BIOLOGICAL RESOURCES ASSESSMENT

Realized Dreams Ranch Subdivision Project

Solano County, CA | April 2025

Prepared For:

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Section 1 | Introduction

1.1 PURPOSE OF ASSESSMENT

This Biological Resources Assessment (BRA) has been prepared for the Realized Dreams Ranch Subdivision Project (proposed project) located on an approximately 426-acre property within unincorporated Solano County, California (project site). This BRA provides information about the biological resources within the project site, the regulatory environment applicable to such resources, potential project-related impacts on these resources, and recommendations to reduce the significance of these impacts.

1.2 PROJECT LOCATION AND DESCRIPTION

1.2.1 Project Location

The project site is located at 8330 Tremont Road within unincorporated Solano County, California. The project site totals approximately 426 acres and is comprised of four parcels, Assessor's Parcel Numbers (APNs) 0110190100, 01101900090, 0111070200, and 0111070210 within Section 35, Township 8 North, Range 2 East of the Mount Diablo Baseline and Meridian, within the "Saxon" United States Geological Survey (USGS) 7.5-minute quadrangle. Access to the project site is provided off Tremont Road, approximately four miles south of Interstate 80 and the City of Davis. Land use on the project site is currently agricultural. **Figure 1** and **Figure 2** show the location of the project site and **Figure 3** presents an aerial photograph of the project site and the immediate vicinity.

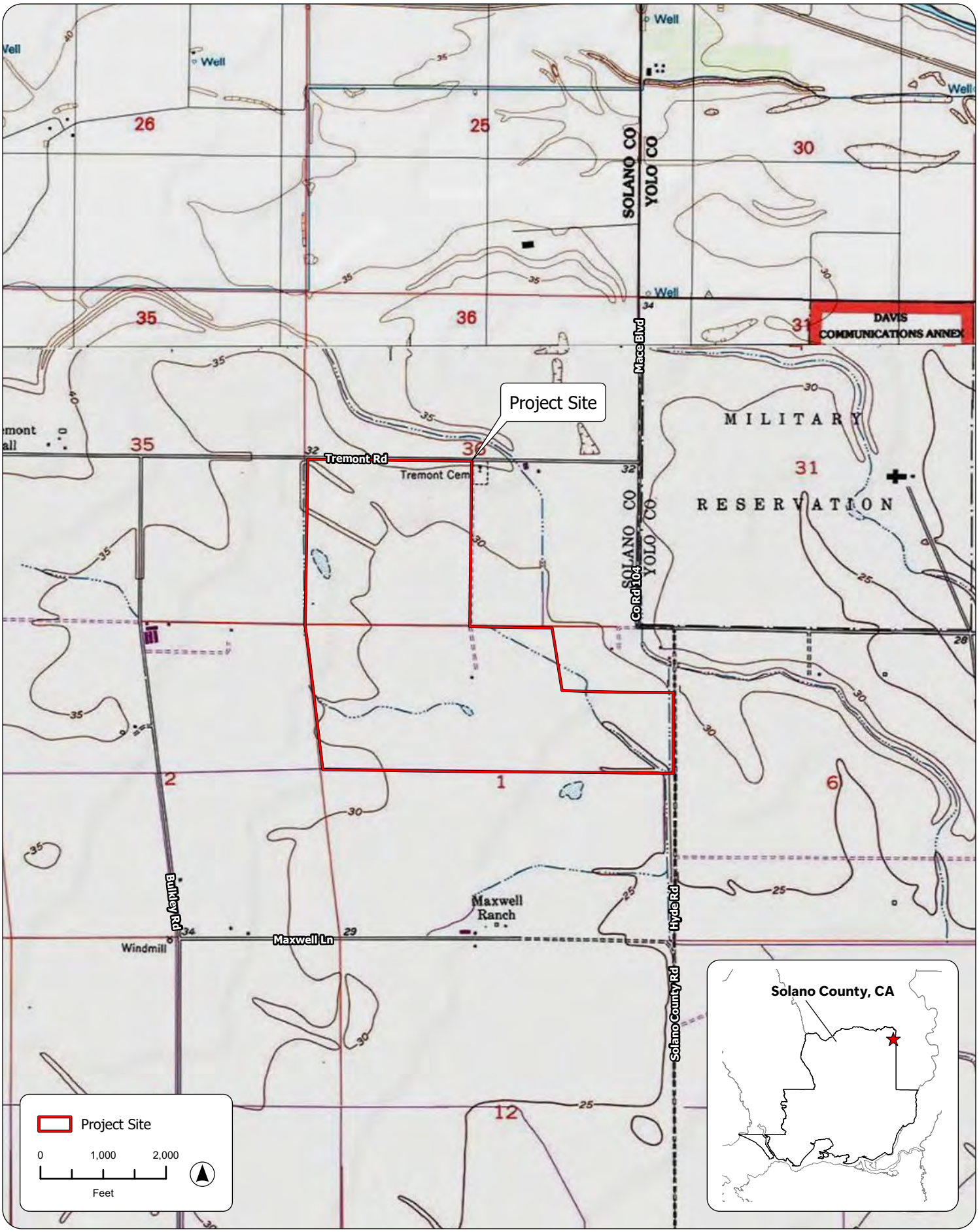
1.2.2 Proposed Project

A site plan is provided as **Figure 4**. The proposed project involves the subdivision of the project site into 10 parcels for the development of five detached single-family homes. Access to the project site would be provided by a proposed paved access driveway off Tremont Road. The access driveway would be shaped in a cul-de-sac format to provide vehicular access to the proposed driveways for each residence. One new well per residence would be installed for potable use for a total of up to five new wells. Each residence would also have an associated septic tank and leach field. Agriculture would continue on the balance of the project site. Ongoing agricultural use is consistent with the existing use of the project site and is not considered part of the proposed project.

The project site is within a 100-year floodplain and the proposed residential lots would be built up to elevate finish floor elevations above the floodplain. Thus, some import of fill may be necessary. Additionally, to accommodate the housing configuration, a portion of an existing manmade agricultural irrigation ditch would be re-aligned and an existing culvert would be removed (**Figure 4**). A total of approximately 1,950 linear feet of the existing irrigation ditch would be filled, and a corresponding 3,183 linear feet of new irrigation ditch would be dug.

SOURCE: ESRI, 2025; Acorn Environmental, 4/22/2025

Figure 1
Regional Location

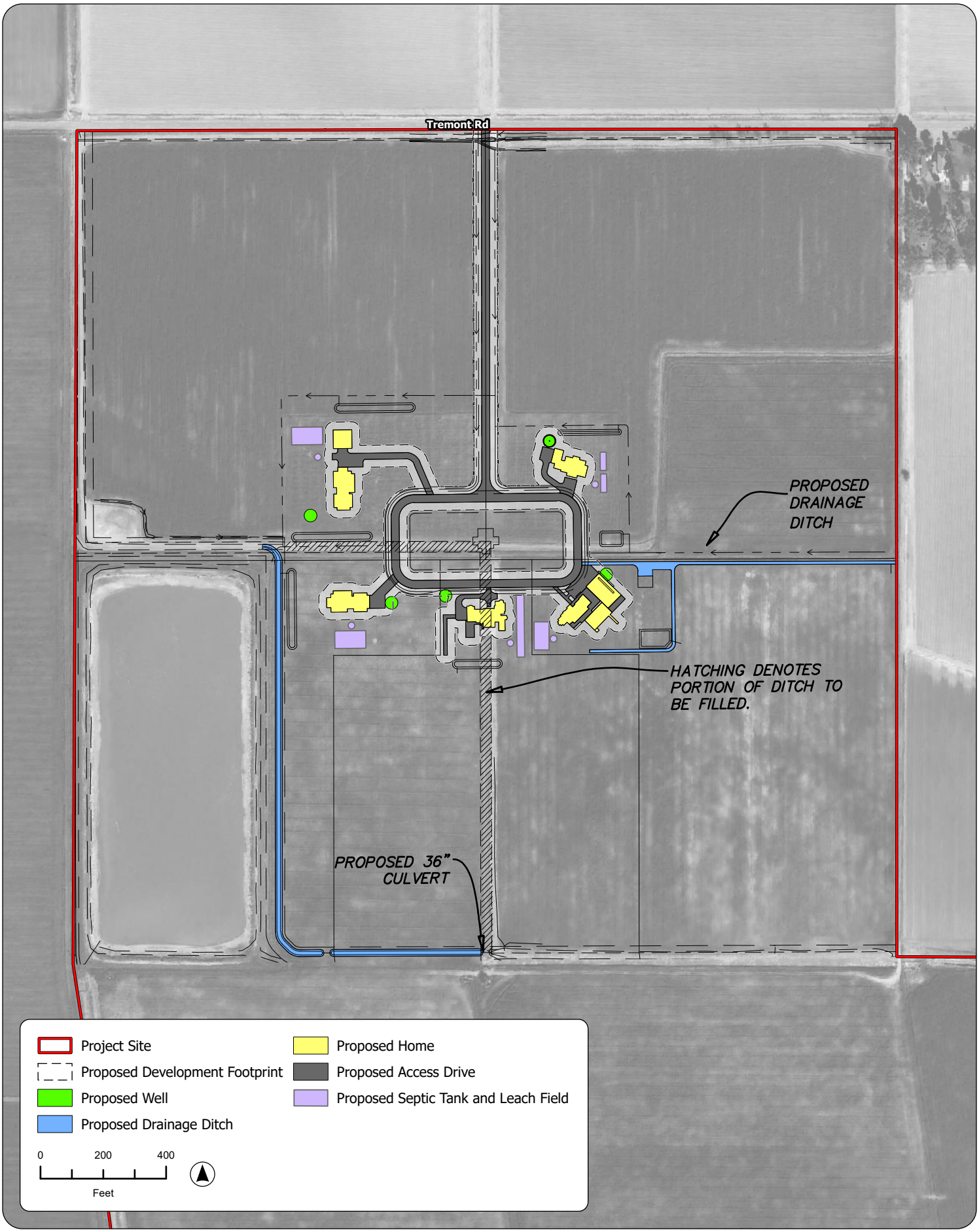


SOURCE: "Saxon, CA" USGS 7.5 Minute Topographic Quadrangle, T7N R2E & T8N R2E, Sections 1 & 36, Mt. Diablo Baseline & Meridian; Sonoma County GIS, 2025; ESRI, 2025; Acorn Environmental, 4/22/2025

Figure 2
Site and Vicinity

SOURCE: ESRI, 2025; Sonoma County GIS, 2025; Google Earth Aerial Photograph, 3/24/2025; Acorn Environmental, 4/23/2025

Figure 3
Aerial Overview



SOURCE: Laugenour and Meikle, 11/14/2024; ESRI, 2025; Google Earth Aerial Photograph, 3/24/2025; Sonoma County GIS, 2025; Acorn Environmental, 4/24/2025

Figure 4
Site Plan

Section 2 | Regulatory Setting

2.1.1 Federal

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects species that are at risk of extinction and provides for the conservation of the ecosystems on which they depend. The U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmosphere Administration, Fisheries Service (NOAA Fisheries) share responsibility for implementing FESA. Generally, USFWS manages terrestrial and freshwater species, while NOAA Fisheries is responsible for marine and anadromous species. Threatened and endangered species on the federal list (50 CFR Sections 17.11 and 17.12) are protected from take.

Magnuson-Stevens Act and Sustainable Fisheries Act

The Magnuson–Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) is the primary law that governs marine fisheries management in U.S. federal waters. The Sustainable Fisheries Act of 1996 (Public Law 104-297) amended the Magnuson-Stevens Act to establish new requirements for fishery management councils to identify and describe Essential Fish Habitat (EFH) and to protect, conserve, and enhance EFH for the benefit of fisheries. EFH is defined as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. An adverse effect includes direct or indirect physical, chemical, or biological alternations to waters or substrate, species and their habitat, quality and/or quantity of EFH, or other ecosystem components. A 2002 update to EFH regulations allowed fishery management councils to designate Habitat Areas of Particular Concern, specific areas within EFH that have extremely important ecological functions and/or are especially vulnerable to degradation.

