Project 2017). A list of all wildlife species observed during field surveys is included as **Attachment E**.

The results of several additional surveys were also incorporated into this report:

- An aquatic resources delineation conducted by Madrone in portions of the site for which a verified wetland delineation was not available (roadways and the off-site several alternatives) (Madrone 2018a),

- Special-status plant surveys conducted by Madrone throughout the Study Area (Madrone 2018b), and
- Wet-season and dry-season vernal pool branchiopod surveys conducted by Madrone in all areas of suitable habitat with potential to be impacted by the Project (Madrone 2018c).

4.0 EXISTING CONDITIONS

The Mill Creek Property is largely comprised of annual brome grasslands with an active commercial nursery in the southern portion, an abandoned almond orchard in the approximate center, and oak woodland and riparian woodland along the intermittent drainage on the eastern edge (**Figure 5**). Several seasonal wetlands are scattered within the annual brome grassland just west of the oak woodland, and a number of roadside ditches occur along the paved roadways. Inclusions of disturbed areas are scattered throughout the property along roadways, in house sites, and in parking areas that encroach along the edges from adjacent properties. The terrain within the Mill Creek property is gently rolling, and generally slopes from the south towards the north. Elevations range from approximately 155 feet above mean sea level (MSL) at the south edge of the nursery to approximately 110 feet where the intermittent drainage crosses PFE Road.

The eastern offsite sewer line alternative runs along an existing roadway, and the western alternative runs north from PFE Road through a variety of vegetation communities, including an industrial area, a disturbed annual brome grassland, and Dry Creek and its associated riparian woodland (**Figure 6**). Elevations within the sewer line alternatives range from approximately 115 to 145 feet above MSL.

Surrounding properties are as diverse as the Study Area. To the south and east is suburban residential, a school borders the Study Area to the northeast, rural residential and abandoned orchards occur in various locations to the north as does a large, undeveloped grassland and oak woodland. Lastly, industrial areas and truck parking border the Study Area to the east and southeast.

4.1 Terrestrial Vegetation Communities

4.1.1 Annual Brome Grassland

The annual brome grassland within the Study Area is dominated by ripgut brome (*Bromus diandrus*), soft brome (*B. hordeaceus*), wild oat (*Avena fatua*), medusahead (*Elymus caput-medusae*), and Italian ryegrass (*Festuca perennis*). Other species occurring frequently in this vegetation community within the Study Area include English plantain (*Plantago lanceolata*), turkey mullein (*Croton setiger*), vinegar weed (*Trichostema lanceolatum*), curly dock (*Rumex crispus*), prickly lettuce (*Lactuca serriola*), Fitch's spikeweed (*Centromadia fitchii*), slender tarweed (*Holocarpha virgata*), vetch (*Vicia* sp.), yellow star-thistle (*Centaurea solstitialis*), Italian thistle (*Carduus pycnocephalus*), Canadian horseweed (*Erigeron canadensis*), and stinkwort (*Dittrichia graveolens*). Seasonal wetlands and swales occur occasionally throughout this community. Isolated trees scattered throughout the annual brome grassland include blue gum (*Eucalyptus globulus*), interior live oak (*Quercus wislizeni*), and Valley oak (*Quercus lobata*).

4.1.2 Oak Woodland

Oak Woodland occurs in the southeastern corner of the Mill Creek property, in association with the intermittent drainages, and in the portions of Sewer Alternative 2 around Dry Creek. The oak woodland has a primarily closed canopy that is comprised of Valley oak, blue oak (*Quercus douglasii*), and interior live oak. Occasional Chinese tallow tree (*Triadica sebifera*), olive (*Olea europaea*), and common fig (*Ficus carica*) also occur. The shrub layer is sparse in most areas, but where present includes poison-oak (*Toxicodendron diversilobum*) and Himalayan blackberry (*Rubus armeniacus*). The herbaceous understory is comprised of species typical of the annual brome grassland described above.

4.1.3 Riparian Woodland

Riparian woodland occurs in the northeastern portion of the Mill Creek property, and along Dry Creek within Sewer Alternative 2. The canopy of the riparian woodland is dense and quite diverse. Common trees include Goodding's black willow (*Salix gooddingii*), arroyo willow (*S. lasiolepis*), Fremont's cottonwood (*Populus fremontii*), Valley oak, box elder (*Acer negundo*), cigar tree (*Catalpa bignonioides*), tree of heaven (*Ailanthus altissima*), sycamore (*Platanus racemosa*), white alder (*Alnus rhombifolia*), Oregon ash (*Fraxinus latifolia*), and black walnut (*Juglans hindsii*). The understory is dense in some locations and includes thickets of Himalayan blackberry, wild reed (*Arundo donax*), wild rose (*Rosa californica*), sandbar willow (*Salix exigua*) and California wild grape (*Vitis californica*). Herbaceous species within the understory include dallisgrass (*Paspalum dilatatum*), barnyard grass (*Echinochloa crus-galli*), rice cutgrass (*Leersia oryzoides*), tall flatsedge (*Cyperus eragrostis*), curly dock (*Rumex crispus*), cocklebur (*Xanthium strumariu*m), soft rush (*Juncus effusus*), and Bermuda grass (*Cynodon dactylon*).

4.1.4 Abandoned Almond Orchard

An abandoned almond orchard occurs in the approximate center of the Mill Creek property. The orchard has been abandoned since the late 1980s, and the understory is annually mowed or disked for fire suppression purposes. Because the orchard has been abandoned for a substantial amount of time, blue oak, Valley oak, and interior live oak saplings have become established amongst the remaining almond trees. The understory of the almond orchard is comprise of herbaceous weedy species typical of the annual brome grassland described above.

4.1.5 Disturbed

Heavily disturbed areas occur in isolated locations throughout the Study Area, including a commercial nursery along the southern boundary, roadways, and paved truck parking areas along the southeastern and eastern boundaries. Most of these areas are paved or otherwise unvegetated, but some areas support ruderal vegetation including stinkwort, bindweed (*Convolvulus arvensis*), purple sand-spurrey (*Spergularia rubra*), yellow star-thistle, and turkey mullein.

4.2 Aquatic Resources

An approved jurisdictional determination has been issued for the property by the USACE (**Attachment F**), and a protocol-level aquatic resources delineation has been conducted for the off-site infrastructure areas by Madrone (Madrone 2018a). Aquatic resources mapped within the Study Area are depicted in **Figures 7 and 8**. A total of 2.805 acres of aquatic resources were mapped within the Study Area (**Table 1**) (USACE 2016, Madrone 2018a). A description of each of the aquatic resources types is included below.

Table 1. Aquatic Resources Mapped within the Study Area

Resource Type	Acreage
Seasonal Wetland	0.516
Seasonal Wetland Swale	0.567
Intermittent Drainage	1.226
Roadside Ditch	0.065
Nursery Pond	0.204
Dry Creek	0.227
Total	**2.805**

4.2.1 Seasonal Wetland

Four depressional seasonal wetlands occur within the Study Area. Seasonal wetlands are depressional wetlands that pond water seasonally. Two of the smallest seasonal wetlands are shallow features located on the floodplain of the intermittent drainage. The third is a low-gradient portion of an intermittent drainage just south of PFE Road. All three of these support largely facultative species, such as curly dock, perennial ryegrass, and Mediterranean barley. The largest seasonal wetland appears to have a much longer hydroperiod, and supports a variety of plant species typical of vernal pools, including Great Valley coyote-thistle (*Eryngium castrense*), slender popcorn flower (*Plagiobothrys stipitatus* var. *micranthus*), creeping spikerush (*Eleocharis macrostachya*), Carter's buttercup (*Ranunculus bonariensis*), smooth goldfields (*Lasthenia glaberrima*), mannagrass (*Glyceria declinata*), and hyssop loosestrife (*Lythrum hyssopifolium*).

4.2.2 Seasonal Wetland Swale

Two seasonal wetland swales are present within the Study Area. Seasonal wetland swales are sloping, linear seasonal wetlands that convey surface runoff, and may detain it for short periods of time. The western seasonal wetland swale conveys irrigation runoff from the commercial nursery. As a result of the irrigation inputs throughout the year, this feature supports a variety of plants characteristic of seasonal marshes, including tall nutsedge (*Cyperus eragrostis*), dotted lady's thumb (*Persicaria punctata*), curly dock (*Rumex crispus*), and prickly cocklebur (*Xanthium strumarium*). The second seasonal wetland swale is in the eastern portion of the Study Area, and conveys runoff from the annual grassland east of Antelope Road into the intermittent drainage. This feature is quite narrow, conveys only natural flows, and supports primarily perennial ryegrass and Mediterranean barley.

4.2.3 Intermittent Drainage

An intermittent drainage occurs along the eastern edge of the Mill Creek property. This feature ranges from approximately 6 feet to 20 feet wide, and has a primarily sandy substrate. Although it flows intermittently, deeper portions of the drainage retain water throughout the year. The drainage is unvegetated throughout much of its channel due to the depth and scouring effects of water, but it supports a well-developed fringe of hydrophytes along the banks, including rice cutgrass (*Leersia oryzoides*), spotted lady's-thumb (*Persicaria punctata*), stick-tight (*Bidens frondosa*), tall nutsedge, and northern water plantain (*Alisma triviale*). Riparian woodland and oak woodland canopy shade the drainage throughout much of the Study Area. Several other smaller reaches of intermittent drainage occur within the Study Area, and are largely similar to that described above.

4.2.4 Roadside Ditch

Several roadside ditches were mapped within the Study Area along Antelope Road and PFE Road. The roadside ditches serve to convey stormwater runoff from the road into the storm drain system and intermittent drainages. These features are primarily unvegetated due to ditch maintenance, but some ruderal vegetation has become established in portions. Plant species observed in and adjacent to this feature include perennial ryegrass, wild radish (*Raphanus sativus*), tall nutsedge (*Cyperus eragrostis*), and Bermuda grass (*Cynodon dactylon*).

4.2.5 Nursery Pond

A small pond in the approximate center of the nursery is maintained for irrigation purposes. This feature is fed by a well at the edge of the pond, and appears to be regularly maintained to ensure continued operation. This nursery pond was dry during a fall 2014 field survey, but full during a fall 2017 survey. The center of the pond supports only floating plants, such as duckweed (*Lemna minor*) due to the depth of the water, but the edges support species typical of marshes, including common tule (*Schoenoplectus acutus* var. *occidentalis*), tall flatsedge (*Cyperus eragrostis*), barnyard grass (*Echinoloa crus-galli*), smooth crabgrass (*Digitaria ischaemum*), swamp pricklegrass *(Crypsis schoenoides*), broadleaved cattail (*Typha la*tifolia), and willow weed (*Persicaria lapathifolia*). In addition, numerous Goodding's black willow (*Salix gooddingii*) provide shade along the edges.

4.2.6 Dry Creek

Dry Creek runs through the northern portion of the Study Area. Dry Creek is a broad, perennial creek with a gravel/cobble substrate. It is almost entirely unvegetated within the channel due to the scouring effects of high winter flows, but there are a few islands and sand bars where a few plants have managed to establish. This feature is incised, with steep, eroded banks on the north side, and deep sand deposits on the south bank. The banks support a dense, well-developed riparian woodland (described above). A mountain lion (*Puma concolor*) was observed within this woodland during a summer 2017 field survey.

4.3 Soils

According to the Natural Resources Conservation Service (NRCS) Soil Survey Database (NRCS 2017), six soil mapping units occur within the Study Area (**Figure 9**): (141) Cometa-Fiddyment complex, 1-5% slopes; (146) Fiddyment loam, 1 to 8% slopes; (147) Fiddyment-Kaseberg loams, 2 to 9% slopes; (193) Xerofluvents, occasionally flooded; (194) Xerofluvents, frequently flooded; and (229sa) Urban land-Xerarents-Fiddyment complex, 0 to 8% slopes. Unit (194) consists of hydric components, and all units except for (229sa) may contain hydric inclusions (NRCS 2017).

5.0 RESULTS

Table 2 provides a list of special-status species that were evaluated, including their listing status, habitat associations, and their potential to occur in the Study Area. The following set of criteria was used to determine each species' potential for occurrence on the site:

- Present: Species occurs on the site based on CNDDB records, and/or was observed on the site during field surveys.
- High: The site is within the known range of the species and suitable habitat exists.
- Moderate: The site is within the known range of the species and very limited suitable habitat exists.
- Low: The site is within the known range of the species and there is marginally suitable habitat or the species was not observed during protocol-level surveys conducted on-site.
- Absent/No Habitat Present: The site does not contain suitable habitat for the species, the species was not observed during protocol-level floristic surveys conducted on-site, or the site is outside the known range of the species.

Figures 3 and 4 are exhibits displaying CNDDB occurrences within five miles of the Study Area. Below is a discussion of all special-status plant and animal species with potential to occur on the site.

5.1 Plants

5.1.1 Sanford's Arrowhead

Sanford's arrowhead (*Sagittaria sanfordii*) is not federally or state listed, but it is classified as a CRPR List 1B.2 plant. It generally occurs in shallow freshwater habitats associated with drainages, canals, and larger ditches that sustain inundation and/or slow moving water into early summer. This perennial rhizomatous species blooms from May to October, and occurs from sea level to approximately 2,000 feet (CNPS 2017).

This species was documented within the intermittent drainage in the southern portion of the Study Area during the special-status plant survey (**Figure 7**). The nearest documented occurrence of Sanford's arrowhead outside of the Study Area is CNDDB Occurrence #49, which is located approximately 0.5 mile to the southeast, in a ditch just west of Roseville Road (CNDDB 2018).

Table 2. Special-Status Species with Potential to Occur within the Mill Creek Study Area

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Plants				
Balsamorhiza macrolepis Big-scale balsamroot	--	CRPR 1B.2	Prefers chaparral, cismontane woodland, and valley and foothill grasslands. Often associated with serpentine soils.	**Absent.** Marginally suitable habitat is present in the annual brome grassland. Protocol-level surveys did not detect this species.
Chloropyron molle ssp. *hispidum* Hispid bird's-beak	--	CRPR 1B.1	Prefers seasonally flooded , saline-alkali soils at elevations below 500 feet.	**No Habitat Present.** No saline-alkali soils are present within the Study Area.
Downingia pusilla Dwarf downingia	--	CRPR 2B.2	Vernal pools and other depressional wetlands	**Absent.** The seasonal wetlands within the Study Area represent suitable habitat for this species. Protocol-level surveys did not detect this species.
Gratiola heterosepala Bogg's Lake hedge-hyssop	--	CE, CRPR 1B.2	Vernal pools and margins of lakes/ponds	**Absent.** The seasonal wetlands within the Study Area represent suitable habitat for this species. Protocol-level surveys did not detect this species.
Juncus leiospermus var. *ahartii* Ahart's dwarf rush	--	CRPR 1B.2	Edges of vernal pools and other seasonally ponded features.	**Absent.** The seasonal wetlands within the Study Area represent suitable habitat for this species. Protocol-level surveys did not detect this species.
Juncus leiospermus var. *leiospermus* Red Bluff dwarf rush	--	CRPR 1B.1	Occurs in vernal mesic areas in chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools between 100' and 4,100' elevation.	**No Habitat Present.** The only documented occurrence in Placer County is, according to the notes on this occurrence, considered to be erroneous (CNDDB 2017).

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Legenere limosa Legenere	--	CRPR 1B.1	Vernal pools	**Absent.** The seasonal wetlands within the Study Area represent suitable habitat for this species. Protocol-level surveys did not detect this species.
Navarretia myersii ssp. *myersii* Pincushion navarretia	--	CRPR 1B.1	Vernal pools	**Absent.** The seasonal wetlands within the Study Area represent suitable habitat for this species. Protocol-level surveys did not detect this species.
Orcuttia tenuis Slender Orcutt grass	FT	CE, CRPR 1B.1	Vernal pools and other seasonally ponded features.	**Absent.** The seasonal wetlands within the Study Area represent suitable habitat for this species. Protocol-level surveys did not detect this species.
Orcuttia viscida Sacramento Orcutt grass	FE	CE, CRPR 1B.1	Vernal pools	**Absent.** The seasonal wetlands within the Study Area represent suitable habitat for this species. Protocol-level surveys did not detect this species.
Sagittaria sanfordii Sanford's arrowhead	--	CRPR 1B.2	Emergent marsh habitat, typically associated with drainages, canals, or irrigation ditches.	**Present.** Sanford's arrowhead is present in the intermittent drainage near the southern boundary of the Study Area.
Invertebrates				
Branchinecta conservatio Conservancy fairy shrimp	FE	--	Very large, turbid vernal pools.	**Absent.** The largest seasonal wetland represents marginally-suitable habitat for Conservancy fairy shrimp. Protocol-level wet and dry season surveys did not detect this species.

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Branchinecta lynchi Vernal pool fairy shrimp	FT	--	Vernal pools.	**Absent.** Suitable habitat for this species is present in the seasonal wetlands within the Study Area. Protocol-level wet and dry season surveys did not detect this species.
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	FT	--	Dependent upon elderberry *(Sambucus* species) shrubs as primary host species.	**Low.** Several elderberry shrubs are present in the eastern portion of the Mill Creek property. No VELB exit holes were observed on these shrubs.
Lepidurus packardi Vernal pool tadpole shrimp	FE	--	Vernal pools.	**Absent.** The largest seasonal wetland represents marginally-suitable habitat for vernal pool tadpole shrimp. Protocol-level wet and dry season surveys did not detect this species.
Fish				
Hypomesus transpacificus Delta smelt	FT	CE	Adults are found in the brackish open surface waters of the Delta and Suisun Bay. Though spawning has never been observed, it is believed to occur in tidally influenced sloughs and drainages on the freshwater side of the mixing zone.	**No Habitat Present.** No tidally influenced sloughs or drainages are present within the Study Area.
Oncorhynchus mykiss irideus Central Valley steelhead	FE	--	Anadromous species requiring freshwater water courses with gravelly substrates for breeding. The young remain in freshwater areas before migrating to estuarine and marine environments.	**High.** Dry Creek within the Study Area is designated Critical Habitat for Central Valley Steelhead, and serves as a migration corridor for this species. The intermittent drainage within the Mill Creek property represents marginally suitable habitat for this species.

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Oncorhynchus tshawytscha Central Valley fall-run chinook salmon	--	CSC	Anadromous species requiring freshwater water courses with gravelly substrates for breeding. The young remain in freshwater areas before migrating to estuarine and marine environments.	**High.** Dry Creek within the Study Area serves as a migration corridor for this species. The intermittent drainage within the Mill Creek property represents marginally suitable habitat for this species.
Amphibians				
Ambystoma californiense California tiger salamander	FT	CT, CSC	Breeds in ponds or other deeply ponded wetlands, and uses gopher holes and ground squirrel burrows in adjacent grasslands for upland refugia/foraging.	**No Habitat Present.** Outside of the distibutional range of the species.
Rana draytonii California red-legged frog	FT	CSC	Breeds in permanent to semi-permanent aquatic habitats including lakes, ponds, marshes, creeks, and other drainages.	**No Habitat Present.** Outside of the known range of the species.
Spea hammondii Western spadefoot	--	CSC	Breeds in vernal pools, seasonal wetlands and associated swales. Forages and hibernates in adjacent grasslands.	**High.** The seasonal wetlands within the Study Area represent suitable habitat for this species.
Reptiles				
Actinemys marmorata Western pond turtle	--	CSC	Ponds, rivers, streams, wetlands, and irrigation ditches with associated marsh habitat.	**High.** Suitable habitat for this species is present in Dry Creek, and marginally suitable habitat is present in the nursery pond and intermittent drainages.
Thamnophis gigas Giant garter snake	FT	CT	Rivers, canals, irrigation ditches, rice fields, and other aquatic habitats with slow moving water and heavy emergent vegetation.	**No Habitat Present.** Outside of the known range of the species.

