APPENDIX D

BIOLOGICAL RESOURCES & WETLANDS ASSESSMENT

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Wetland & Biological Resources Assessment

Proposed Monte Vista Memorial Gardens Project
189 Contractors Street
Livermore, CA 94551

Prepared By:

BARNETT ENVIRONMENTAL

Prepared For:
Monte Vista Memorial Invesmtent Group, LLC
December 16, 2021

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1.0 Introduction

Barnett Environmental has prepared this *Biological Resources Assessment* (BRA) of a ±104-acre property (including approximately 1.85-acre arroyo) located off Las Colinas Road north of Interstate 580 in unincorporated area of Alameda County, CA (APN: 099-0015-016-03). The Study Area is located Township 3 South, Range 2 East of the Livermore, California 7.5-minute USGS quadrangle map (Figure 1). It lies in the San Francisco Bay watershed (Hydrologic Unit Code 18050004) at approximately 470 to 645 feet in elevation above mean sea level (msl) and at approximately 37°42'14" latitude north and 121°45'18" longitude west. The parcel is undeveloped and is bordered by undeveloped grazing land to the north and west. The parcel to the east contains a single-family residence.

Beyond a delineation of wetlands and "other waters of the U.S." and "waters of the State" within the Study Area according to U.S. Army Corps of Engineers (1987) and California Regional Water Quality Control Board (2020) protocol, this report also:

- Identifies and describes extant vegetation communities;
- Records all plant and animal species observed during the field survey(s);
- Evaluates and identifies sensitive habitats and special status plant and animal species that may occur in the Study Area and could be affected by project activities; and
- Provides conclusions and recommendations for mitigating potential adverse impacts to identified resources.

2.0 Regulatory Setting

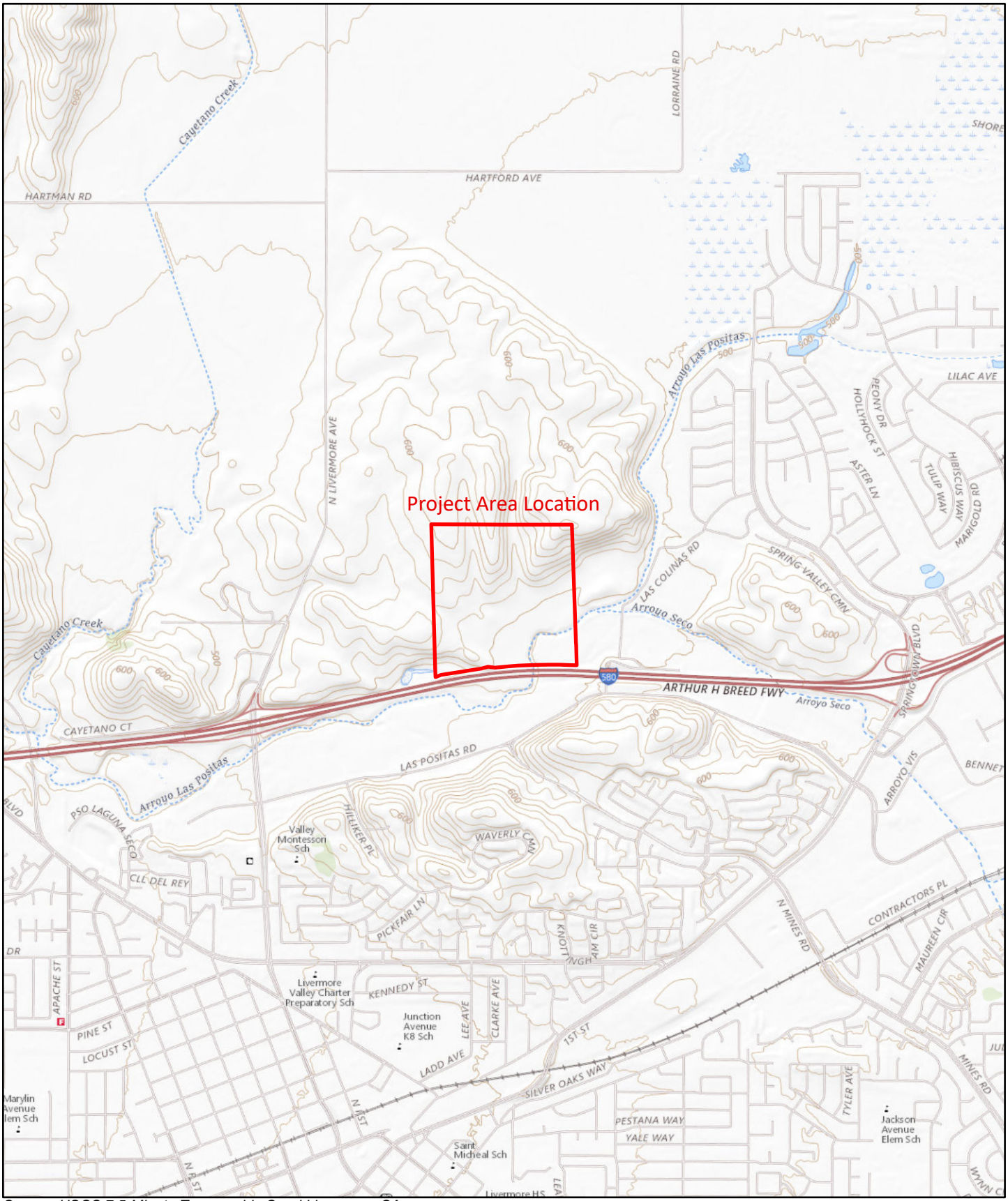
The following federal laws, regulations and/or policies provide the legal framework guiding the protection of biological resources. We have included those laws most relevant to biological and wetland resources in and around the Study Area.

2.1 Federal Laws & Regulations

Federal Endangered Species Act (FESA)

The FESA, enacted in 1973, prohibits the taking, possession, sale, or transport of endangered species. Under the FESA, the Secretary of the Interior and the Secretary of Commerce jointly have the authority to list a species as threatened or endangered. Both the National Marine Fisheries Service (NMFS) and the U.S. Fish & Wildlife Service (USFWS) administer FESA. NMFS is accountable for animals that are threatened or endangered (16 United States Code [USC] 1533[c]) and spend most of their lives in marine waters, including marine fish, most marine mammals, and anadromous fish such as Pacific salmon. The USFWS is accountable for all other federally listed plants and animals.

Pursuant to the requirements of FESA, a federal agency reviewing a project within its jurisdiction must determine whether any federally listed threatened or endangered species could be present in the Study Area and whether



Source: USGS 7.5-Minute Topographic Quad Livermore, CA

FIGURE 1 - PROJECT AREA LOCATION

Date: May 27, 2021

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the project will have a potentially significant impact on such species. In addition, federal agencies are required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536[3], [4]).

Projects that would result in a "take" of any federally listed threatened or endangered species are required to obtain authorization from NMFS and/or USFWS through either Section 7 (interagency consultation) or section 10(a) (incidental take permit) of FESA, depending on whether the federal government is involved in permitting or funding the project. The Section 7 authorization process is used to determine if a project with a federal nexus would jeopardize the continued existence of a listed species and what mitigation measures would be required to avoid jeopardizing the species. The Section 10(a) process allows take of endangered species or their habitat in non-federal activities.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) regulates or prohibits taking, killing, possession of, or harm to migratory bird species listed in Title 50 Code of Federal Regulations (CFR) Section 10.13. The MBTA is an international treaty for the conservation and management of bird species that migrate through more than one country and is enforced in the United States by the USFWS. Hunting of specific migratory game birds is permitted under the regulations listed in Title 50 CFR 20. The MBTA was amended in 1972 to include protection for migratory birds of prey (raptors).

Bald and Golden Eagle Protection Act

The federal Bald and Golden Eagle Protection Act regulates or prohibits taking, possession, sale, purchase, barter, offer to sell, purchase or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit (16 U.S.C. 668(a); 50 CFR 22). "Take" includes pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb (16 U.S.C. 668c; 50 CFR 22.3).

Federal Clean Water Act (CWA)

Section 404

Section 404 of the CWA identifies the U.S. Army Corps of Engineers (USACE) as the principal authority to regulate activity that could discharge fill or dredge material or otherwise adversely modify wetlands or Waters of the U.S. (WOUS). The USACE implements the federal policy embodied in Executive Order 11990, which, when implemented, is intended to result in no net loss of wetland values or function. U.S. Congress has authorized the Environmental Protection Agency (EPA) to have a specific oversight role over USACE's authority.

Section 401

The State Water Resources Control Board (SWRCB) has authority over wetlands through Section 401 of the CWA, as well as the Porter-Cologne Act, California Code of Regulations Section 3831(k), and California Wetlands Conservation Policy.

The CWA requires that an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) first obtain a certificate from the appropriate state agency stating that the fill is consistent with the State's water quality standards and criteria. In California, the authority to either grant certification or waive the requirement for permits is delegated by the SWRCB to the nine regional boards. The Central Valley Regional Water Quality Control Board (CVRWQCB) is the appointed authority for Section 401 compliance in the project site. The SWRCB additionally requires additional Waste Discharge Requirements under Porter-Cologne to protect aquatic resources that are outside federal jurisdiction.

A request for certification or waiver is submitted to the Regional Board at the same time an application is filed with the USACE. The regional board has 60 days to review the application and act on it. Because no USACE permit is valid under the CWA unless "certified" by the state, these boards may effectively veto or add conditions to any USACE permit.

2.2 State Laws & Regulations

California Endangered Species Act (CESA)

The CESA was enacted in 1984. Under the CESA, the California Fish and Wildlife Commission (CFWC) has the responsibility for maintaining a list of threatened and endangered species, while The California Department of Fish & Wildlife (CDFW) is responsible for enforcement. CDFW also maintains lists of species of special concern. A Species of Special Concern (CSC) is a species, subspecies, or distinct population of an animal native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

- is extirpated from the State or, in the case of birds, in its primary seasonal or breeding role;
- is listed as Federally-, but not State-, threatened or endangered;
- meets the State definition of threatened or endangered but has not formally been listed;
- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status;
- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status.

CESA prohibits the take of California listed animals and plants in most cases, but CDFW may issue incidental take permits under special conditions. Pursuant to the requirements of CESA, a State agency reviewing a project within its jurisdiction must determine whether any state-listed endangered or threatened species could be present in the project site and determine whether the project would have a potentially significant impact on such species. In addition, CDFW encourages consultation on any project that could affect a listed or candidate species.

Fish and Game Code – Sections 1600-1616

Under Sections 1600-1616 of the California Fish and Game Code, the CDFW regulates activities that would alter the flow, bed, channel, or bank of streams and lakes. The limits of CDFW's jurisdiction are defined in the code as the "… *bed, channel or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit* ..." (Section 1601). In practice, the CDFW usually marks its jurisdictional limit at the top of the stream or bank, or at the outer edge of the riparian vegetation, whichever is wider.

The CDFW also derives its authority to oversee activities that affect wetlands from state legislation. This authority includes Sections 1600-1616 of the Fish and Game Code (lake and streambed alteration agreements), Section 30411 of the California Coastal Act (CDFW becomes the lead agency for the study and identification of degraded wetlands within the Coastal Zone), CESA (protection of state listed species and their habitats - which could include wetlands), and the Keene-Nejedly California Wetlands Preservation Act of 1976 (states a need for an affirmative and sustained public policy program directed at wetlands preservation, restoration, and enhancement). In general, the CDFW asserts authority over wetlands within the state either through review and comment on USACE Section 404 permits, review and comment on CEQA documents, preservation of state listed species, or through stream and lakebed alteration agreements.

Fish and Game Code – Sections 1900-1913

These Sections embody the Native Plant Protection Act, which is intended to preserve, protect, and enhance endangered or rare native plants in the state. The act directs CDFW to establish criteria for determining what native plants are rare or endangered. Under Section 1901, a species is endangered when its prospects for survival and reproduction are in immediate jeopardy from one or more causes. A species is rare when, although not threatened with immediate extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens. Under the act, CDFW may adopt regulations governing the taking, possessing, propagation or sale of any endangered or rare native plant.

Section 1913 of that Act allows landowners in conducting certain activities to take actions that will destroy rare or endangered plants, provided that, where the Department of Fish and Game (DFG) has previously notified the owner "that rare or endangered plants are growing" on his or her land, the owner notifies CDFW "at least 10 days in advance of changing the land" to allow the state agency to come and "salvage" the plants. Subject to this requirement, section 1913 states that "the presence of rare or endangered plants" on a property shall not restrict (1) timber operations conducted pursuant to an approved timber harvest plan, (2) "required mining assessment work pursuant to federal or state mining laws," (3) "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, other right-of-way by the owner of the land or his agent," or (4) "the performance by a public agency or publicly or privately owned public utility of its obligation to provide service to the public."

Fish and Game Code – Sections 3503, 3503.5, 3513

Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Fish and Game Code Section 3503.5 protects all birds-of-prey (raptors) and their eggs and nests. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the Migratory Bird Treaty Act.

Fish and Game Code – Sections 3511, 4700, 5050, and 5515

Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code designate certain species as "fully protected." Fully protected species, or parts thereof, may not be taken or possessed at any time, and no provision of the CFWC or any other law may be construed to authorize the issuance of permits of licenses to take any fully protected species. No such permits or licenses heretofore issued may have any force or effect for any such purpose, except that the CFGC may authorize the collecting of such species for necessary scientific research. Legally imported and fully protected species or parts thereof ay be possessed under a permit issued by CDFW. Porter-Cologne Water Quality Control Act

California Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act established the SWRCB and each Regional Water Quality Control Board (RWQCB) as the principal state agencies for coordinating and controlling water quality in California. Responsibility for the protection of water quality in California rests with the SWRCB and nine RWQCBs. The SWRCB establishes statewide policies and regulations for the implementation of water quality control programs mandated by federal and state water quality statutes and regulations. Pursuant to the Act, each of California's nine regional boards must prepare and periodically update basin plans that set forth water quality standards for surface and groundwater, as well as actions to control point and non-point sources of pollution to achieve and maintain these standards. Basin plans offer an opportunity to achieve wetlands protection through enforcement of water quality standards.

The Porter-Cologne Water Quality Control Act provides that "All discharges of waste into the waters of the State are privileges, not rights." Waters of the State are defined in Section 13050(e) of the Porter-Cologne Water Quality Control Act as "…any surface water or groundwater, including saline waters, within the boundaries of the state." All dischargers are subject to regulation under the Porter-Cologne Water Quality Control Act, including both point and nonpoint source dischargers. The RWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within its jurisdiction, which would include the project site. As noted above, the RWQCB is the appointed authority for Section 401 compliance in the project site. If the USACE determines that they have no regulatory authority on the project site and they also determine that a CWA Section 404 permit is not required, the project proponent could still be responsible for obtaining the appropriate CWA Section 401 permit or waiver from RWQCB for impacts to Waters of the State.

In 2019, the State Water Resource Control Board extended their water quality certification to include waste discharge requirements as adopted in the "State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State," which include elements of the Clean Water Act. These procedures also lay out the steps for the submission, review, and approval of applications for activities related to these activities.

California Environmental Quality Act

Although specific federal and state statutes protect threatened and endangered species, California Environmental Quality Act (CEQA) Guidelines Section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals and allows a public agency to undertake a review to determine if a significant effect on a species that has not yet been listed by either the USFWS or CDFW (i.e., species of concern) would occur. Whether a species is rare, threatened, or endangered can be legally significant because, under CEQA Guidelines Section 15065, an agency must find an impact to be significant if a project would "substantially reduce the number or restrict the range of an endangered, rare, or threatened species." Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

2.3 Local Laws and Regulations

Alameda County General Plan

Alameda County has developed the following goals and objectives for natural resource conservation as part of the *Conservation Element* of the *Alameda County General Plan*:

A. Water Resources

Goal: To ensure and maintain a continuing supply of high water quality for the citizens of Alameda County

Objective: To reduce man-caused stream and ground water pollution and general resource denegration through cumulative impacts on surface and ground water systems

Objective: To define areas of periodic flooding and reduce loss through the application of sound land use planning

Objective: To maintain all water resources in their highest quality

B. Vegetative and Wildlife Resources

Goal: To protect and enhance wildlife habitats and natural vegetation areas in Alameda County

Objective: To maintain and, if necessary, restore deteriorating environments to a level of diversity appropriate to this area of California
Agriculture and Soils Resources Management

Goal: To protect and maintain soils in Alameda County in such a manner as to be beneficial to agricultural and open uses

Goal: To protect and maintain the soil resources in Alameda County in such a manner as to be beneficial to all land users.

Alameda County Code, Article II. Permit Requirements

Alameda County regulates construction, erosion repair, planting, and associated activities with the potential to affect watercourses or riparian zone (Section 13.12.020 of the General Ordinance Code of the County of Alameda). Those wanting to conduct any of the activities below must obtain a permit.

A. Discharge into or connect any pipe or channel to a watercourse;

B. Modify the natural flow of water in a watercourse;

C. Carry out development within a setback;

D. Deposit in, plant in, or remove any material from a watercourse including its banks, except as required for necessary maintenance;

E. Construct, alter, enlarge, connect to, change, or remove any structure in a watercourse; or

F. Place any loose or unconsolidated material along the side of or within a watercourse or so close to the side as to cause a diversion of the flow, or to cause a probability of such material being carried away by stormwaters passing through said watercourse.

3.0 Methodology

Prior to our field surveys, we queried the U.S. Fish & Wildlife Service's *National Wetland Inventory* (NWI; Figure 3); EcoAtlas' *California Aquatic Resources Inventory* (CARI; Figure 3); NRCS *Web Soil Survey* (Appendix A; Figure 4); and *Hydric Soil Map Units* for Alameda County, California to determine whether any wetlands or "other waters of the U.S.", "waters of the State", or soils compatible with wetland resources had been historically recorded on or around, or are likely to occur on the site, as defined by the 1987 U.S. Army Corps of Engineers (USACE, 1987) *Wetlands Delineation Manual* and its 2008 *Arid West Regional Supplement*. We also assessed potentially federal and/or state jurisdictional wetlands and "other waters of the U.S." in the Study Area in accordance with the 2014 Corps *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) for Non-perennial Streams in the Arid West Region of the Western United States.*

To provide a vision of what potential biological resources may be present on the property, we queried the following online sources for information on the Study Area's potential plant and wildlife communities.

1. California Department of Fish & Wildlife's Natural Diversity Database (RareFind 5) for observations of special status plant and animal species within five miles of the Study Area (Figure 6; Appendix D),
2. U.S. Fish and Wildlife Service's iPac Database of federally-listed special status species in Alameda County (Appendix E),

3. The California Native Plant Society's Inventory of Rare & Endangered Plants in California

A Barnett Environmental biologist surveyed the Study Area in October 2020 for special status plant and wildlife species and their habitats that could be supported onsite. The survey included recorded observations of: (1) dominant plant communities, (2) plant and animal species (with emphasis on rare and endangered species) observed or their sign (nests, burrows, tracks, scat) and (3) the suitability of onsite habitats and those immediately adjoining the Study Area to support special status plant or animal species. We used generalized plant community classification schemes to classify onsite habitat types (Sawyer, Keeler-Wolf, and Evens, 2009).

4.0 Existing Conditions

4.1 Soils

According to Natural Resource Conservation Service (NRCS), the Study Area is comprised of a eight soil types (Figure 4; Appendix A):

1. Altamont clay 3-15%;
2. Azule clay loam, 3-30%;
3. Clear Lake clay, 0-2%;
4. Clear Lake clay, 3-7%;
5. Linne clay loam, 15-30%;
6. Linne clay loam, 30-45%;
7. Pescadero clay loam, 0-6%; and
8. San Ysidro loam, 0-2%.

Altamont clay soils occur on foothills at elevation ranging from 700 – 1,700 feet above mean sea level (msl). The average annual precipitation of the environment where this soil profile occurs is approximately 16 inches. These soils are deep and well drained and have an approximately 26-inch surface layer consisting of dark brown clay. The subsoil is yellowish brown, calcareous clay that extends to a depth of 50 inches. The permeability is slow with a moderate run-off rate and a water holding capacity of five to nine inches.

Azule clay soils are moderately deep, well drained soils that occur on foothills at elevations ranging from 300 to 1,500 feet above mean sea level (msl). This soils series occurs in areas which experience an average annual precipitation of 20 inches and a mean temperature of 57 degrees Fahrenheit. The surface layer is a grayish brown and slightly acidic clay loam approximately six inches thick. The subsoil is grayish brown to dark grayish brown that grades to a light yellowish brown a depth of 25 inches. The permeability is slow with a high run off rate and a water capacity of three to seven inches.

Clear Lake clay soils are very deep, poorly drained soils that form in alluvium in basins at elevations ranging from 10 to 900 feet above mean sea level (msl). Areas where this soils series occur have an average annual precipitation of 15 to 31 inches and a mean annual temperature of 57 to 61 degrees Fahrenheit. The surface layer is comprised of a very dark gray and moderately alkaline clay approximately 37 inches thick. The subsoil is dark gray, grayish

FIGURE 2 - NATIONAL WETLANDS INVENTORY (NWI) WETLANDS

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brown clay, and silty clay to a depth of 60 inches. The permeability is slow with a rapid run off rate and a water holding capacity of seven to nine inches.

Linne clay loam soils are moderately deep, well drained soils that occur on mountain slopes at elevations ranging from 20 to 2,010 feet above mean sea level (msl). This soils series occurs in environments that have an annual mean precipitation of 12 to 22 inches and an average annual temperature of 57 to 63-degree Fahrenheit. The surface layer contains very dark gray clay loam approximately 29 inches deep. The subsoil is comprised of light gray to white fine sandy loam roughly 50 inches thick. Linne clay loam soils have a moderately slow permeability with a medium to rapid run off rate with a water holding capacity up to six inches.

Pescadero clay loams are very deep, poorly drained soils that occur on basin rims at elevations ranging from 140 to 760 feet above mean sea level (msl). The surface layer contains gray to dark gray clam loam up to 30 inches. The subsoil is made up of gray to light olive gray clay loam that reaches 70 inches in depth. The permeability is low with a low run off rate and a water holding capacity of four inches. This soil is slightly to strongly saline.

San Ysidro loams are very deep, moderately well drained soils that occur on valley floors, terraces, and alluvial fans at elevations ranging from 70 to 1,990 feet above mean sea level (msl). The environment where this soil series occurs have an average precipitation of 13 to 22 inches and a mean annual temperature of 59 to 61 degrees Fahrenheit. The surface layer is made up of light brownish gray to dark yellowish brown fine sandy loam approximately 28 inches thick. The subsoil is comprised of yellowish-brown sandy clay loam at depths of 68 inches. San Ysidro loam has a very low permeability with a moderate runoff rate with a water holding capacity of four inches.

4.2 Hydrology

The project site sits at an elevation between 470 and 645 feet above mean sea level (msl) within the San Francisco Bay watershed (Hydrologic Unit Code 18050004). Topography on the northern side of the site is hilly and turns to flatter grasslands in the southern part of the parcel. Water flows generally from north to south/southeast on the property, where it enters an intermittent stream, Arroyo Las Positas, and then runs southwest off the property. This stream runs through the southeast corner of the parcel, entering on the eastern side and exiting through the southern border as it drains underneath I-580. Considerable storm runoff from the westbound HOV lane of I-580 regularly floods portions of the project site adjacent to the highway following heavy precipitation. No mitigation has to date been installed following construction of the HOV lanes to moderate or reduce this runoff.

4.3 Wetlands and "Other Waters of the U.S." and "Waters of the State"

A review of the National Wetlands Inventory (NWI; Figure 2) and California Aquatic Resources Inventory (CARI; Figure 3) map databases show very different scenarios for this site. While the NWI accurately shows the Arroyo Las Positas in the SE corner of the parcel, the CARI map shows a number of other streams as well as a wide swath of vernal pools through the site. This latter mapping was not reflected by Barnett Environmental's (and earlier) wetland delineations of the site and clearly does not reflect current conditions.