Migratory Bird Treaty Act (MBTA)

Migratory birds are protected under the MBTA of 1918 (16 USC 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The direct injury or death of a migratory bird that causes nest abandonment, nestling abandonment, or forced fledging would be considered take under federal law.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act was enacted in 1940 to protect bald eagles and was later amended to include golden eagles (16 USC Subsection 668-668). This act prohibits take, possession, and commerce of bald and golden eagles and associated parts, feathers, nests, or eggs with limited exceptions. The definition of take is the same as the definition under the FESA. The USFWS established five recovery programs in the mid-1970s based on geographical distribution of the species, with California located in the Pacific Recovery Region. Habitat conservation efforts in the Pacific Recovery Region, including laws and management practices at federal, state, and community levels, have helped facilitate bald eagle population increases. In 1995, the USFWS reclassified the bald eagle from endangered to threatened under FESA in the contiguous 48 states, excluding Michigan, Minnesota, Wisconsin, Oregon, and Washington where it had already been listed as threatened. In 2007, the bald eagle was federally delisted under FESA. However, the provisions of this act remain in place for protection of bald and golden eagles.

Clean Water Act (Sections 404 and 401)

Any project that involves discharge of dredged or fill material into jurisdictional Waters of the U.S. must first obtain authorization from the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA). Projects requiring a 404 permit under the CWA also require a Section 401 certification from the Regional Water Quality Control Board (RWQCB) in California. These two agencies also administer the National Pollutant Discharge Elimination System (NPDES) general permits for construction activities disturbing one acre or more. Effective September 8, 2023, the USEPA and the USACE have issued a new final rule in the Code of Federal Regulations to conform the definition of 'waters of the United States' to the 2023 Supreme Court's May 25, 2023 decision in Sackett vs. EPA. Under the new final rule, tributaries and wetlands must have a continuous surface connection to navigable waterways to be considered jurisdictional under the CWA. Only those relatively permanent, standing, or continuously flowing bodies of water meet the current definition. In certain states where litigation regarding this definition is ongoing, the pre-2015 definition of waters of the U.S. is in effect. California is not one of these states and currently operates under the definition as promulgated under the new final rule.

Porter-Cologne Water Quality Control Act

Waters of the State in California are currently defined to include any surface water or groundwater, including saline waters and man-made features, within the boundaries of the state. In general, features that do not meet the definition of a water of the U.S. but that do meet the definition of a water of the State are subject to permitting requirements as dictated by the Porter-Cologne Water Quality Control Act. Impacts to waters of the State, under the Porter-Cologne Water Quality Control Act, would generally require acquisition of a Waste Discharge Requirement permit. However, the *State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* provides exemptions for certain ditches. Exemptions within Section IV.D(2c) include:

1. Agricultural ditches with ephemeral flow that are not a relocated water of the state or excavated in a water of the state.
2. Agricultural ditches with intermittent flow that are not a relocated water of the state or excavated in a water of the state, or that do not drain wetlands other than any wetlands described in sections (iv) or (v).
3. Agricultural ditches that do not flow, either directly or through another water, into another water of the state.

2.1.2 State

California Endangered Species Act

The California Endangered Species Act (CESA) declares that certain plant or animal species will be given protection by the State because they are of ecological, educational, historical, recreational, aesthetic, economic, and/or scientific value to the people of the State. The CESA established that it is State policy to conserve, protect, restore, and enhance State-listed species and their habitats. Under State law, plant and animal species may be formally listed by the California Fish and Game Commission, and those species that are listed are protected from take under CESA. CESA authorizes take that is ancillary to an otherwise lawful activity provided that an incidental take permit is acquired prior to the activity.

California Fish and Game Code

The California Fish and Game Code defines "take" (Section 86) and prohibits take of a species listed under the CESA (California Fish and Game Code Section 2080), or otherwise of a special status (California Fish and Game Code Section 3511, 4700, and 5050). Section 2081(b) and (c) of the CESA allows CDFW to issue an incidental take permit for a State-listed species if specific criteria outlined in Title 14 CCR Section 783.4(a), (b) and CDFW Code Section 2081(b) are met. The CDFW Code Section 3503 also states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided by the code. Section 3503.5 states that it is unlawful to take, possess, or destroy any birds in the taxonomic order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird. Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the U.S. Secretary of the Interior under provisions of the MBTA. CDFW cannot provide take authorization under the CESA for impacts to migratory birds.

Native Plant Protection Act of 1977

The Native Plant Protection Act of 1977 and implementing regulations in Section 1900 et seq. of the California Fish and Game Code designate special-status plant species and provide specific protection measures for identified populations. The CDFW administers the Native Plant Protection Act.

2.1.3 Local

Solano County General Plan

Chapter 4 of the Solano County General Plan contains the County's goals and policies related to environmental resources, including biological resources. The following are the primary goals as outline by this chapter:

- Protecting or improving water quality;
- Preserving wetlands, including jurisdictional wetlands and saltwater and freshwater marshes consistent with federal and state requirements;
- Protecting and developing in watersheds and aquifer recharge areas;
- Conserving riparian vegetation protecting special status species and their habitats;
- Protecting wildlife movement corridors;
- Conserving oak woodlands;
- Promoting energy conservation and renewable energy; and
- Implementing water conservation programs.

Also of note is Chapter 3 of the General Plan, which guides agricultural use and preservation planning throughout the County.

Draft Solano Multispecies Habitat Conservation Plan

The project site is located within the plan area of the draft Solano Multispecies Habitat Conservation Plan (SMHCP), within an area of voluntary participation. The SMHCP is currently in administrative draft form and a final plan has not yet been adopted. The purpose of the plan is to provide a programmatic analysis of development impacts within the plan area and to provide a streamlined permitting process for actions proposed within the plan area. As the final SMHCP has not been issued, permitting cannot yet be completed through this process.

However, it can be referred to as a basis for locally sensitive biological resources and likely acceptable impact avoidance and minimization measures for the region as the current draft was developed in coordination with the resource agencies, such as USFWS and CDFW.

Section 3 | Environmental Setting

The project site is located within the California Floristic Province (Baldwin et al., 2012) within a region that experiences a Mediterranean-type climate, characterized by distinct seasons of hot, dry summers and wet, moderately cold winters (Sunset Western Garden Collection, 2025). Average monthly temperatures peak in July at 93 degrees Fahrenheit and reach a low in the month of December and January with an average temperature of 54 degrees Fahrenheit (U.S. Climate Data, 2025). Precipitation falls exclusively as rain, with January seeing the most precipitation at an average of 3.92 inches across the month.

Topography on the project site is relatively flat with elevations ranging from 40 to 55 feet above mean sea level. Land use on the project site is agricultural and consists of livestock forage production (hay) and livestock grazing. Land uses surrounding the project site are similarly agricultural in nature with rural residences. The Tremont Cemetery borders the northeastern border of the project site.

Soils on the project site include Capay silty clay loam (Ca), 0% slopes; Pescadero silty clay loam (Pc), 0% slopes, (62%); Rincon silty clay loam (RoA), 0 to 2% slopes; and Yolo silty clay loam, 0 to 2% slopes (NRCS, 2025). The project site is primarily composed of Pescadero silty clay loam, which occurs through the middle of the project site, and Capay silty clay loam, which occurs along the western edge. Rincon silty clay loam occurs only in the southeastern corner while Yolo silty clay loam occurs in small portions of the northwest corner and southwestern corner.

Section 4 | Methods

4.1 PRELIMINARY DATA GATHERING AND RESEARCH

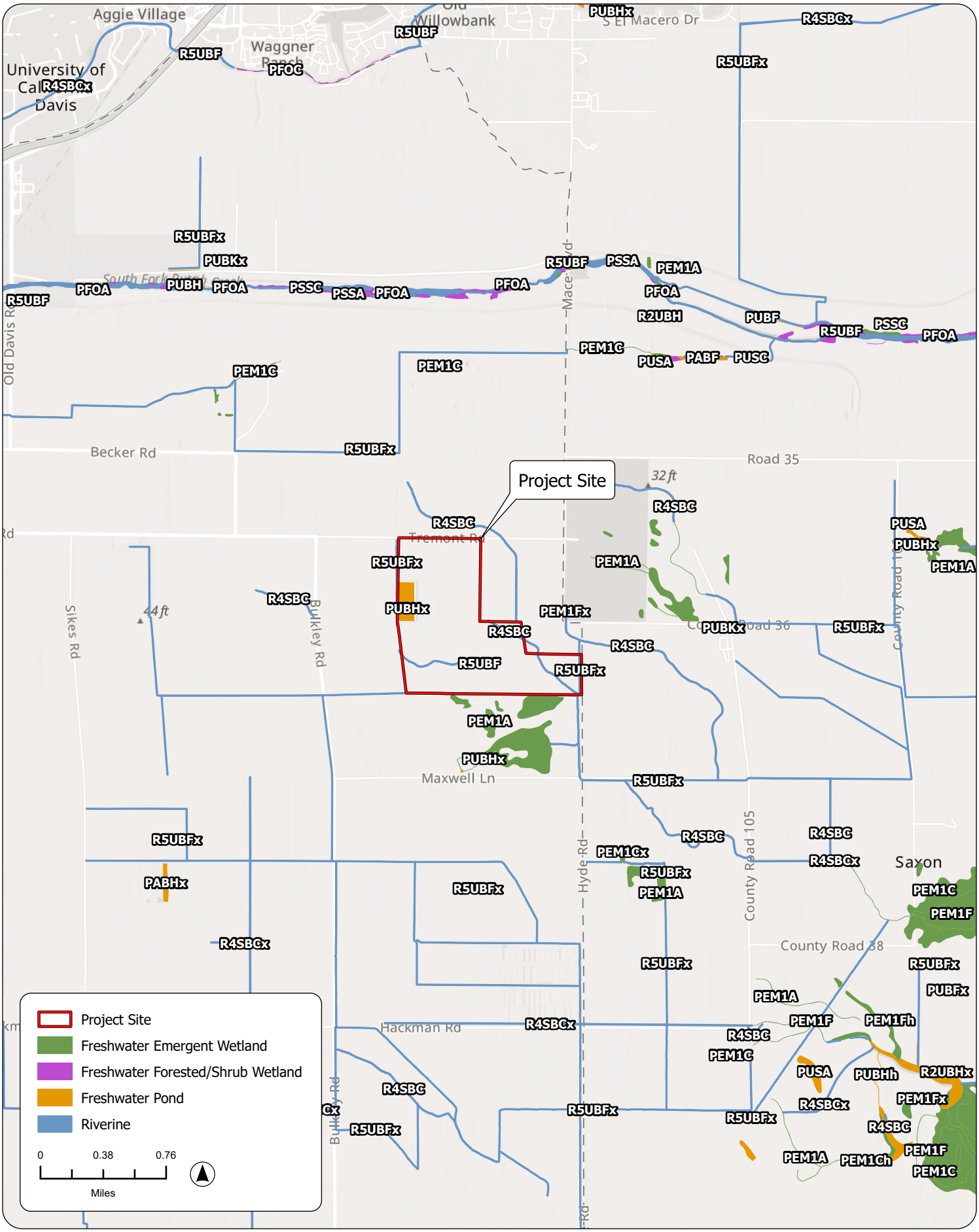
The following information sources were reviewed in support of this BRA:

- USGS topographic quadrangles of the project site and vicinity
- Current and historical aerial photography of the project site and vicinity
- The California Natural Diversity Database (CNDDB) query of known species occurrences within the Davis, Dixon, Merritt, and Saxon USGS Quads (CDFW, 2025)
- A query of the California Native Plant Society's (CNPS) database *Inventory of Rare and Endangered Plants of California* of known species occurrences within the Davis, Dixon, Merritt, and Saxon USGS Quads (**Attachment A**)
- USFWS National Wetlands Inventory (NWI) mapper (**Figure 5**)
- USFWS information for Planning and Consultation species list (**Attachment A**)
- The USFWS and National Marine Fisheries Service (NMFS) Critical Habitat mappers (**Attachment A**)
- NMFS EFH mapper (**Attachment A**)
- Natural Resources Conservation Service (NRCS) soil report for the project site (**Attachment B**; **Figure 6**)