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Birds				
Agelaius tricolor Tricolored blackbird	--	CE, CSC	Colonial nester in cattails, bulrush, or blackberries associated with marsh habitats.	**Low.** Blackberry brambles scattered throughout the oak woodland represent marginally suitable nesting habitat for this species.
Ammodramus savannarum Grasshopper sparrow	--	CSC	Typically found in expansive short to middle-height, moderately open grasslands with scattered shrubs or other song perches (Shuford and Gardali 2008).	**No Habitat Present.** The annual brome grasslands within the Study Area are not sufficiently expansive to support this species.
Aquila chrysaetos Golden eagle	--	CFP	Forages in open areas including grasslands, savannahs, deserts, and early successional stages of shrub and forest communities. Nests in large trees and cliffs.	**No Habitat Present.** The annual brome grasslands within the Study Area are not sufficiently expansive to support this species.
Athene cunicularia Burrowing owl	--	CSC	Nests in abandoned ground squirrel burrows associated with open grassland habitats.	**High.** Although few ground squirrel burrows were observed, occasional burrows and debris scattered throughout the Study Area could provide artificial burrows. The annual brome grasslands provide suitable foraging habitat.
Buteo swainsoni Swainson's hawk	--	CT	Nests in large trees, preferably in riparian areas. Forages in fields, cropland, irrigated pasture, and grassland near large riparian corridors.	**High.** The annual brome grasslands throughout the Study Area represent suitable foraging habitat for Swainson's hawk, and the trees within the Study Area provide suitable nesting habitat.
Circus cyaneus Northern harrier	--	CSC	Nests in emergent wetland/marsh, open grasslands, or savannah habitats. Forages in open areas such as marshes, agricultural fields, and grasslands.	**High.** The annual brome grassland is suitable nesting and foraging habitat for this species.

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Coccyzus americanus occidentalis Western yellow-billed cuckoo	FT	CE	Inhabits extensive deciduous riparian thickets or forests with dense, low-level or understory foliage, adjacent to slow-moving waterways, backwaters, or seeps.	**No Habitat Present.** The riparian woodland on-site supports only patchy understory, and as such, does not provide suitable habitat for this species. Furthermore, this species is only known from woodlands adjacent to major rivers in northern California.
Elanus leucurus White-tailed kite	--	CFP	Open grasslands, fields, and meadows are used for foraging. Isolated trees in close proximity to foraging habitat are used for perching and nesting.	**Present.** The annual brome grasslands throughout the Study Area represent suitable foraging habitat for white-tailed kite, and the trees throughout the Study Area provide suitable nesting habitat. This species was observed foraging on-site during a field survey.
Lanius ludovicianus Loggerhead shrike	--	CSC	Occurs in open areas with sparse trees, shrubs, and other perches.	**High.** The annual brome grasslands throughout the Study Area represent suitable foraging habitat for loggerhead shrike, and the trees and shrubs within the Study Area provide suitable nesting habitat.
Laterallus jamaicensis coturniculus California black rail	--	CT	Nests and forages in salt, brackish, and fresh marshes with abundant vegetative cover.	**No Habitat Present.** The only marsh vegetation is in the regularly maintained nursery pond, which lacks the cover this species requires.
Melospiza melodia mailliardi Song sparrow "Modesto" population	--	CSC	Nest in emergent freshwater marshes dominated by tules and cattails as well as riparian willow thickets. This species also nests in riparian forests of valley oak with a blackberry understory, along vegetated irrigation canals and levees, and in recently planted valley oak restoration sites (Shuford and Gardali 2008).	**No Habitat Present.** Although the riparian woodland would otherwise represent suitable nesting habitat for this species, it has not been documented nesting in Placer County, and only nests in extensive marshes in the Sacramento Valley area (Humple and Guepel 2004), which are not present.

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Progne subis Purple martin	--	CSC	Nests in tall bridges and overpasses near water and open areas.	**No Habitat Present.** No tall bridges or overpasses are present within the Study Area.
Setophaga petechia Yellow warbler	--	CSC	Occupy riparian vegetation in close proximity to water along streams and in wet meadows. This species no longer breeds in the Central Valley, but occurs as a common migrant in the fall and winter months (Shuford and Gardali 2008).	**High.** Although the Study Area is outside of this species' breeding range, it has been documented along Dry Creek just downstream of the Study Area (eBird 2017), and suitable winter foraging habitat is present in the riparian woodlands within the Study Area.
Riparia riparia Bank swallow	--	CT	Colonial nester preferring vertical cliffs and banks with fine textured/sandy soils associated with riparian zones along streams, rivers, and lakes.	**No Habitat Present.** Tall, vertical cliffs with sandy soils occur along Dry Creek; however, this species has only rarely been observed in Placer County (eBird 2017), is not known to nest in Placer County, has high nest fidelity, and no nest holes were observed on the cliffs in the Study Area.
Mammals				
Antrozous pallidus Pallid bat	--	CSC, WBWG H	Roosts in crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of coast redwoods and giant sequoias, bole cavities of oaks, exfoliating bark, deciduous trees in riparian areas, and fruit trees in orchards), bridges, barns, porches, bat boxes, and human-occupied as well as vacant buildings (WBWG 2017).	**High.** Suitable roosting habitat for this species is present in tree hollows and under exfoliating bark on trees scattered throughout the site.

Scientific Name **(Common Name)**	**Federal Status**	**State Status**	**Habitat Requirements**	**Potential for Occurrence**
Corynorhinus townsendii townsendii Townsend's big-eared bat	--	CC, WBWG H	Roosts in caves and cave analogues, such as abandoned mines, buildings, bridges, rock crevices and large basal hollows of coast redwoods and giant sequoias. Extremely sensitive to human disturbance. (WBWG 2017).	**No Habitat Present.** No caves or cave analogues present on-site.
Lasionycteris noctivagans Silver-haired bat	--	WBWG M	Roosts in abandoned woodpecker holes, under bark, and occasionally in rock crevices. It forages in open wooded areas near water features.	**High.** Suitable roosting habitat for this species is present in tree hollows and under exfoliating bark on trees scattered throughout the site.
Lasiurus blossevillii Western red bat	--	CSC, WBWG H	Roosts primarily in the foliage of trees or shrubs (WBWG 2017). Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (WBWG 2017).	**High.** Trees scattered throughout the site are suitable roosting habitat for this species.
Lasiurus cinereus Hoary bat	--	WBWG M	Roosts primarily in foliage of both coniferous and deciduous trees at the edges of clearings (WBWG 2017).	**High.** Trees scattered throughout the site are suitable roosting habitat for this species.
Taxidea taxus American badger	--	CSC	This species prefers dry open fields, grasslands, and pastures.	**No Habitat Present.** The annual brome grasslands within the Study Area are not sufficiently expansive to support this species.

Status Codes:

CC - CDFW Candidate for Listing
CE - CDFW Endangered
CFP - CDFW Fully Protected
CRPR - California Rare Plant Rank
CSC - CDFW Species of Concern
CT - CDFW Threatened
FE - Federally Endangered
FT - Federally Threatened
WBWG M - Western Bat Working Group Medium Threat Rank
WBWG H - Western Bat Working Group High Threat Rank

5.2 Invertebrates

5.2.1 Valley Elderberry Longhorn Beetle

The Valley elderberry longhorn beetle is listed as threatened pursuant to the federal Endangered Species Act. The historic range of this beetle is limited to moist Valley oak woodlands along margins of rivers and streams in the lower Sacramento and lower San Joaquin Valleys (USFWS 1980). At the time of its listing, the beetle was known from less than 10 localities in Merced, Sacramento, and Yolo Counties (USFWS 1984). Its current distribution is patchy throughout California's Central Valley and associated foothills (USFWS 1999).

The Valley elderberry longhorn beetle is completely dependent on its host plant, elderberry (*Sambucus* species), which occurs in riparian and other woodland communities in California's Central Valley and the associated foothills (USFWS 1999). Female beetles lay their eggs in crevices on the stems or on the leaves of living elderberry plants. When the eggs hatch, larvae bore into the stems. The larval stages last for one to two years. The fifth instar larvae create emergence holes in the stems and then plug the holes and remain in the stems through pupation (Talley 2003). Adults emerge through the emergence holes from late March through June. The short-lived adult beetles forage on leaves and flowers of elderberry shrubs.

Two clusters of elderberry shrubs are present in the eastern portion of the Study Area (**Figure 7**). Each of these clusters has numerous stems with a diameter of one inch or greater, but no exit holes were observed on any of the shrubs. The shrubs are not in a riparian location. The nearest potential occurrence of VELB is the potentially extirpated CNDDB Occurrence #270, which is approximately 5 miles to the northeast (CNDDB 2017).

5.3 Fish

5.3.1 Central Valley Steelhead

Steelhead (*Oncorhynchus mykiss irideus*) populations in the Central Valley ESU have been listed by the NMFS under the ESA as threatened. Steelhead, the anadromous form of rainbow trout, historically inhabited most tributaries to the Sacramento River. Juvenile steelhead may spend up to three years in freshwater prior to emigrating to the ocean as smolts. Typically, juvenile steelhead emigrate as age class 1+ fish (one year in fresh water) through the Sacramento River and the Sacramento-San Joaquin Estuary from November through May. Spawning steelhead require gravel or cobble substrates 0.2 to 5.1 inches in diameter for egg laying. Fine sediments (e.g., silt, fine sand, and clay) may suffocate eggs by preventing the transport of dissolved oxygen from the water to the eggs. The range of water temperatures for optimal survival and growth of rainbow trout is between 59 and 64°F (Moyle 2002). Both fry and older juveniles require instream object cover, cobble or boulders, large woody debris, undercut banks, or submerged and overhanging vegetation for protection against predators.

Dry Creek within the Study Area is Critical Habitat for Central Valley steelhead; the reach of the creek within the Study Area is considered too degraded to provide spawning and rearing habitat, but serves as a migration corridor to better habitat upstream in Secret Ravine and Miner's Ravine (CNDDB 2018). The intermittent drainage is tributary to Dry Creek, but does not have appropriate substrate for spawning, and its intermittent nature renders it unsuitable for rearing habitat. Although it is possible that steelhead could swim through it occasionally, the intermittent drainage is not considered suitable habitat for this species.

5.3.2 Central Valley Fall-Run Chinook Salmon

Chinook salmon are an anadromous species which spawn in freshwater rivers but migrate to the ocean to rear (Moyle 2002). Chinook salmon typically return to their natal stream to spawn. Within the Central Valley there are four races of Chinook salmon: fall-run, late fall-run, winter-run, and spring-run. Adult fall-run Chinook salmon migrate through the Delta and into Central Valley rivers from July through December and spawn from October through December.

Chinook rely on suitable water temperature and substrate for successful spawning and incubation. Rearing habitat for juveniles includes riffles, runs, pools, and inundated floodplains. In streams, Chinook are opportunistic feeders. They eat aquatic insects, terrestrial insects and bottom invertebrates. Juvenile Chinook are significantly affected by predatory nonnative fish (Moyle 2002).

Dry Creek within the Study Area is Essential Fish Habitat for all Pacific Salmon, including the Central Valley fall-run Chinook; the reach of the creek within the Study Area is considered too degraded to provide spawning and rearing habitat for salmonids, but serves as a migration corridor to better habitat upstream in Secret Ravine and Miner's Ravine (CNDDB 2018). The intermittent drainage is tributary to Dry Creek, but does not have appropriate substrate for spawning, and its intermittent nature renders it unsuitable for rearing habitat. Although it is possible that Chinook could swim through it occasionally, the intermittent drainage is not considered suitable habitat for this species.

5.4 Amphibians

5.4.1 Western Spadefoot

The western spadefoot (*Spea hammondii*) is not federally or state listed, but is a CDFW species of special concern. This amphibian is a nocturnal animal that forages in grassland, open chaparral, and pine-oak woodlands for a variety of invertebrates such as insects and worms (USFWS 2005). Western Spadefoot breeds from January through May in variety of temporary wetlands including creeks, pools in intermittent drainages, vernal pools, and seasonal wetlands, and other fish-free water features. The tadpoles develop in 3 to 11 weeks, and must complete their metamorphosis before the temporary pools dry. Post-metamorphic juveniles feed and then immediately seek underground refugia. Following metamorphosis, the adults are largely terrestrial in nature and will burrow into sandy or gravelly soils utilizing the "spades" on the hind feet. The majority of the adult's life is spent in underground burrows (USFWS 2005). In Placer County, western spadefoot are known to breed in relatively deep man-made features, such as ponded areas adjacent

to railroad tracks, and in intermittent drainage plunge pools or similar pools that hold water through late spring (CNDDB 2017).

Several of the seasonal wetlands within the Project Area represent suitable breeding habitat for western spadefoot and the surrounding annual brome grasslands provide suitable dry-season habitat. The western-most seasonal wetland, which is located along the southern edge of PFE road, appears to be supported by a combination of flow from the intermittent drainage that drains into and out of it, and soil saturation along the edges. This seasonal wetland does not appear to provide any habitat for vernal pool fairy shrimp. The annual brome grasslands within the sewer alignment alternatives are too disturbed to support the species, and do not have potential breeding habitat associated with them. The nearest documented occurrence of western spadefoot is CNDDB Occurrence #171, which is located approximately 2.25 miles north of the site, in the Woodcreek Oaks Open Space Preserve, near the intersection of Woodcreek Oaks Blvd and Junction Blvd (CNDDB 2018).

5.5 Reptiles

5.5.1 Western Pond Turtle

The western pond turtle (*Emys marmorata*) is not federally or state listed, but is a CDFW species of special concern. Its favored habitats include streams, large rivers and canals with slow-moving water, aquatic vegetation, and open basking sites (Jennings and Hayes 1994). Although the turtles must live near water, they can tolerate drought by burrowing into the muddy beds of dried drainages. This species feeds mainly on invertebrates such as insects and worms, but will also consume small fish, frogs, mammals and some plants. Western pond turtle predators include raccoons, coyotes, raptors, weasels, large fish, and bullfrogs. This species breeds from mid to late spring in adjacent open grasslands or sandy banks (Jennings and Hayes 1994).

Dry Creek, the intermittent drainages, and the nursery pond within the Study Area provide suitable habitat for western pond turtle. Western pond turtle has not been documented in the CNDDB within 5 miles of the Study Area (CNDDB 2018).

5.6 Birds

5.6.1 Tricolored Blackbird

Tricolored blackbirds (*Agelaius tricolor*) are not federally listed, but are state listed as threatened. In addition, tricolored blackbird is listed by CDFW as a species of special concern. They are colonial nesters preferring to nest in dense stands of cattails, bulrush, or blackberry thickets associated with perennial water (Shuford and Gardali 2008).

Blackberry brambles in the vicinity of the intermittent drainage along the eastern side of the Study Area, and a small cattail patch within the wetland swale in the western portion of the Study Area represent

marginally suitable nesting habitat for tricolored blackbird. The nearest documented occurrence of tricolored blackbird is CNDDB Occurrence #330, which is located approximately 5 miles east of the Study Area, along Wellington Way just north of East Roseville Parkway (CNDDB 2018).

5.6.2 Burrowing Owl

Burrowing owl (*Athene cunicularia*) is not listed pursuant to either the California or federal Endangered Species Acts; however, it is designated as a species of special concern by the CDFW. They typically inhabit dry open rolling hills, grasslands, desert floors, and open bare ground with gullies and arroyos. This species typically uses burrows created by fossorial mammals, most notably the California ground squirrel, but may also use man-made structures such as culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement (CDFG 1995). The breeding season extends from February 1 through August 31 (CBOC 1993, CDFG 1995).

Although few ground squirrel burrows were observed, debris scattered throughout the Study Area could provide artificial burrows for burrowing owl. The annual brome grasslands provide suitable foraging habitat for this species. The nearest known occurrence of burrowing owl is approximately 2 miles northwest of the Study Area, along the west side of Fiddyment Road, north of Baseline (D. Snider, personal observation).

5.6.3 Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is a raptor species that is not federally listed, but is listed as threatened by CDFW. Breeding pairs typically nest in tall trees associated with riparian corridors, and forage in grassland, irrigated pasture, and cropland with a high density of rodents (Shuford and Gardali 2008). The Central Valley populations breed and nest in the late spring through early summer before migrating to Central and South America for the winter (Shuford and Gardali 2008).

The annual brome grasslands throughout the Study Area represent suitable foraging habitat for Swainson's hawk, and the trees within the Study Area provide suitable nesting habitat. The nearest documented Swainson’s hawk nest that is considered extant is CNDDB Occurrence #2201, which is a Valley oak tree northwest of the intersection of Watt Avenue and Dyer Lane, approximately 3.5 miles west of the Study Area (CNDDB 2018).

5.6.4 Northern Harrier

The northern harrier *(Circus cyaneus)* is not listed pursuant to either the California or federal Endangered Species Acts; however, it is considered to be a species of special concern by the CDFW. This species is known to nest within the Central Valley, along the Pacific Coast, and in northeastern California (Shuford and Gardali 2008). The northern harrier is a ground nesting species, and typically nests in emergent wetland/marsh, open grasslands, or savannah habitats. Foraging occurs within a variety of open habitats such as marshes, agricultural fields, and grasslands (Shuford and Gardali 2008).

The annual brome grasslands throughout the Study Area are suitable nesting and foraging habitat for this species. Northern harrier has not been documented in the CNDDB within 5 miles of the Study Area (CNDDB 2018).

5.6.5 White-Tailed Kite

White-tailed kite (*Elanus leucurus*) is not federally or state listed, but is a CDFW fully protected species. This species is a yearlong resident in the Central Valley and is primarily found in or near foraging areas such as open grasslands, meadows, farmlands, savannahs, and emergent wetlands (Shuford and Gardali 2008). White-tailed kites typically nest from March through June in trees within riparian, oak woodland, and savannah habitats of the Central Valley and Coast Range (Shuford and Gardali 2008).

The annual brome grasslands throughout the Study Area represent suitable foraging habitat for white-tailed kite, and the trees within the Study Area provide suitable nesting habitat. This species was observed foraging in the eastern portion of the Project Area during a field survey. The nearest documented occurrence of white-tailed kite in the CNDDB is Occurrence #56, which is located approximately 3 miles north of the Study Area, near the Woodcreek Golf Club (CNDDB 2018).

5.6.6 Loggerhead Shrike

The loggerhead shrike *(Lanius ludovicianus)* is not listed and protected pursuant to either the California or federal Endangered Species Acts; but is a CDFW species of special concern. Loggerhead shrikes nest in small trees and shrubs in woodland and savannah vegetation communities, and forage in open habitats throughout California (Shuford and Gardali 2008). The nesting season ranges from March through June.