Barnett delineated a total of 2.1 acres of wetlands and "other waters of the U.S." within the Permit Area. These wetlands include 1.85 acre of the intermittent stream, Arroyo Las Positas, and 0.24 acre of seasonal wetland habitat, as shown in Table 1 below and Figure 5.

Table 1: Wetlands and "Other Waters of the U.S."

Description	Area (SF)	Area (AC)
Intermittent Stream		
Las Posadas Stream	80,823	1.85
Intermittent Stream Total	**80,823**	**1.85**
Seasonal Wetlands		
Seasonal wetlands	10,657	0.24
Seasonal Wetlands Total	**10,657**	**0.24**
Grand Total	**91,480**	**2.1**

The low-gradient Arroyo through the southeastern corner of the site is relatively wide and deeply incised, its banks are very steep and erodible, and the stream itself is almost 15 feet deeper than the surrounding terrain. The streambed is comprised of a variety of hardpan, cobbles, and fine sediment and contains portions of open water with periodic, dense, fringing perennial marsh vegetation. The arroyo was flowing at one to two cubic feet per second (cfs) during the Barnett Environmental October 2020 site visit, but was dry by the time we completed a California Tiger Salamander habitat assessment in April of 2021, reflecting the very low seasonal precipitation experienced through the region over this past winter.

There are five shallow seasonal wetlands on site which can pond (with sufficient rainfall) during the wet season and support various species of wetland vegetation. The largest of these seasonal wetlands is 0.123 acre and is located just north of Arroyo Las Positas. There was no water in these wetlands during the October 2020 and CTS sampling site visits.

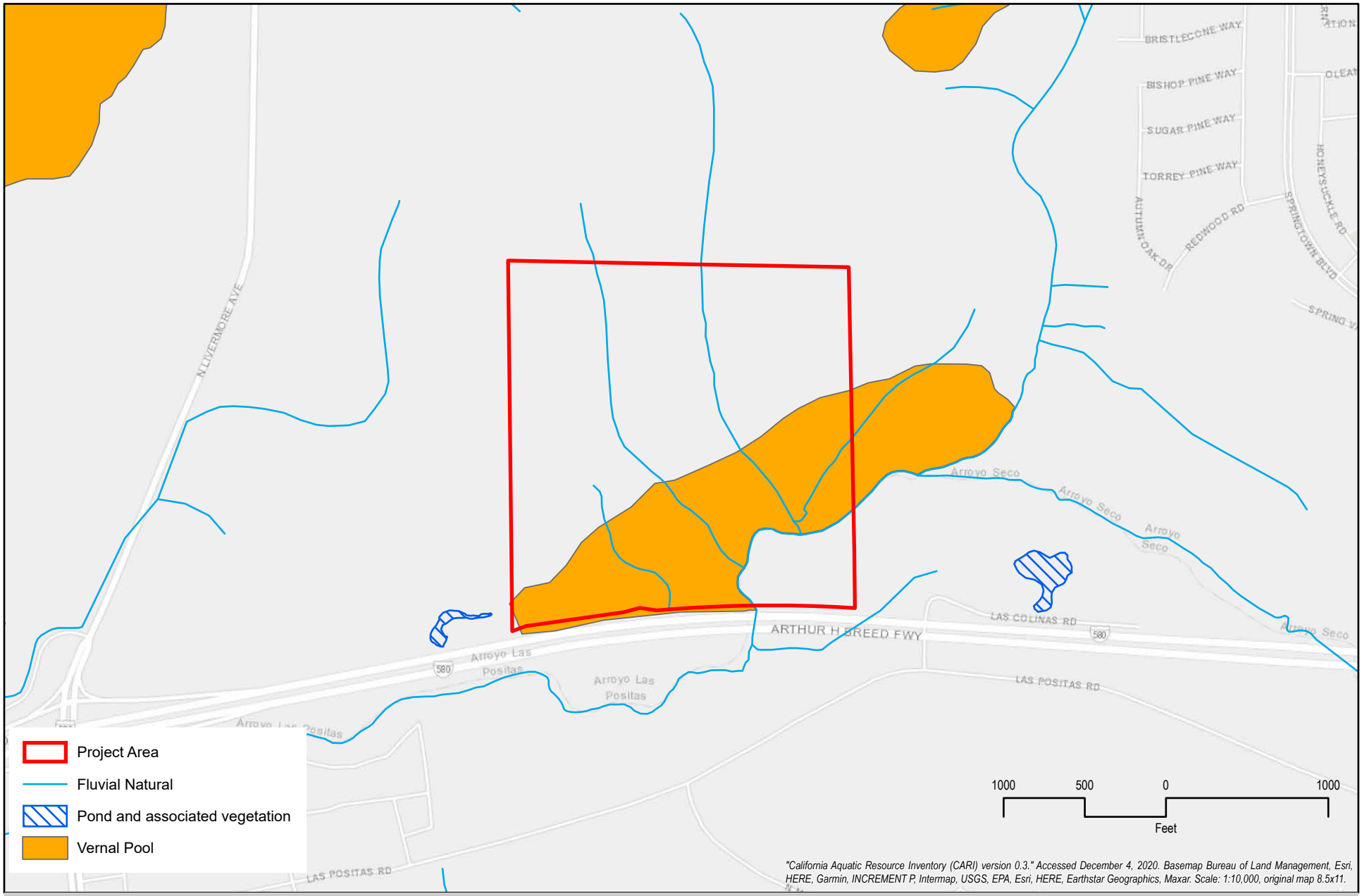

FIGURE 3 - CALIFORNIA AQUATIC RESOURCES INVENTORY (CARI) WETLAND

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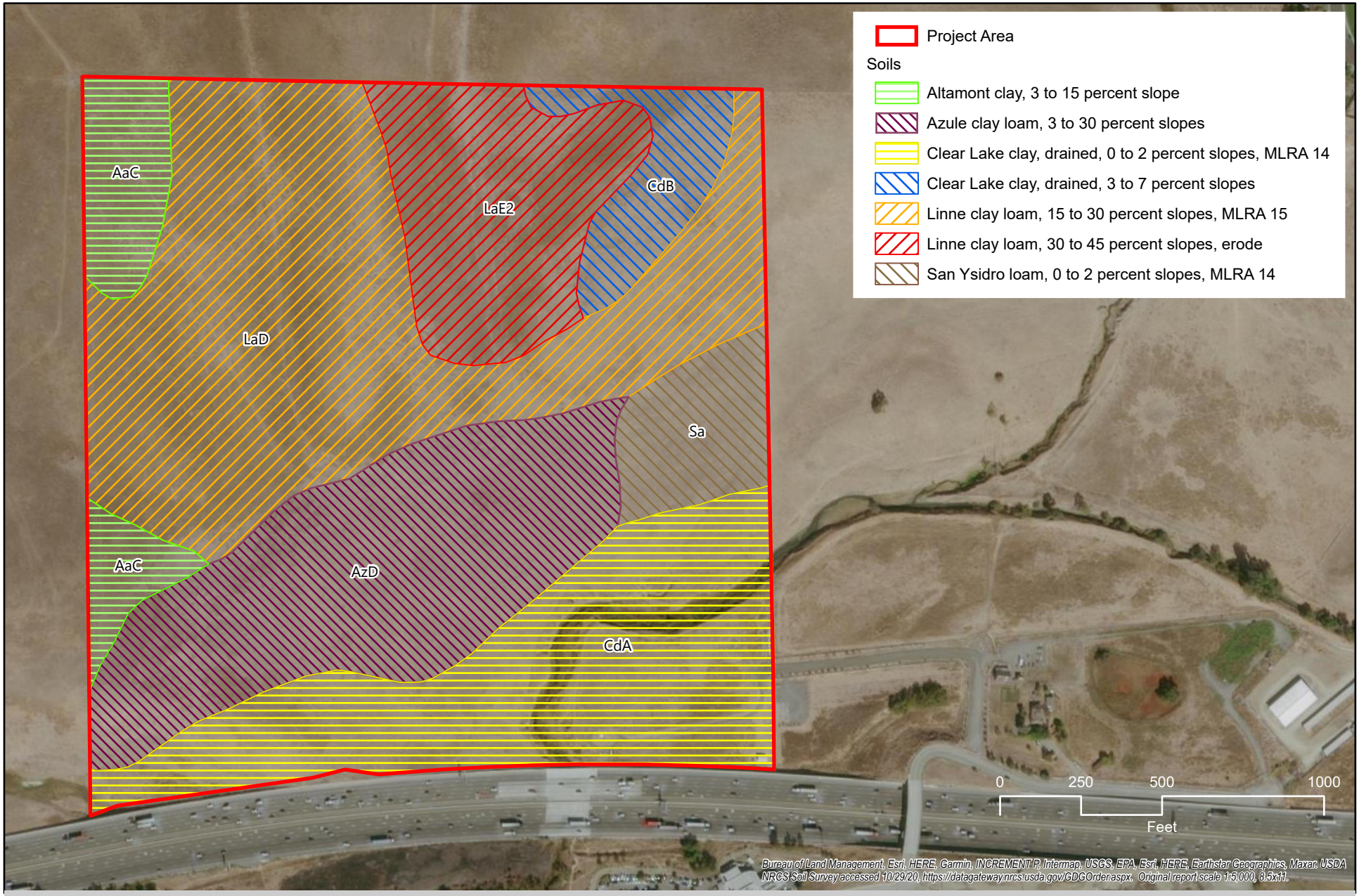

FIGURE 4 - SOILS MAP

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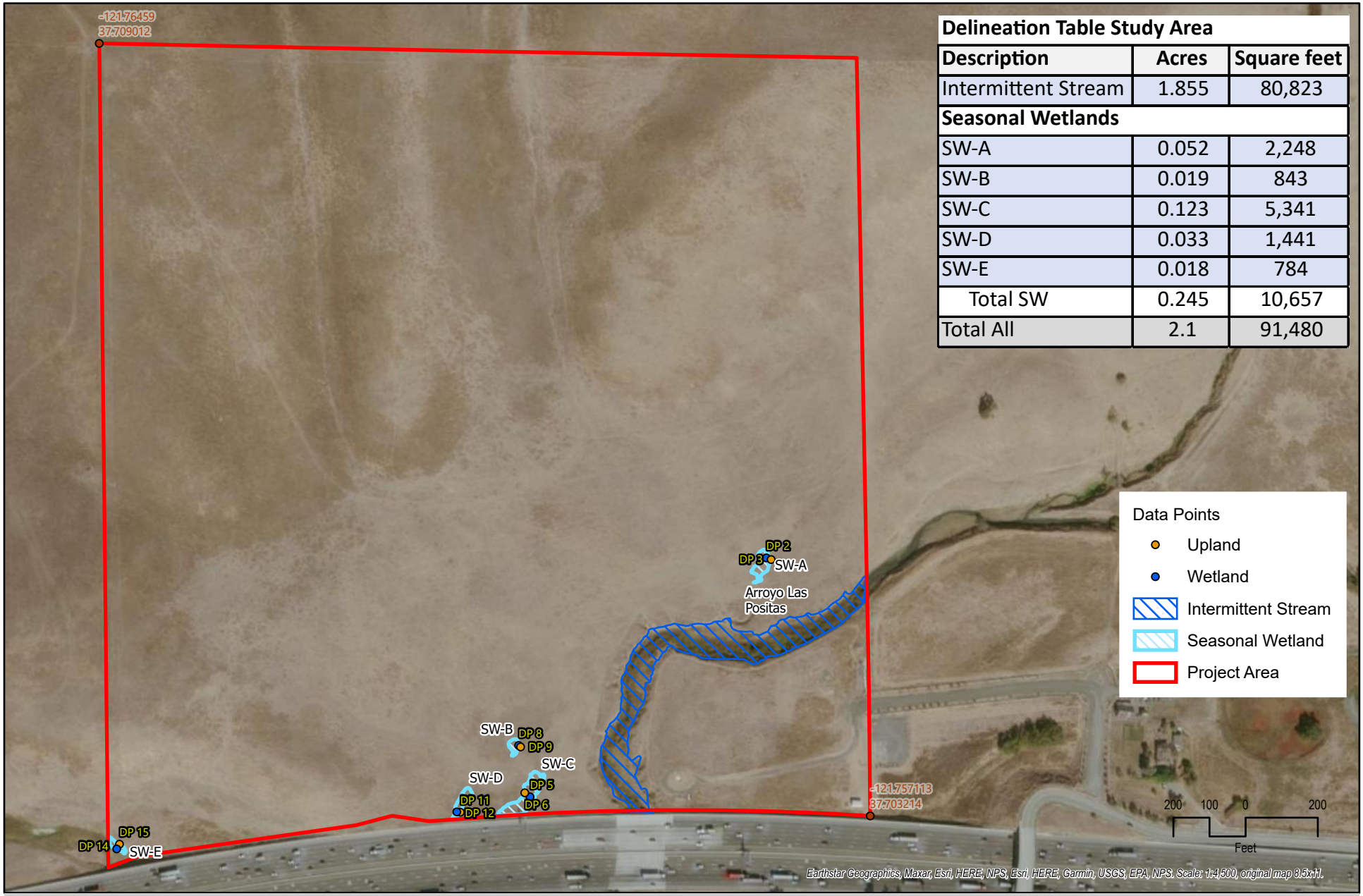

Delineation Table Study Area

Description	Acres	Square feet
Intermittent Stream	1.855	80,823
Seasonal Wetlands		
SW-A	0.052	2,248
SW-B	0.019	843
SW-C	0.123	5,341
SW-D	0.033	1,441
SW-E	0.018	784
Total SW	0.245	10,657
Total All	2.1	91,480

FIGURE 5 - PROJECT AREA WETLANDS AND "OTHER WATERS OF THE U.S."

Date: May 27, 2021

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4.4 Vegetation Communities

The Study Area supports the following vegetation communities:

A. Annual Grasslands: The majority of the Study Area is dominated by annual grasslands containing wild oats (*Avena fatua*), softchess brome (*Bromus hordeacious*), and rose clover (*trifolium hirtum*). Other species observed within this community included great valley gumweed (*Grindelia camporum*), purple star thistle (*Centaurea calcitrapa*), bristly ox tongue (*Helminthotheca echioides*), and turkey-mullein (*Croton setiger*). The annual grassland of the Study Area appears to be lightly grazed by cattle and contained low amounts of thatch at the time of our field survey.

B. Disturbed Grasslands: The majority of the southeastern portion of the Study Area consists of a ruderal, disturbed vegetation community containing non-native species such as bull thistle (*Cirsium vulgare*), stinkwort (*Dittrichia graveolens*), sweet fennel (*Foeniculum vulgare*), and great valley gumweed. This community is regularly disturbed by either mowing or disking.

   A disked field comprising the south-central portion of the Study Area has been historically disked for vegetation management for many years and had been recently disked at the time of the October 2020 site visit contained no vegetation.

C. Arroyo Las Positas – This perennial stream flows from northeast to southwest through the southeastern portion of the Study Area. Its banks are moderately vegetated by annual grasses and forbs similar to the wild oats and annual brome grasslands with the addition of mugwort (*Artemisia douglasiana*), deer grass (*Muhenbergia rigens*), and tree tobacco (*Nicotiana glauca*). The bed of the stream contains portions of open water and dense perennial marsh vegetation including broad-leaved cattail *(Typha latifolia),* broadfruit bur reed (*Sparganium eurycarpum*), and common tule (*Schoenoplectus acutus* var. *occidentalis*).

   A small arroyo willow thicket along the Arroyo las Positas in the southeastern portion of the Study Area is dominated by large arroyo willows (*Salix lasiolepis*) and an understory of several vegetation species including: bull thistle (*Cirsium vulgare*), stinkwort (*Dittrichia graveolens*), sweet fennel (*Foeniculum vulgare*), and great valley gumweed (*Grindelia camporum*).

D. Seasonal Wetlands: There are several small seasonal wetlands within the wild oats and annual brome grassland in the southernmost portion of the Study Area along I-580. These small shallow features tend to pond water during a healthy rainy season and include a variety of wetland plant species such as Italian ryegrass (*Festuca perennis*), Mediterranean barley (*Hordeum marinum*), and common tarweed (*Centromadia pungens* subsp. *pungens*).

E. Salt Grass: There is a small salt grass flat in the far southwestern corner of the Study Area dominated by salt grass (*Distichlis spicata*) and Mexican rush (*Juncus mexicanus*), seaside heliotrope (*Heliotropium curassavicum* var. *oculatum*), and alkali heath (*Frankenia salina*). Two small blue elderberry shrubs (*Sambucus nigra* subsp. *caerulea*) occur immediately south of this community, along the I-580 sound wall. None of the stems of these shrubs contained exit holes of the valley elderberry longhorn beetle (VELB) at the time of our spring 2021 survey of this area.

There is another seasonal wetland/marsh within this salt grass flat that supports broad-leaved cattail (*Typha latifolia*), Mexican rush, annual rabbit's-foot grass (*Polypogon monspleinsis*), salt grass *(Distichlis spicata),* and alkali mallow (*Malvella leprosa*).

F. Agricultural: The farthest southeastern portion of the Study Area contains an old vineyard that appears to have been fallow for a long time and is now overrun with ruderal and annual grassland plant species.

4.5 Wildlife

Barnett biologists observed many common wildlife species on site during their autumn 2020 and spring 2021 field surveys, including: western fence lizards (*Sceloporus occidentali),* wild turkey (*Meleagris gallopav),* great egret (*Ardea alba),* red-tailed hawk (*Buteo jamaicensis),* Great-horned owl (*Bubo virginianu),* lesser goldfinch (*Carduelis psaltria),* American goldfinch (*Carduelis tristis),* American crow (*Corvus brachyrhynchos),* Anna's hummingbird (*Calypte anna),* Northern mockingbird (*Mimus polyglottos),* European starling (*Sturnus vulgaris),* western scrub jay (*Aphelocoma californica),* rock pigeon (*Columba Iivia),* Black-tailed jackrabbit (*Lepus californicus),* California vole (*Microtus californicus),* Colombian black-tailed deer (*Odocoileus hemionus columbianus),* California ground-squirrel (*Spermophilus beecheyi),* desert cottontail (*Sylvilagus audubonii*), and coyote *(Canis latrans)*

5.0 Special Status Species

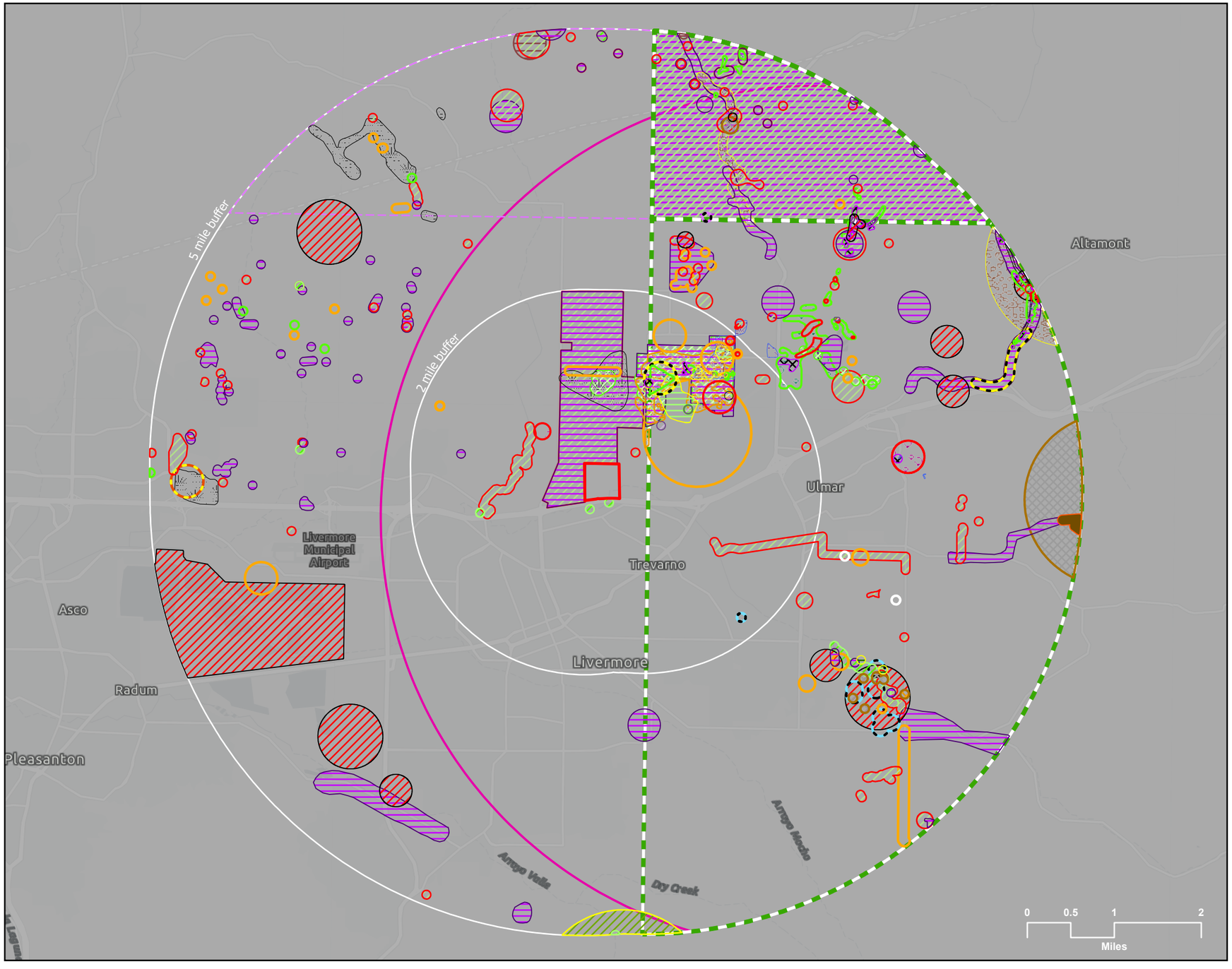
Special status species are those that fall into one or more of the following categories:

- Listed as endangered or threatened under the Federal Endangered Species Act (FESA) (50 CFR 17.11/17.12) (or formally proposed for listing) (64 FR 205, October 25, 1999; 57533-57547),
- Listed as endangered or threatened under the California Endangered Species Act (CESA) (or proposed for listing) (14 California Code of Regulations [CCR] 670.5),
- Designated as rare, protected, or fully protected pursuant to California Fish and Game Code (FGC, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).
- Designated a Species of Concern by the California Department of Fish and Game,
- Defined as rare or endangered under the California Environmental Quality Act (CEQA), or
- Occurring on List 1 or 2 maintained by the California Native Plant Society.

We reviewed California Natural Diversity Database (CNDDB), California Native Plant Society (CNPS) Inventory, and U.S. Fish & Wildlife Service (FWS) iPAC database for special status species potentially occurring within the project vicinity (i.e. five-mile radius). While there may be a number of plant and animal species occurring within five miles of the Study Area (Figure 6), we can refine the list of those species with any real potential of occurring in the Study Area by filtering our query for relevant onsite habitats, locations, and elevations. A summary of the results of this query can be found in Table 2.