4.2 FIELD SURVEYS

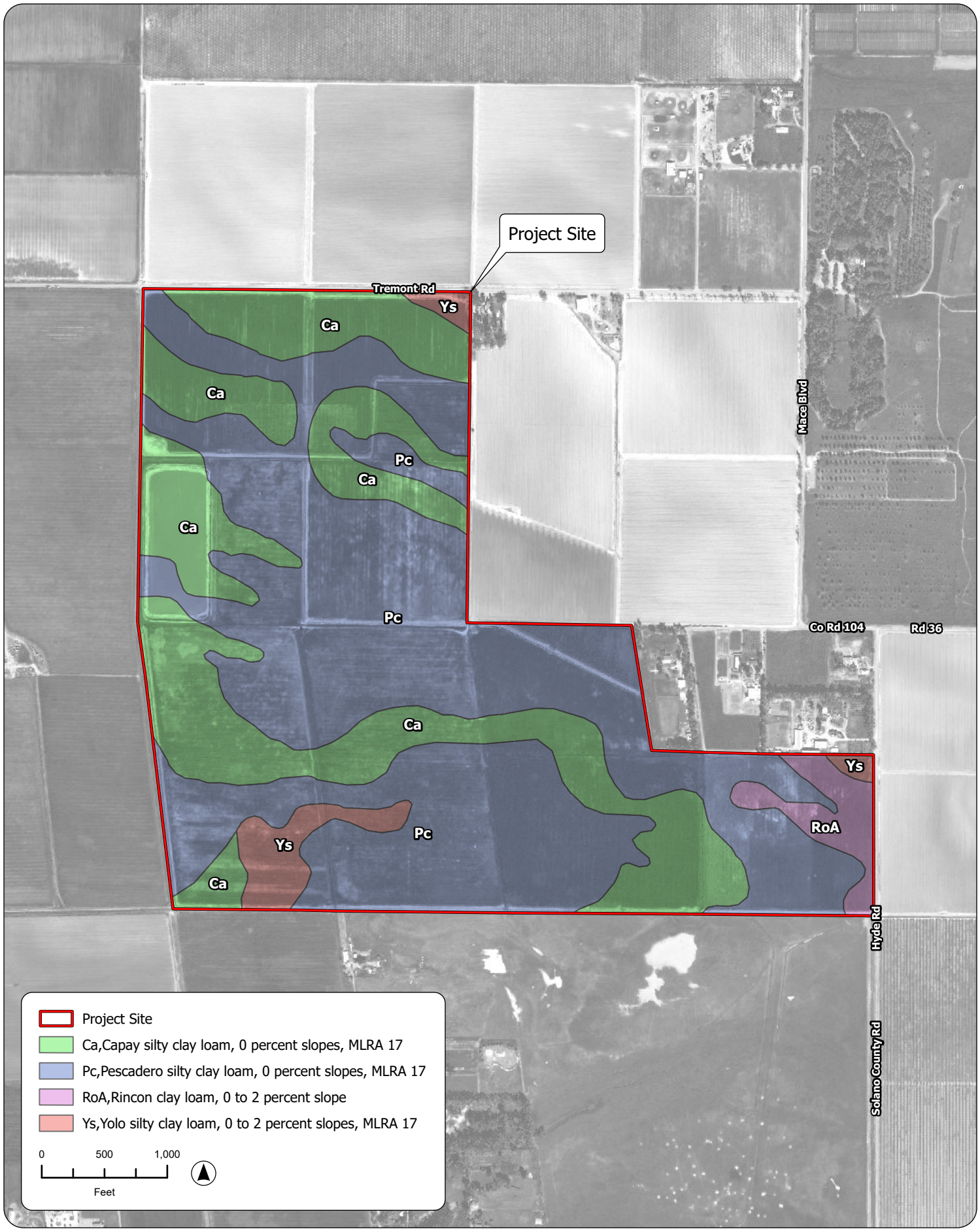
A preliminary biological resources survey was completed by Soar Environmental Consulting in August of 2024 (Soar Environmental Consulting, 2024). Subsequently, senior biologist Dr. Geo Graening with Acorn Environmental conducted an biological resources survey and aquatic resources delineation of the project site on April 22, 2025. Data was collected on wildlife and plant species present, as well as on habitat types and potentially jurisdictional aquatic resources. A variable-intensity pedestrian survey was performed that covered the project site with additional focus on the proposed development area. Fauna and flora observed were recorded in a field notebook and identified to the lowest possible taxon. Survey efforts emphasized the search for State and federally listed special-status species identified in the queries contained in **Attachment A**. Habitat types on the project site were mapped on aerial photographs and via a handheld GPS receiver. Information on habitat conditions and the suitability of habitats to support special-status species was also recorded. The aquatic resources delineation was conducted in accordance with the manuals relevant to the region, including the following:

- 1987 Corps of Engineers Wetland Delineation Manual
- 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)
- 2008 A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States.
- 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). U.S. Army Engineer Research and Development Center Environmental Laboratory, Vicksburg, MS. 153 pp.



SOURCE: U.S. Fish and Wildlife Service, 2024; ESRI, 2025; Acorn Environmental, 4/22/2025

Figure 5
National Wetland Inventory



SOURCE: NRCS Soils, 2025; ESRI, 2025; Sonoma County GIS, 2025; Google Earth Aerial Photograph, 3/24/2025; Acorn Environmental, 4/23/2025

Figure 6
Soil Types

4.3 MAPPING AND OTHER ANALYSES

Locations of species' occurrences and habitat boundaries within the project site were mapped using hand-held GPS receivers, and color aerial photographs were interpreted and the data was digitized to produce habitat maps. The boundaries of potentially jurisdictional aquatic resources within the project site were identified and measured in the field and similarly digitized to calculate acreages and to produce aquatic resources delineation maps. Geographic analyses were performed using geographical information system software (ArcGIS Pro, ESRI, Inc.). Vegetation communities were classified by Vegetation Series using the CNPS Vegetation Classification system (CNPS, 2025a and b). Aquatic habitats were classified using USFWS National Wetlands Inventory Classification System for Wetland and Deepwater Habitats, or "Cowardin class" (Cowardin et al., 1979). The aquatic resources delineation identified features based upon the three requisite wetland parameters (hydrophytic vegetation, hydric soils, hydrologic regime) defined in the USACE Wetlands Delineation Manual (Environmental Laboratory, 1987). Corresponding data points were selected and data sheets generated. Species' habitat requirements and life histories were identified using the following sources: Baldwin et al. (2012); Calflora (2025); CDFW (2024); and University of California at Berkeley (2024).

Section 5 | Results

5.1 INVENTORY OF FLORA AND FAUNA

Plant and animal species identified on the project site during the biological resources survey conducted on April 22, 2025 are listed in **Attachment C**.

5.2 TERRESTRIAL HABITATS

Terrestrial habitats observed within the project site are limited to agriculture. Representative site photographs are included as **Attachment D** and a figure illustrating habitat types is provided as **Figure 7**. Approximately 395.8 acres within the project site are in agricultural use. Based on historical aerial imagery, the project site has been in consistent agricultural production for years, with clear evidence of row crop production. At the time of the April 2025 survey, the majority of the project site was planted with hay species for livestock feed. The northern portion of the project site was sown with alfalfa and the balance of agricultural areas were in production with forage hay grasses, primarily perennial ryegrass (*Lolium perenne*) and hare barley (*Hordeum murinum*). Evidence of flood irrigation was observed. Areas not actively cultivated are limited to dedicated infrastructure for ongoing maintenance of agricultural activities on the project site such as internal dirt roadways. These areas are generally devoid of vegetation and are regularly managed. Where vegetation is present, it is generally sparse and limited to hardy, weedy species that are subject to ongoing removal.

5.3 AQUATIC HABITATS

An aquatic resources delineation of the project site was conducted on April 22, 2025 in accordance with USACE standards (Acorn Environmental, 2025). The survey considered features listed on the NWI (**Figure 5**), which were not identified as actually occurring on the project site, with the exception of the freshwater pond, which is the man-made agricultural water storage basin (**Figure 7**). The project site contains the following aquatic resources: man-made agricultural irrigation ditches and one man-made agricultural water storage basin. These habitats are described below and are shown on **Figure 7**.

Several agricultural irrigation ditches were observed within the project site. A portion of these agricultural irrigation ditches are under the jurisdiction of the Solano Irrigation District. These features are shown on **Figure 7** as Agricultural: Irrigation District Water Conveyance, and other agricultural irrigation ditches that are not part of the Solano Irrigation District network are shown on **Figure 7** as Agricultural: Irrigation Ditch. Within this BRA, these features are collectively referred to as agricultural irrigation ditches. The differences between these features are described below to provide context.

5.3.1 Agricultural: Irrigation District Water Conveyance

The irrigation district features are a series of man-made ditches that are maintained by the Solano Irrigation District. These are earthen trapezoidal ditches that vary in depth from 6 to 8 feet and vary in width from 6 to 15 feet (at the bottom). The ditches are subject to dredging and vegetation maintenance, which may include a combination of herbicide application, scraping, and trimming.

SOURCE: ESRI, 2025; Sonoma County GIS, 2025; Google Earth Aerial Photograph, 3/24/2025; Acorn Environmental, 4/23/2025

Figure 7
Habitat Types

Where vegetation is allowed to grow, it varies by level of inundation and soil saturation. In stagnant areas, broadleaf cattail (*Typha latifolia*) and floating plants (e.g. duckweed) dominate, while in faster flowing canals, there are no rooted plants. The wetted slopes contain smartweed (*Persicaria* sp.) and hydrophytic grasses, such as barnyard grass (*Echinochloa crus-galli*), and dallis grass (*Paspalum dilatatum*). On the top of the canals, curly dock (*Rumex crispus*) and upland grasses dominate, such as rabbitsfoot grass (*Polypogon monspeliensis*), wild oat (*Avena* spp.), and bromes and chesses (*Hordeum, Bromus* spp.).

5.3.2 Agricultural: Irrigation Ditch

Encircling each field are smaller earthen ditches that are used to convey water between fields and to flood-irrigate fields. These ditches are 1 to 3 feet deep and 1 to 5 feet in width (at the bottom). These ditches are created by plowing and are typically devoid of vegetation. Where present, vegetation consists of upland grasses and weedy forbs.

5.3.3 Agricultural Water Storage Basin

A 14-acre agricultural water storage basin was created in uplands and contains berms (or dikes) up to 12 feet high above grade to impound water. The outside berms are covered in upland pasture grasses while the inside is fringed with smartweed and curly dock. This feature is also subject to regular vegetation maintenance and is used for both irrigation and stock watering.

5.4 CRITICAL HABITAT AND ESSENTIAL FISH HABITAT

The project site is not within critical habitat that is designated or proposed by the USFWS or NMFS (**Attachment A**). Critical habitat is designated approximately 0.8 miles east of the project site for the following species: Solano grass (*Tuctoria mucronate*), Colusa grass (*Neostapfia colusana*), vernal pool tadpole shrimp (*Lepidurus packardi*), and delta smelt (*Hypomesus transpacificus*). The project site is also entirely within EFH for Chinook salmon (**Attachment A**); however, suitable habitat to support Chinook salmon does not actually occur.

5.5 WILDLIFE USE AND MOVEMENT

Active bird nests were not observed and the likelihood of active nests on the project site is low due to a lack of trees or structures, ongoing human disturbance, and ongoing vegetation management. Suitable nesting habitat may occur within the vegetation and tree canopy of the neighboring cemetery, portions of which overhang the project site. However, this area is approximately 1,000 feet from proposed development, and tree removal would not occur as part of the proposed project. The project site may be utilized by wildlife species that commonly forage in agricultural fields. Unique wildlife features such as nursery sites and rookeries were not observed. Wildlife movement corridors are absent from the project site as the project site consists primarily of agricultural use and is surrounded by agricultural development and roadways.

5.6 SPECIAL-STATUS SPECIES

For the purposes of this assessment, “special-status” is defined to be species that are:

- Listed as endangered, threatened, proposed, or candidate for listing under FESA;
- Listed as endangered, threatened, rare, or proposed for listing, under CESA;
- Designated as endangered or rare, pursuant to California Fish and Game Code (§1901);

- Designated as fully protected, pursuant to California Fish and Game Code (§3511, §4700, or §5050);
- Designated as a species of special concern by CDFW;
- Plants considered to be rare, threatened or endangered in California by CNPS; this consists of species on Lists 1A, 1B, and 2 of the CNPS Ranking System; or
- Plants listed as rare under the California Native Plant Protection Act.