The trees and annual brome grassland within the Study Area provide suitable habitat for loggerhead shrike. Loggerhead shrike has not been documented in the CNDDB within 5 miles of the Study Area (CNDDB 2018).

5.6.7 Yellow Warbler

The yellow warbler *(Setophaga petechia)* is not listed and protected pursuant to either the California or federal Endangered Species Acts; but it is a CDFW species of special concern. The yellow warbler is largely extirpated as a breeder in the Sacramento Valley, but it is a common migrant during the fall and winter months (Shuford and Gardali 2008). Yellow warblers generally occupy riparian vegetation in close proximity to streams. Preferred habitat in northern California is dominated by willows (*Salix* spp.), cottonwoods (*Populus* spp.), and Oregon ash (*Fraxinus latifolia*) (Shuford and Gardali 2008).

Although the Study Area is outside of this species' breeding range, it has been documented along Dry Creek just downstream of the Study Area (eBird 2017), and suitable winter foraging habitat is present in the riparian woodlands within the Study Area.

5.7 Mammals

5.7.1 Pallid Bat

Pallid bat (*Antrozous pallidus*) is not federally or state listed, but is considered a CDFW species of special concern, and is classified by the WBWG as a High priority species. It favors roosting sites in crevices in rock outcrops, caves, abandoned mines, hollow trees, and human-made structures such as barns, attics, and sheds (WBWG 2017). Though pallid bats are gregarious, they tend to group in smaller colonies of 10 to 100 individuals. It is a nocturnal hunter and captures prey in flight, but unlike most American bats, the species has been observed foraging for flightless insects, which it seizes after landing (WBWG 2017).

Tree hollows and exfoliating bark on trees throughout the Study Area, and a few scattered sheds within the nursery and abandoned almond orchard represent suitable roosting habitat for pallid bat. Pallid bat has not been documented in the CNDDB within 5 miles of the Study Area (CNDDB 2018).

5.7.2 Silver-Haired Bat

Silver-haired bat (*Lasionycteris noctivagans*) is not federally or state listed, but is classified by the WBWG as a Medium priority species. Primarily considered a coastal and montane forest species, the silver-haired bat occurs in more xeric environments during winter and seasonal migrations (WBWG 2017). It roosts in abandoned woodpecker holes, under bark, and occasionally in rock crevices. This insectivore's favored foraging sites include open wooded areas near water features (WBWG 2017).

Tree hollows and exfoliating bark on trees throughout the Study Area represent suitable roosting habitat for silver-haired bat. Silver-haired bat has not been documented in the CNDDB within 5 miles of the Study Area (CNDDB 2018).

5.7.3 Western Red Bat

Western red bat (*Lasiurus blossevillii*) is not federally or state listed, but is considered a CDFW species of special concern, and is classified by the WBWG as a High priority species. Western red bat is typically solitary, roosting primarily in the foliage of trees or shrubs (WBWG 2017). Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores) (WBWG 2017).

Trees within the riparian woodland represent suitable roosting habitat for western red bat. Western red bat has not been documented in the CNDDB within 5 miles of the Study Area (CNDDB 2018).

5.7.4 Hoary Bat

The hoary bat (*Lasiurus cinereus*) is not federally or state listed, but is classified by the WBWG as a Medium priority species. It is considered to be one of the most widespread of all American bats with a range

extending from Canada to central Chile and Argentina as well as Hawaii (WBWG 2017). Hoary bats are solitary and roost primarily in foliage of both coniferous and deciduous trees, near the ends of branches at the edge of a clearing (WBWG 2017). This species may also occasionally roost in caves, beneath a rock ledge, in a woodpecker hole, in a grey squirrel nest, under a wood plank, or clinging to the side of a building (WBWG 2017).

Trees within the oak woodland and riparian woodland represent suitable roosting habitat for hoary bat. Hoary bat has not been documented in the CNDDB within 5 miles of the Study Area (CNDDB 2018).

6.0 IMPACTS TO SENSITIVE BIOLOGICAL RESOURCES

This section details potential impacts to the biological resources discussed above associated with construction of the Project, as discussed in **Section 1.1** and shown in **Attachment A**, and those associated with the Potential Ultimate Widening, as discussed in **Section 1.2**, and shown in **Attachment B**.

6.1 Aquatic Resources

6.1.1 Project Impacts

Of the approximately 2.805 acres of aquatic resources mapped within the Study Area, 0.949 acres will be impacted by the Project, 1.438 acre will be avoided in the open space area, 0.187 acre will be avoided in the Ultimate Widening Area, 0.062 acre of Dry Creek will be avoided within Sewer Alternative 4, and 0.166 acre may be impacted if Sewer Alternative 2 is implemented (**Table 3** and **Attachment G**).

Table 3. Aquatic Resources Impacts and Avoidance within the Study Area

Aquatic Resource Type	Impacts			Avoided Resources (ac)	Total Acreage within Study Area
	Project Area (ac)	Sewer Alignment Alternatives			
		Alternative 2 (ac)	Alternative 4 (ac)		
Seasonal Wetland	0.130	0.000	0.000	0.386[2]	0.516[2]
Seasonal Wetland Swale	0.542	0.000	0.000	0.025	0.567
Dry Creek	0.000	0.166	0.000[1]	0.062[1]	0.227
Intermittent Drainage	0.008	0.000	0.000	1.218	1.226
Pond	0.204	0.000	0.000	0.000	0.204
Roadside Ditch	0.065	0.000	0.000	0.000	0.065
Total	**0.949**	**0.166**	**0.000**	**1.691[2]**	**2.805[2]**

[1] Approximately 0.062 acre of Dry Creek is located within Sewer Alternative 4; however, as the sewer line would be attached to the underside of an existing bridge using hangers, no impacts to Dry Creek are anticipated as a result of this Alternative.
[2] Rounding may result in small summation errors.

6.1.2 Potential Ultimate Widening Impacts

The Potential Ultimate Widening of PFE Road, if implemented by the County, would result in permanent impacts to 0.092 acre of seasonal wetland (comprised of 0.069 acre of impact within the Ultimate Widening Area and 0.023 acre of impact within the Avoided Area) and 0.160 acre of intermittent drainage (comprised

of 0.118 acre of impact within the Ultimate Widening Area and 0.042 acre of impact within the Avoided Area) (**Attachment G**). These impacts would be required to realign the intermittent drainage, thereby moving it out of the way for the construction of the additional road width. In addition, 0.032 acre of intermittent drainage would be temporarily impacted during realignment of the intermittent drainage. These temporarily impacted areas would be stabilized and seeded following construction. It is expected the new section of intermittent drainage would continue to function as the current intermittent drainage does, providing drainage conveyance and habitat for native fish and wildlife species.

6.2 Special-Status Plant Species

The vegetation communities proposed for impact represent suitable habitat for a variety of special-status plant species, but protocol-level special-status plant surveys were conducted throughout the Study Area, and only Sanford's arrowhead was found (Madrone 2018b). The Sanford's arrowhead population is located in the avoidance area and will not be impacted (**Attachment H**). Therefore, no impacts to special-status plant species are anticipated for either the Project or the Potential Ultimate Widening.

6.3 Valley Elderberry Longhorn Beetle

6.3.1 Project Impacts

Two clumps of elderberry shrubs with stems greater than 1 inch in diameter were mapped on-site (**Figure 6**), and represent potential habitat for VELB. All of the shrubs will be avoided by the Project by at least 20 feet.

6.3.2 Potential Ultimate Widening Impacts

No elderberry shrubs occur within 100 feet of the Ultimate Widening area; therefore, no impacts to VELB are anticipated as a result of the Potential Ultimate Widening.

6.4 Salmonids

6.4.1 Project Impacts

Dry Creek within the Study Area is designated Critical Habitat for Central Valley steelhead, Essential Fish Habitat for Central Valley fall- run Chinook, and serves as a migration corridor for both Central Valley steelhead and Central Valley fall- run Chinook to suitable spawning and rearing habitat upstream in Secret Ravine and Miner's Ravine. There are two sewer line crossing alternatives being considered for this Project; Alternative 2 would involve jack and boring the line under Dry Creek, and Alternative 4 would involve suspending the sewer line under the existing Dry Creek bridge on Atkinson Street. Neither of these alternatives would be expected to result in any direct impacts to Dry Creek, but either could result in indirect water quality impacts if appropriate erosion control measures were not implemented during work on either side of the creek.

6.4.2 Potential Ultimate Widening

The Potential Ultimate Widening will not involve any work in or near Dry Creek, and the interim drainages being impacted do not represent salmonid habitat, as noted in **Sections 5.3.1** and **5.3.2**. Therefore, no impacts to salmonids are anticipated as a result of the Potential Ultimate Widening.

6.5 Western Spadefoot

6.5.1 Project Impacts

The seasonal wetland being impacted by the Project represents suitable breeding habitat for western spadefoot and the surrounding annual brome grasslands and oak woodland provide suitable dry-season habitat. A total of 0.069 acre of suitable breeding habitat will be impacted by Project construction, and 61.0 acres of suitable dry-season habitat will be impacted by Project construction (**Attachments G and H**).

6.5.2 Potential Ultimate Widening Impacts

The seasonal wetland that would be impacted by the Potential Ultimate Widening represents suitable breeding habitat for western spadefoot and the adjacent annual brome grasslands and oak woodland provide suitable dry-season habitat. Approximately 0.069 acre of suitable breeding habitat and 0.03 acre of suitable dry-season habitat would be impacted by implementation of the Potential Ultimate Widening (**Attachments G and H**).

6.6 Western Pond Turtle

6.6.1 Project Impacts

Dry Creek, the intermittent drainage, and the nursery pond within the Study Area provide suitable habitat for western pond turtle, and the adjacent riparian and oak woodlands provide suitable nesting habitat. The nursery pond, several reaches of intermittent drainage on either side of PFE Road, and isolated patches of adjacent riparian and oak woodlands will be impacted during Project construction (**Attachments G and H**). If western pond turtles or their nests were present in those areas during construction, individual turtles could be injured or killed, or nests could be destroyed.

6.6.2 Potential Ultimate Widening Impacts

Implementation of the Potential Ultimate Widening Improvements would include impacts to portions of the intermittent drainage and surrounding riparian and oak woodlands (**Attachments G and H**). If western pond turtles or their nests were present in those areas during construction, individual turtles could be injured or killed, or nests could be destroyed.

6.7 Nesting Raptors and Songbirds

Swainson's hawk, white-tailed kite, northern harrier, tricolored blackbird, and loggerhead shrike have the potential to nest within both the Project area and the Potential Ultimate Widening area, as do other more common bird species protected by the MBTA. If they were nesting on-site, removal of the nests would impact these species. Furthermore, birds nesting in avoided areas adjacent to construction could be disturbed by construction, which could result in nest abandonment.

6.8 Foraging Raptors

6.8.1 Project Impacts

The annual brome grassland within the Study Area provides suitable foraging habitat for Swainson's hawk, white-tailed kite, northern harrier, and other more common raptors. 60.0 acres of annual brome grassland will be impacted during Project implementation. If Sewer Alternative 2 is implemented, that would result in an additional 0.9 acre of impacts to annual brome grassland (**Attachment H**).

6.8.2 Potential Ultimate Widening Impacts

Approximately 0.2 acre of annual brome grassland would be impacted if the County were to implement the Potential Ultimate Widening (**Attachment H**).

6.9 Burrowing Owl

The annual brome grassland throughout both the Project area and the Potential Ultimate Widening area provides suitable foraging habitat for burrowing owl, and occasional ground-squirrel burrows and debris throughout the Study Area provide marginally suitable burrow habitat. If ground disturbance occurred while burrowing owls were in burrows, individuals of this species could be killed.

6.10 Winter Foraging Birds

Yellow warbler has the potential to utilize the riparian woodland within both the Project area and the Potential Ultimate Widening area for winter foraging. Only minimal impacts to riparian woodland are proposed as part of this Project, and as there is a relatively large amount of this vegetation type in the vicinity, this species is not anticipated to be impacted.

6.11 Roosting Bats

Abandoned buildings and trees throughout the Project area, and trees within the Potential Ultimate Widening area, are habitat for various special-status bats species. If special-status bats were roosting in trees or buildings to be removed by Project construction or implementation of the Potential Ultimate Widening Project, they could be injured or killed during the removal.

6.12 Native Trees and Oak Woodlands

In accordance with the Interim Guidelines, impacts to individual native trees within any oak woodland areas that are less than two acres in total size are to be assessed and mitigated under the provisions of the Tree Ordinance. Likewise, trees within impact areas that are less than one acre in size are to be assessed and mitigated under the provisions of the Tree Ordinance. Impacts greater than one acre in oak woodland areas that are greater than two acres may be assessed and mitigated in accordance with the Interim Guidelines. There are only two oak woodland areas within the Study Area that may have equal to or greater than one acre of impact: the Potential Ultimate Widening impacts to the oak woodland (including riparian woodland) in the Avoided Area, and the Sewer Alternative 2 impacts to oak woodland (including riparian woodland). Impacts to native trees outside of these two areas have been analyzed below as impacts to individual native trees.

6.12.1 Project Impacts

6.12.1.1 Individual Native Trees

Abacus inventoried 80 trees within the area to be impacted by the Project (**Attachment I**). Of these trees, 5 were below the size threshold, and are not considered Protected Trees. An additional 46 trees were rated as dying or unhealthy, and are therefore not considered Protected Trees. The remaining 75 trees are the Protected Trees that will be impacted by the Project. These 75 trees have a combined diameter at breast height (DBH) of 1,289 inches (as summarized below in **Table 4**).

Table 4. Summary of Project Tree Impacts

	Number of Trees (DBH)					Total	
Rating	**Blue Oak**	**Valley Oak**	**Interior Live Oak**	**Fremont Cottonwood**	**Incense Cedar**	**Number of Trees**	**Cumulative DBH**
0	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0	0
1	0 (0)	2 (24)	1 (19)	1 (30)	0 (0)	4	73
2	14 (305)	16 (219)	11 (145)	1 (38)	0 (0)	42	707
3	27 (449)	22 (320)	10 (240)	0 (0)	1 (10)	60	1,019
4	6 (105)	7 (141)	1 (18)	0 (0)	0 (0)	14	264
5	0 (0)	1 (6)	0 (0)	0 (0)	0 (0)	1	6
Total 0-5	47 (859)	48 (710)	23 (422)	2 (68)	1 (10)	121	2,069
Total 3-5	**33 (554)**	**30 (467)**	**11 (258)**	**0 (0)**	**1 (10)**	**75**	**1,289**

Note that trees rated 0-2 are dead, dying, or have major health or structural problems, and as such do not require a tree permit for removal.

Protected trees remaining onsite could be subject to construction-related impacts as a result of work within their Protected Zone.

6.12.1.2 Oak Woodland Impacts

A combined total of 1.3 acre of riparian and oak woodland occurs within the Sewer Alternative 2 Alignment. This sewer alternative (if implemented) would consist of installation of a relatively narrow new pipeline, and as such, tree impacts would be largely restricted to trenching below the canopy of a small number of trees. As the alignment has not yet been determined, no tree inventory has been conducted. If Sewer Alternative 2 is ultimately selected, a tree inventory may be prepared for the alignment if the Applicant chooses to mitigate on an individual tree basis (as discussed below in **Section 7.11**).

6.12.2 Potential Ultimate Widening Impacts

Impacts associated with the Potential Ultimate Widening have been analyzed both on an individual tree basis, and oak woodland canopy basis. The analyses presented below are both of the same impact area.

6.12.2.1 Individual Native Trees

Abacus inventoried 34 trees within the area that may be impacted by the Potential Ultimate Widening (**Attachment B**). Of these trees, 20 were rated as dead, dying or unhealthy, and are therefore not considered Protected Trees. The remaining 14 trees are the Protected Trees that could be impacted by the Potential Ultimate Widening, if implemented. These 14 trees have a combined diameter at breast height (DBH) of 304 inches (as summarized below in **Table 5**).

Table 5. Summary of Potential Ultimate Widening Tree Impacts

	Number of Trees (DBH)			Total Number	Cumulative DBH
Rating	**Blue Oak**	**Interior Live Oak**	**Willow**	**of Trees**	
0	2 (62)	0 (0)	0 (0)	2	62
1	3 (66)	8 (173)	0 (0)	11	239
2	1 (18)	4 (58)	2 (N/A)	7	76
3	6 (149)	6 (87)	0 (0)	12	236
4	1 (24)	1 (44)	0 (0)	2	68
5	0 (0)	0 (0)	0 (0)	0	0
Total 0-5	13 (319)	19 (362)	2 (N/A)	34	681
Total 3-5	**7 (173)**	**7 (131)**	**0 (0)**	14	304

Note that trees rated 0-2 are dead, dying, or have major health or structural problems, and as such do not require a tree permit for removal. Abacus did not record DBH for willow trees.

6.12.2.2.Oak Woodland Impacts

The road widening and drainage realignment associated with the Potential Ultimate Widening Project would impact 0.3 acre of mapped oak woodland, and 0.7 acre of mapped riparian woodland, for a combined total of 1.0 acre of direct impacts. In addition, 0.6 acre of oak woodland (including riparian woodland) within 50 feet of the potential work could be indirectly impacted.

7.0 MITIGATION FOR IMPACTS TO SENSITIVE BIOLOGICAL RESOURCES

The following are mitigation measures that are often required by CEQA lead agencies for impacts to sensitive biological resources that may be associated with construction of the Project. Potential mitigation measures for the Potential Ultimate Widening are discussed in **Section 7.13**.

7.1 Aquatic Resources

1. The Project applicant shall apply for a Section 404 permit from the U.S. Army Corps of Engineers. Waters that will be impacted shall be replaced or rehabilitated on a "no-net-loss" basis. Habitat restoration, rehabilitation, and/or replacement shall be at a location and by methods acceptable to the USACE.
2. The applicant shall apply for a Section 401 water quality certification from the RWQCB, and adhere to the certification conditions.
3. The applicant shall apply for a Section 1600 Lake or Streambed Alteration Agreement from CDFW. The information provided will include a description of all of the activities associated with the Project, not just those closely associated with the drainages and/or riparian vegetation. Impacts will be outlined in the application and are expected to be in substantial conformance with the impacts to biological resources outlined in this document. Impacts for each activity will be broken down by temporary and permanent, and a description of the proposed mitigation for biological resource impacts will be outlined per activity and then by temporary and permanent. Information regarding Project-specific drainage and hydrology changes resulting from Project implementation will be provided as well as a description of storm water treatment methods. Minimization and avoidance measures will be proposed as appropriate and may include: preconstruction species surveys and reporting, protective fencing around avoided biological resources, worker environmental awareness training, seeding disturbed areas adjacent to open space areas with native seed, and installation of project-specific storm water BMPs. Mitigation may include restoration or enhancement of resources on- or off-site, purchase habitat credits from an agency-approved mitigation/conservation bank, off-site, working with a local land trust to preserve land, or any other method acceptable to CDFW. Note that no permit request will be made, nor any additional information provided, for the Potential Ultimate Widening.