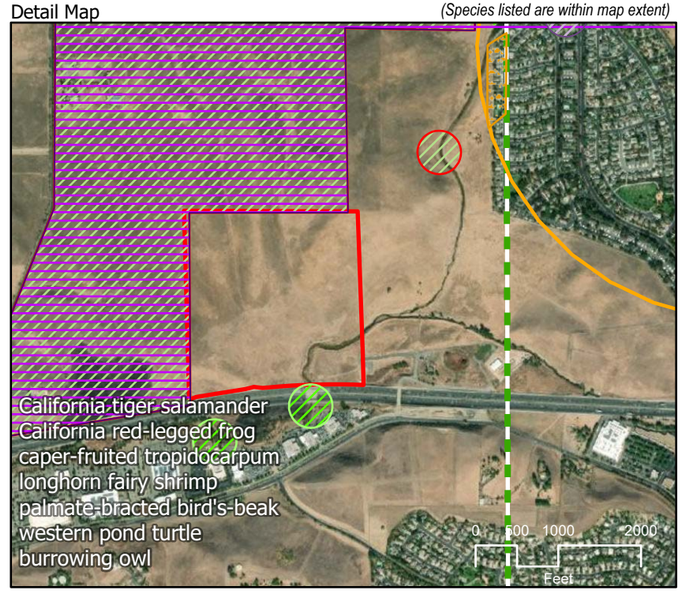
5.1 Critical Habitat for Special Status Species

The Federal Endangered Species Act (FESA) requires the federal government to designate critical habitat for any listed species. Critical habitat is defined as: (1) specific areas within the geographical area occupied by the species at the time of listing, if they contain physical or biological features essential to conservation, and those features may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species if the agency determines that the area itself is essential for conservation. While there is no designated critical habitat within the Study Area, there is critical habitat for the California red-legged frog, the California tiger salamander, and the vernal pool fairy shrimp within five miles of the Study Area.



Detail Map

(Species listed are within map extent)



- Project Area
- Alameda whipsnake
- American badger
- American peregrine falcon
- California alkali grass
- California red-legged frog
- California tiger salamander
- Congdon's tarplant
- Livermore tarplant
- San Joaquin coachwhip
- San Joaquin kit fox
- San Joaquin spearscale
- Swainson's hawk
- brittlescale
- burrowing owl
- caper-fruited tropidocarpum
- foothill yellow-legged frog
- grasshopper sparrow
- heartscale
- hispid salty bird's-beak
- lesser saltscale
- loggerhead shrike
- long-styled sand-spurrey
- longhorn fairy shrimp
- palmate-bracted bird's-beak
- prostrate vernal pool navarretia
- saline clover
- tricolored blackbird
- vernal pool fairy shrimp
- western pond turtle
- western spadefoot
- white-tailed kite

CNDDB version 9/2020. Please Note: The occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not yet been surveyed and/or mapped. Lack of information in the CNDDB about a species or an area can never be used as proof that no special status species occur in an area California Department of Fish and Wildlife. https://www.wildlife.ca.gov/Data/CNDDB, September 29, 2020 USDA FSA, GeoEye, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA Scale 1:78,000 original report 11x17.

FIGURE 6 - CALIFORNIA NATIONAL DIVERSITY DATABASE (CNDDB) RECORDED SPECIES OBSERVATIONS WITHIN FIVE MILES OF THE PROJECT AREA

KAHNCO (LIVERMORE) MONTE VISTA PROJECT • ALAMEDA COUNTY, CALIFORNIA

N

Date: September 29, 2020

BARNETT ENVIRONMENTAL

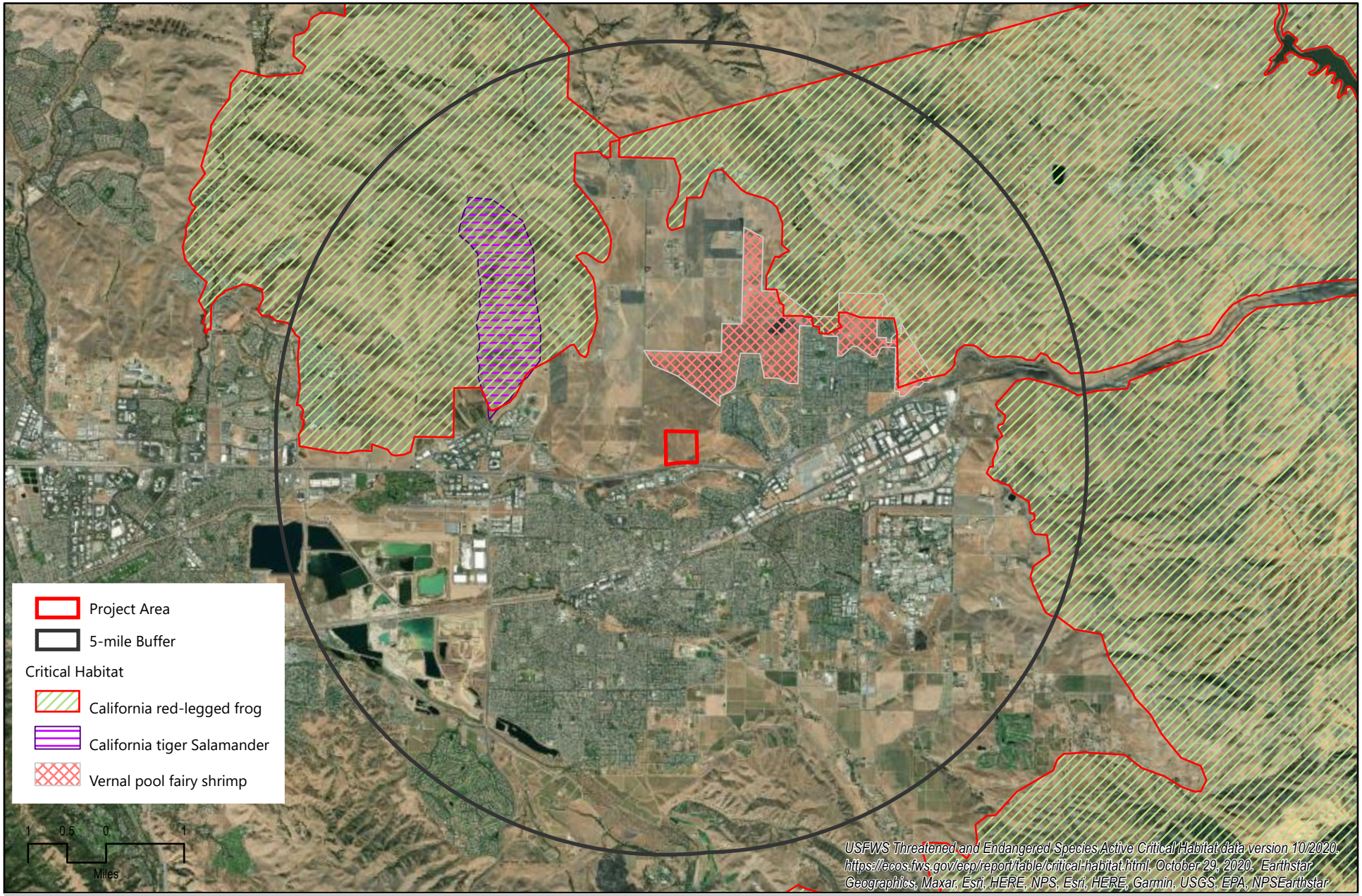


FIGURE 7 - CRITICAL HABITAT

Date: May 27, 2021

N

BARNETT ENVIRONMENTAL

KAHNCO (LIVERMORE) MONTE VISTA PROJECT • ALAMEDA COUNTY, CA

Table 2: Special Status Species with Potential to Occur in the Study Area

Species	Federal	State	CNPS	Habitat	Potential for Occurrence	Rationale for Assessing Potential of Occurrence
Plants						
California alkalai grass *Puccinellia simplex*	None	None	1B.2	Typically grows in mineral springs and other moist, saline-soil habitats within the Central Valley.	None	The Study Area contains no saline soil habitat and thus presents no suitable habitat for this species. There have been four CNDDB reported occurrences within five miles, the closest 0.53 miles to the northwest and the most recent in 2018. There was no sign of this species during the Barnett Environmental October 2020 site visit.
Congdon's tarplant *Centromadia parryi ssp. congdonii*	None	None	1B.1	Found at elevations between 0 and 754 feet above sea level, this annual tarplant is found in valley and foothill grasslands (alkaline).	None	The Study Area contains no alkali grasslands and thus presents no suitable habitat for this species. There have been six CNDDB reported occurrences within five miles. The closest was 0.61miles to the north, and the latest in 2019. There was no sign of this species during the Barnett Environmental October 2020 site visit.
Livermore Tarplant *Deinandra bacigalupil*	None	None	1B.1	This annual plant occurs only within 0.5 miles of the City of Livermore in Alameda County, CA. The plant grows in poorly-drained, seasonally-dry, alkaline meadows, and appears to be restricted to Solano fine sandy loam soil.	None.	The Study Area contains no alkali meadows or Solano fine sandy loam on site and thus presents no suitable habitat for this species. There have been four CNDDB reported occurrence within five miles, the closest occurred 1.32 miles to the southwest. There was no sign of this species during the Barnett Environmental October 2020 site visit.

Species	Federal	State	CNPS	Habitat	Potential for Occurrence	Rationale for Assessing Potential of Occurrence
Plants						
San Joaquin spearscale *Atriplex joaquiniana*	-	-	1B.2	This species typically occurs in alkalai grasslands and alkalai meadows or on the margin of alkali scrub.	None	The Study Area contains no alkali grasslands and thus presents no suitable habitat for this species. There have been 11 CNDDB occurrences reported within five miles, the closest was 0.88 miles to the northwest. No sign of this species was observed during the Barnett Environmental October 2020 site visit.
Brittlescale *Atriplex depressa*	-	-	1B.2	Occurs in playas and shadescale scrub, valley grassland, alkalai sink, and wetland-riparian.	None	The Study Area contains no alkali soil and thus presents no suitable habitat for this species. There have been five CNDDB occurrences reported within five miles, the closest was 0.51 miles to the northwest and the latest was in 2003. No sign of this species was observed during the Barnett Environmental October 2020 site visit.
Caper-fruited tropidocarpum *Tropidocarpum capparideum*	-	-	1B.1	This annual herb has habitat in valley grasslands and foothill grasslands (alkaline).	None	The Study Area contains no alkali grasslands and thus presents no suitable habitat for this species. There has been one sole CNDDB occurrence reported within five miles. The closest was 0.88 miles to the northeast. No sign of this species was observed during the Barnett Environmental October 2020 site visit.

Species	Federal	State	CNPS	Habitat	Potential for Occurrence	Rationale for Assessing Potential of Occurrence
Plants						
Heartscale *Atriplex cordulata*	-	-	1B.2	This annual herb is as likely to occur in wetlands and non-wetlands. It thrives in communities such as shadescale scrub, valley grassland, and wetland-riparian.	None	The wetland-riparian zone and grasslands provide a suitable habitat in the Study Area for this species. There have been five CNDDB occurrences reported within five miles, the closest was 0.61 miles to the northwest and the most recent was in 2005. No sign of this species was observed during the Barnett Environmental October 2020 site visit.
Hispid Salty Bird's Beak *Cordylanthus mollis ssp. hispidus*	-	-	1B.1	Occurs in wetlands, meadows, playas, in alkalai sink, valley grassland, and wetland-riparian communities.	None	The Study Area contains no alkali grasslands and thus presents no suitable habitat for this species. There has been one sole CNDDB occurrences reported within five miles, 0.79 to the northeast in 2003. No sign of this species was observed during the Barnett Environmental October 2020 site visit.
Lesser Saltscale *Atriplex miniscula*	-	-	1B.1	Usually occurs in non-wetlands in playas in shadescale scrub, valley grassland, and alkali sink communtities.	None	The Study Area contains no alkali grasslands and thus presents no suitable habitat for this species. There have been eight CNDDB occurrences reported within five miles, the closest was 0.94 miles to the northwest and the most recent in 2018. No sign of this species was observed during the Barnett Environmental October 2020 site visit.

Species	Federal	State	CNPS	Habitat	Potential for Occurrence	Rationale for Assessing Potential of Occurrence
Plants						
Long-style sand-spurrey *Spergularia macrotheca var. longistyla*	-	-	1B.2	Occurs in wetlands and non-wetlands in wetland-riparian communities.	Low	There is marginal habitat on site for this species. There have been two CNDDB occurrences reported within five miles; the closest was 0.91 miles to the northeast, and the most recent was in 1993. No sign of this species was observed during the Barnett Environmental October 2020 site visit.
Palmate-bracted bird's beak *Chloropyron palmatum*	-	-	1B.1	This species grows in saline-alkaline soils in seasonally-flooded lowland plains and basins at elevations of less than 500 feet.	None	The Study Area contains no alkali grasslands and thus presents no suitable habitat for this species. There has been one sole CNDDB occurrence reported within five miles, the 0.36 miles to the northeast. No sign of this species was observed during the Barnett Environmental October 2020 site visit.
Saline Clover *Trifolium hydrophilum*	-	-	1B.2	This annual herb is found in marshes and swamps, valley and foothill grassland (alkaline) and vernal pools.	None	The Study Area contains no alkali grasslands and thus presents no suitable habitat for this species. There has been one CNDDB occurrence reported within five miles, 1.39 miles to the northeast in 2018. No sign of this species was observed during the Barnett Environmental October 2020 site visit.

Species	Federal	State	CNPS	Habitat	Potential for Occurrence	Rationale for Assessing Potential of Occurrence
Plants						
Prostrate Vernal Pool Naverettia *Navarettia prostrata*	-	-	1B.1	This annual herb is found at elevations between 10 and 3969 feet in coastal scrub, meadows and seeps, valley and foothill grasslands, and vernal pools.	Low	There is marginal habitat on site for this species. There was only one CNDDB reported occurrence within five miles. This occurred 4.38 to the east in 2010. No sign of this species was observed during the Barnett Environmental October 2020 site visit.
Invertebrates						
Vernal Pool Fairy Shrimp *Brachinecta conservatio*	FT	None	N/A	Habitat is grassland vernal pools or similar seasonal wetlands. They require cool water with low alkalinity and low total dissolved solids and tend to be found in smaller pools about six inches (fifteen centimeters) deep that stay flooded for relatively short amounts of time.	Very low	The shallow depressional seasonal wetlands within the Study Area represent suitable habitat for vernal pool fairy shrimp. However, there have been no CNDDB occurrences reported within five miles. There was no sign of this species during the Barnett Environmental October 2020 site visit.

Species	Federal	State	CNPS	Habitat	Potential for Occurrence	Rationale for Assessing Potential of Occurrence
Invertebrates						
Conservancy Fairy Shrimp *Brachinecta conservatio*	FE	None	N/A	This species lives in ephemeral or temporary pools of fresh water (vernal pools) that form in the cool, wet months of the year. Fairy shrimp are not known to occur in permanent bodies of water, and are dependent upon seasonal fluctuations in their habitat, such as absence or presence of water during specific times of the year.	None	Turbid playa vernal pools are not present within the Study Area, and thus there is no habitat present for this species. There have been no CNDDB occurrences reported within five miles. No sign of this species was observed during the Barnett Environmental October 2020 site visit.
Longhorn Fairy Shrimp *Brachinecta conservatio*	FE	-	-	This species inhabits clear to rather turbid vernal pools. These include clear-water depressions in sandstone outcroppings near Tracy, grass-bottomed pools in Merced County and claypan pools around Soda Lake in San Luis Obispo County.	Low	The shallow depressional seasonal wetlands within the Study Area represent suitable habitat for vernal pool fairy shrimp. There have been five CNDDB occurrences reported within five miles. The closest was 2.84 miles to the northeast. There was no sign of this species during the Barnett Environmental October 2020 site visit.

Species	Federal	State	CNPS	Habitat	Potential for Occurrence	Rationale for Assessing Potential of Occurrence
Insects						
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*	FT		NA	Habitat requirements for this species is Sambucus sp. To serve as habitat, the shrubs must have stems 2.5 m (1 in) or greater in diameter at ground level.	Low	There is one elderberry plant on site that could provide habitat for this species. However, no holes in the stems were found to indicate the species were present. In addition, there are no reported CNDDB occurrences reported within five miles. Barnett Environmental observed no sign of this species during the October 2020 site visit.
San Bruno Elfin Butterfly *Callophrys mossi bayensis*	FE	-	NA	This species inhabits rocky outcrops and cliffs in coastal scrub on the San Francisco peninsula. The San Bruno Elfin is restricted to a few small populations, the largest which occurs on San Bruno mountain.	None	Rocky outcrops with extensive populations of broadleaf stonecrop do not occur within the Study Area. In addition, there have been no CNDDB occurrences reported within five miles. No sign of this species was observed during the Barnett Environmental October 2020 site visit.
Amphibians and Reptiles						
California red legged frog *Rana draytonii*	FT	NA	NA	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. This includes wetlands, marshes, natural ponds, artificial flowing waters such as diversion canals and artificial standing waters such as dams and impoundments.	High	Arroyo Las Positas and the on-site emergent marsh represents suitable aquatic habitat for the species. There have been 75 CNDDB occurrences reported within five miles, and the most recent in 2016. There was no sign of this species during the Barnett Environmental October 2020 site visit.

Species	Federal	State	CNPS	Habitat	Potential for Occurrence	Rationale for Assessing Potential of Occurrence
Amphibians and Reptiles						
Western Pond Turtle *Emys Marmorota*	None	SSC	NA	The western pond turtle is found in permanent and intermittent waters of rivers, creeks, small lakes and ponds, marshes, irrigation ditches and reservoirs. The western pond turtle basks on land or near water on logs, branches or boulders.	Low	There is suitable habitat on site for this species. There have been nine CNDDB occurrences reported within five miles, and the most recent was in 2017. However, no sign of this species was observed during the Barnett Environmental October 2020 site visit.
California Tiger Salamander *Ambystoma californiense*	FT	CT	NA	Habitat for this species are vernal pools and other seasonal ponds and stock ponds for reproduction; its habitat is limited to the vicinity of large, fishless vernal pools or similar water bodies.	High	The Study Area contain moderate amounts of California ground squirrel burrows that represent suitable upland habitat/ refugia for the species. There is additional suitable breeding habitat is located within a seasonal wetland approximately 0.1-mile west of the Study Area. The grasslands within the Study Area contain moderate amounts of California ground squirrel burrows that represent suitable upland habitat/refugia for the species. There have been 51 CNDDB occurrences reported within five miles. The most recent observance was in 2015. No sign of this species was observed during the Barnett Environmental October 2020 site visit.

Species	Federal	State	CNPS	Habitat	Potential for Occurrence	Rationale for Assessing Potential of Occurrence
Amphibians and Reptiles						
Western Spadefoot *Spea hammondii*	NA	SSC	NA	This species is found in a variety of habitats including coastal sage scrub, chapparal, oak woodlands, grasslands, washes, and floodplains along the California coast, central valley, and Sierra Nevada foothills.	Moderate	The on-site emergent marsh represents marginal aquatic habitat for the species. There is a potential breeding aquatic habitat immediately southwest of the Study Area. There have been two CNDDB occurrences reported within five miles, the closest 3.05 miles to the southeast. No sign of this species was observed during the Barnett Environmental October 2020 site visit.
Foothill yellow legged frog *Rana Boylii*	FT	None	NA	Historically inhabited lakes, ponds, marshes, meadows, and streams.	None	The Study Area does not contain any permanent sources of deep water to provide suitable habitat for this species. There have been two CNDDB occurrences reported within five miles, the closest was 4.72 miles to the south and the latest in 1974. No sign of this species was observed during the Barnett Environmental October 2020 site visit.
San Joaquin coachwhip *Coluber flagellum ssp. ruddocki*	FT	CT	NA	Enjoys open, hot, dry areas as well as grasslands, chapparal communities, and pastures. It is thought to lay eggs in rodent burrows.	Moderate	The Study Area contains suitable habitat for the species within the onsite grasslands. There has been one sole CNDDB occurrence reported within five miles, the closest was 3.69 miles to the southeast in 2000. No sign of this species was observed during the Barnett Environmental October 2020 site visit.

Species	Federal	State	CNPS	Habitat	Potential for Occurrence	Rationale for Assessing Potential of Occurrence
Amphibians and Reptiles						
Alameda whipsnake *Masticophis lateralis euryxanthus*	FE	CE	NA	Found in the habitats of the coast, desert, and foothills of California.	None	The Study Area is not located on the coast, desert, or foothills of California. There have been two CNDDB occurrences reported within five miles, the closest 2.82 miles to the north and the latest was in 2004. In addition, there was no sign of this species during the Barnett Environmental October 2020 site visit.
Birds						
Tricolored blackbird *Agelaius tricolor*	None	CE	NA	Freshwater marsh, swamp, wetlands, and most numerous in Central Valley and vicinity. Requires open water, protected nesting substrates, & foraging area with insect prey within a few km of the colony.	Low	The emergent marsh vegetation and arroyo willows along Arroyo Las Positas and the emergent marsh represent suitable nesting habitat for tricolored blackbird. No shrub or tree vegetation to support these colonies. The annual grasslands within the Study Area represent potential foraging habitat for the species. There have been 12 CNDDB occurrences reported within five miles. The closest was 2.6 miles to the southeast, and the most recent was in 2014. No sign of this species was observed during the Barnett Environmental October 2020 site visit.

Species	Federal	State	CNPS	Habitat	Potential for Occurrence	Rationale for Assessing Potential of Occurrence
Birds						
Burrowing Owl *Athene cunicularia*	None	CSC	NA	Open, dry annual or perennial grasslands, deserts & scrublands characterized by low-growing vegetation. The species sis a subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	High	Many ground squirrel burrows were observed within the grasslands; these represent suitable nesting habitat. Burrowing owl pellets observed onsite on a fencepost along the northern boundary. There have been 20 CNDDB occurrences reported within five miles, the most recent in 2017 and the closest was 1.01 miles to the north. No sign of this species was observed during the Barnett Environmental October 2020 site visit.
Swainson's hawk *Buteo swainsoni*	None	CT	NA	Great Basin grassland, riparian forest and woodlands, valley and foothill grassland. Breeds in grasslands with scattered trees, juniper-sage flats, savannahs, & agricultural or ranch lands with groves or lines of trees.	Moderate	There is marginal foraging grassland habitat within the Study Area, and there has been one sole recorded CNDDB occurrence within five miles 1.7 miles to the southeast. No Swainson's hawks were observed during the Barnett Environmental October 2020 site visit.
Grasshopper Sparrow *Ammodramus savannarum*	None	SSc	NA	This species thrives in native grasslands of California	Moderate	The grasslands throughout the Study Area represent suitable nesting and foraging habitat. However, there has been only one CNDDB occurrence reported within five miles, 2.96 miles to the northwest in 2016. No sign of this species was observed during the Barnett Environmental October 2020 site visit.

Species	Federal	State	CNPS	Habitat	Potential for Occurrence	Rationale for Assessing Potential of Occurrence
Birds						
White-tailed kite *Elanus leucurus*	None	CFP	NA	Open grasslands, fields, and meadows are used for foraging. Isolated trees in close proximity to foraging habitat are used for perching and nesting.	Moderate	The large arroyo willows within the Study Area provide suitable nesting habitat, and the annual grasslands represent suitable foraging habitat. There have been two CNDDB occurrences reported within five miles, the closest was 2.33 miles to the southeast. No sign of this species was observed during the Barnett Environmental October 2020 site visit.
Loggerhead Shrike *Lanius ludovicianus*	None	CE	-	Inhabits open country with short vegetation and well-spaced shrubs or low trees, particularly those with spines or thorns. They frequent agricultural fields, pastures, old orchards, riparian areas, desert scrublands, savannas, prairies, golf courses and cemeteries.	Moderate	Shrubs and trees near the Arroyo Las Positas and the ranch house represent suitable nesting habitat, and the grasslands throughout the Study Area represent suitable foraging habitat. There has been a sole CNDDB occurrence reported within five miles, the closest was 3.17 miles to the southwest. No sign of this species was observed during the Barnett Environmental October 2020 site visit.
American Peregrine Falcon *Falco peregrinus anatum*	FE	CE	NA	Open grasslands, fields, and meadows are used for foraging. Isolated trees in close proximity to foraging habitat are used for perching and nesting.	Moderate	The large arroyo willows within the Study Area provide suitable nesting habitat, and the annual grasslands represent suitable foraging habitat. There have been two CNDDB occurrences reported within five miles, the closest was 2.33 miles to the southeast. No sign of this species was observed during the Barnett Environmental October 2020 site visit.