5.6.1 Potential for Special-Status Species to Occur on the Project Site

No special-status species were detected during the survey conducted on April 22, 2025. A list of special-status species that may occur in the vicinity of the project site was compiled from CNDDB and CNPS queries, and a species list from USFWS (**Attachment A**). A species table is included as **Attachment E** and provides the species name, status, and habitat requirements of these special-status species. **Attachment E** also provides an analysis of the potential for each species to occur within the proposed development area, which is defined to include those areas that would be impacted by implementation of the proposed project. The potential for each special status species to occur on the project site was evaluated in **Attachment E** according to the following criteria:

- **No Potential.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), or is outside of the known range of the species.
- **Low Potential.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- **Moderate Potential.** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential.** All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

As detailed in **Attachment E**, the following special-status species have the potential to occur within the proposed development area:

- Swainson's hawk: This species has been observed foraging on the project site. The nearest nesting habitat is within scattered oak trees part of the adjacent cemetery's landscaping over 1,000 feet from the proposed development.
- Northern harrier: This species has been observed foraging on the project site. The nearest nesting habitat is within scattered oak trees part of the adjacent cemetery's landscaping over 1,000 feet from the proposed development.
- Giant garter snake: may occur within the irrigation ditches, including the irrigation district conveyance system
- Northwestern pond turtle: may occur within the water storage basin located outside of but immediately adjacent to the proposed development area. It may also disperse through the agricultural irrigation ditches. Nesting, aestivation, and terrestrial dispersal habitat are absent.

Section 6 | Impact Analyses and Recommended Avoidance and Minimization Measures

As defined by CEQA, the Project would be considered to have a significant adverse impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a special-status species in local or regional plans, policies, or regulations, or by USFWS or CDFW
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by USFWS or CDFW
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites
- Conflict with any county or municipal policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved governmental habitat conservation plan.

6.1 IMPACTS TO SPECIAL-STATUS SPECIES

Will the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

As discussed in **Section 5.6**, the following special-status species have the potential to occur within the project site:

- Swainson's hawk: This species has been observed foraging on the project site. The nearest nesting habitat is within scattered oak trees part of the adjacent cemetery's landscaping over 1,000 feet from the proposed development.
- Northern harrier: This species has been observed foraging on the project site. The nearest nesting habitat is within scattered oak trees part of the adjacent cemetery's landscaping over 1,000 feet from the proposed development.
- Giant garter snake: may occur within the irrigation ditches, including the irrigation district conveyance system. Breeding habitat absent.
- Northwestern pond turtle: may occur within the water storage basin located outside of but adjacent to the proposed development area. May also disperse through the agricultural irrigation ditches. Nesting, aestivation, and terrestrial dispersal habitat are absent.

Potential impacts to these species resulting from implementation of the proposed project are discussed below. Swainson's hawk and northern harrier are discussed below concurrently with migratory and nesting birds.

Giant Garter Snake

Giant garter snake has the potential to disperse through the project site via the agricultural irrigation ditches. As breeding habitat is absent, impacts to breeding individuals would not occur. Additionally, operational activities within the agricultural irrigation ditches would be unchanged from current conditions and thus there would be no operational impacts to this species. Further, while a portion of these ditches would be impacted, the proposed project would re-route these features as shown in **Figure 4** and would not result in a loss of habitat. Therefore, impacts would be limited to impacts to individual giant garter snakes that may be present during construction activities within the irrigation ditches. In order to prevent impacts to individual giant garter snakes, recommended measures in **Section 6.1.2** include a preconstruction survey for this species and temporary exclusion from construction areas to prevent this species from migrating into a work area. Further, measures in **Section 6.1.2** include a worker environmental awareness training program to ensure construction personnel are aware of the sensitive biological resources on the project site and what to do in the event an individual giant garter snake is observed. With inclusion of these measures, impacts to giant garter snake would be less than significant.

Northwestern Pond Turtle

Northwestern pond turtle has the potential to disperse through the project site via the agricultural irrigation ditches on the project site and may also occur within the water storage basin. Suitable upland habitat (including dispersal) is absent; therefore, impacts to nesting or aestivating turtles would not occur. The water storage basin is outside of the development area and would not be impacted. As noted under giant garter snake, habitat loss would not occur given that filled agricultural irrigation ditches would be replaced by proposed re-routing of the ditches (**Figure 4**). In order to prevent impacts to individual northwestern pond turtle, recommended measures in **Section 6.1.2** include a preconstruction survey for this species and temporary exclusion from construction areas to prevent this species from migrating into a work area. Further, measures in **Section 6.1.2** include a worker environmental awareness training program to ensure construction personnel are aware of the sensitive biological resources on the project site and what to do in the event an individual northwestern pond turtle is observed. With inclusion of these measures, impacts to northwestern pond turtle would be less than significant.

Migratory, Nesting, and Special-Status Birds and Raptors

Numerous bird species, including special-status Swainson's hawk and northern harrier, have the potential to occur on or in the vicinity of the project site. Trees will not be removed as part of the proposed project; thus, there would be no loss of nesting habitat for tree-nesting species such as Swainson's hawk and northern harrier. Additionally, the vast majority of potential foraging habitat on the project site would be avoided. However, suitable nesting habitat for tree-nesting species such as Swainson's hawk and northern harrier is located off-site over 1,000 feet from the proposed development area, and ground nesting birds have a low potential to nest on the project site. As the project site and vicinity are already subject to ongoing human disturbance through traffic and agricultural activities, the small scale and temporary nature of construction is not expected to severely increase sensory disturbance from baseline conditions. Although nesting birds would generally be habituated to human disturbance, avoidance and minimization measures, including a pre-construction nesting bird survey, are included in **Section 6.1.2** to ensure impacts are avoided.

These measures would ensure that active nests are identified prior to construction and that the appropriate buffer would be provided. With inclusion of these measures, impacts to nesting and special-status birds and raptors would be less than significant.

Critical Habitat and Essential Fish Habitat

The project site is not within proposed or designated critical habitat and would have no impact on critical habitat. The project site is wholly within EFH for Chinook salmon. Although the project site is within EFH, there is no suitable habitat for this species within the project site. This EFH was designated at a larger scale, such as a watershed scale, and includes large areas of non-suitable habitat such as the City of Davis. According to the NMFS "Assessment of Impacts of Fishery Management Actions on Essential Fish Habitat" a determination of no adverse impact is acceptable when and action in the context of the fishery as a whole will not have an adverse impact on EFH (NMFS, 2024). The project site does not provide habitat for Chinook salmon and therefore would not affect the fishery as a whole as no functional fish habitat would be lost. Therefore, this would be a less-than-significant impact.

6.1.2 Recommended Measures

Worker Environmental Awareness Training

- All construction and equipment operators working on the project will complete a worker environmental awareness program training regarding Swainson's hawk, northern harrier, giant garter snake, and northwestern pond turtle.
- A qualified biological monitor will be present to monitor for the presence of giant garter snake and northwestern pond turtle during fill of agricultural irrigation ditches.
- If a giant garter snake or northwestern pond turtle is observed, the biological monitor will have the authorization to stop work in order to allow the individual to vacate the work area on its own. Work shall not resume until the biological monitor has determined the individual has vacated the work area and continued construction would no longer pose a risk to the individual.

Protection of Northwestern Pond Turtle

- A preconstruction northwestern pond turtle survey shall occur within 14 days prior to construction on or within 500 feet of the agricultural irrigation ditches or agricultural water storage basin. If this species is not observed, exclusionary fencing shall be immediately installed to prevent northwestern pond turtles from entering areas of impact on or within 500 feet of the agricultural irrigation ditches or agricultural water storage basin. If northwestern pond turtle is observed, installation of the exclusionary fencing shall be postponed until after the individual has left of its own accord.
- Following the survey, a report presenting the results of the survey shall be submitted to the County of Solano and applicable regulatory agencies, if necessary.
- The exclusionary fencing shall remain in place until after initial vegetation removal is completed for the excluded area. The integrity of the fence shall be inspected at least once every 14 days. Should the fence be damaged, a qualified biologist shall inspect the fencing either virtually or in person. If compromised, the preconstruction survey shall be repeated as described above.
- The fencing shall be constructed out of plastic weed cloth or construction fabric, shall be keyed into the ground, and shall be supported by stakes and wire mesh, as needed. Fencing shall also be opaque, a minimum three feet in height, and installed with a smooth material such that it cannot be climbed.

Protection of Giant Garter Snake

- The project site is within the USFWS Yolo Basin Recovery Unit for giant garter snake. A preconstruction survey conducted by a qualified wildlife biologist familiar with the species shall be conducted seven or fewer days prior to construction on or within 500 feet of the agricultural irrigation ditches. The exclusionary fencing identified above for northwestern pond turtle shall also be designed to exclude giant garter snake and shall be installed and maintained as described above following confirmation that this species is absent from the work area.
- Following the survey, a report presenting the results of the survey shall be submitted to the County of Solano and to applicable regulatory agencies, if necessary.

Protection of Swainson's Hawk

- Should construction commence between March 1 and August 31, a biologist shall conduct a pre-construction survey to identify active Swainson's hawk nests. Surveys shall be conducted within 15 days of the anticipated start of construction and shall be designed and of sufficient intensity to document nesting within 0.25-miles of planned work activities. If a lapse in project-related construction work of 15 days or longer occurs, additional pre-construction surveys shall be required before project work may be reinitiated.
- Construction work (including grading, earthmoving, and operation of construction equipment) shall not occur within a 0.25-mile buffer zone around an active Swainson's hawk nest except when a qualified biologist has confirmed that nesting activity is complete (e.g., young have fledged/are capable of flight/ and have left the nest, or the adults have abandoned the nest for a minimum of 7 days and there is no evidence of re-nesting activity). The size of nest site buffer zones may be reduced only if all of the following conditions are met:
    - A site-specific analysis prepared by a qualified biologist indicates that the nesting pair under consideration is not likely to be adversely affected by construction activities (e.g., the nest is located in an area where the hawks are habituated to human activity and noise levels comparable to anticipated construction work).
    - Monitoring by a qualified biologist is conducted during all construction activities for a minimum of 10 consecutive days following the initiation of construction, and the nesting pair does not exhibit adverse reactions to construction activities (e.g., changes in behavioral patterns, reactions to construction noise).
    - Monitoring is continued at least once a week through the nesting cycle at that nest. This longer-term monitoring may be reduced to a minimum of 2 hours in the morning and 2 hours in the afternoon during construction activities; however, additional and more frequent monitoring may be required if any adverse reactions are suspected.
    - If adverse effects are identified, construction activities shall cease immediately and construction shall not be resumed until the qualified biologist has determined that construction may continue under modified restrictions or that nesting activity is complete.

Protection of Nesting Birds, Including Northern Harrier, During Construction

- If construction activities commence during the general nesting season (February 15 to September 1), a preconstruction nesting bird survey shall be conducted by a qualified biologist on and within 100 feet of proposed construction within 14 days of initiating ground disturbance. If active nests are identified, the qualified biologist shall determine a suitable avoidance buffer based on the needs of the species observed.

- Avoidance measures may include the establishment of a buffer zone using construction fencing or similar, or the postponement of construction until after the nesting season, or until after a qualified biologist has determined the nest is no longer active. Avoidance buffers may vary in size depending on habitat characteristics, project-related activities, and disturbance levels.
- Should work activity cease for 14 days or more during the nesting season, surveys shall be repeated prior to recommencing construction within the general nesting season to ensure birds and have not established nests during inactivity.

6.2 IMPACTS TO SENSITIVE HABITATS

Will the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Terrestrial habitat on the project site is limited to agriculture, which is not considered a sensitive habitat. Although aquatic habitats are generally considered sensitive, aquatic features on the project site are all manmade and are either devoid of vegetation or vegetated with sparse and managed plants. These features are used for irrigation and stock watering and are not considered sensitive. Impacts to aquatic resources are further assessed in **Section 6.3**. As there are no sensitive habitats on the project site, there would be no impact.

6.2.1 Recommended Measures

No avoidance or minimization measures are required.

6.3 IMPACTS TO AQUATIC RESOURCES

Will the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The proposed project would result in impacts to 1,950 linear feet of agricultural irrigation ditches. An aquatic resources delineation was prepared for the project site. These features are manmade, dug from uplands, and lack relatively permanent flow. The definition of irrigation ditches that do not meet the criteria of "Waters of the U.S." is provided in 40 CFR §120.2(b)(3) which states "ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water." Thus, the aquatic resources delineation concluded that the agricultural irrigation ditches do not meet the definition of a water of the U.S. Further, as described in **Section 2**, certain waters of the state, including agricultural irrigation ditches, are exempt from permitting. The agricultural irrigation ditches on the project site consist of manmade features that were created within uplands and drain to uplands for use as crop irrigation. Based on this, the agricultural irrigation ditches would likely be considered waters of the State that are exempt from Waste Discharge Requirement permitting per the *State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* exemptions within Section IV.D(2c). Although permitting for impacts to the agricultural irrigation ditches is not expected to be necessary, the results of the aquatic resources delineation are expected to be sent to USACE and the State for concurrence.