7.2 Special-Status Plant Species

Special-status plant surveys conducted throughout the Study Area in 2017 were negative within the proposed impact area, but given enough time, plants may become established in areas where suitable habitat exists. Therefore, if Project construction does not commence prior to the spring of 2020, another round of special-status plant surveys shall be conducted in areas proposed for impact prior to commencement of construction. If no special-status plant species are found, no further mitigation would be required. If special-status plants are found and will be impacted, mitigation for those impacts will be determined during consultation with the County. If the plant found is a perennial such as Sanford's arrowhead or big-scale balsamroot, then mitigation could consist of digging up the plant and transplanting into a suitable avoided area on-site prior to construction. If the plant found is an annual such as dwarf downingia, then mitigation could consist of collecting seed-bearing soil and spreading into a suitable

constructed wetland at a mitigation site (as placing soil into an avoided wetland on-site would be considered fill).

7.3 Valley Elderberry Longhorn Beetle

All elderberry shrubs (which are defined for the purposes of this section as those with stems greater than 1 inch in diameter) shall be avoided completely during Project construction with a buffer of at least 20 feet, and the following avoidance and minimization measures [as outlined in the *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (USFWS 2017b) (Framework)] shall be implemented for all work within 165 feet of a shrub:

- All areas to be avoided during construction activities will be fenced and/or flagged as close to construction limits as feasible.
- Activities that could damage or kill an elderberry shrub (e.g., trenching, paving, etc.) shall receive an avoidance area of at least 20 feet from the drip-line.
- A qualified biologist will provide training for all contractors, work crews, and any onsite personnel on the status of the VELB, its host plant and habitat, the need to avoid damaging the elderberry shrubs, and the possible penalties for noncompliance.
- A qualified biologist will monitor the work area at project appropriate intervals to assure that all avoidance and minimization measures are implemented.
- As much as feasible, all activities within 165 feet of an elderberry shrub will be conducted between August and February.
- Elderberry shrubs will not be trimmed.
- Herbicides will not be used within the drip-line of the shrub. Insecticides will not be used within 100 feet of an elderberry shrub.
- Mechanical weed removal within the drip-line of the shrub will be limited to the season when adults are not active (August - February) and will avoid damaging the elderberry.

If either a 20-foot diameter avoidance area around any elderberry shrub is found later to not be feasible or an elderberry shrub must be removed to accommodate construction, then the applicant shall notify the County and implement additional mitigation measures required by the County based on the Framework (USFWS 2017b) after consultation with USFWS.

7.4 Salmonids

Work adjacent to Dry Creek could result in water quality impacts if appropriate runoff, erosion, and sediment control Best Management Practices (BMPs) are not implemented. Therefore, the applicant shall prepare a Stormwater Pollution Protection Plan (SWPPP) for the Project prior to issuance of the grading permit, and implement the SWPPP during construction. Examples of BMPs that may be specified by the Certified Professional in Erosion and Sediment Control (CPESC) that prepares the SWPPP include silt fencing between any areas of ground disturbance and Dry Creek, straw wattles or straw bales around drop inlets, compaction and hydroseeding of bare soil following construction, and locating concrete washouts, refueling areas, and materials storage, etc. a minimum of 200 feet from Dry Creek.

If Alternative 2 is selected, the jack and bore under Dry Creek has a very small potential to result in a frac-out. If Alternative 2 is selected, then prior to plan approval, the contractor will be required to submit a Frac-Out Contingency Plan that will address precautionary measures to minimize the potential for frac-out and identify a contingency response in the unlikely event that frac-out occurs. In addition, the jack and bore may only be conducted between June 15 and October 15 to avoid any impacts to salmonid upstream or downstream migration in the unlikely event that a frac-out should occur.

7.5 Western Spadefoot

Prior to construction, the Applicant shall survey all suitable aquatic habitat within the Project site (including features proposed for avoidance) by sampling the features thoroughly with dipnets during March or early April, when spadefoot tadpoles would be present. In addition, one nocturnal acoustic survey of all areas within 300 feet of suitable aquatic habitat will be conducted. Acoustic surveys consist of walking through the area and listening for the distinctive snore-like call of this species. Timing and methodology for the aquatic and acoustic surveys shall be based on those described in *Distribution of the Western Spadefoot* (Spea hammondii) *in the Northern Sacramento Valley of California, with Comments on Status and Survey Methodology* (Shedd 2017). If both the aquatic survey and the nocturnal acoustic survey are negative, no further mitigation is necessary. If western spadefoot are observed within aquatic habitat proposed for impact, the tadpoles shall be captured and relocated either to aquatic habitat to be avoided on-site (and implement the fencing requirement outlined below, or to an off-site open space preserve with suitable habitat in the vicinity of the Project Area. If western spadefoot are observed within aquatic habitat proposed for avoidance, then the applicant may either: relocate the tadpoles to an off-site open space preserve with suitable habitat in the vicinity of the Project Area, or install silt fence along the edge of the proposed impact area within 300 feet of the occupied aquatic habitat to prevent metamorphosed individuals from dispersing into the construction area.

7.6 Western Pond Turtle

A western pond turtle survey shall be conducted within the nursery pond, the intermittent drainages, and riparian and oak woodlands within 150 feet of suitable habitat within 48 hours prior to construction. If no western pond turtles or nests are found, no further mitigation is necessary. If a western pond turtle is observed within the proposed impact area, a qualified biologist shall relocate the individual to suitable habitat outside of the proposed impact area prior to construction. If a western pond turtle nest is observed within the proposed impact area, the nest shall be fenced off and avoided until the eggs hatch. A qualified biologist shall monitor to ensure that hatchlings do not disperse into the construction area. Relocation of hatchlings will occur as stipulated above, if necessary.

7.7 Nesting Raptors and Other Birds

The following nest survey requirements apply if construction activities take place during the typical bird breeding/nesting season (typically February 15 through September 1).

7.7.1 Swainson's Hawk

A targeted Swainson's hawk nest survey shall be conducted throughout all accessible areas within ¼ mile of the proposed construction area no later than 14 days prior to construction activities. If active Swainson's hawk nests are found within ¼ mile of a construction area, construction shall cease within ¼ mile of the nest until a qualified biologist (Project Biologist) determines that the young have fledged or it is determined that the nesting attempt has failed. If the applicant desires to work within ¼ mile of the nest, the applicant shall consult with CDFW and the County to determine if the nest buffer can be reduced. The Project applicant, the Project biologist, the County, and CDFW shall collectively determine the nest avoidance buffer, and what (if any) nest monitoring is necessary. If an active Swainson's hawk nest is found within the Project site prior to construction and is in a tree that is proposed for removal, then the Project applicant shall implement additional mitigation recommended by a qualified biologist based on CDFW guidelines and obtain any required permits from CDFW.

7.7.2 Burrowing Owls

A targeted burrowing owl nest survey shall be conducted of all accessible areas within 500 feet of the proposed construction area within 14 days prior to construction activities utilizing 60 foot transects as outlined in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) (Staff Report). If an active burrowing owl nest burrow (i.e., occupied by more than one adult owl, and/or juvenile owls are observed) is found within 250 feet of a construction area, construction shall cease within 250 feet of the nest burrow until a qualified biologist (Project Biologist) determines that the young have fledged or it is determined that the nesting attempt has failed. If the applicant desires to work within 250 feet of the nest burrow, the applicant shall consult with CDFW and the County to determine if the nest buffer can be reduced. During the non-breeding season (late September through the end of January), the applicant may choose to conduct a survey for burrows or debris that represent suitable nesting habitat for burrowing owls within areas of proposed ground disturbance, exclude any burrowing owls observed, and collapse any burrows or remove the debris in accordance with the methodology outlined in the Staff Report.

7.7.3 Other Birds

A pre-construction nesting bird survey shall be conducted by a qualified biologist on the project site and within a 500-foot radius of proposed construction areas, where access is available, no more than three (3) days prior to the initiation of construction. If there is a break in construction activity of more than two (2) weeks then subsequent surveys shall be conducted.

If active raptor nests or a tricolored blackbird nesting colony are found, no construction activities shall take place within 500 feet of the nest until the young have fledged. If active songbird nests are found, a 100-foot no disturbance buffer will be established. These no-disturbance buffers may be reduced if a smaller buffer is proposed by the Project Biologist and approved by the County (and CDFW if it is a tricolored blackbird nesting colony) after taking into consideration the natural history of the species of bird nesting, the proposed activity level adjacent to the nest, habituation to existing or ongoing activity, and nest

concealment (are there visual or acoustic barriers between the proposed activity and the nest). A qualified biologist can visit the nest as needed to determine when the young have fledged the nest and are independent of the site or the nest can be left undisturbed until the end of the nesting season.

7.7.4 Survey Report

A report summarizing the survey(s), including those for Swainson's hawk and burrowing owls, shall be provided to the Development Review Committee and CDFW within 30 days of the completed survey and is valid for one construction season. If no nests are found, no further mitigation is required.

7.7.5 Changes to Buffers and Completion of Nesting

Should construction activities cause a nesting bird do any of the following in a way that would be considered a result of construction activities: vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest, then the exclusionary buffer shall be increased such that activities are far enough from the nest to stop this agitated behavior. The exclusionary buffer will remain in place until the chicks have fledged or as otherwise determined by a qualified biologist in consultation with the County.

Construction activities may only resume within the buffer zone after a follow-up survey by the Project Biologist has been conducted and a report has been prepared indicating that the nest (or nests) are no longer active, and that no new nests have been identified.

7.8 Loss of Foraging Habitat

7.8.1 Swainson's Hawk

Approximately 60.0 acres of annual brome grassland that represents suitable foraging habitat for Swainson's hawks will be impacted during construction of the proposed Project, and an additional 0.9 acre will be impacted if Sewer Alternative 2 is selected. These impacts shall be mitigated through purchase and conservation of similar habitat as follows:

At the present time (March 2018), a Swainson's hawk nest is reported in the CNDDB approximately 3.5 miles west of the Study Area (CNDDB Occurrence #2201); however, the last successful documented nesting at this location was in 2003 (CNDDB 2018). Prior to Project construction, a qualified biologist shall conduct a review of Swainson's hawk nest data available in the CNDDB and contact CDFW to determine if they have any additional nest data. If desired by the Project proponent, the biologist may conduct a survey of these nests to determine if they are still present. The biologist shall provide the County with a summary of his/her findings. If it is determined that the project site is within 10 miles of an active Swainson's hawk nest (an active nest is defined as a nest with documented Swainson's hawk use within the past 5 years), the applicant will mitigate for the loss of suitable Swainson's hawk foraging habitat by implementing one of the below measures:

- Active nest identified within 1 mile of the project site: One acre of suitable foraging habitat shall be protected for each acre of suitable foraging habitat developed. Protection shall be via purchase of mitigation bank credits or other land protection mechanism acceptable to the County.
- Active nest identified within 5 miles (but greater than 1 mile) of the project site: 0.75 acre of suitable foraging habitat shall be protected for each acre of suitable foraging habitat developed. Protection shall be via purchase of mitigation bank credits or other land protection mechanism acceptable to the County.
- Active nest identified within 10 miles (but greater than 5 miles) of the project site: 0.5 acre of suitable foraging habitat shall be protected for each acre of suitable foraging habitat developed. Protection shall be via purchase of mitigation bank credits or other land protection mechanism acceptable to the County.

7.8.2 Burrowing Owl

If any nesting burrowing owls are found during the pre-construction survey, mitigation for the permanent loss of burrowing owl foraging habitat (defined as all areas of suitable habitat within 250 feet of the active burrow) shall be accomplished at a 1:1 ratio. The mitigation provided shall be consistent with recommendations in the Staff Report and may be accomplished within the Swainson's Hawk Foraging Habitat mitigation area (as detailed in Section 7.9.1 above) if burrowing owls have been documented utilizing that area, or if the Project Biologist, the County, and CDFW collectively determine that the area is suitable.

7.9 Roosting Bats

Pre-construction roosting bat surveys shall be conducted by a qualified biologist within 14 days prior to any tree or building removal that will occur during the breeding season (April through August). If pre-construction surveys indicate that no roosts of special-status bats are present, or that roosts are inactive or potential habitat is unoccupied, no further mitigation is required. If roosting bats are found, exclusion shall be conducted as recommended by the qualified biologist. Methods may include acoustic monitoring, evening emergence surveys, and the utilization of two-step tree removal supervised by the qualified biologist. Two-step tree removal involves removal of all branches that do not provide roosting habitat on the first day, and then the next day cutting down the remaining portion of the tree. Building exclusion methods may include such techniques as installation of passive one-way doors, or the installation of netting when the bats are not present to prevent their reoccupation. Once the bats have been excluded, tree or building removal may occur.

7.10 Native Trees and Oak Woodland

7.10.1 Project Area

The Project would require the removal of 75 Protected Trees with a combined diameter at breast height (DBH) of 1,289 inches. To mitigate for the loss of Protected Trees, the Project Applicant shall obtain a Tree

Permit from Placer County's Planning Services Division prior to Improvement Plan approval. The Planning Services Division shall review the Tree Permit application as well as the final site improvement plans and determine the precise mitigation requirement at that time. The fee shall be paid into the Placer County Tree Preservation Fund at $100 per DBH removed or impacted.

Efforts should be made to save trees where feasible. This may include the use of retaining walls, planter islands, pavers, or other techniques commonly associated with tree preservation. The Improvement Plans shall include a note and show placement of temporary construction fencing around trees to be saved: The applicant shall install a four foot tall, brightly colored (typically orange), synthetic mesh material fence (or an equivalent approved by the Development Review Committee at the following locations prior to any construction equipment being moved on-site or any construction activities taking place: at the limits of construction; outside the Protected Zone of all single-trunk trees six inches DBH or greater, or 10 inches DBH aggregate for multi-trunk trees; within 50 feet of any grading, road improvements, underground utilities, or other development activity; or as otherwise shown on the Tentative Subdivision Map.

No development of the Project, including grading, shall be allowed until this requirement is satisfied. Any encroachment within these areas, including Protected Zones of trees to be saved, must first be approved by the Development Review Committee. Temporary fencing shall not be altered during construction without written approval of the Development Review Committee. No grading, clearing, storage of equipment or machinery, etc., may occur until a representative of the Development Review Committee has inspected and approved all temporary construction fencing.

7.10.2 Sewer Alignment

If Sewer Alternative 4 is selected, the work will occur entirely within already paved areas, no trees will be impacted, and therefore, no mitigation for tree impacts would be necessary. If Sewer Alternative 2 is selected, the Project Applicant must choose one of the following: (1) mitigation on an individual tree basis in accordance with the Tree Ordinance, or (2) mitigation on an oak woodland canopy basis in accordance with the Interim Guidelines. The two mitigation options are detailed below.

7.10.2.1 Individual Tree Mitigation

The Tree Ordinance requires a Tree Permit for any activity within the Protected Zone of a Protected Tree related to a discretionary project. This permit may be obtained as part of the improvement plan approval, or as a separate permit. To support the approval process, an Arborist Report will need to be prepared by an arborist or registered professional forester that includes specific information on the locations, condition, potential impacts of the activity, recommended actions and mitigation measures for all Protected Trees that could be impacted by the activity. Additionally, all Protected Trees within fifty (50) feet of any development activity must be depicted on the site plan map. The site plan map shall indicate the exact location of the base and dripline of all Protected Trees within the project areas. A survey of the exact locations of the Protected Trees should be conducted by a California professional engineer or California professional land surveyor. The tree numbers should be shown on both the site plan and grading plan. The base elevation of

each Protected Tree shall be shown on the grading plan. To mitigate for the loss of Protected Trees, the Project Applicant shall obtain a Tree Permit from Placer County's Planning Services Division prior to Improvement Plan approval. The Planning Services Division shall review the Tree Permit application as well as the final site improvement plans and determine the precise mitigation requirement at that time. The fee shall be paid into the Placer County Tree Preservation Fund at $100 per DBH removed or impacted.

7.10.2.2 Oak Woodland Mitigation

The project applicant shall obtain a Tree Permit from Placer County's Planning Services Division prior to improvement plan approval that could impact native oak trees and comply with all requirements of the Tree Permit. The Planning Services Division shall review the Tree Permit application as well as the final site improvement plans and determine the precise mitigation requirement at that time. To support the approval process, an exhibit shall be submitted showing the extent of the proposed activity within oak woodlands (as defined by the Interim Guidelines), and the resulting acreage of impact to oak woodlands. If that impact acreage is one acre or greater, the Project Applicant may choose to mitigate for oak woodlands as follows:

Compensatory mitigation shall occur off-site and may consist of one of the following, based on the acreage of Oak Woodland impacted:

- Submit payment of fees for oak woodland conservation at a 2:1 ratio consistent with Chapter 12.16.080 (C) Placer County Tree Preservation Ordinance - Replacement Programs and Penalties. These fees shall be calculated based upon the current market value of similar oak woodland acreage preservation and an endowment to maintain the land in perpetuity.
- Purchase off-site conservation easements at a location approved by Placer County to mitigate the loss of oak woodlands at a 2:1 ratio.
- Provide for a combination of payment to the Tree Preservation Fund and creation of an off-site Oak Preservation Easement.

Removal of significant trees (>24 inches DBH or clumps >72 inches in circumference measured at ground level) within oak woodlands requires additional mitigation on a per-inch DBH removed.

As an example, oak woodland mapped within the current Sewer Alignment Alternative 2 boundary totals 1.3 acres. If that area were to be impacted, the Project Applicant would be required to purchase off-site conservation easements, pay fees for oak woodland conservation, or a combination of the two for 2.6 acres of oak woodland.

7.10.3 Potential Ultimate Widening

The Potential Ultimate Widening may require the removal of 14 Protected Trees with a combined DBH of 304 inches. These trees are located within 1.0 acre of oak woodland that would be directly impacted, and an adjacent 0.6 acre of oak woodland that would be indirectly impacted. The Project Applicant must mitigate in accordance with one of the following measures: (1) mitigation on an individual tree basis in

accordance with the Tree Ordinance, or (2) mitigation on an oak woodland canopy basis in accordance with the Interim Guidelines. The two mitigation options are detailed below.

7.10.3.1 Individual Tree Mitigation

To mitigate for the loss of Protected Trees, the Project Applicant shall obtain a Tree Permit from Placer County's Planning Services Division prior to Improvement Plan approval. The Planning Services Division shall review the Tree Permit application as well as the final site improvement plans and determine the precise mitigation requirement at that time. The fee shall be paid into the Placer County Tree Preservation Fund at $100 per DBH removed or impacted.

Efforts should be made to save trees where feasible. This may include the use of retaining walls, planter islands, pavers, or other techniques commonly associated with tree preservation. The Improvement Plans shall include a note and show placement of temporary construction fencing around trees to be saved: The applicant shall install a four foot tall, brightly colored (typically orange), synthetic mesh material fence (or an equivalent approved by the Development Review Committee at the following locations prior to any construction equipment being moved on-site or any construction activities taking place: at the limits of construction; outside the Protected Zone of all single-trunk trees six inches DBH or greater, or 10 inches DBH aggregate for multi-trunk trees; within 50 feet of any grading, road improvements, underground utilities, or other development activity; or as otherwise shown on the Tentative Subdivision Map.