Species	Federal	State	CNPS	Habitat	Potential for Occurrence	Rationale for Assessing Potential of Occurrence
Mammals						
San Joaquin kit fox *Vuples macrotis mutica*	FE	CE	NA	This species is endemic to California and inhabits grasslands and scrublands, even those than have been extensively modified.	Low	The grasslands throughout the Study Area represent suitable habitat for this species. There has been only one recorded CNDDB occurrence which occurred 0.73 miles to the east. No sign of this species was observed during the Barnett Environmental October 2020 site visit.
American badger *Taxidea taxus*	None	SSC	NA	Badgers prefer to live in dry, open grasslands, meadows, and grassy bald spots on high ridge tops.	Low	The on-site grasslands throughout the Study Area represent suitable habitat for this species. There have been three CNDDB occurrences; the most recent was in 2009 and the closest was 3.2 miles to the southeast. No sign of this species was observed during the Barnett Environmental October 2020 site visit.

Special Status Species Codes:

Federal: *FE = Federal Endangered* *FT = Federal Threatened*

State: *CSC = California Species of Concern* *CE = California Endangered*

CFP = California Fully Protected *CT = California Threatened*

CNPS: *1B = Rare or threatened in CA and elsewhere* *2B = Rare, threatened, or Endangered in CA, but more common elsewhere*

Potential for Occurrence Codes:

None: *No suitable habitat for the special status species within the Study Area*

Very Low: *Either the special status species is known to occur within five miles and there is marginal suitable habitat exists in the Study Area, or the Study Area provides suitable habitat, but the species is not known to occur within a five-mile radius.*

Low *Marginally suitable habitat exists in the Study Area and the special status species occurs within 5 miles but surrounding urban land use conditions and regularity of human activity make it unlikely that the species occurs in the Study Area.*

Moderate: *The special status species is known to occur within a five-mile radius and the Study Area contains suitable habitat, however surrounding urban land use conditions and onsite disturbance reduce the likelihood of occurrence.*

High: *The Study area provides suitable habitat and there is either documentation of species occurrence within a five-mile radius or evidence gathered by a professional surveyor during an onsite field assessment.*

Present: *Species known to occur within the Study Area based on record search and/or evidence collect during onsite field surveys.*

5.2 Special Status Plants and Wildlife

There are three special status plant species that have a potential to occur onsite.

1. **Heartscale** (*Atriplex cordulata*)– This species is listed as a rare plant 1B.2 by the state of California. This annual herb is as likely to occur in wetlands as in non-wetlands. It thrives in communities such as shadescale scrub, valley grassland, and wetland-riparian. There have been five CNDDB occurrences reported within five miles; the closest was 0.61 miles to the northwest and the most recent was in 2005. It has a low potential to occur in the Study Area. However, no heartscale was observed within existing irrigation ditches during the Barnett Environmental October 2020 field survey.

2. **Long-style sand-spurrey** (*Spergularia macrotheca var. longistyla)* – This species is listed as a rare plant 1B.2 by the state of California. It is a perennial herb producing a narrow stem up to 15.7 inches long with a woody, thickened base and taproot. They may grow erect or prostrate across the ground. It is covered in sticky glandular hairs, especially in the inflorescence. The stems are lined with fleshy linear leaves, sometimes tipped with spines. The leaves are accompanied by triangular stipules up to a centimeter long each. Flowers occur in clusters at the end of the stem as well as in leaf axils. There have been two CNDDB occurrences reported within five miles; the closest was 0.91 miles to the northeast, and the most recent was in 1993. It has a low potential to occur in the Study Area. No long-style sand-spurrey were observed within existing irrigation ditches during the Barnett Environmental October 2020 field survey.

3. **Prostrate vernal-pool navarettia** (*Navarettia prostrata)* – This species is listed as a rare plant 1B.2 by the state of California. It is a petite annual herb sitting prostrate on the ground with a central stem and flower head and radiating stem branches bearing more heads. The hairless leaves are divided into many threadlike lobes. The

inflorescence is a cluster of flowers surrounded by leaflike bracts. The flowers are just under half an inch long, their blue or white corollas divided into narrow lobes. This annual herb is found at elevations between 10 and 3969 feet in coastal scrub, meadows and seeps, valley and foothill grasslands, and vernal pools. The grasslands on site provides suitable habitat for this species. There was only one CNDDB reported occurrence within five miles. This occurred 4.38 to the east in 2010. No prostrate vermal-pool navarettia were observed during the Barnett Environmental October 2020 field survey. It has a low potential to occur in the Study Area.

5.3 Special Status Wildlife

Federally Listed Species

There are ten federally listed species that have the potential but are not known to occur within the Study Area (Appendix B, Table 2):

4. **Vernal pool fairy shrimp** (*Brachinecta lynchi)* – This species is listed as threatened by the U. S. Fish and Wildlife Service. It is a slender, translucent crustacean generally less than one inch in length. They swim on their back by slowly moving their 11 pairs of swimming legs. Habitat is grassland vernal pools or similar seasonal wetlands. They require cool water with low alkalinity and low total dissolved solids and tend to be found in smaller pools about six inches (fifteen centimeters) deep that stay flooded for relatively short amounts of time. Vernal pool fairy shrimp typically hatch when the first rains of the year fill vernal pools. Adult fairy shrimp live for only one season while there is water in the pools. The shallow depressional seasonal wetlands within the Study Area represent suitable habitat for vernal pool fairy shrimp. However, there have been no CNDDB occurrences reported within five miles. No vernal pool fairy shrimp were observed during the Barnett Environmental October 2020 field survey. This species has a very low potential to occur in the Study Area due to the absence of vernal pools or seasonal wetlands of sufficient ponding duration.

5. **Longhorn fairy shrimp** (*Branchinecta longiantenna)* – This species is listed as endangered by the U. S. Fish and Wildlife Service. It ranges in size from 0.5 to 0.8 inches long. They have delicate elongate bodies, large, stalked compound eyes, no carapaces, and 11 pairs of swimming legs. They glide gracefully upside down, swimming by beating their legs in a complex, wavelike movement that passes from front to back. The shrimp feed on algae, bacteria, protozoa, rotifers and bits of detritus. The shallow depressional seasonal wetlands within the Study Area represent suitable habitat for vernal pool fairy shrimp. There have been three CNDDB occurrences reported within five miles; the closest was 2.84 miles to the northeast. No longhorn fairy shrimp were observed during the Barnett Environmental October 2020 field survey. This species has low potential to occur in the Study Area due to the absence of vernal pools or seasonal wetlands of ponding duration.

6. **Valley elderberry longhorn beetle** *(Desmocerus californicus dimorphus)*. This beetle is federally listed as threatened under the endangered species act. This species is stout-bodied, measuring between ½-1 inch. Adult males have red-orange wing covers with four elongate spots. Habitat requirements for this species is Sambucus sp. To serve as habitat, the shrubs must have stems 2.5 cm (1 in) or greater in diameter at ground level. There is one elderberry plant on site that could provide habitat for this species. However, no holes in the stems were found to indicate the species were present. In addition, there are no reported CNDDB occurrences reported within five miles. Barnett Environmental observed no sign of this species during the October 2020 site visit. There is a low potential for this species to occur on the Study Area.

7. **California red-legged frog** (Rana draytonii). The California red-legged frog is federally listed as threatened under the endangered species act. It is the largest native frog in the western United States, ranging from 1.75 to 5.25 inches in length. From above, this frog can appear brown, grey, olive, red, or orange, often with a pattern of dark specks or spots. The hind legs are well-developed with large, webbed feet. The undersides of adult California red-legged frogs are white, usually with patches of bright red or orange on the abdomen and hind legs. This species inhabits aquatic habitats including pools and backwaters within streams and creeks, ponds, marshes, springs, sag ponds, dunes, and lagoons. Arroyo Las Positas and the on-site emergent marsh represents suitable aquatic habitat for this species. There have been 75 CNDDB occurrences reported within five miles, and the most recent in 2016. There was no sign of this species during the Barnett Environmental October 2020 site visit. This species has a high potential to occur on the property.

8. **California tiger salamander** (*Ambystoma californiense)* – This species is listed as threatened by the U. S. Fish and Wildlife Service and by the state of California. This is a large, stocky salamander, with a broad, rounded snout. Its small eyes, with black irises, protrude from its head. Adult males are approximately 8 inches long, and females are approximately 7 inches in length. "Tiger" comes from the white or yellow bars on California tiger salamanders. The background color is black. The belly varies from almost uniform white or pale yellow to a variegated pattern of white or pale yellow and black. Habitat for this species are vernal pools and other seasonal ponds and stock ponds for reproduction; its habitat is limited to the vicinity of large, fishless vernal pools or similar water bodies. The Study Area contain moderate amounts of California ground squirrel burrows that represent suitable upland habitat/refugia for the species. There is additional suitable breeding habitat is located within a seasonal wetland approximately 0.1-mile west of the Study Area. The grasslands within the Study Area contain moderate amounts of California ground squirrel burrows that represent suitable upland habitat/refugia for the species. There have been 51 CNDDB occurrences reported within five miles. The most recent observance was in 2015. However, no California Tiger Salamander were observed during the Barnett Environmental October 2020 site visit.

   Madrone Ecological Consulting performed a habitat assessment in 2021 in accordance with the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife in the *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander (*USFW and CDFW 2003). conducted protocol surveys in the seasonal wetlands in winter 2021 and found no sign of this species. During this habitat assessment, only one of six aquatic features on the study area and six offsite features within 1.24 miles had potential habitat for the California tiger salamander. Due to private property concerns, only the one onsite feature and two offsite features were surveyed. No California Tiger Salamander eggs, larvae, or adults were observed during the 2021 surveys. The biologists suggested that California Tiger Salamander may have chosen to forgo breeding this season due to the abnormally dry winter. There was only 5.62 inches of precipitation between November 2020 and May 2021 as compared to the average 12.25 inches for this time period. As a result, Madrone recommended additional surveys including one upland drift fence/pitfall trap survey and an additional larvae survey in order to determine the presence or presumed absence of this species in the Study Area.

9. **San Joaquin coachwhip** (*Coluber flagellum ssp. ruddockis)* – This species is listed as threatened by the U. S. Fish and Wildlife Service and by the state of California. This is a slender and fast-moving snake with smooth scales, a large head and eyes, and a long thin tail. Adults are between 36 – 66 inches long, while hatchlings

are only 13 inches long. The San Joaquin coachwhip is tan, olive brown, or yellowish brown. This species enjoys open, hot, dry areas as well as grasslands, chapparal communities, and pastures and lays eggs in rodent burrows. The Study Area contains suitable habitat for the species within the onsite grasslands. There has been one sole CNDDB occurrence reported within five miles, the closest was 3.69 endangered by the U. S. Fish and Wildlife Service. No valley elderberry beetles were observed during the Barnett Environmental October 2020 field survey. This species has a moderate potential to occur in the Study Area.

10. **San Joaquin Kit Fox** (*Vuples macrotis mutica)* – This species is listed as endangered by the U. S. Fish and Wildlife Service and threatened by the state of California. The San Joaquin Kit Fox is the smallest candid species in North America. The legs are long, the body slim, the ears are close set together, and the nose is slim and pointed. Summer coats are tan and winter coats are greyed. The undersides vary from buff to white. The male weighs about five pounds, and the female is smaller. This species is endemic to California and inhabits grasslands and scrublands, even those than have been extensively modified. The grasslands throughout the Study Area represent suitable habitat for this species, however,there has been only one recorded CNDDB occurrence within a five-mile radius which occurred 0.73 miles to the east. No San Joaquin kit fox were observed during the Barnett Environmental October 2020 field survey. It has a low potential to occur in the Study Area.

State-Listed Species

Four state-listed animal species has the potential to occur within the Study Area (Table 2):

1. **Swainson's hawk** (*Buteo swainsoni)* – This raptor is listed as threatened by the state of California. Its habitat is great basin grassland, riparian forest and woodlands, valley and foothill grassland. Swainson's hawk breeds in grasslands with scattered trees, juniper-sage flats, savannahs, and agricultural or ranch lands with groves or lines of trees. The Swainson's hawk has a moderate potential for occurrence given the open grassland on this site that is appropriate foraging habitat, and there have been nine recorded CNDDB occurrences within five miles of the Study Area, with the nearest occurrence 1.7 miles to the east. No Swainson's hawks were observed during the October 2020 field survey.

2. **Loggerhead shrike** (*Lanius ludovicianus)* – This species is listed as a species of special concern by the state of California. It inhabits open country with short vegetation and well-spaced shrubs or low trees, particularly those with spines or thorns. They frequent agricultural fields, pastures, old orchards, riparian areas, desert scrublands, savannas, prairies, golf courses and cemeteries. Shrubs and trees near the Arroyo Las Positas and the ranch house represent suitable nesting habitat, and the grasslands throughout the Study Area represent suitable foraging habitat. There has been a sole CNDDB occurrence reported within five miles, the closest was 3.17 miles to the southwest. No loggerhead shrikes were observed during the October 2020 field survey.

3. **White-tailed kite** (*Elanus leucurus*) – This raptor is listed as threatened by the state of California. The white-tailed kite uses open grasslands, fields, and meadows for foraging and isolated trees in close proximity to foraging habitat for perching and nesting. The white-tailed kite has a moderate potential for occurrence given the open grassland on this site that is appropriate foraging habitat, and there have been nine recorded CNDDB occurrences within five miles of the Study Area, with the nearest occurrence 1.7 miles to the east. No white-tailed kites were observed during Barnett's October 2020 field survey.

4. **Tricolored blackbird** (*Agelaius tricolor)*– The tricolored blackbird is a California endangered species. Male Tricolored blackbirds are entirely black with a bright red shoulder patch bordered below by a white to cream-colored band. Females are dark gray-brown overall with streaked bellies and backs and a cream-colored eyebrow. Immature male birds are brownish black overall with some gray mottling depending on their age. This species nests in colonies in the vicinity of freshwater marshes or ponds and prefer heavy growths of cattails, tules, or willows. Their breeding requirements include open accessible water, a protected nesting substrate, and a foraging area with insect pray located within a few kilometers of their colony. There have been 12 CNDDB occurrences reported within five miles. The closest was 2.6 miles to the southeast, and the most recent was in 2014. No sign of this species was observed during the Barnett Environmental October 2020 site visit.

California Species of Special Concern (CEQA)

1. **Western burrowing owl** (*Athene cunicularia*) – The western burrowing owl is a species of special concern in California. It is a small, long-legged owl, ranging from seven to 10 inches in height. They have a round head, white eyebrows, yellow eyes, and long heads. Burrowing owls can be found in grasslands, rangelands, agricultural areas, deserts, or any other open dry area with low vegetation. They nest and roost in burrows, such as those excavated by prairie dogs. In the Study Area, many ground squirrel burrows were observed within the grasslands; these represent suitable nesting habitat. There have been 20 CNDDB occurrences reported within five miles, the most recent in 2017 and the closest was 1.01 miles to the north. Burrowing owl pellets observed onsite on a fencepost along the northern boundary. This species has a high potential to occur within the Study Area. However, no western burrowing owls were observed during the Barnett Environmental October 2020 field survey.

2. **Grasshopper sparrow** (*Ammodramus savannarum*) – This California Species of Special Concern is a small, flat-headed sparrow with a deep bill and has an unstreaked and buffy underside and rusty spotting or streaking on the back. This species thrives in native grasslands of California. There has been only one CNDDB occurrence reported within five miles, 2.96 miles to the northwest in 2016. It has a moderate potential to occur in short-grass grasslands within the Study Area. No grasshopper sparrows were observed during the Barnett Environmental October 2020 field survey.

3. **Western spadefoot** (*Spea hammondii*) – A species of special concern in California, the western spadefoot is a small, stout-bodied toad with short legs and warty skin. It is greenish, brown, cream, or gray above, and unmarked and whitish below. This species is found in a variety of habitats including coastal sage scrub, chapparal, oak woodlands, grasslands, washes, and floodplains along the California coast, central valley, and Sierra Nevada foothills. This California Species of Special Concern has a moderate potential to occur within the emergent marsh in the Study Area. There have been two CNDDB occurrences reported within five miles, the closest 3.05 miles to the southeast. However, no western spadefoots were observed during the Barnett Environmental October 2020 field survey.

4. **American badger** (*Taxidea taxus*) – The American badger has a flat body with short legs and a triangular face with a long, pointed, tipped up nose. This species has long brown or black fur with white stripes on its cheeks and one stripe running from its nose to the back of its head. It has small ears on the side of its head

and long, sharp front claws. Badgers prefer to live in dry, open grasslands, meadows, and grassy bald spots on high ridge tops. There have been three CNDDB reported occurrences within five miles; the most recent was in 2009 and the closest was 3.2 miles to the southeast. This California Species of Special Concern has a low potential to occur in short-grass grasslands within the Study Area. No American badgers were observed during the Barnett Environmental October 2020 field survey.

5. **Western pond turtle** (*Emys Marmorata)* – This species is undergoing federal listing review by the U. S. Fish and Wildlife Service and is a species of special concern in the state of California. It is a small to medium sized turtle in the Emydidae family, reaching between seven and nine inches. Its dorsal color is usually dark brown or dull olive with or without streaking. Adult turtles have a yellowish belly, with dark blotches and black spots or lines on top of their heads. The western pond turtle is found in permanent and intermittent waters of rivers, creeks, small lakes and ponds, marshes, irrigation ditches and reservoirs. They bask on land or near water on logs, branches or boulders. The Western pond turtle has a low potential for occurrence given the open grassland on this site. There have been nine CNDDB occurrences reported within five miles. The most recent was in 2017. However, no western pond turtles were observed during the Barnett Environmental October 2020 site visit. This species has a low potential to occur in the Arroyo Las Positas within the Study Area.

6.0 Effects of Proposed Action

6.1 Effects of Proposed Action on Wetlands, "Other Waters of the U.S." or "Waters of the State"

There are 0.553 acre of wetlands and "other waters of the United States" within the Study Area. A Section 404 permit from the U.S. Army Corps of Engineers and a Section 401 water quality certification from the Regional Water Quality Control Board maybe required if there are any activities affecting these features. We would recommend communicating with the Central Valley Regional Water Quality Control Board (RWQCB) to determine whether CA Dredge & Fill Procedures (aka Waste Discharge Requirement; WDR) permitting would be required and with the California Department of Fish & Wildlife to inquire about a possible 1602 Lake & Streambed Alteration Agreement.

Any resource permitting with these agencies could also require mitigation of any wetland habitat loss through purchase of equivalent wetland credits at an approved Mitigation Bank within the project's service area.

6.2 Effects of Proposed Action on Rare Plants and Habitat

The following discussion of biological resources impacts, and mitigation measures is based on implementation of the proposed project in comparison to existing conditions.

Rare plants

According to CNDDB there are three plant species, heartscale, long-style sand spurrey, and prostrate vernal pool naverettia, that have the potential to occur within five miles. However, there have been no documented occurrences of these species within the Study Area, and none were observed during Barnett's October 2020 field surveys.

During the appropriate blooming/flowering season prior to construction, a qualified botanist will conduct special-status plant species presence/absence surveys within areas proposed for grading or modification, in accordance with *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (California Department of Fish and Game 2009) to determine which special-status plants with the potential to occur on site are evident and identifiable onsite. Survey results shall be submitted to the CDFW and Alameda County. If any sensitive plant species are observed during the presence/absence surveys, and it is determined that such plants would be impacted by project activities, MVMG, CDFW, and the USFWS (if the species is also on the federal list of sensitive species) would be consulted to determine appropriate measures to ensure the protection of the species and its habitat. Such mitigation should include avoidance or, if avoidance is not possible, relocation of affected plants to a mitigation site located in similar habitat within the project site, in an area where no impacts are expected to occur. The relocation site should be in an area that is protected from impacts through human disturbance by fencing during the season that special-status plant species would be evident and identifiable—i.e., during their blooming season.

6.3 Potential Adverse Effects of Proposed Action on Wildlife and Habitat with Proposed Mitigation to Reduce Impacts to Less than Significant Levels.

Vernal pool fairy shrimp and longhorn fairy shrimp

Prior to construction, U.S. Fish & Wildlife Service protocol-level (dry- and wet-season) vernal pool crustacean surveys would need to be conducted by a qualified biologist to definitively determine presence or absence of these listed large branchiopods onsite. If no listed large branchiopods are found on-site, and this conclusion confirmed by the USFWS, no further mitigation is required. If, however, listed large branchiopods are found, assumed to be (without surveys), or determined by the USFWS to be onsite, the applicant will need to mitigate the loss of potential habitat in coordination with the USFWS as part of a Clean Water Act, Section 404 permitting process to provide for preservation of off-site lands that provide habitat for listed large branchiopods.

California Red-Legged Frog Mitigation

A qualified biologist shall conduct presence/absence surveys prior to ground-disturbing activities during th species' active season (October 1 – June 30). The project would immediately notify the USFWS, CDFW and Alameda County if any individuals or their sign are observed during these surveys.

A qualified biologist would then conduct California red-legged frog protocol surveys to determine presence/absence of the species if concluded necessary by the USFWS, in accordance with the USFWS guidance (USFWS Revised Guidance on Site Assessments and Field Surveys for the California Red-Legged Frog, USFWS 2005b), which requires up to eight surveys within potential habitat – six surveys within the breeding season (October 1 – June 30) and two surveys during the non-breeding season (July 1 – September 30).

If found onsite, impacts to this species would be minimized and mitigated by erecting temporary exclusion fencing – with the bottom edge buried into the ground around all proposed work areas. A qualified biologist (approved by the USFWS and CDFG) would then relocate California red-legged frog individuals to a pre-determined suitable habitat in an appropriate area that will not be impacted.

Western Spadefoot Toad Mitigation Measure

A qualified biologist (reviewed and approved by the ACPD) shall survey areas of suitable habitat for western spadefoot toad on the project site, including ruts or small pools within on-site grassland, as well as the seasonal detention pond. The survey shall be conducted during the active season of western spadefoot toad (which corresponds with the rainy season). The survey results shall be submitted to the CDFW and Alameda County prior to construction.

If surveys result in the observation of western spadefoot toad within project impact areas in on-site grassland, observed individuals and/or eggs shall be removed from project impact areas (with the prior approval of the CDFG) and be relocated to pre-determined suitable habitat in an appropriate area that will not be impacted.

California Tiger Salamander

A qualified biologist shall conduct presence/absence surveys prior to ground-disturbing activities and during construction during the species' active/breeding season – starting October 15 or when rain occurs. The project would immediately notify the USFWS, CDFW and Alameda County if any individuals or their sign are observed during these surveys. If surveys conducted determined the species to be present, compensatory lands would be purchased at a minimum of a 3:1 basis (or at a ratio determined to be suitable by the USFWS), in order to mitigate for the loss of a portion of the on-site grassland habitat through project activities. This mitigation could be achieved through the purchase of credits at a USFWS-approved mitigation bank, or through the placement of a conservation easement over occupied California tiger salamander habitat. The Natural Resources Conservation District, through the Alameda County Conservation Partnership, provides opportunities for in-lieu fee payments to fund restoration/preservation of California tiger salamander habitat in Alameda County.

San Joaquin Whipsnake and other Special Status Reptiles and Amphibians

The MVMG project area will be intensively surveyed for evidence of these reptile species within 30 days prior to construction. Temporary fencing designed to prevent the entry of San Joaquin whipsnakes shall be installed around the perimeter of all areas proposed for construction. The exclusion fencing will be installed so that its bottom is buried into the ground 12" and 24" is exposed above ground. Following installation of this temporary fencing, a qualified biologist shall conduct a pre-ground disturbing activities survey to locate any San Joaquin whipsnake individuals within the enclosed area. Any special status reptiles or amphibians encountered within the fenced area would be captured and trans-located by the qualified biologist to similar suitable habitat on the project site, in areas not adversely affected by project activities.