Further, construction activities have the potential to indirectly impact off-site aquatic resources through release of impaired stormwater runoff that may occur due to exposure of bare soils or accidental release of chemicals such as equipment fuel. Recommended measures in **Section 6.3.1** include the preparation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is a requirement of the Construction General Permit for construction activities disturbing one or more acres. BMPs recommended for inclusion in the SWPPP are outlined in **Section 6.3.1** and would prevent significant indirect impacts to off-site surface waters. This would be a less-than-significant impact with implementation of measures in **Section 6.3.1**.

6.3.1 Recommended Measures

Water Resource Protection

A Storm Water Pollution Prevention Plan (SWPPP) is required in California for development projects that disturb one acre or more of land. This requirement is part of the Construction General Permit (CGP). The following Best Management Practices are recommended for inclusion in the SWPPP:

- Grading activities shall be limited to the immediate area required for construction.
- Temporary erosion control measures (such as silt fences, fiber rolls, staked straw bales, temporary re-vegetation, rock bag dams, erosion control blankets, and sediment traps) shall be employed as needed for disturbed areas. Plastic monofilament or similar materials that could entangle wildlife shall not be used.
- Construction activities shall be scheduled to minimize land disturbance during peak runoff periods to the extent feasible.
- Disturbed areas shall be paved, re-vegetated, and/or stabilized following construction activities.
- A spill prevention and countermeasure plan shall be developed that identifies proper storage, collection, and disposal measures for potential pollutants used on-site.
- Petroleum products shall be stored, handled, used, and disposed of properly in accordance with provisions of the CWA (33 USC §§ 1251 to 1387).
- Construction materials shall be stored, covered, and isolated to prevent runoff loss and contamination of surface and groundwater.
- Fuel and vehicle maintenance areas shall be limited to the impact area.
- Sanitary facilities shall be provided for construction workers.
- To minimize dust generation during construction, soil will be wet with water prior to ground disturbance as needed.
- Generated waste shall be properly disposed of.

6.4 IMPACTS TO WILDLIFE MOVEMENT, CORRIDORS, OR NURSERY SITES

Will the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

There are no wildlife movement corridors or nursery sites present within the project site. Therefore, there would be no impact on wildlife movement, corridors, or nursery sites.

6.4.1 Recommended Measures

No avoidance or minimization measures are required.

6.5 CONFLICT WITH POLICIES, ORDINANCES, HABITAT CONSERVATION PLANS, OR NATURAL COMMUNITY CONSERVATION PLAN

Will the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? Will the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Implementation of the proposed project would not require the removal of trees or other actions that would conflict with local policies or ordinances regarding biological resources. It is noted that the project site falls within the draft SMHCP plan area. However, this plan is a draft that has not yet been finalized, and the project site falls within an area that is currently designated as voluntary for participation. Thus, consistency with this plan, even once finalized, would be optional. Recommended measures contained herein were nonetheless prepared to be consistent with the draft SMHCP in order to align with measures that were developed for the region in coordination between applicable resource agencies, such as USFWS and CDFW. There would be no impact.

6.5.1 Recommended Measures

No avoidance or minimization measures are required.

Section 7 | References

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Section 8 | Qualifications of Surveyors and Authors

8.1.1 G.O. Graening, Ph.D., M.S.E.

G. O. Graening holds a Doctorate in Biological Sciences and a Master of Science in Biological Engineering and is a certified arborist (International Society of Arboriculture). Dr. Graening has over 30 years of experience in environmental assessment and research, including the performance of numerous biological assessments, wetland delineations, and habitat restoration projects. Dr. Graening also served as an adjunct professor of biology at California State University Sacramento for 10 years and was an active researcher in the area of conservation biology and groundwater ecology.

8.1.2 Kelli Raymond, B.S.

Ms. Raymond holds a B.S. in Animal Biology with a focus on Wildlife Ecology. She has approximately 10 years of experience collecting field data and preparing environmental assessments. Ms. Raymond has worked in several states across the U.S. performing biological resources surveys, including plant surveys, wetland delineations, and wildlife utilization monitoring. She also has experience live handling numerous wildlife species, including fish, migratory birds, and big game. Ms. Raymond is experienced in the preparation of Biological Assessments and Section 7 consultation with both the USFWS and NMFS under the federal Endangered Species Act.

Attachment A

Biological Resources Desktop Review

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Davis (3812156) OR Dixon (3812147) OR Merritt (3812157) OR Saxon (3812146))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Acipenser medirostris pop. 1 green sturgeon - southern DPS	AFCAA01031	Threatened	None	G2T1	S1	SSC
Actinemys marmorata northwestern pond turtle	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S2	SSC
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	G2G3T3	S3	WL
Ammodramus savannarum grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Astragalus tener var. ferrisiae Ferris' milk-vetch	PDFAB0F8R3	None	None	G2T1	S1	1B.1
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	Candidate Endangered	G4	S2	SSC
Atriplex cordulata var. cordulata heartscale	PDCHE040B0	None	None	G3T2	S2	1B.2
Atriplex depressa brittlescale	PDCHE042L0	None	None	G2	S2	1B.2
Bombus crotchii Crotch's bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	
Bombus occidentalis western bumble bee	IIHYM24252	None	Candidate Endangered	G3	S1	
Bombus pensylvanicus American bumble bee	IIHYM24260	None	None	G3G4	S2	
Branchinecta conservatio Conservancy fairy shrimp	ICBRA03010	Endangered	None	G2	S2	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branchinecta mesovallensis midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S4	
Centromadia parryi ssp. parryi pappose tarplant	PDAST4R0P2	None	None	G3T2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Charadrius nivosus nivosus western snowy plover	ABNNB03031	Threatened	None	G3T3	S3	SSC
Cicindela hirticollis abrupta Sacramento Valley tiger beetle	IICOL02106	None	None	G5TH	SH	
Circus hudsonius northern harrier	ABNKC11011	None	None	G5	S3	SSC
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T3	S3	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Eryngium jepsonii Jepson's coyote-thistle	PDAPI0Z130	None	None	G2	S2	1B.2
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Fritillaria pluriflora adobe-lily	PMLIL0V0F0	None	None	G2G3	S2S3	1B.2
Lasionycteris noctivagans silver-haired bat	AMACC02010	None	None	G3G4	S3S4	
Lasiurus cinereus hoary bat	AMACC05032	None	None	G3G4	S4	
Lepidium latipes var. heckardii Heckard's pepper-grass	PDBRA1M0K1	None	None	G4T1	S1	1B.2
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G3	S3	
Lilaeopsis masonii Mason's lilaeopsis	PDAPI19030	None	Rare	G2	S2	1B.1
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Myrmosula pacifica Antioch multilid wasp	IIHYM15010	None	None	GH	SH	
Navarretia leucocephala ssp. bakeri Baker's navarretia	PDPLM0C0E1	None	None	G4T2	S2	1B.1
Neostapfia colusana Colusa grass	PMPOA4C010	Threatened	Endangered	G1	S1	1B.1
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	SSC
Plagiobothrys hystriculus bearded popcornflower	PDBOR0V0H0	None	None	G2	S2	1B.1
Puccinellia simplex California alkali grass	PMPOA53110	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Sidalcea keckii Keck's checkerbloom	PDMAL110D0	Endangered	None	G2	S2	1B.1
Spea hammondii western spadefoot	AAABF02020	Proposed Threatened	None	G2G3	S3S4	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2
Tuctoria mucronata Crampton's tuctoria or Solano grass	PMPOA6N020	Endangered	Endangered	G1	S1	1B.1

Record Count: 46

Search Results

21 matches found. Click on scientific name for details

Search Criteria: , Quad is one of [**3812146:3812156:3812147:3812157**]

▲ SCIENTIFIC NAME	COMMON NAME	BLOOMING PERIOD	FED LIST	STATE LIST	STATE RANK	CA RARE PLANT RANK	GENERAL HABITATS	MICROHABITATS	LOWEST ELEVATION (FT)	HIGHEST ELEVATION (FT)
Astragalus tener var. *ferrisiae*	Ferris' milk-vetch	Apr-May	None	None	S1	1B.1	Meadows and seeps (vernally mesic), Valley and foothill grassland (subalkaline flats)		5	245
Astragalus tener var. *tener*	alkali milk-vetch	Mar-Jun	None	None	S1	1B.2	Playas, Valley and foothill grassland (adobe clay), Vernal pools	Alkaline	5	195
Atriplex cordulata var. *cordulata*	heartscale	Apr-Oct	None	None	S2	1B.2	Chenopod scrub, Meadows and seeps, Valley and foothill grassland (sandy)	Alkaline (sometimes)	0	1835
Atriplex depressa	brittlescale	Apr-Oct	None	None	S2	1B.2	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland, Vernal pools	Alkaline, Clay	5	1050

Centromadia parryi ssp. *parryi*	pappose tarplant	May-Nov	None	None	S2	1B.2	Chaparral, Coastal prairie, Marshes and swamps (coastal salt), Meadows and seeps, Valley and foothill grassland (vernally mesic)	Alkaline (often)	0	1380
Centromadia parryi ssp. *rudis*	Parry's rough tarplant	May-Oct	None	None	S3	4.2	Valley and foothill grassland, Vernal pools	Alkaline, Roadsides (sometimes), Seeps, Vernally Mesic	0	330
Eryngium jepsonii	Jepson's coyote-thistle	Apr-Aug	None	None	S2	1B.2	Valley and foothill grassland, Vernal pools	Clay	10	985
Extriplex joaquinana	San Joaquin spearscale	Apr-Oct	None	None	S2	1B.2	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland	Alkaline	5	2740
Fritillaria agrestis	stinkbells	Mar-Jun	None	None	S3	4.2	Chaparral, Cismontane woodland, Pinyon and juniper woodland, Valley and foothill grassland	Clay, Serpentine (sometimes)	35	5100
Fritillaria pluriflora	adobe-lily	Feb-Apr	None	None	S2S3	1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland	Adobe (often)	195	2315
Hesperevax caulescens	hogwallow starfish	Mar-Jun	None	None	S3	4.2	Valley and foothill grassland (mesic clay), Vernal pools (shallow)	Alkaline (sometimes)	0	1655

Lepidium latipes var. *heckardii*	Heckard's pepper-grass	Mar-May	None	None	S1	1B.2	Valley and foothill grassland (alkaline flats)		5	655
Lilaeopsis masonii	Mason's lilaeopsis	Apr-Nov	None	CR	S2	1B.1	Marshes and swamps (brackish, freshwater), Riparian scrub		0	35
Myosurus minimus ssp. *apus*	little mousetail	Mar-Jun	None	None	S2	3.1	Valley and foothill grassland, Vernal pools (alkaline)		65	2100
Navarretia leucocephala ssp. *bakeri*	Baker's navarretia	Apr-Jul	None	None	S2	1B.1	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools	Mesic	15	5710
Neostapfia colusana	Colusa grass	May-Aug	FT	CE	S1	1B.1	Vernal pools (adobe clay)		15	655
Plagiobothrys hystriculus	bearded popcornflower	Apr-May	None	None	S2	1B.1	Valley and foothill grassland (mesic), Vernal pools (margins)		0	900
Puccinellia simplex	California alkali grass	Mar-May	None	None	S2	1B.2	Chenopod scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools	Alkaline, Flats, Lake Margins, Vernally Mesic	5	3050
Sidalcea keckii	Keck's checkerbloom	Apr-May(Jun)	FE	None	S2	1B.1	Cismontane woodland, Valley and foothill grassland	Clay, Serpentine	245	2135

Trifolium hydrophilum	saline clover	Apr-Jun	None	None	S2	1B.2	Marshes and swamps, Valley and foothill grassland (mesic, alkaline), Vernal pools	0	985
Tuctoria mucronata	Crampton's tuctoria or Solano grass	Apr-Aug	FE	CE	S1	1B.1	Valley and foothill grassland (mesic), Vernal pools	15	35

Showing 1 to 21 of 21 entries

Go to top

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2025. Rare Plant Inventory (online edition, v9.5.1). Website https://www.rareplants.cnps.org [accessed 18 April 2025].