No development of the Project, including grading, shall be allowed until this requirement is satisfied. Any encroachment within these areas, including Protected Zones of trees to be saved, must first be approved by the Development Review Committee. Temporary fencing shall not be altered during construction without written approval of the Development Review Committee. No grading, clearing, storage of equipment or machinery, etc., may occur until a representative of the Development Review Committee has inspected and approved all temporary construction fencing.

7.10.3.2 Oak Woodland Mitigation

The Project Applicant shall obtain a Tree Permit from Placer County's Planning Services Division prior to improvement plan approval that could impact native oak trees and comply with all requirements of the Tree Permit. The Planning Services Division shall review the Tree Permit application as well as the final site improvement plans and determine the precise mitigation requirement at that time.

Compensatory mitigation shall occur off-site and may consist of one of the following, based on the acreage of Oak Woodland impacted:

- Submit payment of fees for oak woodland conservation at a 2:1 ratio consistent with Chapter 12.16.080 (C) Placer County Tree Preservation Ordinance - Replacement Programs and Penalties. These fees shall be calculated based upon the current market value of similar oak woodland acreage preservation and an endowment to maintain the land in perpetuity.
- Purchase off-site conservation easements at a location approved by Placer County to mitigate the loss of oak woodlands at a 2:1 ratio.

- Provide for a combination of payment to the Tree Preservation Fund and creation of an off-site Oak Preservation Easement.

Removal of significant trees (>24 inches DBH or clumps >72 inches in circumference measured at ground level) within oak woodlands requires additional mitigation on a per-inch DBH removed.

7.11 Worker Environmental Awareness Training

Prior to any ground-disturbing or vegetation-removal activities, a Worker Environmental Awareness Training (WEAT) shall be prepared and administered to the construction crews. The WEAT will include the following: discussion of the state and federal Endangered Species Act, the Clean Water Act, the Project's permits and CEQA documentation, and associated mitigation measures; consequences and penalties for violation or noncompliance with these laws and regulations; identification of special-status wildlife, location of any avoided Waters of the U.S; hazardous substance spill prevention and containment measures; and the contact person in the event of the discovery of a special-status wildlife species. The WEAT will also discuss the different habitats used by the species' different life stages and the annual timing of these life stages. A handout summarizing the WEAT information shall be provided to workers to keep on-site for future reference. Upon completion of the WEAT training, workers will sign a form stating that they attended the training, understand the information presented and will comply with the regulations discussed. Workers will be shown designated "avoidance areas" during the WEAT training; worker access should be restricted to outside of those areas to minimize the potential for inadvertent environmental impacts. Fencing and signage around the boundary of avoidance areas may be helpful.

7.12 Mitigation for Impacts Associated with the Potential Ultimate Widening

The Potential Ultimate Widening, if implemented, is anticipated to result in impacts to aquatic resources; suitable habitat for special-status plant species, western spadefoot, western pond turtle, nesting birds, Swainson's hawk, and roosting bats; and oak and riparian woodland. To mitigate for impacts to these resources, we recommend that the mitigation measures detailed in the following sections be implemented prior to implementation of the Potential Ultimate Widening: **Section 7.1, 7.2, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10.3, and 7.11**.

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Figures

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Figure 4. California Natural Diversity Database Occurrences of Wildlife Species and Critical Habitat

Figure 5. Vegetation Communties – Western Area

Figure 6. Vegetation Communities – Eastern Area

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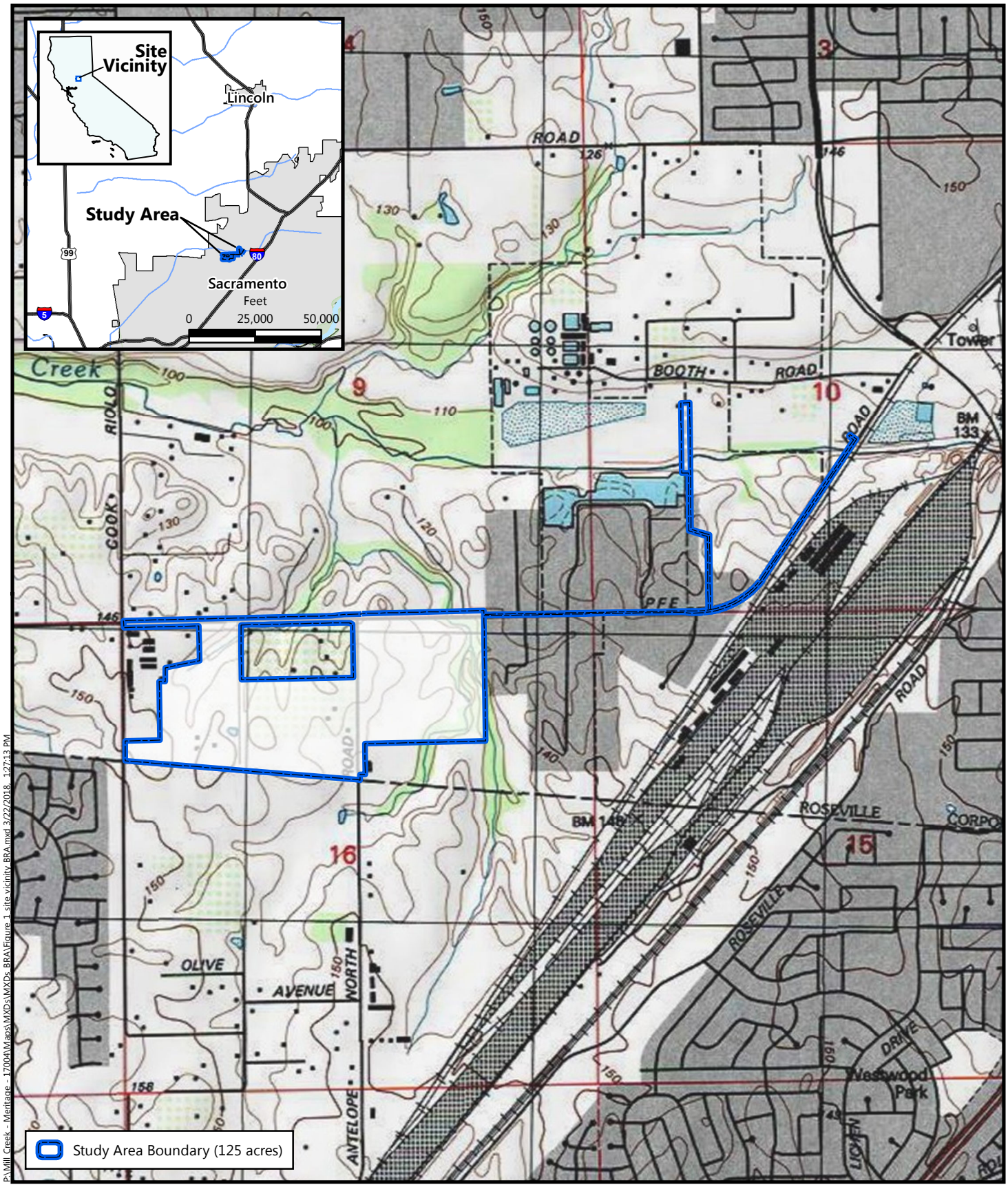
Figure 8. Aquatic Resources, Sanford's Arrowhead, and Elderberry Shrub Location Map - Eastern Area

Figure 9. NRCS Soils Map



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Source: United States Geologic Survey, 2013.
"Citrus Heights, California" 7.5-Minute Topographic Quadrangle
Longitude -121.321001, Latitude 38.729831
Sections 9, 10 and 16, Township 10 North, Range 6 East

Figure 1
Vicinity Map

Mill Creek
Placer County, California

MADRONE ECOLOGICAL CONSULTING

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Basemap Source: *National Geographic* and *ESRI*

Figure 2
Project Components

Mill Creek
Placer County, California

MADRONE ECOLOGICAL CONSULTING

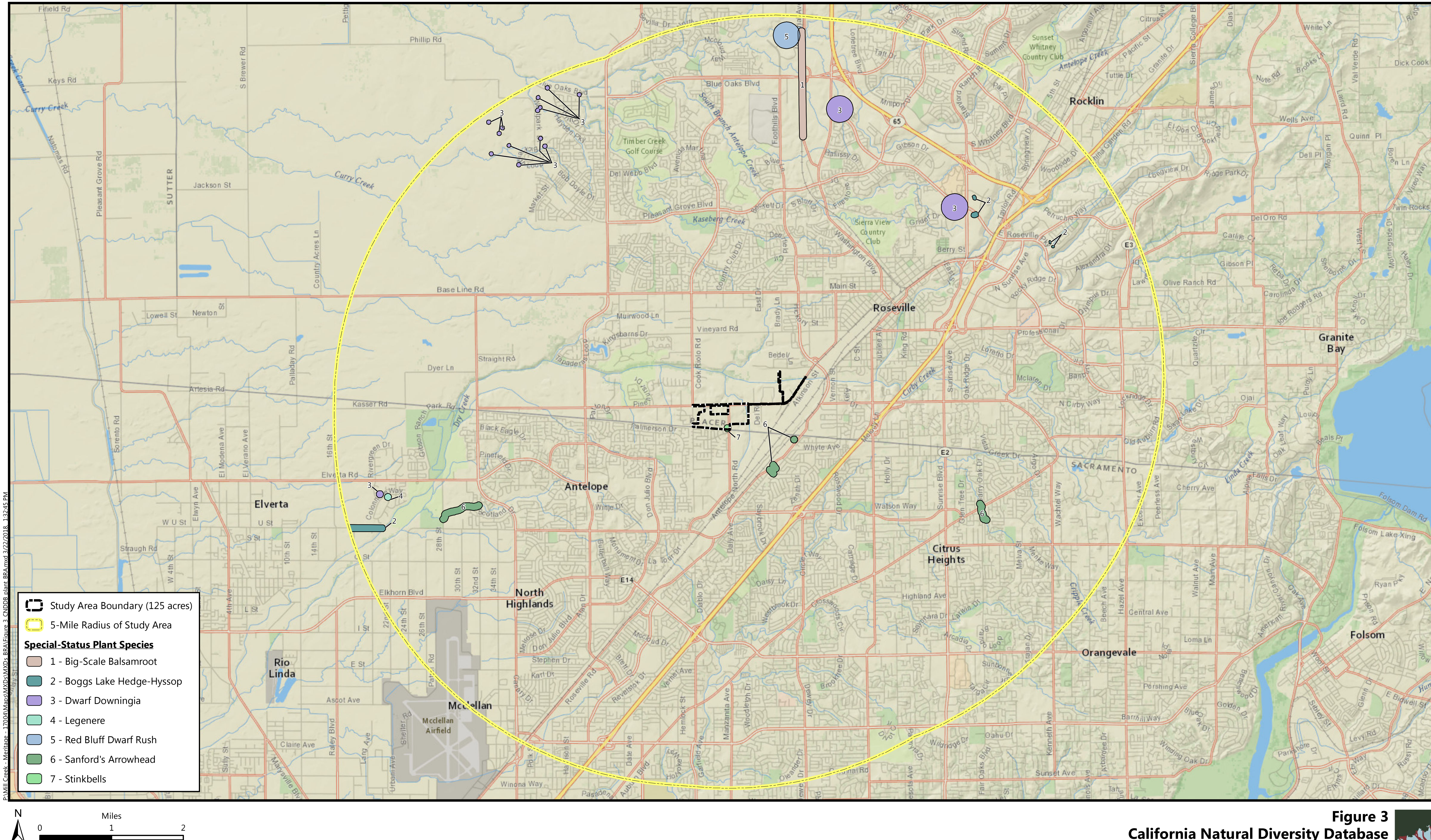

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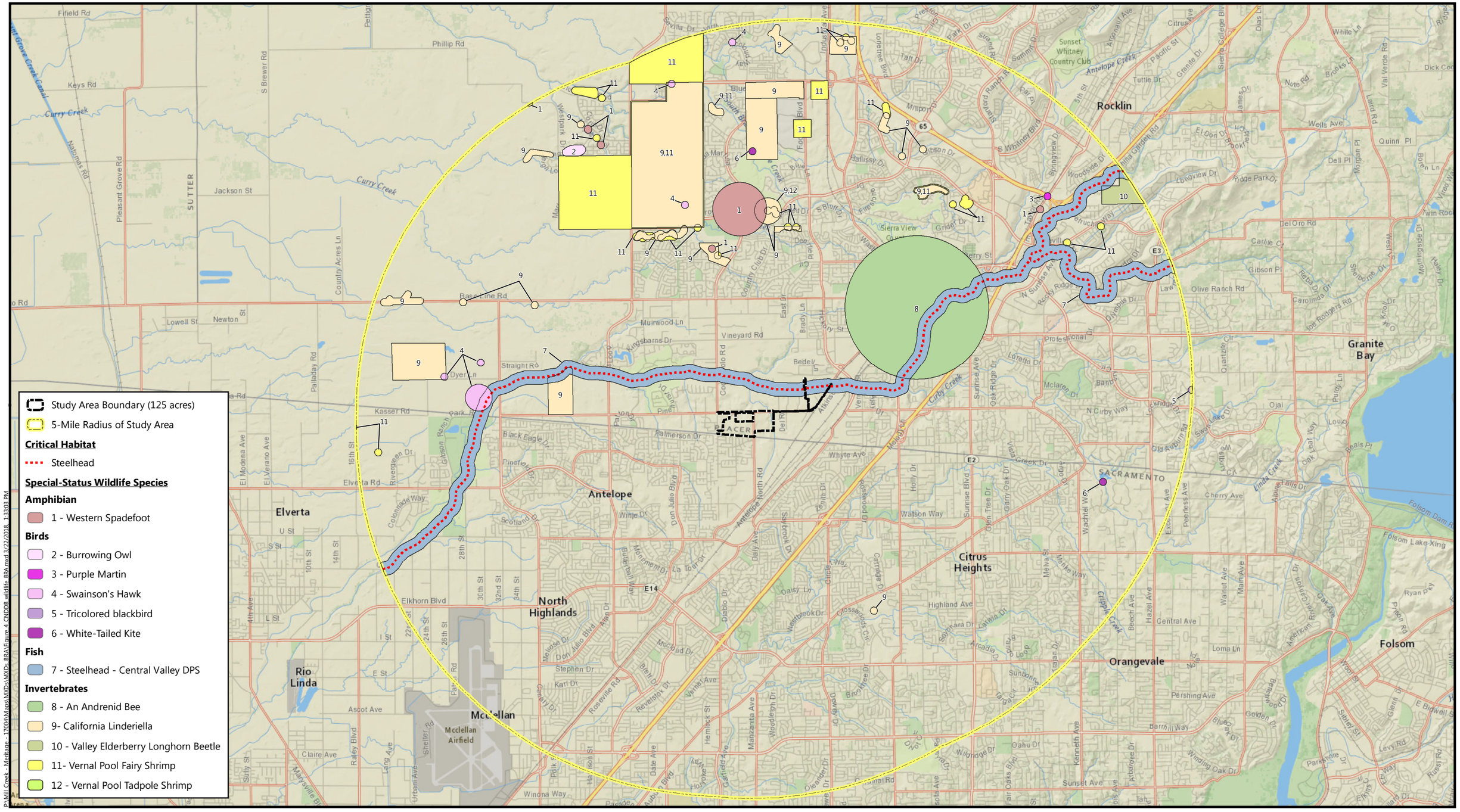
Figure 3
California Natural Diversity Database
Occurrences of Plant Species

Mill Creek
Placer County, California

Source: *California Department of Fish and Wildlife*, November 2017.
Basemap Source: *National Geographic* and *ESRI*



Source: *California Department of Fish and Wildlife*, November 2017.
Basemap Source: *National Geographic* and *ESRI*

Figure 4
California Natural Diversity Database Occurrences of Wildlife Species and Critical Habitat
Mill Creek
Placer County, California

MADRONE ECOLOGICAL CONSULTING

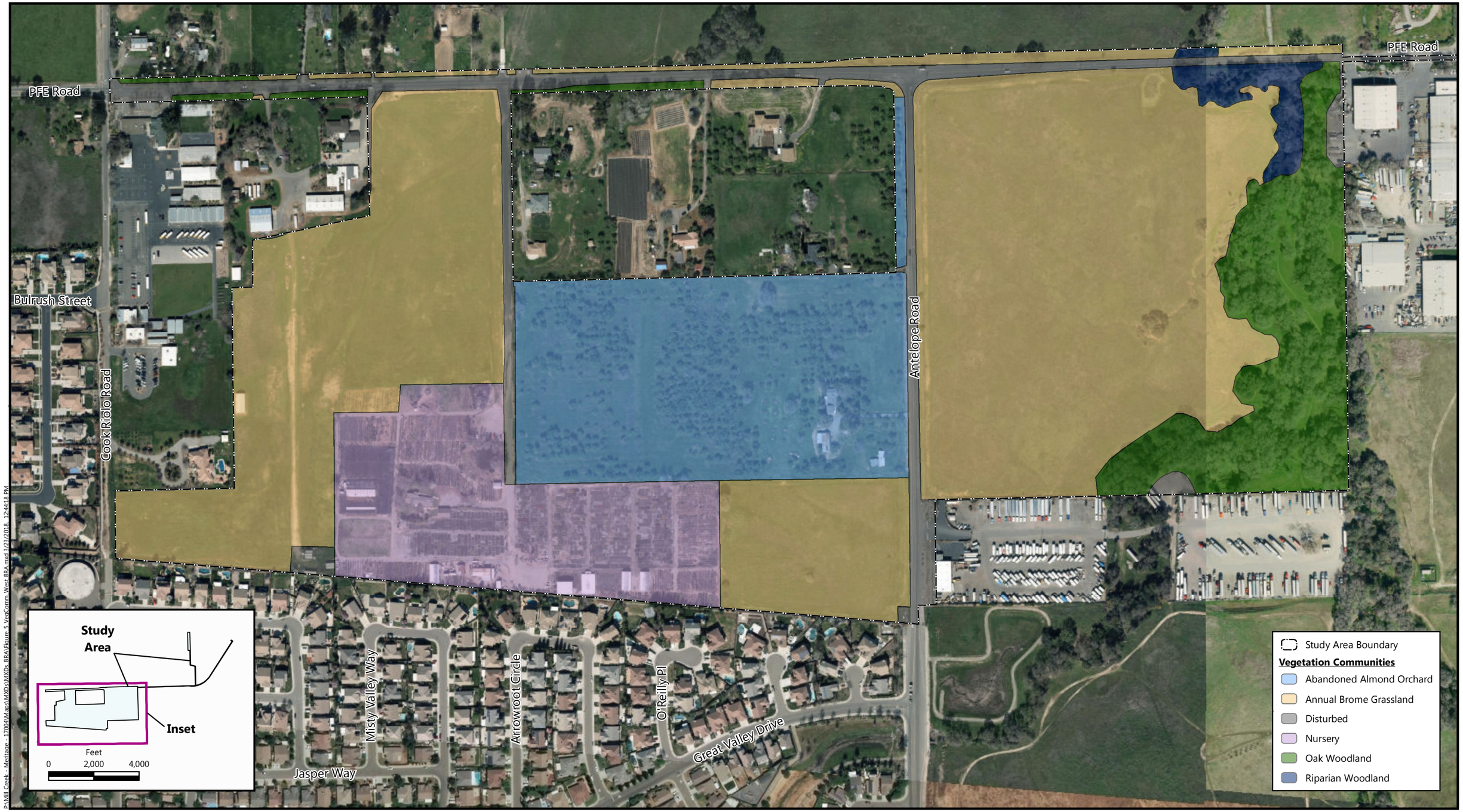


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Figure 5
Vegetation Communities
Western Area

Mill Creek
Placer County, California

MADRONE ECOLOGICAL CONSULTING

Aerial Source: *USDA, National Agriculture Imagery Program,* 10 July 2016.