Swainson's hawk

No Swainson's hawks were observed during the October 2020 field survey, however, a preconstruction raptor survey during the hawk's breeding period would reveal its presence or absence within the Study Area. Therefore, prior to issuance of a grading permit for development:

1. A pre-construction nesting bird survey shall be conducted on-site within 15 days prior to construction if construction associated with the project would commence between March 1st and September 1st ("the nesting season"). If disturbance associated with the project would occur outside of the nesting season, no surveys shall be required.
2. If Swainson's hawk are identified as nesting on the project site, a non-disturbance buffer of 75-feet shall be established or as otherwise prescribed by a qualified ornithologist. The buffer shall be demarcated with painted orange lath or via the installation of orange construction fencing. Disturbance within the buffer shall be postponed until a qualified ornithologist has determined that the young have attained sufficient flight skills to leave the area or that the nesting cycle has otherwise completed.

Burrowing owl

There are numerous mammal burrows that can act as habitat for this species within the Study Area. We would recommend a preconstruction burrowing owl survey of the proposed development area within 14-days prior to any site disturbance to ensure no subsequent occupation of, or adverse impacts to potential habitat on the parcel.

Therefore, prior to issuance of grading permits, we recommend:

1. A preconstruction survey by a qualified biologist. If possible, a winter survey should be conducted between December 1 and January 31 (when wintering owls are most likely to be present) and the nesting season survey should be conducted between April 15 and July 15 (the peak of breeding season). Surveys conducted from two hours before sunset to one hour after, or from one hour before to two hours after sunrise, are preferable. The survey techniques shall be consistent with the CDFW Staff Report survey protocol and include a 260-foot-wide (buffer) zone surrounding the Study Area. Repeat surveys should also be conducted not more than 30 days prior to initial ground disturbance to inspect for re-occupation and the need for additional protection measures. If no burrowing owls are detected during preconstruction surveys, then no further mitigation is required.
2. If active burrowing owl burrows are identified, project activities shall not disturb the burrow during the nesting season (February 1–August 31) or until a qualified biologist has determined that the young have fledged or the burrow has been abandoned. A no disturbance buffer zone of 160-feet is required to be established around each burrow with an active nest until the young have fledged the burrow as determined by a qualified biologist.
3. If destruction of the occupied burrow is unavoidable during the non-breeding season, September 1– January 31, passive relocation of the burrowing owls shall be conducted. Passive relocation involves installing a one-way door at the burrow entrance, encouraging owls to move from the occupied burrow. No permit is required to conduct passive relocation; however, this process shall be conducted by a qualified biologist and in accordance with CDFW guidelines. In addition, to offset the loss of foraging and burrow habitat on the project site, a minimum of 6.5 acres of foraging habitat (calculated on a 300-ft foraging radius around the burrow) per pair or unpaired resident bird, shall be acquired and permanently protected at a location acceptable to the CDFW.

Special-Status Bird Species Mitigation Measure

A qualified biologist would conduct nesting bird surveys within 30 days of initiation of ground disturbing activities within suitable habitat (and within the appropriate nesting season) throughout the project site to avoid impacts to nesting birds associated with construction. Surveys shall be conducted prior to ground disturbing activities. If an active nest is located, all clearing and construction within 300 feet of the nest (500 feet for raptor nests) or as designated appropriate by a biological monitor, shall be postponed until the nest is vacated and juveniles have fledged, and there is no evidence of a second attempt at nesting, as determined by a qualified biologist. Limits of construction to avoid a nest should be established in the field with flagging and stakes or construction fencing. Construction personnel should be instructed on the sensitivity of the area. The project proponent should record the results of the recommended protective measures described. Additional surveys would then be conducted if ground-disturbing activities are delayed due to active bird nesting, until the qualified biologist determines that the young associated with an active nest have fledged.

San Joaquin Kit Fox Mitigation

An intensive survey for active San Joaquin kit fox dens will be conducted by a qualified biologist within and surrounding the proposed construction area no less than 14 days and no more than 30 days prior to construction. The USFWS and the CDFW would be immediately contacted if this/these survey(s) determine that the San Joaquin kit fox does occupy construction areas or within the vicinity (200 feet) of ground disturbing activities, either by direct observation or identification of active den site(s). In addition, all ground disturbing work within 200 feet of any active den(s) shall be postponed until the USFWS and/or CDFW provide guidance regarding how to proceed.

American Badger Mitigation Measure

A qualified biologist shall conduct preconstruction surveys within onsite suitable habitat for American badger burrows within grassland habitat prior to any ground disturbing activities, including grading, construction, or site preparation activities within 30 days of proposed project activities. If badgers are observed within project impact areas in or within 200 feet of onsite grassland, observed individuals shall be captured, removed from project impact areas through humane exclusion from burrows (with the prior approval of the CDFW), and relocated to suitable habitat in an appropriate area that will not be impacted. This relocation area would preferably be onsite but may also include off-site lands approved CDFW and Alameda County that contains suitable grassland habitat. All ground-disturbing work within 200 feet of the active burrow(s) shall be temporarily postponed if the American badger is observed breeding and denning onsite until direction from CDFW provides guidance regarding how to proceed.

7.0 Conclusions

The Study Area contains approximately 2.1 acres of Waters of the U.S along its southern property boundaries. Any development activity causing direct adverse impacts to this ditch could require resource permits from the Regional Water Quality Control Board (401; WDR), and California Department of Fish & Wildlife (1602), or a 404 Nationwide Permit from the Army Corps of Engineers.

There are three special status plant species (heartscale, long-style sand spurrey, prostrate vernal pool navarettia), seven federal special wildlife species (San Joaquin kit fox, San Joaquin coachwhip, longhorn fairy shrimp, vernal pool fairy shrimp, California red-legged frog, the valley elderberry longhorn beetle and the California tiger salamander), four special status state species (loggerhead shrike, white-tailed kite, Swainson's hawk, and tricolored blackbird), and five species of special concern (western burrowing owl, western spadefoot, grasshopper sparrow, the American badger, and the western pond turtle) that have the potential to occur on site. Protocol surveys for the California tiger salamander were conducted of one wetland in the Study Area and found no sign of this species. In order to confirm presence or absence of this and other species of special concern, we recommend pre-construction surveys within two weeks of planned construction.

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Appendix A:
NRCS Soil Report

United States Department of Agriculture

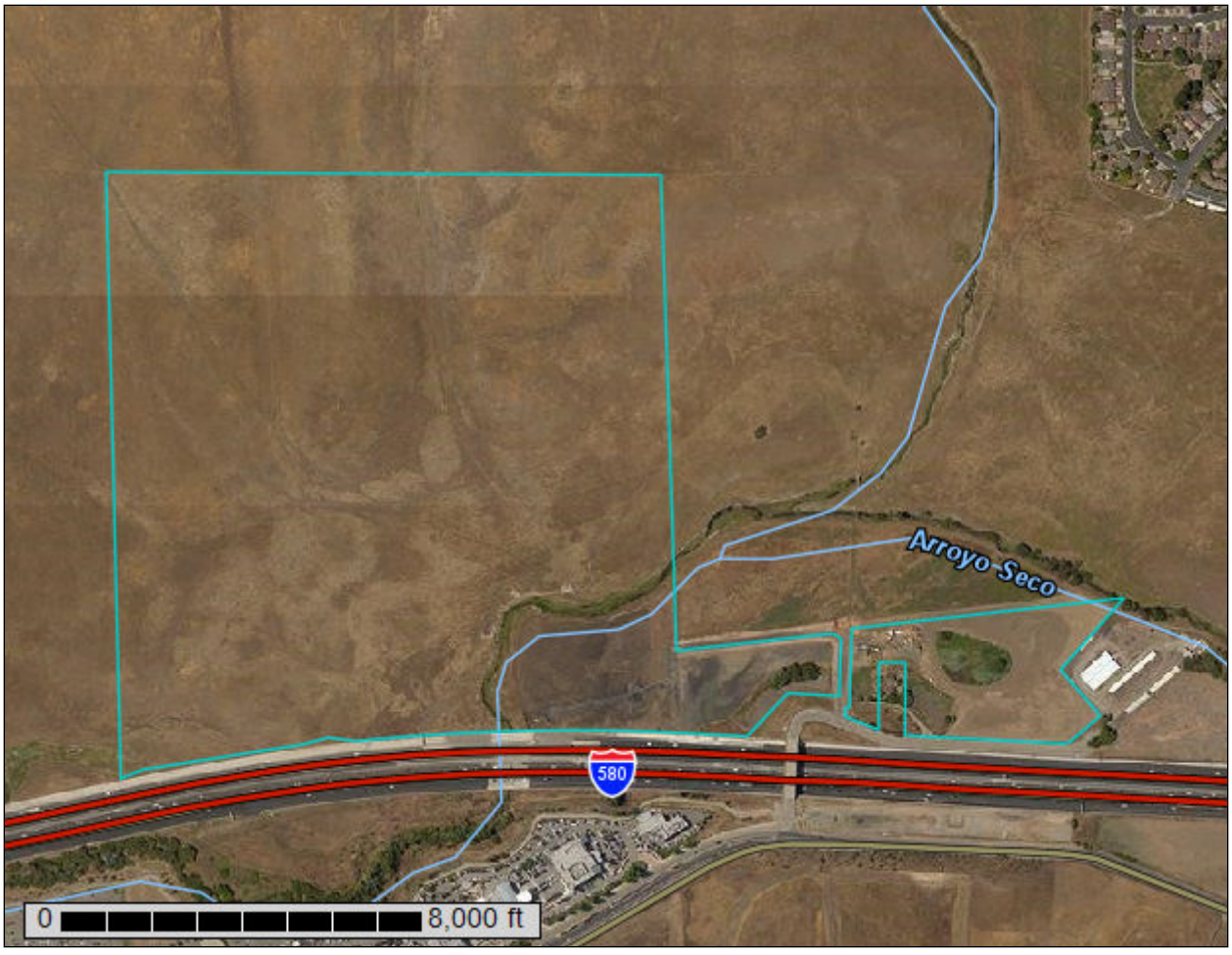
NRCS

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 Alameda Area, California

KAHNCO (LIVERMORE) MONTE VISTA PROJECT• ALAMEDA COUNTY, CALIFORNIA



February 5, 2019

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.

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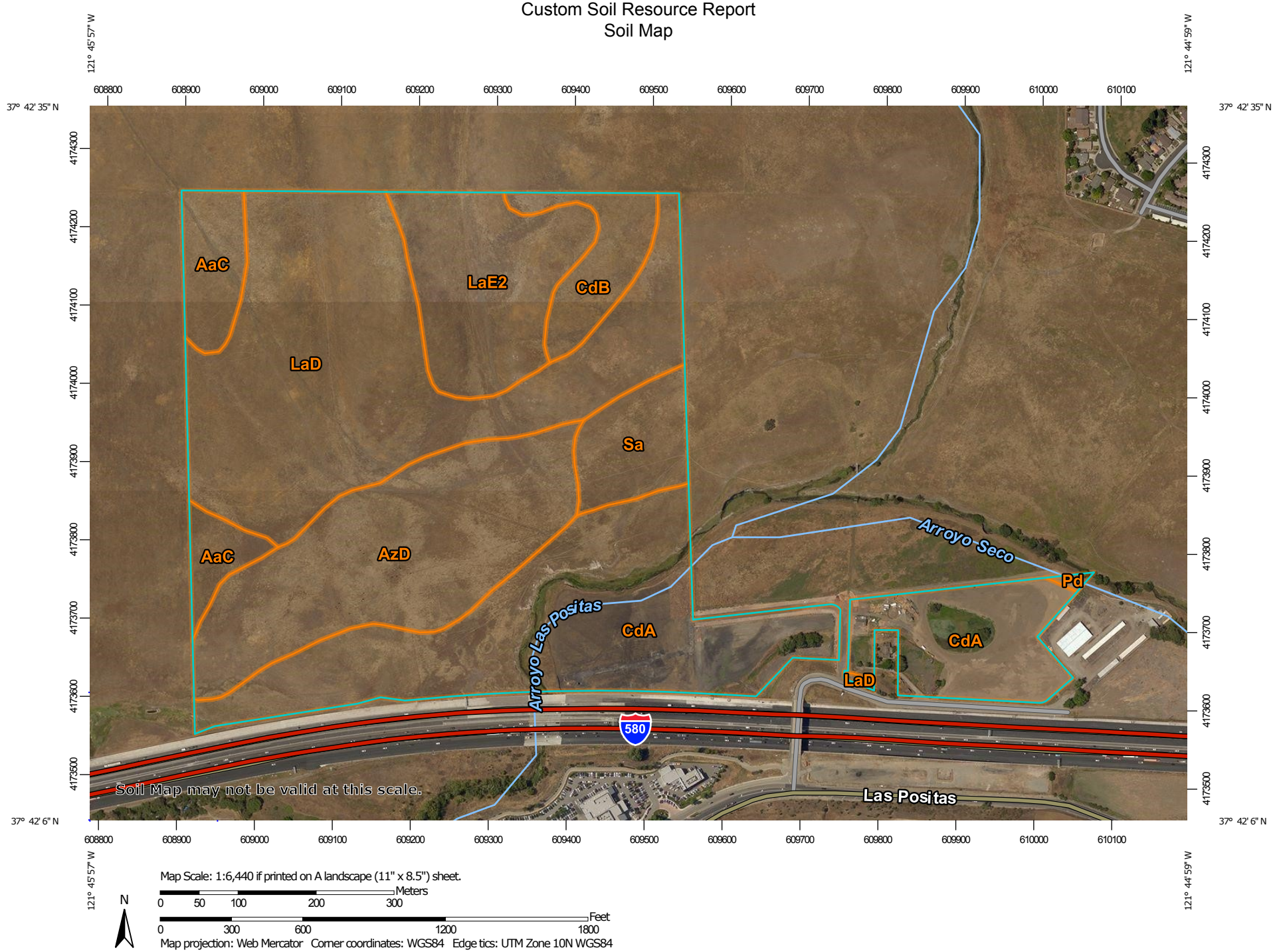
Contents

Soil Map

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

Custom Soil Resource Report
Soil Map



Map Scale: 1:6,440 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 300 600 1200 1800

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 1:20,000.

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: Alameda Area, California
Survey Area Data: Version 12, Sep 14, 2018

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

Date(s) aerial images were photographed: Jun 11, 2015—Jun 17, 2015

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AaC	Altamont clay, 3 to 15 percent slopes	5.7	4.9%
AzD	Azule clay loam, 3 to 30 percent slopes	20.8	17.9%
CdA	Clear Lake clay, drained, 0 to 2 percent slopes, MLRA 14	33.9	29.2%
CdB	Clear Lake clay, drained, 3 to 7 percent slopes	4.5	3.9%
LaD	Linne clay loam, 15 to 30 percent slopes, MLRA 15	34.7	29.8%
LaE2	Linne clay loam, 30 to 45 percent slopes, eroded	11.7	10.1%
Pd	Pescadero clay loam, 0 to 6 percent slopes, MLRA 14	0.2	0.1%
Sa	San Ysidro loam, 0 to 2 percent slopes, MLRA 14	4.8	4.1%
Totals for Area of Interest		**116.3**	**100.0%**

Map Unit Descriptions

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

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

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas

are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

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

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

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

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

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

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

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

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

Alameda Area, California

AaC—Altamont clay, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: hb2n
Elevation: 700 to 1,700 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 240 to 260 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

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

Description of Altamont

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 28 inches: clay
H2 - 28 to 50 inches: clay, silty clay
H2 - 28 to 50 inches: weathered bedrock
H3 - 50 to 54 inches:

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

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

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

Clear lake
Percent of map unit: 3 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Pescadero
Percent of map unit: 2 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

AzD—Azule clay loam, 3 to 30 percent slopes

Map Unit Setting
National map unit symbol: hb2t
Elevation: 300 to 1,500 feet
Mean annual precipitation: 12 to 15 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 260 to 280 days
Farmland classification: Not prime farmland

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

Description of Azule

Setting
Landform: Fluvial terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear

Across-slope shape: Linear
Parent material: Alluvium derived from sandstone and shale

Typical profile

H1 - 0 to 6 inches: clay loam
H2 - 6 to 21 inches: clay
H3 - 21 to 25 inches: weathered bedrock

Properties and qualities

Slope: 3 to 30 percent
Depth to restrictive feature: 18 to 36 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Positas

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

Diablo

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

Altamont

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

CdA—Clear Lake clay, drained, 0 to 2 percent slopes, MLRA 14

Map Unit Setting

National map unit symbol: 2vbt2
Elevation: 10 to 800 feet
Mean annual precipitation: 15 to 31 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 250 to 275 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Clear lake, drained, and similar soils: 90 percent
Minor components: 10 percent

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

Description of Clear Lake, Drained

Setting

Landform: Basin floors
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Basin alluvium derived from igneous, metamorphic and sedimentary rock

Typical profile

Ap - 0 to 6 inches: clay
Bss1 - 6 to 26 inches: clay
Bss2 - 26 to 36 inches: clay
C - 36 to 60 inches: clay

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly 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 36 to 72 inches
Frequency of flooding: Rare
Frequency of ponding: Frequent
Calcium carbonate, maximum in profile: 4 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.5 to 3.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 7.0
Available water storage in profile: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: D
Hydric soil rating: Yes

Minor Components

Unnamed

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

Campbell, sicl

Percent of map unit: 3 percent
Hydric soil rating: No

Sunnyvale, sic

Percent of map unit: 2 percent
Hydric soil rating: No

CdB—Clear Lake clay, drained, 3 to 7 percent slopes

Map Unit Setting

National map unit symbol: hb31
Elevation: 100 to 900 feet
Mean annual precipitation: 14 to 15 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 240 to 260 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

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

Description of Clear Lake

Setting

Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile

H1 - 0 to 36 inches: clay
H2 - 36 to 65 inches: clay

Properties and qualities

Slope: 3 to 7 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately 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
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to moderately saline (0.0 to 8.0 mmhos/cm)
Available water storage in profile: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Hydric soil rating: Yes

Minor Components

Unnamed

Percent of map unit: 5 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Capay

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

San ysidro

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

LaD—Linne clay loam, 15 to 30 percent slopes, MLRA 15

Map Unit Setting

National map unit symbol: 2w63l
Elevation: 20 to 2,010 feet
Mean annual precipitation: 12 to 22 inches
Mean annual air temperature: 57 to 63 degrees F
Frost-free period: 260 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Linne

Setting

Landform: Hillslopes, mountain slopes
Landform position (three-dimensional): Mountainflank, side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Residuum weathered from calcareous shale

Typical profile

Ap - 0 to 9 inches: clay loam
A1 - 9 to 14 inches: clay loam
A2 - 14 to 29 inches: clay loam
AC - 29 to 32 inches: sandy clay loam
Ck - 32 to 36 inches: fine sandy loam
Cr - 36 to 51 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 35 to 50 inches to paralithic bedrock
Natural drainage class: Well drained
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
Available water storage in profile: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Diablo

Percent of map unit: 5 percent
Landform: Mountain slopes, hillslopes
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Ecological site: CLAYEY (R015XD001CA)
Hydric soil rating: No

Altamont

Percent of map unit: 4 percent
Landform: Hillslopes
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Clear lake

Percent of map unit: 3 percent
Landform: Drainageways
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Pescadero

Percent of map unit: 2 percent
Landform: Depressions, drainageways
Down-slope shape: Concave, convex
Across-slope shape: Concave
Hydric soil rating: Yes

Haploxerolls, landslides

Percent of map unit: 1 percent
Landform: Slumps, landslides
Hydric soil rating: No

LaE2—Linne clay loam, 30 to 45 percent slopes, eroded

Map Unit Setting

National map unit symbol: hb3n
Elevation: 700 to 1,700 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 240 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Linne

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 36 inches: clay loam
H2 - 36 to 40 inches: weathered bedrock

Properties and qualities

Slope: 30 to 45 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 6.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: CLAYEY HILLS (R014XD092CA)
Hydric soil rating: No

Minor Components

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

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

Clear lake
Percent of map unit: 3 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Pescadero
Percent of map unit: 2 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Pd—Pescadero clay loam, 0 to 6 percent slopes, MLRA 14

Map Unit Setting
National map unit symbol: 2xcbf
Elevation: 140 to 760 feet
Mean annual precipitation: 13 to 24 inches
Mean annual air temperature: 60 to 61 degrees F
Frost-free period: 329 to 353 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, stream terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear, concave

Across-slope shape: Linear, concave
Parent material: Alluvium derived from sandstone and shale

Typical profile

An - 0 to 2 inches: clay loam
Btng - 2 to 12 inches: clay
Btn - 12 to 20 inches: clay
Bng - 20 to 30 inches: clay
Bkng1 - 30 to 40 inches: clay loam
Bkng2 - 40 to 58 inches: clay loam
Bkng3 - 58 to 72 inches: clay loam

Properties and qualities

Slope: 0 to 6 percent
Depth to restrictive feature: 2 inches to natric
Natural drainage class: Poorly drained
Runoff class: Low
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 0 to 20 inches
Frequency of flooding: Rare
Frequency of ponding: Frequent
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Slightly saline to strongly saline (5.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 95.0
Available water storage in profile: Very low (about 0.4 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Clear lake

Percent of map unit: 5 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Diablo

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

Solano

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

Sa—San Ysidro loam, 0 to 2 percent slopes, MLRA 14

Map Unit Setting

National map unit symbol: 2tyys
Elevation: 70 to 1,990 feet
Mean annual precipitation: 13 to 22 inches
Mean annual air temperature: 59 to 61 degrees F
Frost-free period: 300 to 360 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of San Ysidro

Setting

Landform: Valley floors, terraces, alluvial fans
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile

A - 0 to 23 inches: loam
B1 - 23 to 38 inches: clay loam
Bt2 - 38 to 64 inches: loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 16 to 24 inches to abrupt textural change
Natural drainage class: Moderately well drained
Runoff class: Low
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
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: LOAMY CLAYPAN (R014XE029CA)
Hydric soil rating: No

Minor Components

Arbuckle
Percent of map unit: 6 percent
Hydric soil rating: No

Rincon
Percent of map unit: 2 percent
Hydric soil rating: No

Solano
Percent of map unit: 2 percent
Hydric soil rating: No

Pleasanton, loam
Percent of map unit: 2 percent
Hydric soil rating: No

Pescadero
Percent of map unit: 1 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Cropley, clay
Percent of map unit: 1 percent
Hydric soil rating: No

Palexeralfs
Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

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Appendix B: CNDDB

Multiple Occurrences per Page

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Livermore (3712167))
 AND (Federal Listing Status IS (Endangered OR Threatened) OR State Listing Status IS (Endangered OR Threatened))

Ambystoma californiense **Element Code:** AAAAA01180

California tiger salamander

Listing Status:	**Federal:**	Threatened	**CNDDB Element Ranks:**	**Global:**	G2G3
	State:	Threatened		**State:**	S2S3
	Other:	CDFW_WL-Watch List, IUCN_VU-Vulnerable			
Habitat:	**General:**	CENTRAL CALIFORNIA DPS FEDERALLY LISTED AS THREATENED. SANTA BARBARA AND SONOMA COUNTIES DPS FEDERALLY LISTED AS ENDANGERED.			
	Micro:	NEED UNDERGROUND REFUGES, ESPECIALLY GROUND SQUIRREL BURROWS, AND VERNAL POOLS OR OTHER SEASONAL WATER SOURCES FOR BREEDING.			