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United States Department of the Interior

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

In Reply Refer To: 04/18/2025 19:48:02 UTC
Project Code: 2025-0085483
Project Name: Realized Dreams

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

To Whom It May Concern:

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

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

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

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

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

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

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

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

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

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

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

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

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

This species list is provided by:

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

PROJECT SUMMARY

Project Code: 2025-0085483
Project Name: Realized Dreams
Project Type: Residential Construction
Project Description: Housing
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.49148795,-121.70952430072225,14z

Counties: Solano and Yolo counties, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 11 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

---

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

REPTILES

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened
Western Spadefoot *Spea hammondii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

CRUSTACEANS

NAME	STATUS
Conservancy Fairy Shrimp *Branchinecta conservatio* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

FLOWERING PLANTS

NAME	STATUS
Colusa Grass *Neostapfia colusana*	Threatened
There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5690	
Solano Grass *Tuctoria mucronata*	Endangered
There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8302	

CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Kelli Raymond
Address: 5170 Golden Foothill Parkway
City: El Dorado Hills
State: CA
Zip: 95762
Email kraymond@acorn-env.com
Phone: 9162358224

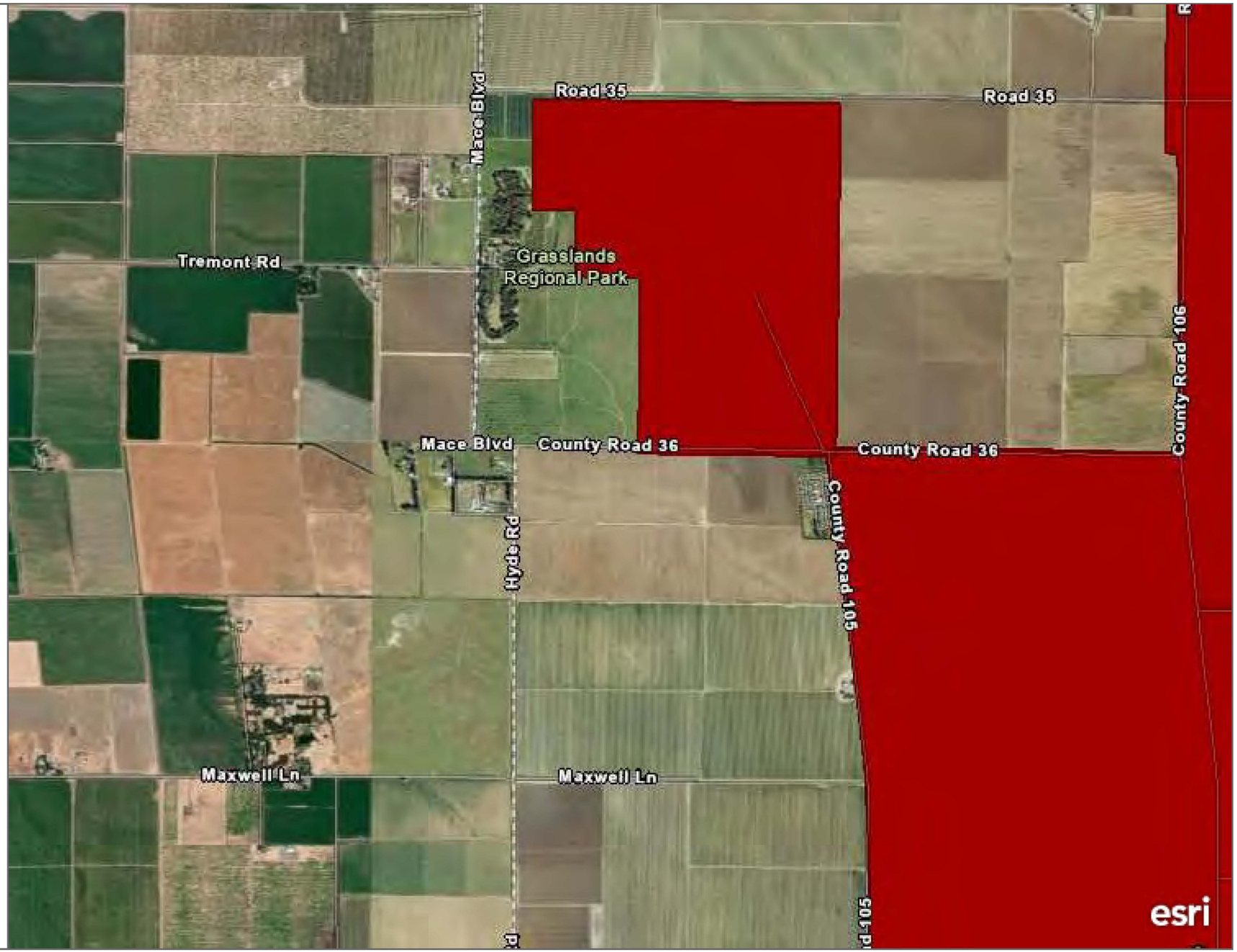
Critical Habitat for Threatened & Endangered Species [USFWS]

Final Polygon Features

Final Linear Features

Proposed Polygon Features

Proposed Linear Features



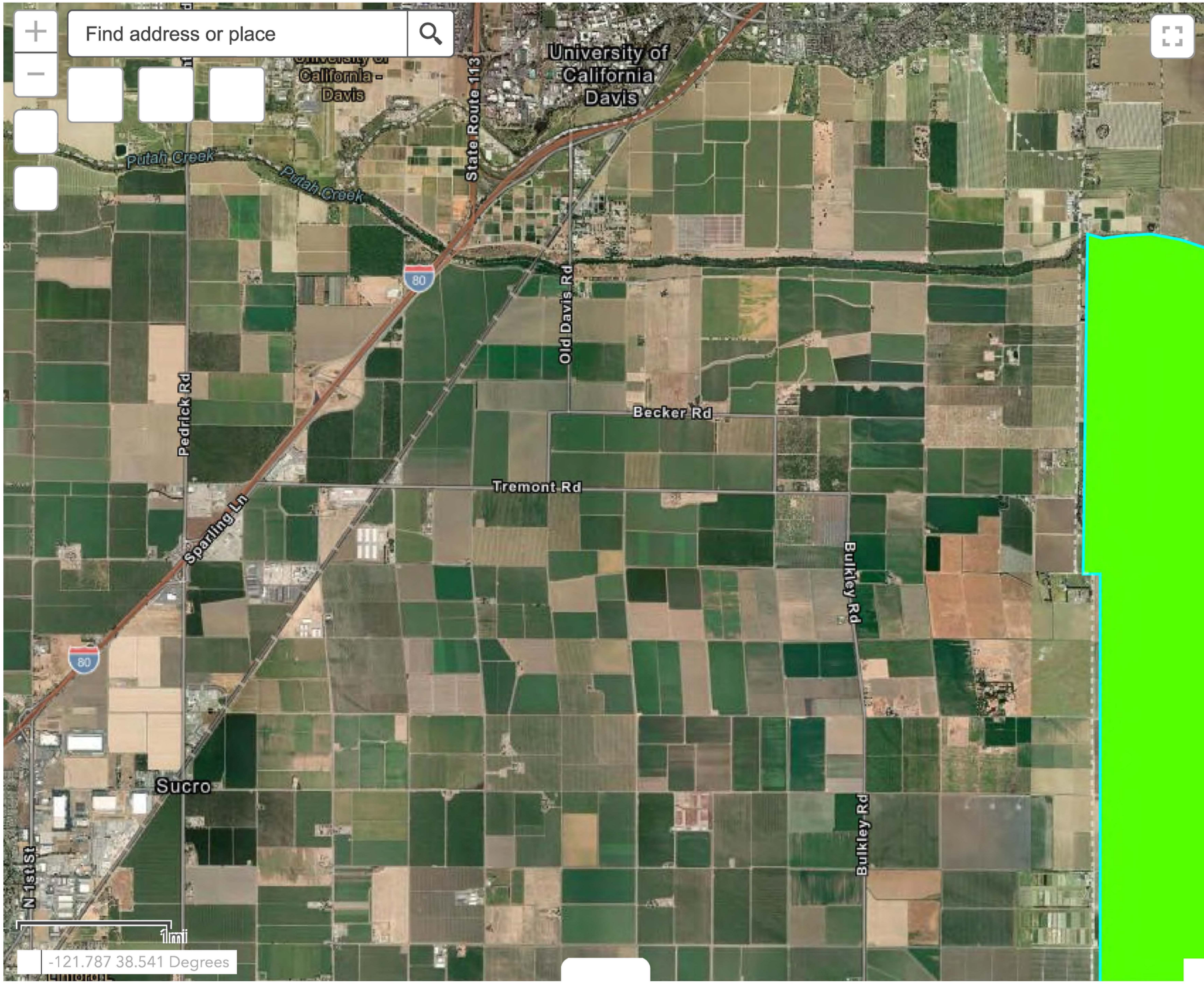
A specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

Welcome

This mapper includes all available spatial data for critical habitat designated and proposed by NOAA Fisheries. Links to download the geodatabase for data displayed in this mapper and to regional NMFS ESA Mappers can be found below:

- Download Geodatabase
- Alaska Regional ESA Mapper
- Greater Atlantic ESA Mapper
- West Coast Protected Resources Mapper

This version of the National NMFS ESA Critical Habitat Mapper may not yet include spatial data for recently proposed or designated critical habitat. Additionally, spatial data are not yet available for the designated critical habitat of the Southern Oregon/Northern California Coast coho salmon and the Snake River spring/summer-run chinook salmon. NMFS will add these



EFH Mapper Report

EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

West Coast Regional Office

Query Results

Degrees, Minutes, Seconds: Latitude = 38° 29' 26" N, Longitude = 122° 17' 31" W
Decimal Degrees: Latitude = 38.490, Longitude = -121.708

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

EFH

No additional Essential Fish Habitats (EFH) were identified at the report location.

Pacific Salmon EFH

Link	HUC Name	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
	Lower Sacramento	Chinook Salmon	All	Pacific	Pacific Coast Salmon Plan

Atlantic Salmon

No Atlantic Salmon were identified at the report location.

HAPCs

No Habitat Areas of Particular Concern (HAPC) were identified at the report location.

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.
****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**

Pacific Coastal Pelagic Species,
Jack Mackerel,
Pacific (Chub) Mackerel,
Pacific Sardine,
Northern Anchovy - Central Subpopulation,
Northern Anchovy - Northern Subpopulation,
Pacific Highly Migratory Species,
Bigeye Thresher Shark - North Pacific,
Bluefin Tuna - Pacific,
Dolphinfish (Dorado or Mahimahi) - Pacific,
Pelagic Thresher Shark - North Pacific,
Swordfish - North Pacific

Attachment B

NRCS Soil Report

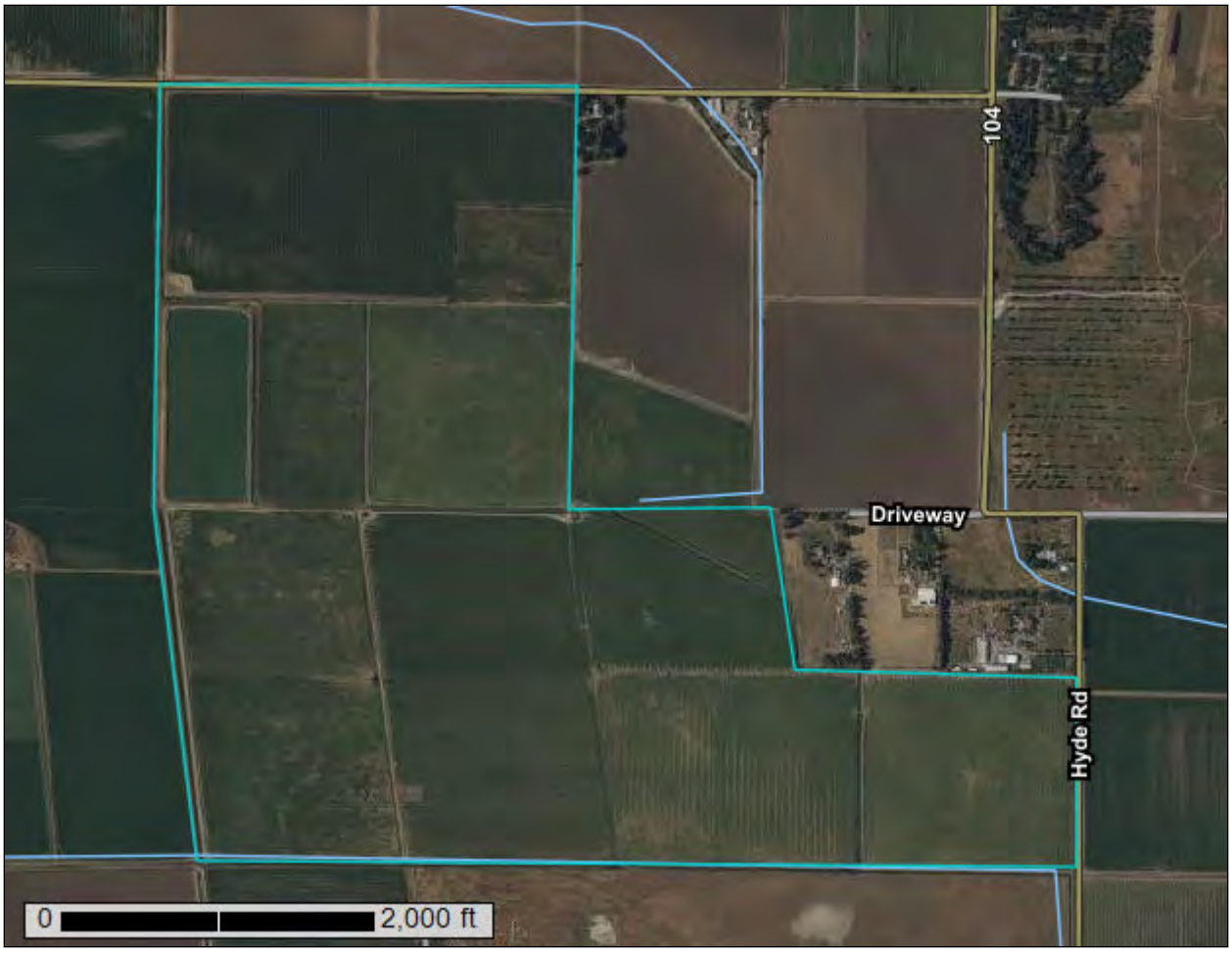
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Solano County, California