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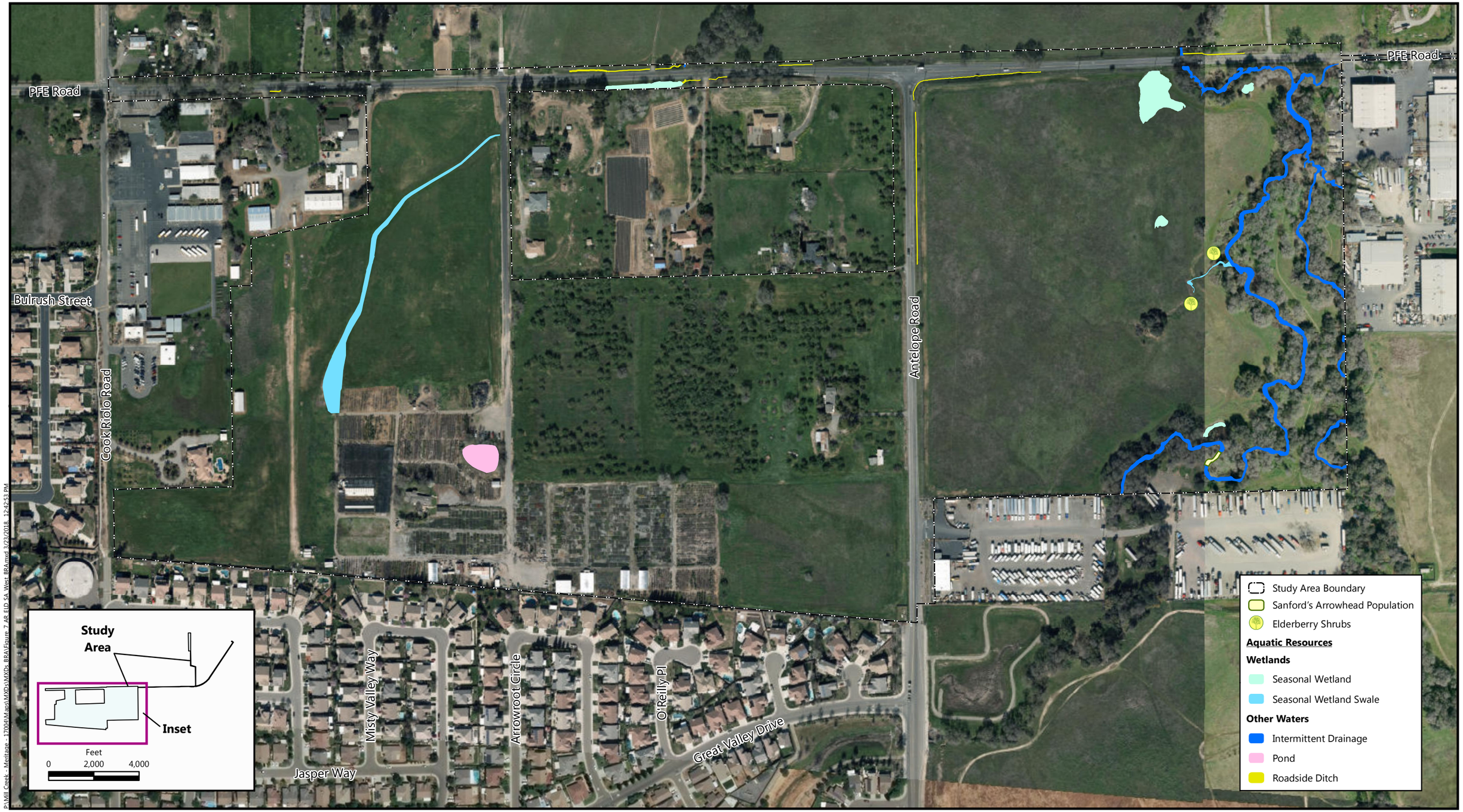
Aerial Source: *USDA, National Agriculture Imagery Program,* 1 March 2017.

Figure 6
Vegetation Communities
Eastern Area

Mill Creek
Placer County, California

MADRONE ECOLOGICAL CONSULTING



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Feet
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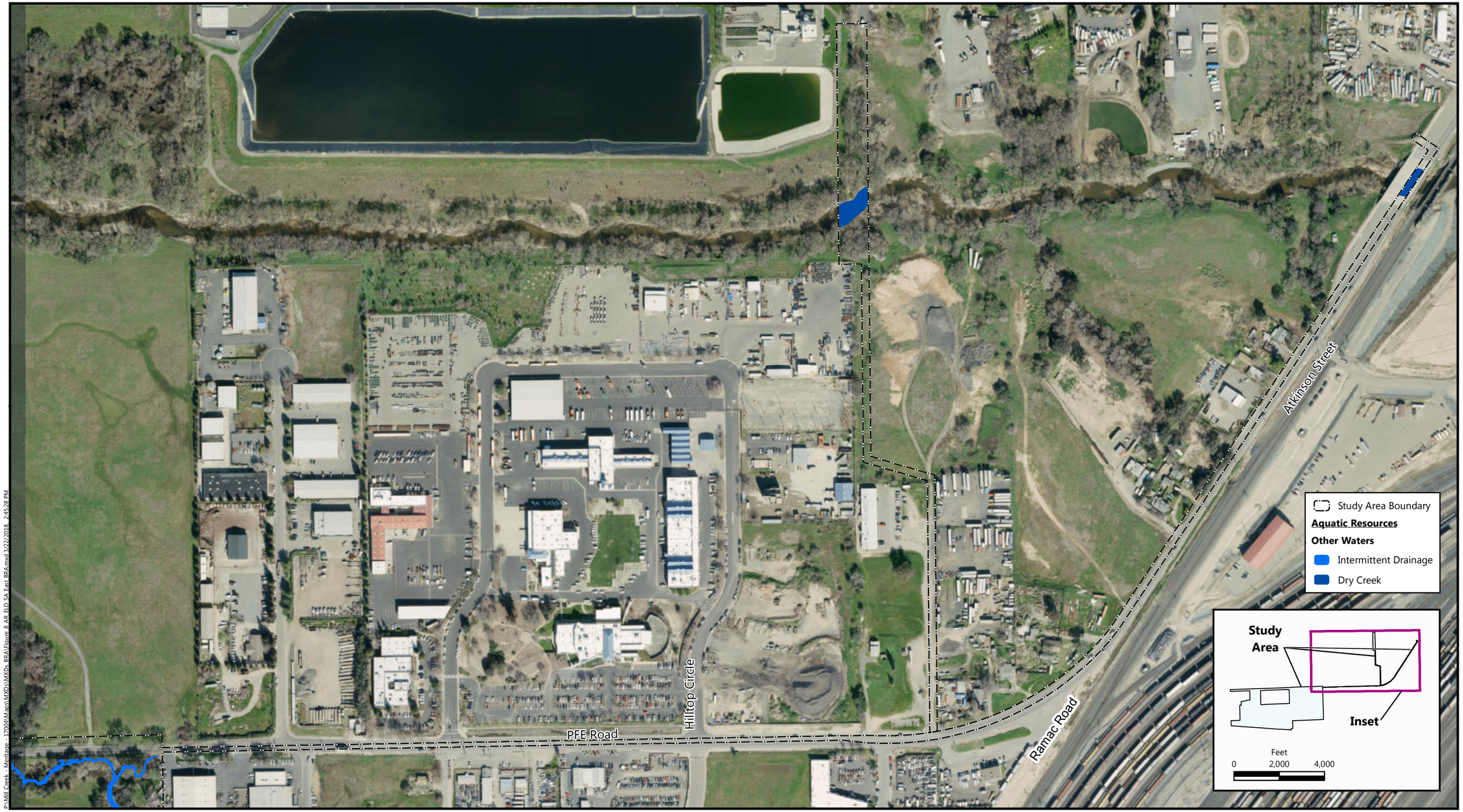
Aerial Source: *USDA, National Agriculture Imagery Program,* 10 July 2016.

Figure 7
Aquatic Resources, Sanford's Arrowhead, and Elderberry Shrub Location Map
Western Area
Mill Creek
Placer County, California

MADRONE ECOLOGICAL CONSULTING



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Aerial Source: *USDA, National Agriculture Imagery Program,* 1 March 2017.

Figure 8
Aquatic Resources, Sanford's Arrowhead, and Elderberry Shrub Location Map
Eastern Area
Mill Creek
Placer County, California

MADRONE ECOLOGICAL CONSULTING

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Soil Survey Source: *USDA, Soil Conservation Service.*
Soil Survey Geographic (SSURGO) database for Placer County, California, Western Part
Aerial Source: *USDA, National Agriculture Imagery Program,* March 2015, 2017.

Figure 9
Natural Resources Conservation Service Soils

Mill Creek
Placer County, California

MADRONE ECOLOGICAL CONSULTING

Attachments

Attachment A. Mill Creek Illustrative Site Plan

Attachment B. PFE Road Improvements –Proposed and Potential Ultimate Improvements

Attachment C. IPaC Trust Resource Report for the Study Area

Attachment D. CNPS Inventory of Rare and Endangered Plants Query for the "Citrus Heights, California" USGS Quadrangle and Eight Surrounding Quadrangles

Attachment E. Wildlife List

Attachment F. Approved Jurisdictional Determination for Danbury Park

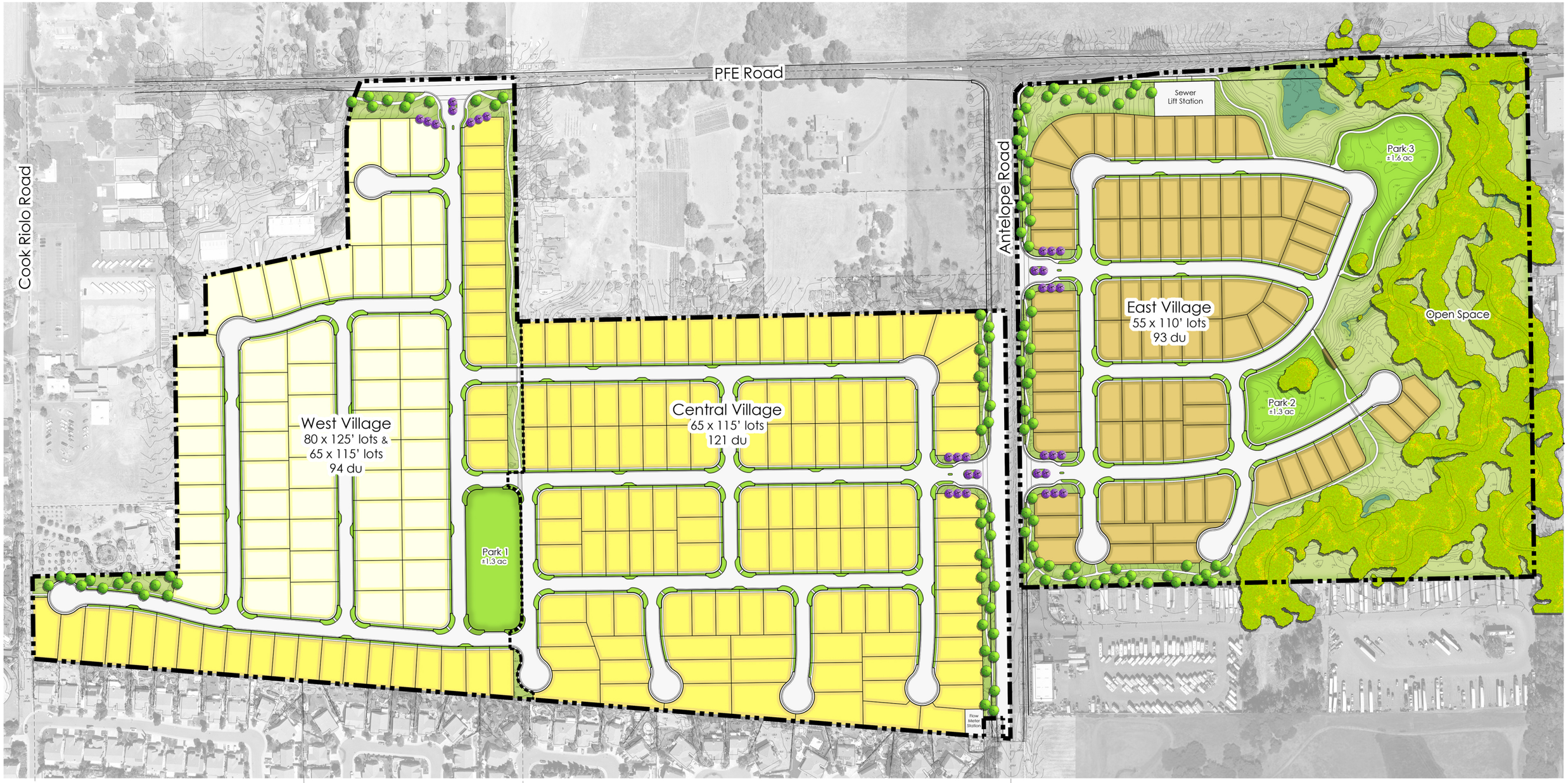
Attachment G. Aquatic Resources Impacts

Attachment H. Vegetation Communities Impacts

Attachment I. Anticipated Tree Impacts

Attachment A

Mill Creek Illustrative Site Plan



Mill Creek

ILLUSTRATIVE SITE PLAN

north

0 100 200 300 400 500

Placer County April 2017

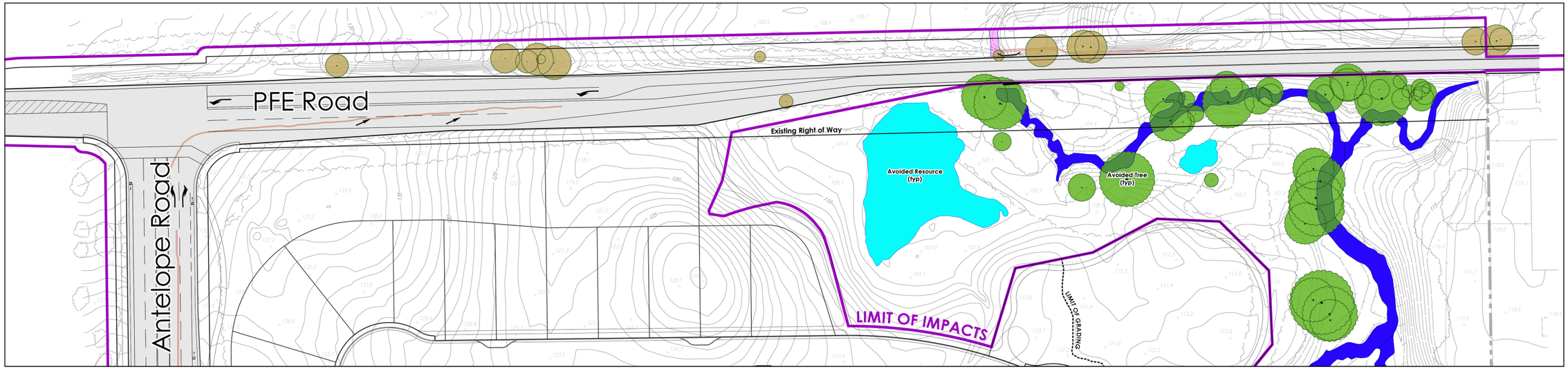
MeritageHomes

TSD ENGINEERING, INC.
expect more

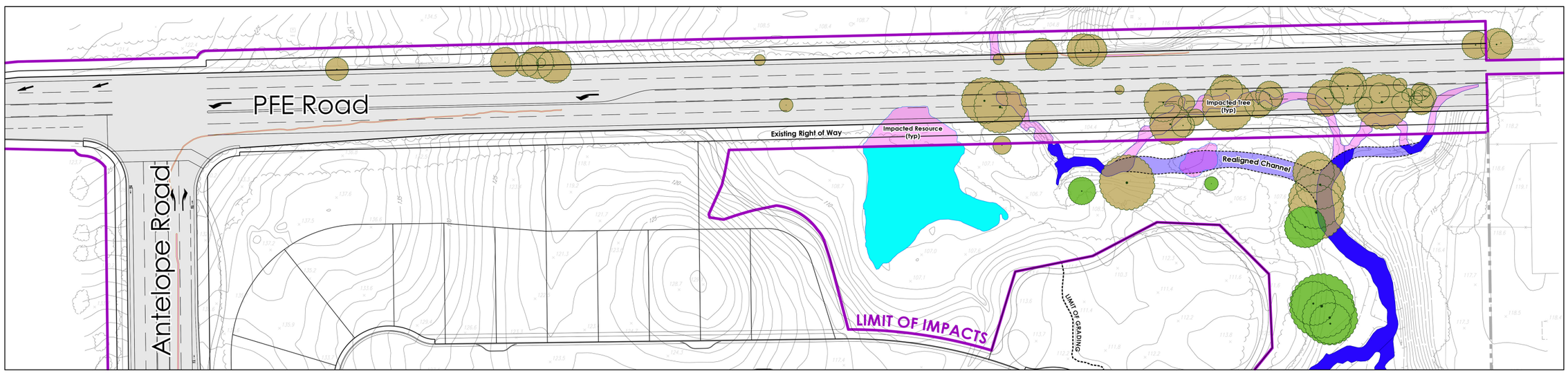
black oak DESIGN

Attachment B

PFE Road Improvements –
Proposed and Potential Ultimate Improvements



PFE ROAD - INTERIM IMPROVEMENTS



PFE ROAD - POSSIBLE ULTIMATE IMPROVEMENTS

north

0 100 200 300 400 500

Mill Creek

PFE ROAD IMPROVEMENTS - INTERIM AND POSSIBLE ULTIMATE IMPROVEMENTS

black oak DESIGN

Placer County March 2018

Attachment C

IPaC Trust Resource Report for the Study Area

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Placer County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.