Occurrence No.	34	**Map Index:**	10632	**EO Index:**	7276	**Element Last Seen:**	1978-01-04
Occ. Rank:	None			**Presence:**	Extirpated	**Site Last Seen:**	2001-10-30
Occ. Type:	Natural/Native occurrence			**Trend:**	Decreasing	**Record Last Updated:**	2020-10-29

Quad Summary: Livermore (3712167)

County Summary: Alameda

Lat/Long:	37.67212 / -121.76704	**Accuracy:**	3/5 mile
UTM:	Zone-10 N4170152 E608733	**Elevation (ft):**	515
PLSS:	T03S, R02E, Sec. 16 (M)	**Acres:**	0.0

Location: SOUTH OF L STREET AND ARROYO ROAD, IN THE SOUTHERN PART OF LIVERMORE.

Detailed Location: INCLUDES LOCALITES DESCRIBED AS GRAVEL PITS SOUTH OF L ST IN LIVERMORE, 1.5 MILES SOUTH LIVERMORE ON L ST, 0.5 MI SOUTH OF LIVERMORE ON ARROYO RD, AND RODEO GROUNDS AT LIVERMORE.

Ecological:

General: 1 COLLECTED ON 23 JAN 1965, 2 ON 15 NOV 1966, 2 ON 14 JAN 1968, 1 ON 13 JAN 1970, 2 IN NOV 1972, 40 LARVAE 1 MAY 1973, 1 ON 3 DEC 1974, 1 ON 4 JAN 78. COMPLETELY URBANIZED BY 2001; SITE EXTIRPATED.

Owner/Manager: UNKNOWN

Occurrence No.	109	**Map Index:**	17105	**EO Index:**	12081	**Element Last Seen:**	1991-05-06
Occ. Rank:	None			**Presence:**	Extirpated	**Site Last Seen:**	1991-05-06
Occ. Type:	Natural/Native occurrence			**Trend:**	Decreasing	**Record Last Updated:**	2020-10-29

Quad Summary: Livermore (3712167)

County Summary: Alameda

Lat/Long:	37.64122 / -121.81027	**Accuracy:**	non-specific area
UTM:	Zone-10 N4166674 E604964	**Elevation (ft):**	498
PLSS:	T03S, R01E, Sec. 25 (M)	**Acres:**	918.0

Location: 1.5 MILES SW OF THE JUNCTION OF HWY 84 AND EAST VINEYARD AVE, PLEASANTON.

Detailed Location: LOCATED ON THE RUBY HILL PROJECT SITE.

Ecological: ORIGINALLY IN GRASSLAND ON NNE-FACING SLOPE WITH OAK WOODLAND ALONG STREAMS. BLUE OAK WOODLAND & SAVANNA UPSLOPE TO WEST. GROUND SQUIRREL BURROWS COMMON. AS OF 1993 HABITAT REDUCED TO 71 ACRE MITIGATION AREA (EO #817).

General: 120+ LARVAE DETECTED IN 3 PONDS IN 1989. 4 MORE BREEDING PONDS FOUND IN 1991. DETECTED IN 7 OF 8 PONDS ON 6 MAY 1991. 2002: SITE HAS BEEN EXTIRPATED.

Owner/Manager: PVT

Occurrence No.	140	**Map Index:**	24130	**EO Index:**	7277	**Element Last Seen:**	1993-01-21
Occ. Rank:	Poor			**Presence:**	Presumed Extant	**Site Last Seen:**	1993-01-21
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-10-29

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.6519 / -121.80597	**Accuracy:**	non-specific area
UTM:	Zone-10 N4167864 E605329	**Elevation (ft):**	424
PLSS:	T03S, R01E, Sec. 24 (M)	**Acres:**	105.0

Location:	ALONG VINEYARD AVENUE, WEST OF HWY 84, SW OF LIVERMORE.
Detailed Location:	3 ADULTS OBSERVED ON VINEYARD AVENUE, ABOUT 0.5 MILE APART, DURING HEAVY RAIN.
Ecological:	1993: SURROUNDING LAND IS VINEYARDS, FALLOW AGRICULTURAL FIELDS, ANNUAL GRASSLANDS, & SPARSELY-SCATTERED HOMES. 2007 AERIAL PHOTO SHOWS AREA SOUTH OF VINEYARD AVE IN AG WITH URBAN DEVELOPMENT TO NE & SW. VERY LITTLE HABITAT REMAINS.
General:	3 ADULT SALAMANDERS OBSERVED MIGRATING TO/FROM BREEDING SITES BETWEEN 8:50 AND 9:05 PM ON 21 JANUARY 1993.
Owner/Manager:	UNKNOWN

Occurrence No.	141	**Map Index:**	24123	**EO Index:**	7275	**Element Last Seen:**	1993-01-21
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1993-01-21
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1993-09-09

Quad Summary:	Altamont (3712166), Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.66547 / -121.75130	**Accuracy:**	1/5 mile
UTM:	Zone-10 N4169432 E610131	**Elevation (ft):**	550
PLSS:	T03S, R02E, Sec. 15 (M)	**Acres:**	0.0

Location:	ALONG WENTE AVENUE, SOUTH OF PLEASANT VIEW LANE, LIVERMORE.
Detailed Location:	1 ADULT OBSERVED ON THE ROAD, DURING A HEAVY RAIN, AT 8:15 PM.
Ecological:	SURROUNDING LANDS INCLUDE VINEYARDS, FALLOW AGRICULTURAL FIELDS, ANNUAL GRASSLANDS, AND SPARSELY SCATTERED HOMES.
General:	1 ADULT OBSERVED MIGRATINGTO/FROM A BREEDING SITE.
Owner/Manager:	UNKNOWN

Occurrence No.	142	**Map Index:** 24129	**EO Index:**	7281	**Element Last Seen:**	1992-12-28
Occ. Rank:	Good		**Presence:**	Presumed Extant	**Site Last Seen:**	1992-12-28
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	1993-09-28

Quad Summary: Livermore (3712167)

County Summary: Alameda

Lat/Long:	37.70165 / -121.82273	**Accuracy:**	specific area
UTM:	Zone-10 N4173365 E603780	**Elevation (ft):**	380
PLSS:	T03S, R01E, Sec. 01 (M)	**Acres:**	12.0

Location: VICINITY OF THE INTERSECTION OF DOOLAN ROAD AND COLLIER CANYON ROAD, ON THE NORTH SIDE OF I-580, NW OF LIVERMORE.

Detailed Location: ONE ADULT OBSERVED CROSSING COLLIER CANYON ROAD AND A SECOND WAS OBSERVED CROSSING DOOLAN ROAD ON 28 DECEMBER 1992, DURING A RAINSTORM.

Ecological: SURROUNDING HABITAT CONSISTS OF ANNUAL GRASSLAND.

General:

Owner/Manager: UNKNOWN

Occurrence No.	143	**Map Index:** 24124	**EO Index:**	7282	**Element Last Seen:**	1992-12-28
Occ. Rank:	Excellent		**Presence:**	Presumed Extant	**Site Last Seen:**	1992-12-28
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	1993-09-09

Quad Summary: Livermore (3712167)

County Summary: Alameda

Lat/Long:	37.71172 / -121.82357	**Accuracy:**	80 meters
UTM:	Zone-10 N4174481 E603692	**Elevation (ft):**	460
PLSS:	T02S, R01E, Sec. 35, SE (M)	**Acres:**	0.0

Location: DOOLAN ROAD, 0.7 MILE NORTH OF I-580, NW OF LIVERMORE.

Detailed Location: ONE ADULT OBSERVED CROSSING ROAD, HEADING TOWARD COTTONWOOD CREEK, DURING A RAINSTORM.

Ecological: SURROUNDING HABITAT CONSISTS OF ANNUAL GRASSLAND.

General:

Owner/Manager: UNKNOWN

Occurrence No.	144	**Map Index:** 24125	**EO Index:**	7283	**Element Last Seen:**	2016-05-04
Occ. Rank:	Fair		**Presence:**	Presumed Extant	**Site Last Seen:**	2016-05-04
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2020-10-27

Quad Summary: Livermore (3712167)

County Summary: Alameda

Lat/Long:	37.72556 / -121.82289	**Accuracy:**	specific area
UTM:	Zone-10 N4176018 E603733	**Elevation (ft):**	581
PLSS:	T02S, R01E, Sec. 25, SW (M)	**Acres:**	36.0

Location: ALONG DOOLAN ROAD, 1.5 MILES NORTH OF I-580, NW OF LIVERMORE.

Detailed Location: MAPPED TO PROVIDED COORDINATES.

Ecological: NON-NATIVE ANNUAL GRASSLAND IN ROLLING HILLS TOPOGRAPHY. AERIAL IMAGERY SHOWS DEVELOPMENT NEARBY.

General: 1 ADULT FOUND ALIVE IN A SWIMMING POOL FILTER BASKET AND 1 ADULT CROSSING ROAD TOWARDS POOL IN COTTONWOOD CREEK IN DEC 1992. LARVAE OBSERVED AT 3 SITES IN 2010. LARV OBS AT 1 POND, 3 MAR 2011. 7 EGG MASSES, 2015. 46 LARV OBS, 4 MAY 2016.

Owner/Manager: PVT

Occurrence No.	145	**Map Index:**	24126	**EO Index:**	7284	**Element Last Seen:**	2016-05-04
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2016-05-04
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-10-27

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.73358 / -121.83806	**Accuracy:**	specific area
UTM:	Zone-10 N4176892 E602384	**Elevation (ft):**	580
PLSS:	T02S, R01E, Sec. 26, NW (M)	**Acres:**	38.0

Location:	ALONG DOOLAN ROAD, 2.5 MILES NORTH OF I-580, NW OF LIVERMORE.
Detailed Location:	MAPPED TO PROVIDED COORDINATES.
Ecological:	NON-NATIVE ANNUAL GRASSLAND IN ROLLING HILL TOPOGRAPHY. 2012 AERIAL PHOTO SHOWS AREA 0.5 MI SW BEING HEAVILY DEVELOPED.
General:	1 ADULT OBSERVED IN 1992 CROSSING ROAD TOWARDS POOL IN COTTONWOOD CREEK. LARVAE OBS AT 3 PONDS ON 25 MAR 2010. LARV OBS AT 4 PONDS ON 3 MAR 2011. 4 EGG MASSES OBS IN JAN AND 1 LARVA AT ON 27 MAY 2015. 30 LARVAE OBS ON 4 MAY 2016.
Owner/Manager:	UNKNOWN

Occurrence No.	146	**Map Index:**	24127	**EO Index:**	7285	**Element Last Seen:**	2008-05-22
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2008-05-22
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-05-21

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.73524 / -121.80890	**Accuracy:**	specific area
UTM:	Zone-10 N4177108 E604952	**Elevation (ft):**	520
PLSS:	T02S, R01E, Sec. 25, NE (M)	**Acres:**	15.0

Location:	ALONG COLLIER CANYON ROAD, 2.5 MILES NORTH OF I-580, NW OF LIVERMORE.
Detailed Location:	1992 (NORTH PART OF FEATURE), MAPPED TO PROVIDED MAP. 2007 (SOUTH PART OF FEATURE), MAPPED TO PROVIDED COORDINATES. 2008 (MIDDLE OF FEATURE - BATTEATE PROPERTY), MAPPED TO PROVIDED COORDINATES.
Ecological:	1992: HABITAT CONSISTS OF ANNUAL GRASSLAND. 2007: HABITAT DESCRIBED AS VALLEY GRASSLANDS, W/RANCHING, RESIDENTIAL, GRAZING, & EQUIPMENT STORAGE. 2008: PONDS, GRASSLAND. WETLAND HABITAT APPEARS DECREASED USGS TOPO, AERIAL IMAGES 1993 & 2007.
General:	IN 1992, ONE ADULT WAS OBSERVED CROSSING THE COUNTY ROAD, HEADING WEST TOWARD THE CREEK AND SEVERAL PONDS (DURING LIGHT RAIN). 4 LARVAE, INDICATING A BREEDING AREA, WERE OBSERVED ON 25 FEB 2007. 4 LARVAE OBSERVED 22 MAY 2008.
Owner/Manager:	PVT

Occurrence No.	147	**Map Index:**	24128	**EO Index:**	7286	**Element Last Seen:**	1992-12-28
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1992-12-28
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-05-27

Quad Summary: Livermore (3712167)

County Summary: Alameda

Lat/Long:	37.74238 / -121.81009	**Accuracy:**	80 meters
UTM:	Zone-10 N4177898 E604837	**Elevation (ft):**	620
PLSS:	T02S, R01E, Sec. 24, SE (M)	**Acres:**	0.0

Location: ALONG COLLIER CANYON ROAD, 3 MILES NORTH OF I-580, NW OF LIVERMORE.

Detailed Location:

Ecological: HABITAT CONSISTS OF ANNUAL GRASSLAND. 2007 AERIAL PHOTO SHOWS SOME LOW DENSITY RURAL RESIDENTIAL BUT WITH HABITAT STILL PRESENT.

General: IN 1992, ONE ADULT WAS OBSERVED CROSSING THE COUNTY ROAD, HEADING WEST.

Owner/Manager: UNKNOWN

Occurrence No.	188	**Map Index:**	33751	**EO Index:**	1459	**Element Last Seen:**	2019-12-05
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2019-12-05
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-10-26

Quad Summary: Altamont (3712166), Livermore (3712167)

County Summary: Alameda

Lat/Long:	37.72301 / -121.73787	**Accuracy:**	non-specific area
UTM:	Zone-10 N4175833 E611229	**Elevation (ft):**	500
PLSS:	T02S, R02E, Sec. 27 (M)	**Acres:**	478.1

Location: SPRINGTOWN, SOUTH OF RAYMOND ROAD AND WEST OF VASCO ROAD, LIVERMORE.

Detailed Location: INCLUDED IN AREA ARE THE SPRINGTOWN PROJECT SITE (SE CORNER) & SPRINGTOWN MITIGATION SITE (MIDDLE WEST).

Ecological: HABITAT CONSISTS OF ALKALI SINK CONTAINING VERNAL POOLS. CORDYLANTHUS PALMATUS, BRANCHINECTA LYNCHI, AND ATHENE CUNICULARIA ALSO FOUND IN AREA. 2007 AERIAL PHOTO SHOWS THAT THE AREA IS STILL AS DESCRIBED IN 1999.

General: LARVAE OBS 1991-93; 2 COLLECTED IN 1992. 1 ADULT OBS, 1993 (IN SWIMMING POOL), ADJ TO A CREEK. 50+ JUVENILES OBS, 1998. JUV OBS, 1999. 356 LARV, 2015. LARV DETECTED IN 2016 AND 2017. NONE FOUND IN 2018. 8 LARV AND 1 DEAD ADULT OBS IN 2019.

Owner/Manager: CITY OF LIVERMORE, PVT

Occurrence No.	238	**Map Index:**	26023	**EO Index:**	5043	**Element Last Seen:**	1996-12-21
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1997-01-23
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1999-05-11

Quad Summary: Livermore (3712167)

County Summary: Alameda

Lat/Long:	37.71919 / -121.76232	**Accuracy:**	non-specific area
UTM:	Zone-10 N4175380 E609080	**Elevation (ft):**	460
PLSS:	T02S, R02E, Sec. 33 (M)	**Acres:**	1097.2

Location: WEST OF LORRAINE STREET AND NORTH OF I-580, LIVERMORE.

Detailed Location:

Ecological: NON-NATIVE ANNUAL GRASSLAND, INTERSPERSED WITH SEASONAL WETLANDS. MIMA-MOUND TOPOGRAPHY. CTS USE GROUND SQUIRREL BURROWS, FOUND IN MORE UPLAND AREAS, FOR AESTIVATION. 2007 AERIAL PHOTO SHOWS THAT THE AREA IS STILL AS DESCRIBED IN 1996.

General: AN UNKNOWN NUMBER OF CTS WERE CAPTURED AND RELEASED ON 31 MARCH 1992. NUMEROUS ADULTS OBSERVED DURING NOCTURNAL SURVEYS OF GROUND SQUIRREL BURROWS AND PITFALL TRAPPING, FROM 12 MAR 1996 THROUGH 23 JAN 1997.

Owner/Manager: PVT

Occurrence No.	432	**Map Index:**	91352	**EO Index:**	33743	**Element Last Seen:**	1998-04-19
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	2003-09-03
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-01-31

Quad Summary: Livermore (3712167)

County Summary: Alameda

Lat/Long:	37.70783 / -121.85451	**Accuracy:**	specific area
UTM:	Zone-10 N4174017 E600969	**Elevation (ft):**	380
PLSS:	T03S, R01E, Sec. 03, SW (M)	**Acres:**	31.0

Location: JUST NW OF THE JUNCTION OF FALLON ROAD AND I-580, EAST OF DUBLIN.

Detailed Location: MAPPED TO PROVIDED COORDINATES AND MAP.

Ecological: 1998: HABITAT CONSISTED OF A STOCK POND SURROUNDED BY OPEN, ROLLING HILLS OF GRAZED GRASSLAND; SPRING BOX UPSTREAM FROM A LARGE WILLOW TREE. 2004-2012 AIR PHOTOS SUGGEST AREA WAS GRADED FOR DEVELOPMENT, ELIMINATING SUITABLE UPLAND HABITAT.

General: 2 LARVAE COLLECTED (MRJ #1373) ON 19 APRIL 1998; 1 LARVA RELEASED AND 1 DEPOSITED AT CAS (CAS #207146). 1 ADULT FOUND AT BURROW 1 AUG & 4 ADULTS FOUND AT BURROWS 3 SEP 2003; RELOCATED ABOUT 1.8 MI N (SEE EO#561).

Owner/Manager: PVT

Occurrence No.	433	**Map Index:**	91345	**EO Index:**	33744	**Element Last Seen:**	2003-09-02
Occ. Rank:	None			**Presence:**	Extirpated	**Site Last Seen:**	2003-09-02
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-01-29

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.71473 / -121.86544	**Accuracy:**	specific area
UTM:	Zone-10 N4174770 E599997	**Elevation (ft):**	380
PLSS:	T02S, R01E, Sec. 33, SE (M)	**Acres:**	90.0

Location:	0.5 MILE NE OF THE INTERSECTION OF I-580 AND TASSAJARA ROAD, EAST OF DUBLIN.
Detailed Location:	MAPPED TO PROVIDED COORDINATES AND MAP.
Ecological:	1998: HABITAT CONSISTED OF A STOCK POND SURROUNDED BY OPEN, ROLLING HILLS OF GRAZED GRASSLAND. 2005-2012 AERIAL PHOTOS SHOW THAT THIS AREA HAS BEEN DEVELOPED.
General:	3 LARVAE COLLECTED (MRJ #1374) ON 19 APR 1998; 2 RELEASED AND 1 DEPOSITED AT CAS (CAS #207147). A TOTAL OF 12 ADULTS FOUND AT BURROWS BETWEEN 24 JUN-2 SEP 2003; RELOCATED ABOUT 1.5 MI NNE (SEE EO#561).
Owner/Manager:	PVT

Occurrence No.	448	**Map Index:**	38907	**EO Index:**	35563	**Element Last Seen:**	1998-11-07
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1998-11-07
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2018-05-08

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.71027 / -121.79050	**Accuracy:**	80 meters
UTM:	Zone-10 N4174358 E606609	**Elevation (ft):**	550
PLSS:	T02S, R02E, Sec. 31, SE (M)	**Acres:**	0.0

Location:	1.2 MILES NW OF THE I-580/NORTH LIVERMORE AVENUE INTERCHANGE, NORTH OF LIVERMORE.
Detailed Location:	MAPPED TO LOCATION PROVIDED FOR 1998 DETECTION. 1996 COLLECTION FROM "VERNAL POOL ON LIN PROPERTY, 1.5 MI DIRECTLY SW OF THE JUNCTION OF HARTMAN RD & NORTH LIVERMORE AVE, ALAMEDA COUNTY, CALIFORNIA (T.2S, R.2E, SEC. 31, SE CORNER)."
Ecological:	HABITAT CONSISTED OF A VERNAL POOL, SURROUNDED BY OPEN, GRAZED GRASSLAND, WITH LOTS OF STAR THISTLE.
General:	LARVA(E) COLLECTED ON 4 APR 1996. 22 JUVENILES OBSERVED ON 7 NOV 1998.
Owner/Manager:	PVT

Occurrence No.	453	**Map Index:**	41135	**EO Index:**	41135	**Element Last Seen:**	2015-12-22
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2016-03-23
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-04-27

Quad Summary:	Livermore (3712167), Dublin (3712168)
County Summary:	Alameda

Lat/Long:	37.72444 / -121.8754	**Accuracy:**	non-specific area
UTM:	Zone-10 N4175837 E599106	**Elevation (ft):**	428
PLSS:	T02S, R01E, Sec. 28, SW (M)	**Acres:**	39.0

Location:	W OF TASSAJARA CR, 0.6 MI NORTH OF SANTA RITA COUNTY REHABILITATION CENTER, N OF DUBLIN. TASSAJARA CREEK REGIONAL PARK.
Detailed Location:	
Ecological:	HABITAT CONSISTED OF NON-NATIVE GRASSLAND, DOMINATED MAINLY BY EXOTICS AND SOME VERNAL POOLS/WET MEADOWS. 2020 AERIAL PHOTO SHOWS THAT HABITAT STILL REMAINS IN THE AREA, BUT THERE IS DEVELOPMENT TO THE SOUTHEAST.
General:	1 ADULT FOUND IN THE GROUND IN A POSTHOLE ON 21 NOV 1997. 1 ADULT CAPTURED IN TRAP AND RELEASED ON 22 DEC 2015. NONE CAPTURED BETWEEN 23 DEC 2015 AND 23 MAR 2016 (DRIFT FENCE - PITFALL TRAP SURVEY EFFORT).
Owner/Manager:	EBRPD, DOD-ARMY

Occurrence No.	455	**Map Index:**	41454	**EO Index:**	41454	**Element Last Seen:**	1999-05-14
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1999-05-14
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1999-08-10

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.63070 / -121.85659	**Accuracy:**	80 meters
UTM:	Zone-10 N4165456 E600891	**Elevation (ft):**	710
PLSS:	T03S, R01E, Sec. 34 (M)	**Acres:**	0.0

Location:	0.75 MILE EAST OF THE INTERSECTION OF HAPPY VALLEY ROAD & ALISAL STREET, 1.5 MILES SSE OF PLEASANTON.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF A SMALL STOCKPOND SURROUNDED BY GRAZED ANNUAL GRASSLAND. POND IS 6-8 INCHES DEEP AND 0.02 ACRES IN SIZE; VEGETATED BY XANTHIUM (DEAD PLANTS). 2007 AERIAL PHOTO SHOWS THAT THE AREA IS STILL AS DESCRIBED IN 1999.
General:	AT LEAST 5 LARVAE (7.5-9.5CM TOTAL LENGTH) OBSERVED ON 14 MAY 1999.
Owner/Manager:	PVT

Occurrence No.	561	**Map Index:**	68176	**EO Index:**	45944	**Element Last Seen:**	2019-08-15
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2019-08-15
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-11-03

Quad Summary:	Livermore (3712167)
County Summary:	Alameda, Contra Costa

Lat/Long:	37.73878 / -121.85611	**Accuracy:**	non-specific area
UTM:	Zone-10 N4177448 E600787	**Elevation (ft):**	824
PLSS:	T02S, R01E, Sec. 22 (M)	**Acres:**	229.0