April 21, 2025

Preface

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

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

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

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

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

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

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

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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Pc—Pescadero silty clay loam, 0 percent slopes, MLRA 17.....14
RoA—Rincon clay loam, 0 to 2 percent slope.....16
Ys—Yolo silty clay loam, 0 to 2 percent slopes, MLRA 17.....17
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How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

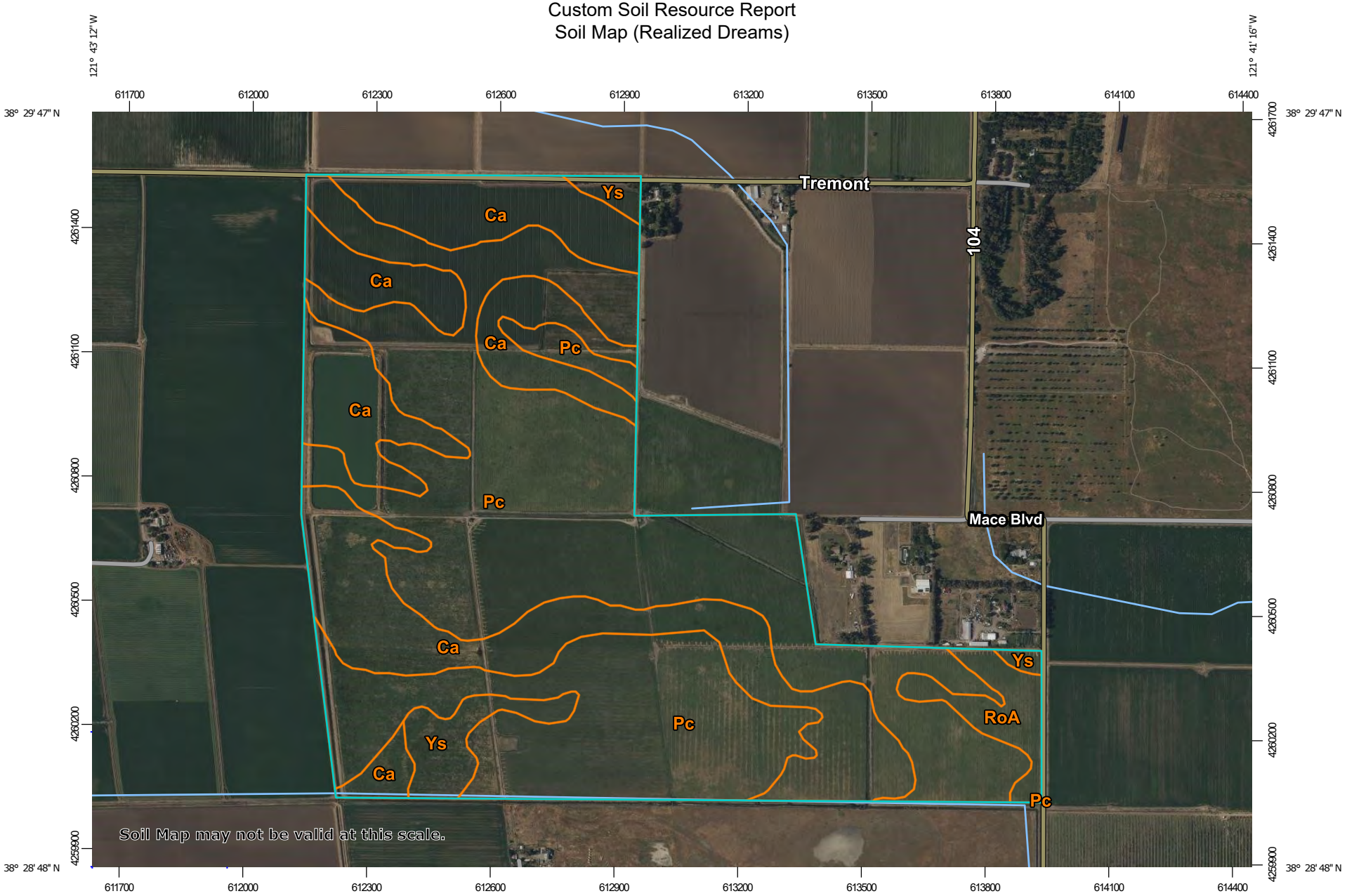
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree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

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

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

Soil Map

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



Map Scale: 1:12,900 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 150 300 600 900

Feet
0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Solano County, California
Survey Area Data: Version 19, Sep 8, 2024

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

Date(s) aerial images were photographed: Apr 23, 2022—Apr 24, 2022

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

Map Unit Legend (Realized Dreams)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ca	Capay silty clay loam, 0 percent slopes, MLRA 17	141.3	33.7%
Pc	Pescadero silty clay loam, 0 percent slopes, MLRA 17	250.4	59.8%
RoA	Rincon clay loam, 0 to 2 percent slope	11.9	2.8%
Ys	Yolo silty clay loam, 0 to 2 percent slopes, MLRA 17	15.3	3.6%
Totals for Area of Interest		**418.9**	**100.0%**

Map Unit Descriptions (Realized Dreams)

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Solano County, California

Ca—Capay silty clay loam, 0 percent slopes, MLRA 17

Map Unit Setting

National map unit symbol: 2xcc2
Elevation: 20 to 110 feet
Mean annual precipitation: 20 to 25 inches
Mean annual air temperature: 61 to 62 degrees F
Frost-free period: 315 to 325 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Capay and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Capay

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous, metamorphic and sedimentary rock

Typical profile

Ap - 0 to 5 inches: silty clay loam
Bwk1 - 5 to 21 inches: silty clay loam
Bwk2 - 21 to 32 inches: silty clay loam
Bwk3 - 32 to 40 inches: silty clay loam
Bwk4 - 40 to 50 inches: silty clay loam
Bwk5 - 50 to 62 inches: silty clay loam
Bwk6 - 62 to 81 inches: silty clay loam
2Bwk7 - 81 to 88 inches: sandy clay loam
2Bk - 88 to 102 inches: fine sandy loam

Properties and qualities

Slope: 0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 50 to 102 inches
Frequency of flooding: Rare
Frequency of ponding: Occasional
Calcium carbonate, maximum content: 1 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.5 to 3.0 mmhos/cm)
Sodium adsorption ratio, maximum: 15.0
Available water supply, 0 to 60 inches: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: C
Ecological site: R017XY904CA - Subirrigated Deep Alluvial Fans
Hydric soil rating: No

Minor Components

Rincon

Percent of map unit: 5 percent
Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, rise
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Brentwood

Percent of map unit: 5 percent
Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, rise
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Yolo

Percent of map unit: 5 percent
Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, rise
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Pc—Pescadero silty clay loam, 0 percent slopes, MLRA 17

Map Unit Setting

National map unit symbol: 2xcbg
Elevation: 0 to 50 feet
Mean annual precipitation: 19 to 23 inches
Mean annual air temperature: 61 to 61 degrees F
Frost-free period: 318 to 326 days
Farmland classification: Not prime farmland

Map Unit Composition

Pescadero and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pescadero

Setting

Landform: Basin floors on fan remnants, basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous, metamorphic and sedimentary rock

Typical profile

An - 0 to 4 inches: silty clay loam
Btn - 4 to 14 inches: silty clay loam
Btknss1 - 14 to 22 inches: silty clay
Btknss2 - 22 to 34 inches: silty clay loam
Btkn - 34 to 47 inches: clay loam
Bwkn1 - 47 to 58 inches: clay loam
Bwkn2 - 58 to 69 inches: clay loam
B'tkn - 69 to 85 inches: clay loam

Properties and qualities

Slope: 0 percent
Depth to restrictive feature: 4 inches to natric
Drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.01 in/hr)
Depth to water table: About 4 to 85 inches
Frequency of flooding: Rare
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 20 percent
Maximum salinity: Slightly saline to strongly saline (5.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 95.0
Available water supply, 0 to 60 inches: Very low (about 0.9 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Ecological site: R017XY901CA - Clayey Basin Group
Hydric soil rating: No

Minor Components

Solano

Percent of map unit: 8 percent
Landform: Fan remnants
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Willows

Percent of map unit: 7 percent

Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

RoA—Rincon clay loam, 0 to 2 percent slope

Map Unit Setting

National map unit symbol: h9m5
Elevation: 20 to 200 feet
Mean annual precipitation: 20 to 25 inches
Mean annual air temperature: 59 to 61 degrees F
Frost-free period: 240 to 260 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Rincon and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rincon

Setting

Landform: Stream terraces, fan remnants
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile

H1 - 0 to 22 inches: clay loam
H2 - 22 to 44 inches: clay loam
H3 - 44 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: C
Ecological site: R014XG918CA - Loamy Fan
Hydric soil rating: No

Minor Components

Brentwood

Percent of map unit: 10 percent
Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Capay

Percent of map unit: 5 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Ys—Yolo silty clay loam, 0 to 2 percent slopes, MLRA 17

Map Unit Setting

National map unit symbol: 2w8b1
Elevation: 10 to 420 feet
Mean annual precipitation: 16 to 28 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 240 to 270 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Yolo and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Yolo

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear

Parent material: Alluvium derived from igneous, metamorphic and sedimentary rock

Typical profile

Ap - 0 to 9 inches: silty clay loam
A1 - 9 to 18 inches: silty clay loam
A2 - 18 to 28 inches: silty clay loam
Bw1 - 28 to 36 inches: clay loam
Bw2 - 36 to 44 inches: loam
Bw3 - 44 to 60 inches: loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline (0.3 to 0.5 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 11.1 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: B
Ecological site: R014XG918CA - Loamy Fan
Hydric soil rating: No

Minor Components

Sycamore

Percent of map unit: 5 percent
Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Reiff

Percent of map unit: 5 percent
Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Brentwood

Percent of map unit: 5 percent
Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread

Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

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Attachment C

Species Observed

Species observed by Soar Environmental Consulting (August 2024)
and Acorn Environmental (April 2025)