The following species are potentially affected by activities in this location:

NOT FOR CONSULTATION

Reptiles

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

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander Ambystoma californiense There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/321	Threatened
Steelhead Oncorhynchus (=Salmo) mykiss There is **final** critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/1007	Threatened

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp Lepidurus packardi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE
Steelhead Oncorhynchus (=Salmo) mykiss Northern California DPS https://ecos.fws.gov/ecp/species/1007#crithab	Final
Steelhead Oncorhynchus (=Salmo) mykiss South-Central California Coast DPS https://ecos.fws.gov/ecp/species/1007#crithab	Final
Steelhead Oncorhynchus (=Salmo) mykiss Central California Coast DPS https://ecos.fws.gov/ecp/species/1007#crithab	Final
Steelhead Oncorhynchus (=Salmo) mykiss California Central Valley DPS https://ecos.fws.gov/ecp/species/1007#crithab	Final
Steelhead Oncorhynchus (=Salmo) mykiss Southern California DPS https://ecos.fws.gov/ecp/species/1007#crithab	Final

NOT FOR CONSULTATION

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service[3]. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured. Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php

- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

MIGRATORY BIRD INFORMATION IS NOT AVAILABLE AT THIS TIME

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Such measures are particularly important when birds are most likely to occur in the project area. To see when birds are most likely to occur in your project area, view the Probability of Presence Summary. Special attention should be made to look for nests and avoid nest destruction during the breeding season. The best information about when birds are breeding can be found in Birds of North America (BNA) Online under the "Breeding Phenology" section of each species profile. Note that accessing this information may require a subscription. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) that might be affected by activities in your project location. These birds are of priority concern because it has been determined that without additional conservation actions, they are likely to become candidates for listing under the Endangered Species Act (ESA).

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets. The AKN list represents all birds reported to be occurring at some level throughout the year in the counties in which your project lies. That list is then narrowed to only the Birds of Conservation Concern for your project area.

Again, the Migratory Bird Resource list only includes species of particular priority concern, and is not representative of all birds that may occur in your project area. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird entry on your migratory bird species list indicates a breeding season, it is probable the bird breeds in your project's counties at some point within the time-frame specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

NOT FOR CONSULTATION

Facilities

Wildlife refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGES AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND
- PFOA

FRESHWATER POND
- PUBFx

OTHER
- PUSCx

A full description for each wetland code can be found at the National Wetlands Inventory website: https://ecos.fws.gov/ipac/wetlands/decoder

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

Attachment D

CNPS Inventory of Rare and Endangered Plants Query for the "Citrus Heights, California" USGS Quadrangle and Eight Surrounding Quadrangles Area

CNPS California Native Plant Society

Plant List

Inventory of Rare and Endangered Plants

14 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3812174, 3812173, 3812172, 3812164, 3812163, 3812162, 3812154 3812153 and 3812152;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Chloropyron molle ssp. hispidum	hispid bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Sep	1B.1	S1	G2T1
Clarkia biloba ssp. brandegeeae	Brandegee's clarkia	Onagraceae	annual herb	May-Jul	4.2	S4	G4G5T4
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU
Fritillaria agrestis	stinkbells	Liliaceae	perennial bulbiferous herb	Mar-Jun	4.2	S3	G3
Gratiola heterosepala	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	Apr-Aug	1B.2	S2	G2
Juncus leiospermus var. ahartii	Ahart's dwarf rush	Juncaceae	annual herb	Mar-May	1B.2	S1	G2T1
Juncus leiospermus var. leiospermus	Red Bluff dwarf rush	Juncaceae	annual herb	Mar-Jun	1B.1	S2	G2T2
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun	1B.1	S2	G2
Navarretia myersii ssp. myersii	pincushion navarretia	Polemoniaceae	annual herb	Apr-May	1B.1	S2	G2T2
Navarretia nigelliformis ssp. nigelliformis	adobe navarretia	Polemoniaceae	annual herb	Apr-Jun	4.2	S3	G4T3
Orcuttia tenuis	slender Orcutt grass	Poaceae	annual herb	May-Sep(Oct)	1B.1	S2	G2
Orcuttia viscida	Sacramento Orcutt grass	Poaceae	annual herb	Apr-Jul(Sep)	1B.1	S1	G1
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	1B.2	S3	G3

Suggested Citation

California Native Plant Society, Rare Plant Program. 2017. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 24 October 2017].

Attachment E

Wildlife List

Wildlife Species Observed within the
Mill Creek Study Area
during 2014 and 2017 Field Surveys

Species Name	Common name
Amphibians	
Pseudacris sierrae	Sierra chorus frog
Birds	
Phasianus colchicus	Ring-necked pheasant
Meleagris gallopavo	Turkey
Columba fasciata	Band-tailed pigeon
Zenaida macroura	Mourning dove
Charadrius vociferous	Killdeer
Cathartes aura	Turkey vulture
Buteo jamaicensis	Red-tailed hawk
Melanerpes formicivorus	Acorn woodpecker
Colaptes auratus	Northern flicker
Sayornis nigricans	Black phoebe
Sayornis saya	Say's phoebe
Aphelocoma californica	California scrub jay
Baeolophus inornatus	Oak titmouse
Sitta carolinensis	White-breasted nuthatch
Cistothorus palustris	Marsh wren
Myadestes townsendi	Townsend's solitaire
Mimus polyglottos	Northern mockingbird
Sturnus vulgaris	European starling
Carpodacus mexicanus	House finch
Carduelis psaltria	Lesser goldfinch
Pipilo maculatus	Spotted towhee
Passerculus sandwichensis	Savannah sparrow
Melospiza melodia	Song sparrow
Zonotrichia leucophrys	White-crowned sparrow
Zonotrichia atricapilla	Golden-crowned sparrow
Junco hyemalis	Dark-eyed junco
Agelaius phoeniceus	Red-winged blackbird
Mammals	
Canis latrans	Coyote
Lepus californicus	Black-tailed jackrabbit
Mephitis mephitis	Striped skunk
Odocoileus hemionus	Mule deer

Wildlife Species Observed within the
Mill Creek Study Area
during 2014 and 2017 Field Surveys

Species Name	**Common name**
Otospermophilus beecheyi	California ground-squirrel
Procyon lotor	Raccoon
Puma concolor	Mountain lion
Sciurus griseus	Western gray squirrel
Thomomys bottae	Botta's pocket gopher
Reptiles	
Sceloporus occidentalis	Western fence lizard

Attachment F

Approved Jurisdictional Determination for Danbury Park

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

September 27, 2016

Regulatory Division (SPK-2016-00265)

RECEIVED
OCT 4 2016
MERITAGE HOMES

Meritage Homes
Attn: Mr. Rob Wilson
1617 E. Monte Vista Ave., Suite 214
Vacaville, California 95688

Dear Mr. Wilson:

We are responding to your April 25, 2016, request for an approved jurisdictional determination for the Danbury Park site. The approximately 110-acre project site is located near Dry Creek, Section 16, Township 10 North, Range 6 East, Mount Diablo Meridian, Latitude 38.726537°, Longitude -121.328979°, Placer County, California.

Based on available information, we concur with the estimate of waters of the United States, as depicted on the enclosed September 16, 2016, Figure 1: Danbury Park Wetland Delineation map prepared by the U.S. Army Corps of Engineers. Approximately 1.606 acres of waters of the United States, including wetlands, are present within the survey area. These waters are regulated under Section 404 of the Clean Water Act. We have enclosed a copy of the approved jurisdictional determination form for this site. Please keep this document for your records.

The 0.542-acre water identified as "WS-1", is an artificially irrigated aquatic feature that would revert to upland if irrigation were to cease. The 0.204-acre water identified as "OW-1" is an artificial pond excavated in dry land which is fed by well water. The 0.0173-acre water identified as "OW-2", is a roadside ditch that was constructed in and drains only uplands, and does not have relatively permanent flow. As such, these waters are not currently regulated by the Corps of Engineers. This disclaimer of jurisdiction is only for Section 404 of the Federal Clean Water Act. Other federal, state, and local laws may apply to your activities. In particular, you may need authorization from the California State Water Resources Control Board and/or the U.S. Fish and Wildlife Service.

This determination is valid for five years from the date of this letter, unless new information warrants revision of the determination before the expiration date. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 Code of Federal Regulations (CFR) Part 331.

A Notification of Appeal Process (NAP) and Request for Appeal (RFA) form is enclosed. If you request to appeal this determination you must submit a completed RFA form to the South Pacific Division Office at the following address: Administrative Appeal Review Officer, Army Corps of Engineers, South Pacific Division, CESPD-PDO, 1455 Market Street, 2052B, San Francisco, California 94103-1399, Telephone: 415-503-6574, FAX: 415-503-6646.

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division Office within 60 days of the NAP. Should you decide to submit an RFA form, it must be received at the above address by 60 days from the date of this letter. It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this letter.

You should provide a copy of this letter and notice to all other affected parties, including any individual who has an identifiable and substantial legal interest in the property.

This determination has been conducted to identify the limits of Corps of Engineers' Clean Water Act jurisdiction for the particular site identified in this request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are U.S. Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under Customer Service Survey.

Please refer to identification number SPK-2016-00265 in any correspondence concerning this project. If you have any questions, please contact Mr. Zachary Fancher at our Sacramento Regulatory Office, 1325 J Street, Suite 1350, Sacramento, California 95814-2922, by email at Zachary.J.Fancher@usace.army.mil, or telephone at 916-557-6643. For more information regarding our program, please visit our website at www.spk.usace.army.mil/Missions/Regulatory.aspx.

Sincerely,

Nancy A. Haley
Chief, California North Branch
Regulatory Division

Enclosures

cc: (w/o encls)
Mr. Jeff Glazner, Salix Consulting, Inc., jglazner@salixinc.com

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Meritage Homes, Attn: Mr. Rob Wilson	File No.: SPK-2016-00265	Date: September 27, 2016

Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at *http://www.usace.army.mil/cecw/pages/reg_materials.aspx* or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.

- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Zachary Fancher
Project Manager
U.S. Army Corps of Engineers
Regulatory Division
1325 J Street, Suite 1350
Sacramento, California 95814-2922
Phone: 916-557-6643, FAX 916-557-7803
Email: Zachary.J.Fancher@usace.army.mil

If you only have questions regarding the appeal process you may also contact:

Thomas J. Cavanaugh
Administrative Appeal Review Officer
U.S. Army Corps of Engineers
South Pacific Division
1455 Market Street, 2052B
San Francisco, California 94103-1399
Phone: 415-503-6574, FAX 415-503-6646)
Email: Thomas.J.Cavanaugh@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

	Date:	Telephone number:
Signature of appellant or agent.		

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): September 16, 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento District, Danbury Park, SPK-2016-00265

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **California** County/parish/borough: **Placer** City:
Center coordinates of site (lat/long in degree decimal format): Lat. **38.7265368530499°**, Long. **-121.328978935794°**
Universal Transverse Mercator: **10 645256.49 4287756.15**
Name of nearest waterbody: **Dry Creek**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **American River**
Name of watershed or Hydrologic Unit Code (HUC): **Lower American, 18020111**
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form:

This JD form documents the findings for the following resources:
IS-1 (0.922 acre): RPW that flows indirectly into a TNW.
SW-1 (0.338 acre), SW-2 (0.0234 acre), SW-3 (0.0254): Seasonal wetlands adjacent to IS-1, above (Significant nexus evaluation required).
WS-2 (0.0255 acre): Seasonal wetland directly abutting IS-1, above.
OW-1 (0.204 acre), OW-2 (0.0173 acre), WS-1 (0.542 acre): Non-regulated waters/wetlands.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:
☒ Field Determination. Date(s): **August 1, 2016**

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
   ☐ TNWs, including territorial seas
   ☐ Wetlands adjacent to TNWs
   ☒ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
   ☐ Non-RPWs that flow directly or indirectly into TNWs
   ☒ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
   ☒ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
   ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
   ☐ Impoundments of jurisdictional waters
   ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
   Non-wetland waters: linear feet, wide, and/or **0.922** acres.
   Wetlands: **0.412** acres.

   c. **Limits (boundaries) of jurisdiction** based on: **1987 Delineation Manual**
   Elevation of established OHWM (if known):

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: **There are three aquatic features within the study area that were determined to be not**

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[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

jurisdictional. Feature WS-1 is a swale meeting the three wetland criteria, which has connectivity to a downstream TNW via non-RPW. However, WS-1 is the result of runoff water from artificially applied irrigation on an adjacent plant nursery. If this artificial irrigation were to cease, WS-1 would not remain wetland. Feature OW-1 is an artificial pond excavated in dry land which is fed via controlled inputs of well water. OW-1 is used exclusively as a source of irrigation water, and is isolated from other hydrologic inputs. Feature OW-2 is a segment of roadside ditch that has an OHWM, but which was constructed in uplands, drains only uplands, and does not have relatively permanent flow.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**
   Identify TNW:

   Summarize rationale supporting determination:

2. **Wetland adjacent to TNW**
   Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

   (i) **General Area Conditions:**
   Watershed size: **187210 acres**
   Drainage area: **Pick List**
   Average annual rainfall: **24** inches
   Average annual snowfall: inches

   (ii) **Physical Characteristics:**
   (a) Relationship with TNW:
   ☐ Tributary flows directly into TNW.
   ☒ Tributary flows through **2** tributaries before entering TNW.

   Project waters are **Pick List** river miles from TNW.

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[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters are **Pick List** river miles from RPW.
Project waters are **10-15** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW[5]: **The relatively permanent unnamed tributary (IS-1) flows to Dry Creek, which flows to the Natomas East Main Drainage Canal, which flows to the American River (TNW).**
Tributary stream order, if known:

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☒ Natural
☐ Artificial (man-made). Explain:
☒ Manipulated (man-altered). Explain: **Some segments of the tributary have been channelized, though the majority is natural.**

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):
☒ Silts ☒ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:
Presence of run/riffle/pool complexes. Explain:
Tributary geometry: **Meandering**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Seasonal flow**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: **Relatively permanent**
Other information on duration and volume:

Surface flow is: **Discrete and confined.** Characteristics: **Some segments of the tributary have been channelized, though the majority is natural.**

Subsurface flow: **Pick List**. Explain findings:
☐ Dye (or other) test performed:

Tributary has (check all that apply):
☒ Bed and banks
☒ OHWM[6] (check all indicators that apply):
☒ clear, natural line impressed on the bank ☐ the presence of litter and debris
☒ changes in the character of soil ☒ destruction of terrestrial vegetation
☒ shelving ☐ the presence of wrack line
☒ vegetation matted down, bent, or absent ☐ sediment sorting
☒ leaf litter disturbed or washed away ☒ scour
☐ sediment deposition ☒ multiple observed or predicted flow events
☐ water staining ☒ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.
[6] A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7] Ibid.

☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain:
Identify specific pollutants, if known:

(iv) Biological Characteristics. Channel supports (check all that apply):
☒ Riparian corridor. Characteristics (type, average width):
☒ Wetland fringe. Characteristics: **There are a significant number of wetlands adjacent and/or directly abutting the tributary along its length until its confluence with Dry Creek, which is approximately 0.35 straight line miles from where the tributary exits the study area boundary.**
☐ Habitat for:
☐ Federally Listed species. Explain findings:
☐ Fish/spawn areas. Explain findings:
☐ Other environmentally-sensitive species. Explain findings:
☐ Aquatic/wildlife diversity. Explain findings:

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:
(a) General Wetland Characteristics:
Properties:
Wetland size: **0.387** acres
Wetland type. Explain: **Three seasonal wetlands are adjacent, including one wetland exhibiting vernal pool hydrology.**
Wetland quality. Explain:
Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:
Flow is: **Pick List**. Explain: **The wetlands are seasonal and depressional. Volume and duration of flows from the wetlands to the adjacent RPW are unknown.**

Surface flow is: **Pick List**
Characteristics: **Both discrete and overland sheet flow.**

Subsurface flow: **Pick List**. Explain findings:
☐ Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:
☐ Directly abutting
☒ Not directly abutting
☒ Discrete wetland hydrologic connection. Explain: **The adjacent wetlands have direct hydrologic connectivity with IS-1 (RPW) via surface contours.**
☐ Ecological connection. Explain:
☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW
Project wetlands are **Pick List** river miles from TNW.
Project waters are **10-15** aerial (straight) miles from TNW.
Flow is from: **Wetland to navigable waters.**
Estimate approximate location of wetland as within the **2 - 5-year** floodplain.

(ii) Chemical Characteristics:
Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:
Identify specific pollutants, if known:

(iii) Biological Characteristics. Wetland supports (check all that apply):
☐ Riparian buffer. Characteristics (type, average width):
☒ Vegetation type/percent cover. Explain: **Wetland generalists, 75-95% cover**
☐ Habitat for:

☐ Federally Listed species. Explain findings:
☐ Fish/spawn areas. Explain findings:
☐ Other environmentally-sensitive species. Explain findings:
☐ Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the tributary (if any)**
   All wetland(s) being considered in the cumulative analysis: **4**
   Approximately **0.412** acres in total are being considered in the cumulative analysis.

   For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)
SW-1 (N)	**0.338**	**WS-1 (Y)**	**0.0255**
SW-2 (N)	**0.0234**		
SW-3 (N)	**0.0254**		

   Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: **The relatively permanent tributary IS-1, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical, or biological integrity of the American River (TNW) downstream. The tributary itself is jurisdictional. The adjacent wetlands considered in the analysis all have discrete hydrologic connectivity to the tributary via topographic slope, and are in close proximity to the tributary, likely within the 2-5 year floodplain. The adjacent wetlands in combination with tributary IS-1 have the capacity to carry floodwaters, pollutants, nutrients, and/or organic carbon to the American River. Furthermore, tributary IS-1 is associated with a large amount of similarly situated adjacent wetlands (outside of the study area) along its entire reach, the cumulative flow volume and H20 exchange of which is likely to have a more than speculative effect on the downstream TNW.**

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   ☐ TNWs: linear feet, wide, Or acres.
   ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
   ☒ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: **Tributary is a solid blue line on USGS topo maps, and is a mapped riverine feature in the National Wetlands Inventory. Direct observation during multiple site visits.**

   Provide estimates for jurisdictional waters in the review area (check all that apply):
   ☒ Tributary waters: **0.922 acres** linear feet wide.
   ☐ Other non-wetland waters: acres.
   Identify type(s) of waters:

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional waters within the review area (check all that apply):
   ☐ Tributary waters: linear feet, wide.
   ☐ Other non-wetland waters: acres.
   Identify type(s) of waters:

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☒ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
   ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

   ☒ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **Direct hydrologic connection, no topographic barrier.**

   Provide acreage estimates for jurisdictional wetlands in the review area: **0.0255** acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☒ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

   Provide acreage estimates for jurisdictional wetlands in the review area: **0.387** acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
   ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
   As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
   ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
   ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
   ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

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[8]See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

E. **ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):**[10]

☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain:
☐ Other factors. Explain:

Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet, wide.
☐ Other non-wetland waters: acres.
Identify type(s) of waters:
☐ Wetlands: acres.

F. **NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
☒ Other: (explain, if not covered above): **There are three aquatic features within the study area that were determined to be not jurisdictional. Feature WS-1 is a swale meeting the three wetland criteria, which has connectivity to a downstream TNW via non-RPW. However, WS-1 is the result of runoff water from artificially applied irrigation on an adjacent plant nursery. If this artificial irrigation were to cease, WS-1 would not remain wetland. Feature OW-1 is an artificial pond excavated in dry land which is fed via controlled inputs of well water. OW-1 is used exclusively as a source of irrigation water, and is isolated from other hydrologic inputs. Feature OW-2 is a segment of roadside ditch that has an OHWM, but which was constructed in uplands, drains only uplands, and does not have relatively permanent flow.**

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, wide.
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource:
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, wide.
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource:
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. **SUPPORTING DATA. Data reviewed for JD (check all that apply** - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☒ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps:
☐ Corps navigable waters' study:
☒ U.S. Geological Survey Hydrologic Atlas:
☒ USGS NHD data.