Location:	FROM THE INTERSECTION OF PALLISADES DRIVE AND TASSAJARA ROAD TO ABOUT 1.3 MILES EAST OF THAT INTERSECTION, PLEASANTON.
Detailed Location:	MAPPED TO COORDINATES OF DETECTIONS, CAPTURES, AND RELOCATIONS. INCLUDES PORTIONS OF MOLLER RANCH RESIDENTIAL DEVELOPMENT, "TASSAJARA CREEK CONSERVATION AREA," AND DUBLIN RANCH PRESERVE (HENCE "DRP;" LARGE, SE-MOST POLYGON).
Ecological:	S PART OF OCCURRENCE CONTAINS BREEDING PONDS & IS PARTIALLY PROTECTED. N PART IS UPLAND HABITAT CURRENTLY BEING DEVELOPED; THE MAJORITY OF 2016 DETECTIONS WERE ADULTS TRAPPED ALONG EXCLUSION FENCE SURROUNDING ACTIVE CONSTRUCTION AREA.
General:	DRP: OBSERVED IN 2000; RELOCATED HERE IN '03 FROM EO 432 & 433; REPRODUCTION OBS BTWN 2004-2019. 2 OBS 2004; 3 ADULTS & 2 PONDS W/EGGS, 2013; 91 AD/ JUV, 2016; 150 EGGS, 55 LARV (RELOCATED TO #1378 & 1389) & 30 AD/JUV, 2017; 3 AD/JUV, 2018.
Owner/Manager:	PVT, UNKNOWN

Occurrence No.	574	**Map Index:**	46239	**EO Index:**	46239	**Element Last Seen:**	2000-03-10
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2001-04-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2001-10-24

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.62829 / -121.84278	**Accuracy:**	80 meters
UTM:	Zone-10 N4165203 E602113	**Elevation (ft):**	920
PLSS:	T03S, R01E, Sec. 34 (M)	**Acres:**	0.0

Location:	2.5 MILES SE OF PLEASANTON.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF A VERNAL POOL IN ROLLING HILLS/GRAZED ANNUAL GRASSLAND. LINDERIELLA OCCIDENTALIS ALSO FOUND AT THIS SITE. 2007 AERIAL PHOTO SHOWS THAT THE AREA IS STILL AS DESCRIBED IN 2000.
General:	2 LARVAE OBSERVED ON 10 MAR 2000. NO CTS WERE OBSERVED DURING TWO VISITS IN MAR-APR 2001.
Owner/Manager:	PVT-GENERAL ELECTRIC

Occurrence No.	640	**Map Index:**	46699	**EO Index:**	46699	**Element Last Seen:**	1992-10-XX
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	1992-10-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-05-27

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.66914 / -121.84078	**Accuracy:**	non-specific area
UTM:	Zone-10 N4169738 E602233	**Elevation (ft):**	360
PLSS:	T03S, R01E, Sec. 14 (M)	**Acres:**	287.2

Location:	SHADOW CLIFFS REGIONAL RECREATION AREA. SOUTH OF STANLEY BLVD AND NORTH OF VINEYARD AVE, PLEASANTON.
Detailed Location:	
Ecological:	BREEDING POND. 2007 AERIAL PHOTO SHOWS THAT THIS IS A DEVELOPED RECREATION AREA. THE SURROUNDING AREAS HAVE BEEN DEVELOPED.
General:	UNKNOWN NUMBER OBSERVED. J DI DONATO (EBRPD) IS THE SOURCE OF THE INFORMATION, REPORTED BY LSA.
Owner/Manager:	EBRPD

Occurrence No.	674	**Map Index:**	91336	**EO Index:**	47700	**Element Last Seen:**	2019-05-13
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2019-05-13
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-04-27

Quad Summary:	Livermore (3712167), Dublin (3712168)
County Summary:	Alameda, Contra Costa

Lat/Long:	37.73405 / -121.87799	**Accuracy:**	specific area
UTM:	Zone-10 N4176901 E598866	**Elevation (ft):**	663
PLSS:	T02S, R01E, Sec. 28 (M)	**Acres:**	87.0

Location:	W OF CAMINO TASSAJARA (TASSAJARA RD), ABOUT 3 MI NE OF I-580 AT I-680, PARKS RESERVE FORCES TRAINING AREA.
Detailed Location:	NW FEATURE: PARKS RESERVE FORCES TRAINING AREA WETLAND #5 (POND). SE FEATURE: 2003-2004 TRAPLINE SURROUNDING AREA TO BE DEVELOPED; AMBYSTOMA LIKELY USING SURROUNDING UPLANDS FOR MOST LIFE HISTORY CHARACTERISTICS.
Ecological:	SEASONAL WETLAND/POND WITHIN GRASSLAND HABITAT; POND DIMENSIONS WERE 15' X 20' AND LESS THAN 1' AVERAGE DEPTH. POND SUBSTRATE CONSISTED OF DIABLO CLAY SOIL; VEGETATED BY COMMON SPIKERUSH. CAMP PARKS USES FIRE FOR VEGETATION MANAGEMENT.
General:	POND: EGGS & LARVAE, 2002. MANY LARVAE, 2003. JUVENILES, "FEW TO COMMON," 2004. 1 ADULT, 2016. POND DRY, 2014. OBS, 2015. 100S EGGS, 2017. 1 AD, 2 EGGS, & 17 LARVAE, 2019. SE FEATURE: 273 CTS, 2003-2004 SURVEY. 1 AD, 2014. 2 AD, 2015.
Owner/Manager:	DOD-ARMY, EBRPD

Occurrence No.	711	**Map Index:**	49060	**EO Index:**	49060	**Element Last Seen:**	2002-01-02
Occ. Rank:	Poor			**Presence:**	Presumed Extant	**Site Last Seen:**	2002-01-02
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2002-10-16

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.64429 / -121.86145	**Accuracy:**	80 meters
UTM:	Zone-10 N4166959 E600444	**Elevation (ft):**	478
PLSS:	T03S, R01E, Sec. 28 (M)	**Acres:**	0.0

Location:	1.1 MILES EAST OF THE INTERSECTION OF SYCAMORE ROAD AND SUNOL BOULEVARD, PLEASANTON.
Detailed Location:	SITE IS AN OLD STOCK POND NEAR THE RANCH BUILDINGS OF THE LUND RANCH.
Ecological:	HABITAT CONSISTS OF AN OLD STOCK POND; SURROUNDED BY GRAZED OAK WOODLAND ON A SOUTH-FACING SLOPE.
General:	2 ADULTS OBSERVED/COLLECTED (MRJ #1534) ON 2 JAN 2002 AND DEPOSITED AT CAS.
Owner/Manager:	PVT

Occurrence No.	781	**Map Index:**	54123	**EO Index:**	54123	**Element Last Seen:**	2004-01-12
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2004-01-12
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2004-01-28

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.62916 / -121.78360	**Accuracy:**	80 meters
UTM:	Zone-10 N4165367 E607333	**Elevation (ft):**	625
PLSS:	T03S, R02E, Sec. 32 (M)	**Acres:**	0.0

Location:	SYCAMORE GROVE PARK. 1 MILE WEST OF THE VETERANS HOSPITAL, SOUTH OF LIVERMORE.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF SEASONAL WETLAND/GRASSLAND; THIS SEASONALLY WET AREA DOES NOT HOLD WATER LONG.
General:	100+ EGG MASSES OBSERVED ON 12 JAN 2004.
Owner/Manager:	LIVERMORE AREA RPD

Occurrence No.	782	**Map Index:**	54124	**EO Index:**	54124	**Element Last Seen:**	2003-12-29
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2003-12-29
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2004-01-28

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.63389 / -121.77622	**Accuracy:**	non-specific area
UTM:	Zone-10 N4165900 E607977	**Elevation (ft):**	460
PLSS:	T03S, R02E, Sec. 32 (M)	**Acres:**	26.4

Location:	SYCAMORE GROVE PARK, SOUTH OF LIVERMORE.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF A STOCK POND AND A MITIGATION POND IN OAK WOODLAND.
General:	110+ EGG MASSES OBSERVED ON 21 DEC 2003 AND 1 ADULT OBSERVED ON 29 DEC 2003.
Owner/Manager:	LIVERMORE AREA RPD

Occurrence No.	816	**Map Index:**	58150	**EO Index:**	58222	**Element Last Seen:**	2008-02-01
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2008-02-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-10-29

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.62681 / -121.80933	**Accuracy:**	80 meters
UTM:	Zone-10 N4165077 E605066	**Elevation (ft):**	690
PLSS:	T03S, R01E, Sec. 36 (M)	**Acres:**	0.0

Location:	0.3 MILES SW OF INTERSECTION OF CAMPINIA PLACE AND W RUBY HILL DRIVE, PLEASANTON.
Detailed Location:	FOLEY POND. CTS LARVAE DETECTED DURING BI-WEEKLY BRANCHIOPOD SURVEYS IN 2003.
Ecological:	HABITAT CONSISTS OF A SEMI-PERMANENT STOCK POND (~20 METERS IN DIAMETER); SURROUNDING GRAZED GRASSLANDS SUPPORT NUMEROUS CALIFORNIA GROUND SQUIRRELS. CRLF ALSO FOUND AT THIS SITE IN 2003.
General:	DETECTED IN 1989. EGGS AND 1 LARVA COLLECTED IN 1994. CTS LARVAE (ESTIMATED >100) FIRST DETECTED ON 27 JAN 2003; DETECTED AGAIN ON 10 FEB 2003. 3 ADULTS RELOCATED FROM EO 815 & 817 TO SITE IN 2008.
Owner/Manager:	PVT

Occurrence No.	817	**Map Index:**	58187	**EO Index:**	58223	**Element Last Seen:**	2008-01-23
Occ. Rank:	Poor			**Presence:**	Presumed Extant	**Site Last Seen:**	2008-01-23
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-11-03

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.62849 / -121.80465	**Accuracy:**	specific area
UTM:	Zone-10 N4165268 E605478	**Elevation (ft):**	629
PLSS:	T03S, R02E, Sec. 31, SW (M)	**Acres:**	18.0

Location:	0.1 MILE SOUTH OF INTERSECTION OF CAMPINIA PLACE AND W RUBY HILL DRIVE, PLEASANTON.
Detailed Location:	PONDS A, 8, AND B. MITIGATION PONDS FOR THE RUBY HILLS DEVELOPMENT PROJECT TO THE NORTH.
Ecological:	HABITAT CONSISTS OF A SMALL STOCK POND (POND 8) THAT APPEARS TO DRY COMPLETELY MOST YEARS AND 2 PONDS CREATED IN 1991; SURROUNDING UPLANDS ARE GRAZED.
General:	CTS DETECTED IN 1989. EGGS AND LARVAE DETECTED IN 1992; EGGS, LARVAE, AND GRAVID ADULTS IN 1993; EGGS AND LARVAE IN 1994. NONE DETECTED BETWEEN 27 JAN 2002 AND 22 APR 2003. LARVAE DETECTED IN 2005. 1 ADULT RELOCATED TO EO 816 IN 2008.
Owner/Manager:	PVT

Occurrence No.	862	**Map Index:**	63652	**EO Index:**	63747	**Element Last Seen:**	2005-12-02
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2005-12-02
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2006-01-12

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.64987 / -121.84535	**Accuracy:**	specific area
UTM:	Zone-10 N4167596 E601856	**Elevation (ft):**	560
PLSS:	T03S, R01E, Sec. 27 (M)	**Acres:**	20.7

Location:	EAST OF THE END OF BENEDICT COURT, SE PLEASANTON.
Detailed Location:	SITE CONSISTS OF SEVERAL MAN-MADE PONDS ALONG A DRAINAGE FLOWING DOWNHILL TOWARD THE TOWN OF PLEASANTON.
Ecological:	HABITAT CONSISTS OF A SMALL SEASONAL DETENTION BASIN WITH SOME TYPHA AND A PERENNIAL STOCK POND; SURROUNDED BY BLUE OAK WOODLAND WITH A GRAZED, NON-NATIVE ANNUAL UNDERSTORY. NUMEROUS CALIFORNIA GROUND SQUIRREL BURROWS FOUND IN THE VICINITY.
General:	1 ADULT MALE AND 1 ADULT FEMALE CAPTURE ~10 METERS FROM THE DETENTION BASIN, AND 1 ADULT MALE TRAPPED ALONG THE SW SIDE OF THE STOCK POND, ON 2 DEC 2005.
Owner/Manager:	PVT

Occurrence No.	863	**Map Index:**	63653	**EO Index:**	63748	**Element Last Seen:**	2005-12-02
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2005-12-02
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2006-01-12

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.64556 / -121.84804	**Accuracy:**	80 meters
UTM:	Zone-10 N4167114 E601624	**Elevation (ft):**	665
PLSS:	T03S, R01E, Sec. 27, NE (M)	**Acres:**	0.0

Location:	0.4 MILE SOUTH OF THE END OF BENEDICT COURT, SE PLEASANTON.
Detailed Location:	MOST CAPTURES WERE MADE IN TRAPS ALONG THE WEST SIDE OF THE POND.
Ecological:	HABITAT CONSISTS OF A STOCK POND SURROUNDED BY SPARSE BLUE OAK WOODLAND TO THE NORTH AND GRAZED, NON-NATIVE GRASSLAND TO THE SOUTH. NUMEROUS CALIFORNIA GROUND SQUIRREL BURROWS FOUND IN THE VICINITY.
General:	3 IMMATURES, 12 ADULT MALES, AND 4 ADULT FEMALES CAPTURED ~10 METERS FROM THE BASIN ON 2 DEC 2005.
Owner/Manager:	PVT

Occurrence No.	880	**Map Index:**	64280	**EO Index:**	64359	**Element Last Seen:**	2018-06-08
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2018-06-08
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-11-17

Quad Summary:	Livermore (3712167), Tassajara (3712177)
County Summary:	Contra Costa

Lat/Long:	37.75389 / -121.85117	**Accuracy:**	specific area
UTM:	Zone-10 N4179130 E601202	**Elevation (ft):**	611
PLSS:	T02S, R01E, Sec. 15, S (M)	**Acres:**	47.0

Location:	ABOUT 1 MILE EAST OF TASSAJARA ROAD, 4 MILES NE OF DUBLIN.
Detailed Location:	MOLLER RANCH CONSERVATION AREA.
Ecological:	HABITAT CONSISTS OF GRAZED ANNUAL GRASSLAND WITH SEASONAL PONDS.
General:	1 ADULT DISCOVERED ON 8 JUL 2005, DURING EXCAVATION AND GRADING OF AN ACCESS ROAD OFF OF TASSAJARA RD. 10 LARVAE FOUND IN 2010, 144 LARVAE IN 2013, 4 ADULTS AND 1 JUVENILE IN 2014, 6 LARVAE AND 1 ADULT IN 2017, AND 30 LARVAE IN 2018.
Owner/Manager:	PVT

Occurrence No.	1080	**Map Index:**	75160	**EO Index:**	76158	**Element Last Seen:**	2012-12-10
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2012-12-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-01-29

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.72609 / -121.84389	**Accuracy:**	specific area
UTM:	Zone-10 N4176053 E601881	**Elevation (ft):**	680
PLSS:	T02S, R01E, Sec. 27, SE (M)	**Acres:**	30.0

Location:	1.7 MILES NORTH OF INTERSTATE 580 BETWEEN FALLON ROAD AND CROAK ROAD, JUST WEST OF COTTONWOOD CREEK.
Detailed Location:	MAP REFERENCE #30-40, 57. BANKHEAD. MAPPED FEATURE INCLUDES 1 POND, 1 TEMPORARY DRAINAGE BASIN, AND UPLAND HABITAT WHERE CTS WAS DETECTED TO THE NE. #1083 (MAPNDX 75172) WAS ORIGINALLY PART OF THIS OCCURRENCE, BUT HAS BEEN DEVELOPED.
Ecological:	NON-NATIVE GRASSLANDS. TOPOGRAPHY WAS LOW TO MODERATE SLOPING HILLS DIVIDED BY SOUTH FLOWING INTERMITTENT DRAINAGES. SITE SPARSELY DEVELOPED RURAL AREA (2003); 2007-2012 AERIAL PHOTOS SHOW AREA IMMEDIATELY TO SW GRADED FOR DEVELOPMENT.
General:	1 JUVENILE & 10 ADULTS FOUND 7 NOV 2002. 5 LARVAE ON 24 MAR 2003. BREEDING OBSERVED AT POND IN 2007. 10 LARVAE IN TEMPORARY CONSTRUCTION DETENTION BASIN ON 17 APR 2010. 1 ADULT MALE RELOCATED FROM DITCH (SEE EO#1083) TO POND ON 10 DEC 2012.
Owner/Manager:	PVT

Occurrence No.	1081	**Map Index:**	75162	**EO Index:**	76161	**Element Last Seen:**	2002-12-16
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2002-12-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-05-20

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.72043 / -121.84100	**Accuracy:**	specific area
UTM:	Zone-10 N4175429 E602143	**Elevation (ft):**	600
PLSS:	T02S, R01E, Sec. 35, NW (M)	**Acres:**	25.0

Location:	1.2-1.5 MILES NORTH OF INTERSTATE 580, JUST NORTH THE END OF CROAK ROAD, WEST OF COTTONWOOD CREEK.
Detailed Location:	MAP REFERENCE #46-51. MANDEVILLE.
Ecological:	NON-NATIVE GRASSLANDS. TOPOGRAPHY IS OF LOW TO MODERATE SLOPING HILLS DIVIDED BY INTERMITTENT DRAINAGES THAT FLOW SOUTH. SITE SPARSELY DEVELOPED RURAL AREA (2003); AERIAL IMAGERY (2007) SHOWS AREA 0.28 MI TO NW PREPARED FOR DEVELOPMENT.
General:	2 JUVENILES AND 4 ADULTS OBSERVED ON 16 DEC 2002. THESE OCCURRENCES ARE LIKELY EXTIRPATED OR SOON WILL BE DUE TO GRADING AND HOUSING DEVELOPMENT, 2012 AERIAL.
Owner/Manager:	PVT

Occurrence No.	1082	**Map Index:**	75163	**EO Index:**	76162	**Element Last Seen:**	2003-01-21
Occ. Rank:	None			**Presence:**	Extirpated	**Site Last Seen:**	2003-01-21
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-01-31

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.71780 / -121.84519	**Accuracy:**	80 meters
UTM:	Zone-10 N4175133 E601778	**Elevation (ft):**	540
PLSS:	T02S, R01E, Sec. 34, NE (M)	**Acres:**	0.0

Location:	APPROXIMATELY 1.1 MILES NORTH OF INTERSTATE 580 BETWEEN FALLON ROAD AND CROAK ROAD, JUST WEST OF COTTONWOOD CREEK.
Detailed Location:	MAP REFERENCE #55. BANKHEAD. 0.25 MILE WEST OF CROAK ROAD.
Ecological:	NON-NATIVE GRASSLANDS. TOPOGRAPHY IS OF LOW TO MODERATE SLOPING HILLS DIVIDED BY INTERMITTENT DRAINAGES THAT FLOW SOUTH. SITE SPARSELY DEVELOPED RURAL AREA (2003); GRADED FOR RESIDENTIAL DEVELOPMENT (2012).
General:	1 ADULT OBSERVED ON 21 JAN 2003. AERIAL IMAGE FROM 2012 SHOWS THIS AND THE SURROUNDING AREA EITHER DEVELOPED AS RESIDENTIAL HOUSES OR GRADED FOR ONGOING DEVELOPMENT.
Owner/Manager:	PVT

Occurrence No.	1083	**Map Index:**	75172	**EO Index:**	76170	**Element Last Seen:**	2012-12-10
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	2012-12-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-01-29

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.72402 / -121.84588	**Accuracy:**	specific area
UTM:	Zone-10 N4175822 E601708	**Elevation (ft):**	660
PLSS:	T02S, R01E, Sec. 27, SE (M)	**Acres:**	16.0

Location:	1.6 MILES NORTH OF INTERSTATE 580 BETWEEN FALLON ROAD AND CROAK ROAD, JUST WEST OF COTTONWOOD CREEK.
Detailed Location:	MAP REFERENCE #29, 41, 42, 45. BANKHEAD. THIS WAS ORIGINALLY PART OF #1080 (MAPNDX 75160), BUT HAS SINCE BEEN IMPACTED BY DEVELOPMENT (2010+) & WILL NO LONGER OFFER UPLAND REFUGE FOR CTS; 2012 DETECTIONS = GHOST OF HABITAT PAST.
Ecological:	2003 VEGETATION WAS NON-NATIVE GRASSLAND; TOPOGRAPHY WAS LOW TO MODERATE SLOPING HILLS WITH INTERMITTENT DRAINAGE. 2012 AERIAL IMAGERY SHOWS THAT THIS AREA IS ALMOST FULLY DEVELOPED; SPECIES MOST LIKELY EXTIRPATED IN AREA.
General:	3 ADULTS OBSERVED ON 7 NOV 2002. 1 ADULT OBSERVED ON 9 DEC 2002. 1 ADULT MALE FOUND IN 1 FT OF WATER WITHIN DITCH ON HOUSING DEVELOPMENT ON 10 DEC 2012; RELOCATED TO BREEDING POND TO THE NORTH (SEE EO#1080); PROBABLY GHOST OF HABITAT PAST.
Owner/Manager:	PVT

Occurrence No.	1084	**Map Index:**	75174	**EO Index:**	76176	**Element Last Seen:**	2003-03-24
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2003-03-24
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-05-21

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.70724 / -121.83975	**Accuracy:**	specific area
UTM:	Zone-10 N4173967 E602271	**Elevation (ft):**	440
PLSS:	T03S, R01E, Sec. 02, NW (M)	**Acres:**	22.0

Location:	0.4 MILE NORTH OF INTERSTATE 580, JUST EAST OF CROAK ROAD, APPROXIMATELY 4 MILES NORTHWEST OF LIVERMORE.
Detailed Location:	MAP REFERENCE #27 (ANDERSON), 43 & 44 (CROAK ROAD), 52-54 (ANDERSON, RIGHETTI), 56 (ANDERSON).
Ecological:	NON-NATIVE GRASSLANDS. SURROUNDING TOPOGRAPHY LOW TO MODERATE SLOPING HILLS DIVIDED BY INTERMITTENT DRAINAGES. SITE SPARSELY DEVELOPED RURAL AREA (2003); AERIAL IMAGERY (2007) SHOWS AREA AS RURAL, BUT AREA TO S, W DEVELOPED.
General:	1 ADULT OBSERVED JAN 2001. 2 ADULTS OBSERVED ON 8 NOV 2002. 3 ADULTS OBSERVED ON 16, 26 DEC 2002. 7 LARVAE OBSERVED ON 24 MAR 2003.
Owner/Manager:	PVT

Occurrence No.	1085	**Map Index:**	75175	**EO Index:**	76177	**Element Last Seen:**	2001-02-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2001-02-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-05-21

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.70457 / -121.83415	**Accuracy:**	80 meters
UTM:	Zone-10 N4173677 E602769	**Elevation (ft):**	420
PLSS:	T03S, R01E, Sec. 02, NW (M)	**Acres:**	0.0

Location:	0.25 MILE NORTH OF INTERSTATE 580 AND 0.4 MI EAST OF CROAK ROAD, APPROXIMATELY 4 MILES NORTHWEST OF LIVERMORE.
Detailed Location:	MAP REFERENCE #28. BRANAUGH.
Ecological:	NON-NATIVE GRASSLANDS. SURROUNDING TOPOGRAPHY LOW TO MODERATE SLOPING HILLS DIVIDED BY INTERMITTENT DRAINAGES. AREA SPARSELY DEVELOPED RURAL (2003); AERIAL IMAGERY (2007) SHOWS RURAL DEVELOPMENT IMMEDIATELY S, LAND TO S & W DEVELOPED.
General:	1 ADULT OBSERVED FEB 2001.
Owner/Manager:	PVT

Occurrence No.	1086	**Map Index:**	75176	**EO Index:**	76178	**Element Last Seen:**	2008-05-22
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2008-05-22
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-05-21

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.72260 / -121.81243	**Accuracy:**	80 meters
UTM:	Zone-10 N4175701 E604658	**Elevation (ft):**	616
PLSS:	T02S, R01E, Sec. 36, NE (M)	**Acres:**	0.0