Scientific Name	Common Name
Plants	
Quercus lobata	valley oak
Robinia pseudoacacia	black locust
Juglans californica	California walnut
Avena barbata	wild oat
Bromus hordeaceus	soft chess
Cynodon dactylon	Bermuda grass
Festuca perennis (Lolium perenne)	Italian ryegrass
Festuca pratensis	meadow fescue
Hordeum marinum	wall barley
Echinochloa crus-galli	barnyard grass
Polypogon monspeliensis	Rabbitsfoot grass
Lepidium appelianum	white top mustard
Echinodorus berteroi	Burhead
Amaranthus albus	white amaranth
Rubus armeniacus	Himalaya berry
Portulaca oleracea	purslane
Rumex crispus	curly dock
Lactuca serriola	prickly lettuce
Medicago ploymorpha	bur clover
Leymus condensatus	ryegrass
Typha latifolia	broadleaf cattail
Carduus pycnocephalus	Italian thistle
Convolvulus arvensis	bindweed
Cirsium vulgare	bull thistle
Centaurea solstitialis	yellow starthistle
Paspalum dilatatum	Dallis grass
Croton setigerus	doveweed
Cynara cardunculus	Artichoke thistle
Erigeron bonariensis	flax-leaf fleabane
Epilobium brachycarpum	willowherb
Lotus corniculatus	birdsfoot trefoil
Malva bullata	cheeseweed
Malva nicaensis	bull mallow
Malvella leprosa	Alkali mallow
Polygonum aviculare	knotweed
Plantago lanceolata	European plantain
Trifolium fragiferum	strawberry clover
Spergularia rubra	spurrey

Typha domingoensis	Cattail
Silybum marianum	milk thistle
Centromadia pungens	Common tar plant
Medicago sativa	alfalfa
Animals	
Recurvirostra americana	American avocet
Tyrannus verticalis	Western kingbird
Buteo swainsoni	Swainson's hawk
Anas platyrhynchos	mallard
Buteo jamaicensis	red tailed hawk
Ardea herodias	great blue heron
Ardea alba	great egret
Bubulcus ibis	cattle egret
Aechmophorus occidentalis	western grebe
Aeshna multicolor	Blue-eyed darner dragonfly
Rhionaeschna californica	California darner dragonfly
Enallagma cyathigerum	American bluet damselfly
Pseudoacris regilla	Pacific tree frog
Circus hudsonius	Northern harrier
Cathartes aurea	Turkey vulture
Riparia riparia	Bank swallow
Calypte anna	Anna's hummingbird
Sayornis nigricans	Black Phoebe
Lontra canadensis	North American river otter
Agelaius phoeniceus	Red-wing blackbird
Hirundo rustica	Barn swallow
Sturnella neglecta	Western meadowlark
Charadrius vociferus	Killdeer
Streptopelia decaocto	Eurasian collared dove
Mimus polyglottos	Northern mockingbird
Pacifastacus leniusculus	Signal crayfish
Microtus californicus	California vole

Attachment D

Site Photographs

Representative photo of an agricultural irrigation ditch with unpaved farm road and berm of water storage basin on the right and flooded field agriculture on the left (alfalfa)

Agricultural water storage basin on the project site used for irrigation and stockwatering

Agricultural irrigation ditch that is part of the Solano Irrigation District's conveyance system

Site access off Tremont Road showing road ditch and feedcrop (alfalfa)

Site access off Tremont Road showing agricultural irrigation ditch and associated siphons and dams used to flood-irrigate the alfalfa

Berm of agricultural storage basin (on right) and hay crop (on left), with pipe culvert and irrigation ditch (center)

Concrete pipe culvert/lock and irrigation ditch (center), with hay crops on both sides.

Irrigation ditch parallel to Tremont Road that is filled by groundwater pumped from a well.

One of the Solano Irrigation District's canals in the center of the project site.

Site access off Tremont Road showing Solano Irrigation District's canal, with a sidewall that was recently scraped to remove vegetation.

Attachment E

Species Table

Special-status Species with the Potential to Occur in the Vicinity of the Project Site

Scientific Name	Common Name	Status*	General Habitat**	Microhabitat**	Potential to Occur on Project Site
Mammals					
Antrozous pallidus	Pallid bat	CSSC	Deserts, grasslands, shrublands, woodlands & forests. Most common in open, dry habitats with rocky areas for roosting.	Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	No potential to occur.
Lasionycteris noctivagans	Silver-haired bat	CSSC	Primarily a coastal & montane forest dweller feeding over streams, ponds & open brushy areas.	Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes & rarely under rocks. Needs drinking water.	No potential to occur.
Lasiurus cinereus	Hoary bat	CSSC	Trees and snags	--	No potential to occur.
Taxidea taxus	American badger	CSSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Needs sufficient food, friable soils & open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	No potential to occur.
Amphibians and Reptiles					
Ambystoma californiense pop. 1	California tiger salamander - central California DPS	FT, CT	Require both aquatic and upland habitats throughout their life cycle, using vernal pools and other seasonal wetlands for breeding and underground burrows for shelter.	--	No potential to occur.
Emys marmorata	northwestern pond turtle	FPT	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetation	Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying	**Moderate potential to occur within the water storage basin and irrigation ditches.**
Spea hammondii	Western spadefoot	FPT	Occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands.	Vernal pools are essential for breeding and egg-laying.	No potential to occur.
Thamnophis gigas	Giant garter snake	FT, CT	Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals & irrigation ditches.	This is the most aquatic of the garter snakes in California.	**Moderate potential to occur. May use the irrigation ditches for dispersal. Breeding habitat absent**.
Birds					
Agelaius tricolor	Tricolored blackbird	CT	Highly colonial species, most numerous in central valley & vicinity. Largely endemic to California.	Requires open water, protected nesting substrate, & foraging area with insect prey within a few km of the colony.	No potential to occur.
Ammodramus savannarum	Grasshopper sparrow	CSSC	Dense grasslands on rolling hills, lowland plains, in valleys & on hillsides on lower mountain slopes.	Favors native grasslands with a mix of grasses, forbs & scattered shrubs. Loosely colonial when nesting.	No potential to occur.
Athene cunicularia	Burrowing owl	CSSC	Open, dry annual or perennial grasslands, deserts & scrublands characterized by low-growing vegetation.	Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	No potential to occur.
Buteo swainsoni	Swainson's hawk	CT	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands	Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**Has been observed foraging on the project site but nesting habitat is not present.**
Charadrius nivosus nivosus	Western snowy plover	FT	Sandy beaches, salt pond levees & shores of large alkali lakes.	Needs sandy, gravelly or friable soils for nesting.	No potential to occur.
Circus hudsonius	Northern harrier	CSSC	Prairies, open areas, and marshes	--	**Has been observed foraging on the project site but nesting habitat is not present.**
Coccyzus americanus occidentalis	Western yellow-billed cuckoo	FT, CE	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems.	Nests in riparian jungles of willow, often mixed with cottonwoods, w/ lower story of blackberry, nettles, or wild grape.	No potential to occur.
Elanus leucurus	White-tailed kite	CSSC	Rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland.	Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	No potential to occur.
Invertebrates					
Bombus pensylvanicus	American bumble bee	CSSC	Grasslands.	--	No potential to occur.
Bombus crotchii	Crotch's bumble bee	CP	Grasslands.	--	No potential to occur.
Bombus occidentalis	Western bumble bee	CP	Grasslands.	--	No potential to occur.
Branchinecta conservatio	Conservancy fairy shrimp	FE	Endemic to the grasslands of the northern two-thirds of the central valley; found in large, turbid pools.	Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, last until June.	No potential to occur.
Branchinecta lynchi	Vernal pool fairy shrimp	FT	Endemic to the grasslands of the central valley, central coast mtns, and south coast mtns, in astatic rain-filled pools.	Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	No potential to occur.

Branchinecta mesovallensis	Midvalley fairy shrimp	CSSC	Vernal pools in the central valley.	--	No potential to occur.
Cicindela hirticollis abrupta	Sacramento Valley tiger beetle	CSSC	Sandy floodplain habitat in the Sacramento valley. No beetles located during intensive 2001-2004 surveys.	Requires fine to medium sand, terraced floodplains or low sandy water edge flats.	No potential to occur.
Danaus plexippus	Monarch Butterfly	FPT	Requires milkweed as larval host plant, requires variety of flowering plants throughout the growing season.	--	No potential to occur.
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	FT	Occurs only in the central valley of California, in association with blue elderberry (*sambucus mexicana*).	Prefers to lay eggs in elderberries 2-8 inches in diameter; some preference shown for "stressed" elderberries.	No potential to occur.
Fishes					
Acipenser medirostris pop. 1	Green sturgeon - southern DPS	FT	Permanent waters.	--	No potential to occur.
Oncorhynchus mykiss irideus pop. 11	Steelhead - Central Valley DPS	FT	Populations in the Sacramento and San Joaquin rivers and their tributaries.	--	No potential to occur.
Plants					
Astragalus tener var. Ferrisiae	Ferris' milk-vetch	CNPS 1B.1	Meadows, valley and foothill grassland.	Subalkaline flats on overflow land in the central valley; usually seen in dry, adobe soil. 5-75m.	No potential to occur.
Astragalus tener var. Tener	Alkali milk-vetch	CNPS 1B.2	Alkali playa, valley and foothill grassland, vernal pools.	Low ground, alkali flats, and flooded lands; in annual grassland or in playas or vernal pools. 1-170m.	No potential to occur.
Atriplex cordulata var. Cordulata	Heartscale	CNPS 1B.2	Chenopod scrub, valley and foothill grassland, meadows.	Alkaline flats and scalds in the central valley, sandy soils. 1-150(600)m.	No potential to occur.
Atriplex depressa	Brittlescale	CNPS 1B.2	Chenopod scrub, meadows, playas, valley and foothill grassland, vernal pools.	Usually in alkali scalds or alkaline clay in meadows or annual grassland; rarely associated w/riparian, marshes, or vernal pools. 1-320m.	No potential to occur.
Centromadia parryi ssp. Parryi	Pappose tarplant	CNPS 1B.2	Coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland.	Vernally mesic, often alkaline sites. 2-420m.	No potential to occur.
Eryngium jepsonii	Jepson's coyote-thistle	CNPS 1B.2	Wetlands.	--	No potential to occur.
Extriplex joaquinana	San Joaquin spearscale	CNPS 1B.2	Chenopod scrub, alkali meadow, valley and foothill grassland.	In seasonal alkali wetlands or alkali sink scrub with distichlis spicata, frankenia, etc. 1-250m.	No potential to occur.
Fritillaria pluriflora	Adobe-lily	CNPS 1B.2	Chaparral, cismontane woodland, foothill grassland.	Usually on clay soils; sometimes serpentine. 55-820m.	No potential to occur.
Lepidium latipes var. Heckardii	Heckard's pepper-grass	CNPS 1B.2	Valley and foothill grassland.	Grassland, and sometimes vernal pool edges. Alkaline soils. 2-200 m.	No potential to occur.
Lilaeopsis masonii	Mason's lilaeopsis	CNPS 1B.1	Freshwater and brackish marshes, riparian scrub.	Tidal zones, in muddy or silty soil formed through river deposition or river bank erosion. 0-10m.	No potential to occur.
Navarretia leucocephala ssp. Bakeri	Baker's navarretia	CNPS 1B.1	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest.	Vernal pools and swales; adobe or alkaline soils. 5-950m.	No potential to occur.
Neostapfia colusana	Colusa grass	FT, CE	Vernal pools.	Usually in large, or deep vernal pool bottoms; adobe soils. 5-200 m.	No potential to occur.
Plagiobothrys hystriculus	Bearded popcorn flower	CNPS 1B.1	Vernal pools, valley and foothill grassland.	Wet sites. 10-50m.	No potential to occur.
Puccinellia simplex	California alkali grass	CNPS 1B.2	Alkaline soils.		No potential to occur.
Sidalcea keckii	Keck's checkerbloom	FE	Cismontane woodland, valley and foothill grassland	Grassy slopes in blue oak woodland. 75-650 m.	No potential to occur.
Trifolium hydrophilum	Saline clover	CNPS 1B.2	Marshes and swamps, valley and foothill grassland, vernal pools.	Mesic, alkaline sites. 0-300m.	No potential to occur.
Tuctoria mucronata	Crampton's tuctoria or Solano grass	FE, CE	Vernal pools, valley and foothill grassland.	Clay bottoms of drying vernal pools and lakes in valley grassland. 5-10 m.	No potential to occur.

Sources: IPaC, CNDDB, and CNPS

Definitions of Status Codes

FE = Federally listed as endangered FT = Federally listed as threatened FC = Candidate for federal listing FPT = Federally proposed for listed as threatened
CE = California State listed as endangered CT = California State listed as threatened CSSC = California species of special concern
California Rare Plant Rank (CRPR) List 1A = Plants presumed extinct in California List 1B = Plants designated rare, threatened or endangered in California and elsewhere List 2A = Plants presumed extirpated in California but common elsewhere
List 2B = Plants rare threatened or endangered in California, but more common elsewhere List 3 (Review List) = Plants about which more information is needed .
CRPR Threat Ranks: 0.1 = seriously threatened in California .2 = moderately threatened in California .3 = not very threatened in California .