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[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

☒ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: **1:24K; CA-CITRUS HEIGHTS**
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **NRCS (2015)**
☒ National wetlands inventory map(s). Cite name: **USFWS NWI (2015)**
☐ State/Local wetland inventory map(s):
☐ FEMA/FIRM maps:
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): **Google Earth, various 1993-2015**
or ☒ Other (Name & Date): **Site photos, various, October 2014 - April 2015**
☐ Previous determination(s). File no. and date of response letter:
☐ Applicable/supporting case law:
☐ Applicable/supporting scientific literature:
☒ Other information (please specify): **Final delineation map authored by the U.S. Army Corps of Engineers: "Figure 1 - Wetland Delineation", dated September 16, 2016**

B. ADDITIONAL COMMENTS TO SUPPORT JD:

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): September 16, 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento District, Danbury Park, SPK-2016-00265

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **California** County/parish/borough: **Placer** City:
Center coordinates of site (lat/long in degree decimal format): Lat. **38.7265368530499°**, Long. **-121.328978935794°**
Universal Transverse Mercator: **10 645256.49 4287756.15**
Name of nearest waterbody: **Dry Creek**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **American River**
Name of watershed or Hydrologic Unit Code (HUC): **Lower American, 18020111**
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form:

This JD form documents the findings for the following resources:
IS-2 (0.205 acre), IS-3 (0.0224 acre), IS-4 (0.0442 acre): Non-RPWs that flow indirectly into a TNW (significant nexus evaluation required).

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:
☒ Field Determination. Date(s): **August 1, 2016**

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
   - ☐ TNWs, including territorial seas
   - ☐ Wetlands adjacent to TNWs
   - ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
   - ☒ Non-RPWs that flow directly or indirectly into TNWs
   - ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
   - ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
   - ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
   - ☐ Impoundments of jurisdictional waters
   - ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
   Non-wetland waters: linear feet, wide, and/or **0.271** acres.
   Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: **1987 Delineation Manual**
   Elevation of established OHWM (if known):

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

SECTION III: CWA ANALYSIS

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[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**
   Identify TNW:

   Summarize rationale supporting determination:

2. **Wetland adjacent to TNW**
   Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

   (i) **General Area Conditions:**
   Watershed size: **187210 acres**
   Drainage area: **Pick List**
   Average annual rainfall: **24** inches
   Average annual snowfall: inches

   (ii) **Physical Characteristics:**
   (a) Relationship with TNW:
   ☐ Tributary flows directly into TNW.
   ☒ Tributary flows through **3** tributaries before entering TNW.

   Project waters are **Pick List** river miles from TNW.
   Project waters are **Pick List** river miles from RPW.
   Project waters are **10-15** aerial (straight) miles from TNW.
   Project waters are **Pick List** aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain:

   Identify flow route to TNW[5]: **The not relatively permanent unnamed tributaries (IS-2, IS-3, and IS-4) flow to an unnamed relatively permanent tributary, which flows to Dry Creek, which flows to the Natomas East Main Drainage Canal, which flows to the American River (TNW).**

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[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary stream order, if known:

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☒ Natural
☐ Artificial (man-made). Explain:
☐ Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List**

Primary tributary substrate composition (check all that apply):
☒ Silts ☒ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:
Presence of run/riffle/pool complexes. Explain:
Tributary geometry: **Meandering**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Ephemeral flow**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: **Ephemeral**
Other information on duration and volume:

Surface flow is: **Discrete.** Characteristics:

Subsurface flow: **Pick List**. Explain findings:
☐ Dye (or other) test performed:

Tributary has (check all that apply):
☒ Bed and banks
☒ OHWM[6] (check all indicators that apply):
☒ clear, natural line impressed on the bank ☐ the presence of litter and debris
☒ changes in the character of soil ☒ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☒ vegetation matted down, bent, or absent ☐ sediment sorting
☒ leaf litter disturbed or washed away ☒ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☒ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain:
Identify specific pollutants, if known:

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[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):
☒ Riparian corridor. Characteristics (type, average width):
☐ Wetland fringe. Characteristics:
☐ Habitat for:
- ☐ Federally Listed species. Explain findings:
- ☐ Fish/spawn areas. Explain findings:
- ☐ Other environmentally-sensitive species. Explain findings:
- ☐ Aquatic/wildlife diversity. Explain findings:

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:
Properties:
Wetland size: acres
Wetland type. Explain:
Wetland quality. Explain:
Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:
Flow is: **Pick List**. Explain:

Surface flow is: **Pick List**
Characteristics:

Subsurface flow: **Pick List**. Explain findings:
☐ Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:
☐ Directly abutting
☐ Not directly abutting
- ☐ Discrete wetland hydrologic connection. Explain:
- ☐ Ecological connection. Explain:
- ☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW
Project wetlands are **Pick List** river miles from TNW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Flow is from: **Pick List.**
Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:
Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:
Identify specific pollutants, if known:

(iii) Biological Characteristics. Wetland supports (check all that apply):
☐ Riparian buffer. Characteristics (type, average width):
☐ Vegetation type/percent cover. Explain:
☐ Habitat for:
- ☐ Federally Listed species. Explain findings:
- ☐ Fish/spawn areas. Explain findings:
- ☐ Other environmentally-sensitive species. Explain findings:
- ☐ Aquatic/wildlife diversity. Explain findings:

3. Characteristics of all wetlands adjacent to the tributary (if any)
All wetland(s) being considered in the cumulative analysis: **Pick List**
Approximately acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: **The non-RPWs IS-2, IS-3, and IS-4 have more than a speculative or insubstantial effect on the chemical, physical, or biological integrity of the American River (TNW) downstream. These non-RPWs flow directly into an unnamed, relatively permanent jurisdictional tributary (IS-1), which in turn flows to the American River. The Non-RPWs carry periodic wet and dry season runoff from surrounding industral areas, and have the capacity to carry pollutants, nutrients, and/or organic carbon to the American River.**

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   ☐ TNWs: linear feet, wide, Or acres.
   ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
   ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

   Provide estimates for jurisdictional waters in the review area (check all that apply):
   ☐ Tributary waters: linear feet wide.
   ☐ Other non-wetland waters: acres.
   Identify type(s) of waters:

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   ☒ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional waters within the review area (check all that apply):
   ☒ Tributary waters: **0.271 acres** linear feet, wide.
   ☐ Other non-wetland waters: acres.
   Identify type(s) of waters:

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
   ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

   ☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
   ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
   As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
   ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
   ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
   ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. **ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]**
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain:
☐ Other factors. Explain:

Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet, wide.
☐ Other non-wetland waters: acres.
Identify type(s) of waters:
☐ Wetlands: acres.

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[8]See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  ☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
☐ Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, wide.
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource:
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, wide.
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource:
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  ☒ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps:
☐ Corps navigable waters' study:
☒ U.S. Geological Survey Hydrologic Atlas:
  ☒ USGS NHD data.
  ☒ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: **1:24K; CA-CITRUS HEIGHTS**
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **NRCS (2015)**
☒ National wetlands inventory map(s). Cite name: **USFWS NWI (2015)**
☐ State/Local wetland inventory map(s):
☐ FEMA/FIRM maps:
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): **Google Earth, various 1993-2015**
  or ☒ Other (Name & Date): **Site photos, various, October 2014 - April 2015**
☐ Previous determination(s). File no. and date of response letter:
☐ Applicable/supporting case law:
☐ Applicable/supporting scientific literature:
☒ Other information (please specify): **Final delineation map authored by the U.S. Army Corps of Engineers: "Figure 1 - Wetland Delineation", dated September 16, 2016**

B. ADDITIONAL COMMENTS TO SUPPORT JD:

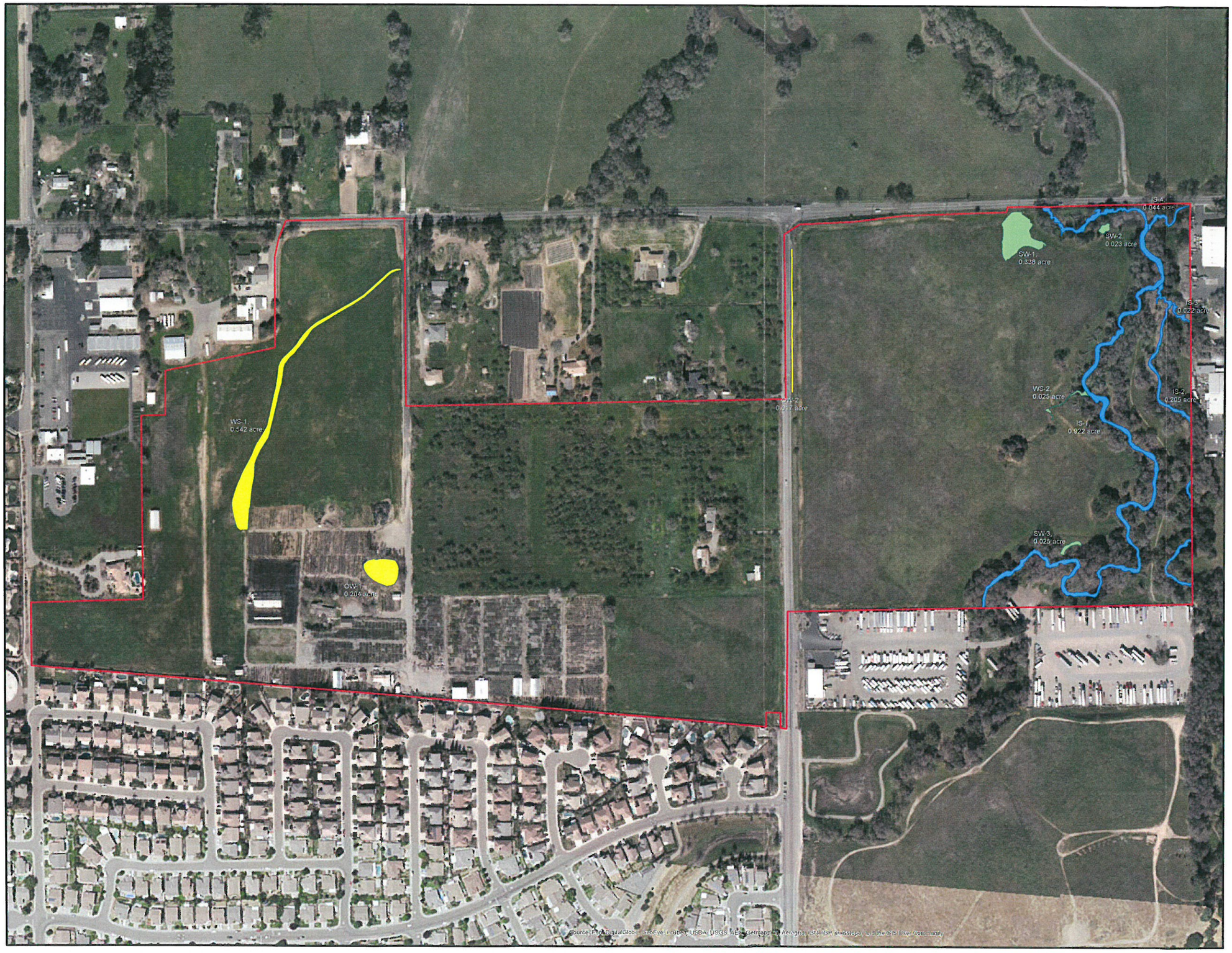

Figure 1:
Danbury Park
Wetland Delineation

Legend

- Study Area (110 acres)
- Non-Jurisdictional Features (0.763 acre)
- Jurisdictional Wetlands (0.412 acre)
- Jurisdictional OWOUS (1.194 acre)

N
W E
S

400 200 0 400
Feet

Coordinate System: NAD 1983 StatePlane
California II FIPS 0402 (US Feet)
Projection: Lambert Conformal Conic
Datum: D_North_American_1983

Created September 16, 2016

Map authored by:
Zachary Fancher, Project Manager
California North Branch, Regulatory Division
U.S. Army Corps of Engineers
1325 J Street, Room 1350
Sacramento, California 95814-2922

Attachment G

Aquatic Resources Impacts

Aquatic Resource	Permanent Impacts					Temporary Impacts	Avoided Resources (ac)	Total Acreage within Study Area
	Project Development Area (ac)	Sewer Alignment Alternatives		Ultimate Widening Area (ac)	Avoided Area (ac)	Avoided Area (ac)		
		Alternative 2 (ac)	Alternative 4 (ac)					
Seasonal Wetland	0.130	0.000	0.000	0.069	0.023	0.000	0.290	0.516
Seasonal Wetland Swale	0.542	0.000	0.000	0.000	0.000	0.000	0.025	0.567
Dry Creek	0.000	0.166	0.000	0.000	0.000	0.000	0.062[2]	0.227
Intermittent Drainage	0.008	0.000	0.000	0.118	0.042	0.032	1.026	1.226
Pond	0.204	0.000	0.000	0.000	0.000	0.000	0.000	0.204
Roadside Ditch	0.065	0.000	0.000	0.000	0.000	0.000	0.000	0.065
Total:	**0.949**	**0.166**	**0.000**	**0.187**	**0.065[1]**	**0.032[1]**	**1.403**	**2.805[3]**

[1] Impacts in the Avoided Area south of the Ultimate Widening Area are associated with the Potential Ultimate Widening Project.
[2] Approximately 0.062 acre of Dry Creek is located within Sewer Alternative 4; however, as the sewer line would be suspended from the bottom of an existing bridge, no impacts to Dry Creek are anticipated as a result of this Alternative.
[3] Rounding may result in small summation errors.

N

Feet
0 150 300

Aerial Source: *USDA, National Agriculture Imagery Program,* March 2015, 2017.

Aquatic Resources Impacts and Avoidance

Mill Creek
Placer County, California

MADRONE ECOLOGICAL CONSULTING

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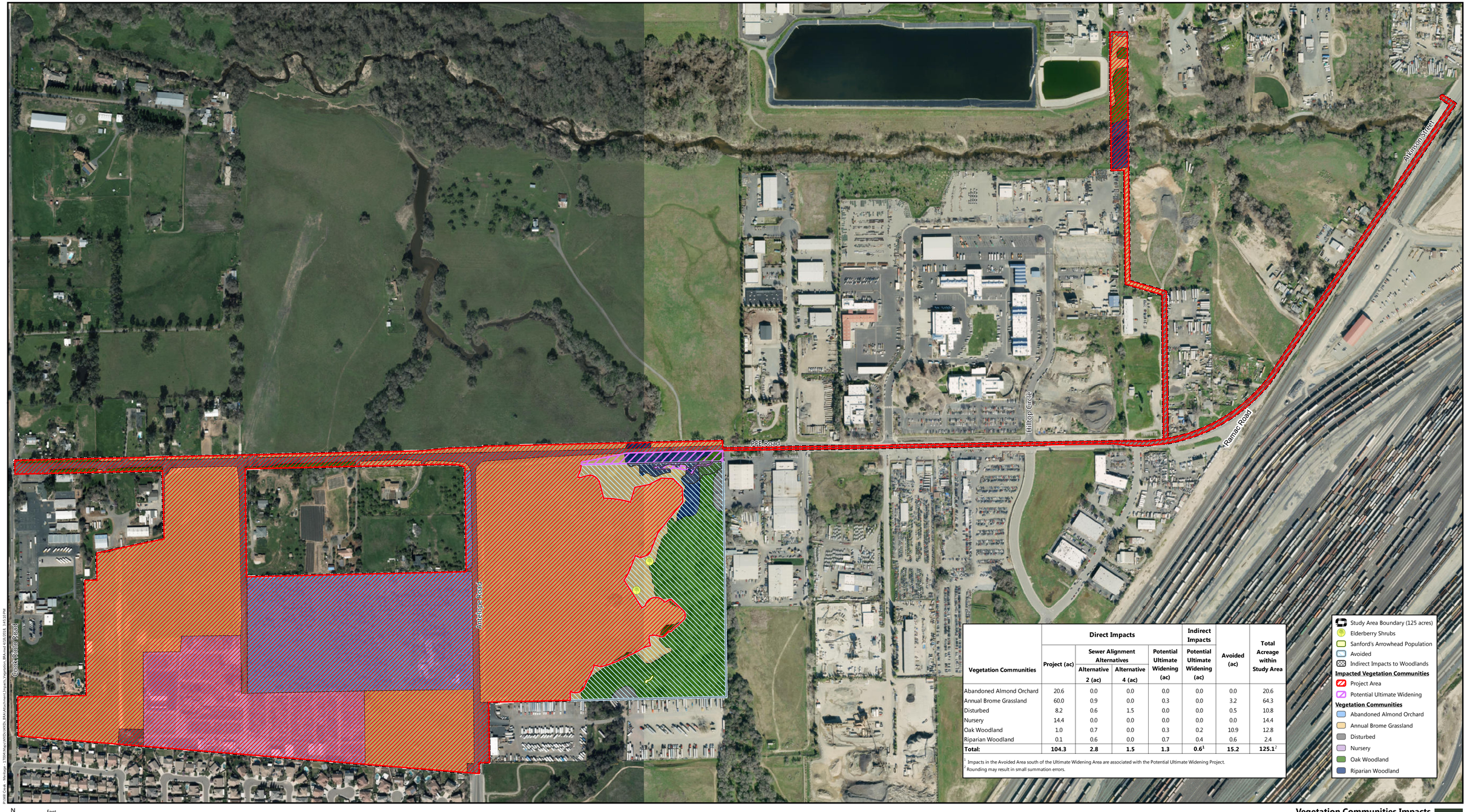
Attachment H

Vegetation Communities Impacts



Vegetation Communities	Direct Impacts				Indirect Impacts	Avoided (ac)	Total Acreage within Study Area
	Project (ac)	Sewer Alignment Alternatives		Potential Ultimate Widening (ac)	Potential Ultimate Widening (ac)		
		Alternative 2 (ac)	Alternative 4 (ac)				
Abandoned Almond Orchard	20.6	0.0	0.0	0.0	0.0	0.0	20.6
Annual Brome Grassland	60.0	0.9	0.0	0.3	0.0	3.2	64.3
Disturbed	8.2	0.6	1.5	0.0	0.0	0.5	10.8
Nursery	14.4	0.0	0.0	0.0	0.0	0.0	14.4
Oak Woodland	1.0	0.7	0.0	0.3	0.2	10.9	12.8
Riparian Woodland	0.1	0.6	0.0	0.7	0.4	0.6	2.4
Total:	**104.3**	**2.8**	**1.5**	**1.3**	**0.6**[1]	**15.2**	**125.1**[2]

[1] Impacts in the Avoided Area south of the Ultimate Widening Area are associated with the Potential Ultimate Widening Project.
[2] Rounding may result in small summation errors.

N
Feet
0 150 300

Aerial Source: *USDA, National Agriculture Imagery Program,* March 2015, 2017.

Vegetation Communities Impacts

Mill Creek
Placer County, California

MADRONE ECOLOGICAL CONSULTING

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Attachment I

Anticipated Tree Impacts

Mill Creek

ANTICIPATED TREE IMPACTS

north

0 100 200 300 400 500

black oak DESIGN

Placer County April 2018