Location:	1.5 MILES NORTH OF INTERSTATE 580 AND 0.2 MILE WEST OF COLLIER CANYON ROAD, NORTH OF LIVERMORE.
Detailed Location:	LOCATION MAPPED ACCORDING TO PROVIDED COORDINATES AND MAP.
Ecological:	HABITAT CONSISTS OF A POND SURROUNDED BY ANNUAL GRASSLAND.
General:	5 LARVAE OBSERVED ON 22 MAY 2008.
Owner/Manager:	PVT

Occurrence No.	1162	**Map Index:** 91357	**EO Index:**	92470	**Element Last Seen:**	2013-03-13
Occ. Rank:	Fair		**Presence:**	Presumed Extant	**Site Last Seen:**	2013-03-13
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2014-01-30

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.71229 / -121.84736	**Accuracy:**	specific area
UTM:	Zone-10 N4174519 E601594	**Elevation (ft):**	430
PLSS:	T02S, R01E, Sec. 34, SE (M)	**Acres:**	7.0

Location:	E OF FALLON SPORTS PARK, 0.8 MI NNE OF I-580 AT FALLON RD, DUBLIN.
Detailed Location:	MAPPED TO PROVIDED COORDINATES, NEAR THE INTERSECTION OF FALLON ROAD AND CENTRAL PARKWAY IN DUBLIN, CA.
Ecological:	CONSTRUCTION SITE WITH SEASONAL WETLANDS, PONDS, AND RIPARIAN CREEK NEARBY. CONSTRUCTION ACTIVITIES, HOUSING DEVELOPMENT, AND ROADS IN CLOSE PROXIMITY.
General:	1 FORAGING ADULT FOUND UNDERNEATH ONE OF THE WATTLES USED FOR EROSION CONTROL ON A HILL SLOPE; RELOCATED TO GROUND SQUIRREL BURROW IN RIPARIAN AREA.
Owner/Manager:	PVT

Occurrence No.	1163	**Map Index:** 91362	**EO Index:**	92474	**Element Last Seen:**	2011-04-01
Occ. Rank:	Excellent		**Presence:**	Presumed Extant	**Site Last Seen:**	2011-04-01
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2020-11-13

Quad Summary:	Livermore (3712167), Tassajara (3712177)
County Summary:	Alameda, Contra Costa

Lat/Long:	37.75083 / -121.83431	**Accuracy:**	specific area
UTM:	Zone-10 N4178809 E602692	**Elevation (ft):**	716
PLSS:	T02S, R01E, Sec. 23, NW (M)	**Acres:**	10.0

Location:	LAKE AT N END OF DOOLAN CANYON, ALONG CCA & ALA BORDER, NE OF DUBLIN.
Detailed Location:	MAPPED TO PROVIDED COORDINATES.
Ecological:	LARGE PERENNIAL LAKE IN DOOLAN CANYON WITH LIMITED EMERGENT VEGETATION AND SMALL STOCK POND. SURROUNDING AREA WAS PASTURE GRAZED BY CATTLE.
General:	3 LARGE (6-7 INCH) LARVAE WERE CAUGHT IN THE NW SECTION OF THE LAKE WITH A SEINE ON 1 APR 2011; THEIR LARGE SIZE SUGGESTS THAT THE LARVAE OVERWINTERED IN THE LAKE. 1 LARVAE FOUND IN SMALL STOCK POND ON 1 APR 2011.
Owner/Manager:	EBRPD

Occurrence No.	1164	**Map Index:**	91363	**EO Index:**	92475	**Element Last Seen:**	2011-04-18
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2011-04-18
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-01-30

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.74139 / -121.83305	**Accuracy:**	80 meters
UTM:	Zone-10 N4177764 E602815	**Elevation (ft):**	750
PLSS:	T02S, R01E, Sec. 23, SW (M)	**Acres:**	0.0

Location:	E OF DOOLAN CANYON, ABOUT 4.3 MI NW OF I-580 AT LIVERMORE AVE, NE OF DUBLIN.
Detailed Location:	MAPPED TO PROVIDED COORDINATES. POND 8.
Ecological:	STOCK POND IN PASTURE GRAZED BY CATTLE. SIERRAN TREEFROG LARVAE, CLAM SHRIMP, WATER BOATMEN, DRAGONFLY LARVAE, AND SNAILS ALSO CAUGHT. POND ESTIMATED TO HAVE A MAXIMUM DEPTH OF 6-7 FEET.
General:	ONE 2-INCH AND 2.5-INCH SALAMANDER LARVAE CAUGHT WITH DIPNETS ON 18 APR 2011.
Owner/Manager:	EBRPD

Occurrence No.	1165	**Map Index:**	91364	**EO Index:**	92476	**Element Last Seen:**	2019-04-23
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2019-04-23
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-11-16

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.73407 / -121.80186	**Accuracy:**	specific area
UTM:	Zone-10 N4176986 E605574	**Elevation (ft):**	689
PLSS:	T02S, R02E, Sec. 30, SW (M)	**Acres:**	38.0

Location:	ABOUT 1.6 TO 2.1 MI SE OF CARNEAL RD AT COLLIER CANYON RD, 2.0-2.7 MI N OF I-580, NE OF DUBLIN.
Detailed Location:	MAPPED TO PROVIDED COORDINATES. N-MOST TWO POLYGON REPRESENTS DETECTIONS ON PRIVATE EAGLE RIDGE PRESERVE LLC. S-MOST TWO POLYGONS ON MARCIEL MITIGATION PROPERTY (MIDDLE POLY IS ON BORDER BETWEEN PROPERTIES).
Ecological:	NON-NATIVE ANNUAL GRASSLAND COMPOSED OF ROLLING HILLS AND SEVERAL STOCK PONDS. ADULTS DETECTED IN STOCK PONDS & GROUND SQUIRREL BURROWS ADJACENT TO PONDS. LARVAE FOUND IN STOCK PONDS.
General:	ADULTS OBSERVED IN JAN AND FEB 2013. AN ADULT (DEAD), EGG MASSES & LARVAE OBS IN 2015 (JAN, APR, JUN). LARVAE DETECTED IN 2016 AND 2017. 20 EGGS FOUND IN JAN, BUT NO LARVAE IN APR-JUN 2018. 6 LARVAE FOUND ON 23 APR 2019.
Owner/Manager:	PVT

Occurrence No.	1166	**Map Index:**	91371	**EO Index:**	92485	**Element Last Seen:**	2015-04-13
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2015-04-13
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-10-26

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.71020 / -121.81569	**Accuracy:**	80 meters
UTM:	Zone-10 N4174322 E604388	**Elevation (ft):**	600
PLSS:	T02S, R01E, Sec. 36, SW (M)	**Acres:**	0.0

Location:	0.5 MILES NW OF THE INTERSECTION OF INDEPENDENCE DRIVE AND NORTH CANYONS PARKWAY, LIVERMORE.
Detailed Location:	MAPPED TO PROVIDED COORDINATES. SITE: DOOLAN 107 POND.
Ecological:	STOCK POND IN PASTURE GRAZED BY CATTLE. THE POND CONTAINED ONLY A TINY AMOUNT OF EMERGENT VEGETATION. SIERRAN TREEFROG LARVAE, WATER BOATMEN, AND BACKSWIMMERS WERE ALSO CAUGHT. POND ESTIMATED TO BE ABOUT 6+ FEET DEEP IN APR 2011.
General:	FOUR 2-3 INCH LARVAE WERE CAUGHT WITH A SEINE ON 6 APR 2011. 50 LARVAE CAUGHT AND RELEASED ON 13 APR 2015.
Owner/Manager:	PVT

Occurrence No.	1167	**Map Index:**	91378	**EO Index:**	92493	**Element Last Seen:**	2016-05-04
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2016-05-04
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-11-04

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.73220 / -121.81459	**Accuracy:**	80 meters
UTM:	Zone-10 N4176764 E604454	**Elevation (ft):**	700
PLSS:	T02S, R01E, Sec. 25, NW (M)	**Acres:**	0.0

Location:	1.5 AIR MILES NNW OF THE INTERSECTION OF MERITAGE COMMON AND COLLIER CANYON RD, LIVERMORE.
Detailed Location:	MAPPED TO PROVIDED COORDINATES. DUBLIN PRESERVE PROJECT POND 1.
Ecological:	NON-NATIVE ANNUAL GRASSLAND IN ROLLING HILLS TOPOGRAPHY. LAND USED FOR RANCHING AND GRAZING.
General:	LARVAE FOUND AT SURFACE OF POND ON 25 MAR 2010. 4 LARVAE OBSERVED ON 27 MAY 2015. 10 LARVAE DETECTED ON 4 MAY 2016.
Owner/Manager:	PVT

Occurrence No.	1168	**Map Index:**	91379	**EO Index:**	92496	**Element Last Seen:**	2015-05-27
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2015-05-27
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-10-27

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.73720 / -121.82429	**Accuracy:**	80 meters
UTM:	Zone-10 N4177308 E603593	**Elevation (ft):**	740
PLSS:	T02S, R01E, Sec. 26, NE (M)	**Acres:**	0.0

Location:	2.1 AIR MILES NNW OF THE INTERSECTION OF MERITAGE COMMON AND COLLIER CANYON RD, LIVERMORE.
Detailed Location:	MAPPED TO PROVIDED COORDINATES. DUBLIN PRESERVE PROJECT POND 5.
Ecological:	NON-NATIVE ANNUAL GRASSLAND IN ROLLING HILLS TOPOGRAPHY. LAND USED FOR RANCHING AND GRAZING.
General:	LARVAE FOUND AT SURFACE OF POND ON 25 MAR 2010. 3 LARVAE OBSERVED ON 21 APR 2010. 1 LARVA OBSERVED ON 27 MAY 2015.
Owner/Manager:	PVT

Occurrence No.	1222	**Map Index:**	99231	**EO Index:**	100759	**Element Last Seen:**	2019-09-25
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2019-09-25
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-11-16

Quad Summary:	Livermore (3712167), Tassajara (3712177)
County Summary:	Alameda, Contra Costa

Lat/Long:	37.75216 / -121.80102	**Accuracy:**	specific area
UTM:	Zone-10 N4178994 E605622	**Elevation (ft):**	693
PLSS:	T02S, R02E, Sec. 19, NW (M)	**Acres:**	37.0

Location:	ALONG UNNAMED TRIBUTARY, 1.6 MI SSE OF MANNING RD AT CARNEAL RD & 1.6 MI W OF N LIVERMORE AVE AT MANNING, LIVERMORE.
Detailed Location:	SITE INLCUDES "ACTC CREATED POND EAST."
Ecological:	CREATED POND SURROUNDED BY CALIFORNIA ANNUAL GRASSLANDS WITH LIMITED GRAZING. ADULT SALAMANDERS WERE FOUND NEAR PG&E TRANSITION STATION AND ACCESS ROAD AND RELOCATED NEAR POND. 2011 DETECTION WAS FROM WETLAND SWALE ALONG CAYETANO CREEK.
General:	1 EGGMASS FOUND IN 2011. 1 LARVA DETECTED IN 2015; POND DRY IN JUN. LARVAE DETECTED ON 29 APR & 13 MAY 2016; POND DRY IN JUN. 20+ LARV DETECTED IN MAY 2017. POND DRY IN 2018. 3 LARV FOUND ON 29 MAY 2019. 10 ADULTS FOUND & RELOCATED IN 2019.
Owner/Manager:	PVT

Occurrence No.	1370	**Map Index:**	B6321	**EO Index:**	119374	**Element Last Seen:**	2019-04-23
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2019-04-23
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-10-22

Quad Summary:	Altamont (3712166), Livermore (3712167), Byron Hot Springs (3712176)
County Summary:	Alameda

Lat/Long:	37.74982 / -121.74838	**Accuracy:**	non-specific area
UTM:	Zone-10 N4178795 E610263	**Elevation (ft):**	617
PLSS:	T02S, R02E, Sec. 22, NW (M)	**Acres:**	99.0

Location:	BETWEEN 0.5 AND 1.8 MILES NORTHWEST OF BEL ROMA RD AND MAY SCHOOL RD INTERSECTION, NORTH OF LIVERMORE.
Detailed Location:	CALIFORNIA TIGER SALAMANDER SURVEYS ALONG PG&E GAS PIPELINE PROJECT.
Ecological:	NON-NATIVE GRASSLAND HABITAT WITH AGRICULTURAL AND RANCHLAND LAND USE. SITE DISTURBED BY VEHICULAR TRAFFIC AND FREQUENT SOIL DISTURBANCE. SALAMANDERS LIKELY MIGRATING TO AND FROM BREEDING POOL AT LIN LIVERMORE CONSERVATION AREA (EO #1160).
General:	6 ADULTS FOUND IN OCT 2018. 26 ADULTS FOUND IN NOV 2018. 2 JUVENILES AND 17 ADULTS IN DEC 2018. 36 ADULTS AND 3 JUVENILES FOUND IN JAN 2019. 3 ADULTS FOUND IN FEB 2019. 1 ADULT FOUND ON 23 APR 2019.
Owner/Manager:	PVT

Occurrence No.	1373	**Map Index:**	B6331	**EO Index:**	119385	**Element Last Seen:**	2019-01-26
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2019-01-26
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-10-21

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.72237 / -121.77587	**Accuracy:**	80 meters
UTM:	Zone-10 N4175718 E607882	**Elevation (ft):**	525
PLSS:	T02S, R02E, Sec. 31, NE (M)	**Acres:**	5.0

Location:	HARTMAN RD, 0.3 MILE WEST OF N LIVERMORE AVE, NORTH OF LIVERMORE.
Detailed Location:	MAPPED TO COORDINATES PROVIDED.
Ecological:	RANGELAND SURROUNDED BY SPARSE RESIDENTIAL AND COMMERCIAL DEVELOPMENT.
General:	1 ADULT OBSERVED ON 26 JAN 2019.
Owner/Manager:	UNKNOWN

Occurrence No.	1374	**Map Index:**	B6333	**EO Index:**	119387	**Element Last Seen:**	2017-06-05
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2018-06-25
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-11-16

Quad Summary:	Livermore (3712167), Tassajara (3712177)
County Summary:	Alameda

Lat/Long:	37.74931 / -121.78796	**Accuracy:**	80 meters
UTM:	Zone-10 N4178692 E606778	**Elevation (ft):**	689
PLSS:	T02S, R02E, Sec. 19, NE (M)	**Acres:**	5.0

Location:	0.6 MILE SOUTH OF SOUTHWEST OF HIGHLAND RD AND MANNING RD INTERSECTION, NORTH OF LIVERMORE.
Detailed Location:	SITE NAME: JORDAN POND, EAGLE RIDGE PRESERVE. MAPPED ACCORDING TO PROVIDED MAP.
Ecological:	POND IN NON-NATIVE GRASSLAND.
General:	LARVAE FOUND ON 28 APRIL 2015. LARVAE FOUND ON 13 MAY 2016. LARVAE DETECTED ON 8 MAY AND 4 FULLY MORPHED SALAMANDERS ON 5 JUN 2017. NONE DETECTED BETWEEN 23 APR AND 25 JUN 2018; POND DRY.
Owner/Manager:	UNKNOWN

Occurrence No.	1375	**Map Index:**	B6342	**EO Index:**	119396	**Element Last Seen:**	2017-05-24
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-05-24
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-10-22

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.73033 / -121.7968	**Accuracy:**	80 meters
UTM:	Zone-10 N4176577 E606025	**Elevation (ft):**	790
PLSS:	T02S, R02E, Sec. 30, SW (M)	**Acres:**	5.0

Location:	1.3 AIR MILES NORTH OF POSITAS COMMUNITY COLLEGE CAMPUS, NORTHWEST OF LIVERMORE.
Detailed Location:	SITE NAME: POND 5, LAS POSITAS COLLEGE MITIGATION SITE.
Ecological:	CATTLE STOCK POND, 30 FT BY 20 FT WIDE AND 3 FT DEEP WITH RELATIVELY TURBID WATER AND SPARSE EMERGENT VEGETATION. SURROUNDED BY GRAZED NON-NATIVE GRASSLAND.
General:	258 LARVAE CAUGHT & RELEASED ON APR 27 AND 123 LARVAE FOUND ON 24 MAY 2017.
Owner/Manager:	LAS POSITAS COMMUNITY COLLEGE

Occurrence No.	1376	**Map Index:**	B6343	**EO Index:**	119397	**Element Last Seen:**	2017-05-24
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-05-24
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-10-22

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.72315 / -121.79836	**Accuracy:**	80 meters
UTM:	Zone-10 N4175779 E605898	**Elevation (ft):**	561
PLSS:	T02S, R02E, Sec. 31, NW (M)	**Acres:**	5.0

Location:	0.8 AIR MILES NORTH OF POSITAS COMMUNITY COLLEGE CAMPUS, NORTHWEST OF LIVERMORE.
Detailed Location:	SITE NAME: POND 4, LAS POSITAS COLLEGE MITIGATION SITE.
Ecological:	CATTLE STOCK POND, 20 FT BY 20 FT WIDE AND 2 FT DEEP WITH RELATIVELY TURBID WATER AND SPARSE EMERGENT VEGETATION. SURROUNDED BY GRAZED NON-NATIVE GRASSLAND.
General:	3 LARVAE CAUGHT & RELEASED ON APR 27 AND 2 LARVAE FOUND ON 24 MAY 2017.
Owner/Manager:	LAS POSITAS COMMUNITY COLLEGE

Occurrence No.	1377	**Map Index:**	B6352	**EO Index:**	119406	**Element Last Seen:**	2016-10-25
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2016-10-25
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-10-26

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.74504 / -121.81824	**Accuracy:**	80 meters
UTM:	Zone-10 N4178185 E604115	**Elevation (ft):**	677
PLSS:	T02S, R01E, Sec. 24, W (M)	**Acres:**	5.0

Location:	WEST OF COLLIER CANYON RD, 3 MILES NORTH OF ITS INTERSECTION WITH PORTOLA AVE, NORTH OF LIVERMORE.
Detailed Location:	
Ecological:	FRESHWATER POND ON A RANCH.
General:	3 ADULTS OBSERVED ON 25 OCT 2016.
Owner/Manager:	PVT

Occurrence No.	1378	**Map Index:**	B6353	**EO Index:**	119407	**Element Last Seen:**	2018-06-08
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2018-11-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-12-03

Quad Summary:	Livermore (3712167)
County Summary:	Contra Costa

Lat/Long:	37.74729 / -121.86808	**Accuracy:**	80 meters
UTM:	Zone-10 N4178380 E599721	**Elevation (ft):**	563
PLSS:	T02S, R01E, Sec. 21, NE (M)	**Acres:**	5.0

Location:	0.25 MILES SE OF THE INTERSECTION OF WINDEMERE PARKWAY AND CAMINO TASSAJARA, NORTH OF LIVERMORE.
Detailed Location:	SITES POND 4 AND 5.
Ecological:	STOCK PONDS SURROUNDED BY ANNUAL GRASSLANDS.
General:	OVER 70 LARVAE FOUND ON 9 MAY. 42 LARVAE RELOCATED FROM CONSTRUCTION AREA (EO #561) TO SITE ON 26 MAY 2017. 4 FULLY MORPHED SALAMADERS FOUND ON 18 JUN 2017. 1 LARGE INDIVIDUAL SEINED ON 8 JUN 2018; POND DRIED IN NOV.
Owner/Manager:	UNKNOWN

Occurrence No.	1379	**Map Index:**	B6357	**EO Index:**	119411	**Element Last Seen:**	1989-04-24
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1989-04-24
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-10-28

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.63985 / -121.8233	**Accuracy:**	specific area
UTM:	Zone-10 N4166508 E603816	**Elevation (ft):**	606
PLSS:	T03S, R01E, Sec. 25, SW (M)	**Acres:**	15.0

Location:	0.2 MILES WEST TO 0.3 MILES NW OF INTERSECTION OF ROMANO CIRCLE & GRAVINA PLACE, PLEASANTON.
Detailed Location:	AT PONDS 3 AND 4.
Ecological:	PONDS SURROUNDED BY GRAZED GRASSLAND AND RESIDENTIAL DEVELOPMENT.
General:	LARVAE DETECTED DURING SURVEYS BETWEEEN 4 MAR AND 24 APR 1989.
Owner/Manager:	UNKNOWN

Occurrence No.	1380	**Map Index:**	B6359	**EO Index:**	119413	**Element Last Seen:**	1989-03-14
Occ. Rank:	Poor			**Presence:**	Presumed Extant	**Site Last Seen:**	1989-03-14
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-11-02

Quad Summary: Livermore (3712167)

County Summary: Alameda

Lat/Long:	37.65819 / -121.84644	**Accuracy:**	1/5 mile
UTM:	Zone-10 N4168517 E601750	**Elevation (ft):**	520
PLSS:	T03S, R01E, Sec. 22, E (M)	**Acres:**	70.0

Location: VICINITY OF ZINFANDEL COURT, PLEASANTON.

Detailed Location: GIVEN LOCALITY: "FROM A GARAGE OF A HOUSE ALONG ZINFANDEL ROAD IN PLEASANTON."

Ecological: RESIDENTIAL NEIGHBORHOOD WITH UNDEVELOPED HILLS TO THE SOUTHEAST.

General: 1 ADULT MALE FOUND ON 14 MAR 1989.

Owner/Manager: PVT

Occurrence No.	1381	**Map Index:**	45705	**EO Index:**	119422	**Element Last Seen:**	1997-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1997-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-10-29

Quad Summary: Livermore (3712167)

County Summary: Alameda

Lat/Long:	37.63668 / -121.79648	**Accuracy:**	80 meters
UTM:	Zone-10 N4166186 E606187	**Elevation (ft):**	500
PLSS:	T03S, R02E, Sec. 30 (M)	**Acres:**	0.0

Location: JUST EAST OF HWY 84 AT VALLECITOS RD INTERSECTION, SOUTHWEST OF LIVERMORE.

Detailed Location:

Ecological: POND SURROUNDED BY RANCHES AND AGRICULTURE.

General: DETECTED IN 1997.

Owner/Manager: UNKNOWN

Rana draytonii **Element Code:** AAABH01022

California red-legged frog

Listing Status:	**Federal:**	Threatened	**CNDDB Element Ranks:**	**Global:**	G2G3
	State:	None		**State:**	S2S3
	Other:	CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable			
Habitat:	**General:**	LOWLANDS AND FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.			
	Micro:	REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.			

Occurrence No.	221	**Map Index:**	36451	**EO Index:**	31448	**Element Last Seen:**	2020-08-20
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2020-08-20
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-04-28

Quad Summary: Livermore (3712167), Tassajara (3712177)

County Summary: Alameda, Contra Costa

Lat/Long:	37.74887 / -121.85474	**Accuracy:**	non-specific area
UTM:	Zone-10 N4178570 E600894	**Elevation (ft):**	601
PLSS:	T02S, R01E, Sec. 22, NW (M)	**Acres:**	58.0

Location: VICINITY OF TASSAJARA CREEK AND MOLLER CREEK DRAINAGE, FROM THE ALAMEDA/CONTRA COSTA COUNTY LINE TO ABOUT 0.7 MI N.

Detailed Location: MAPPED TO DETECTION LOCATIONS, 1992-2020. SINCE 2015 AT LEAST, AREA N OF COUNTY LINE PROTECTED AS MOLLER RANCH CONSERVATION AREA, & WAS RELEASE SITE FOR ANIMALS RELOCATED FROM CONSTRUCTION SITE TO S (OCC #278)

Ecological: ADULTS FOUND MOST YEARS IN IN-CHANNEL POOLS OF SEASONAL DRAINAGES IN CATTLE-GRAZED ANNUAL GRASSLAND; BREEDING DOCUMENTED IN PONDS INCLUDING PONDS #1 AND #2 IN GOOD RAIN YEARS. AREAS DEVELOPED E OF TASSAJARA CRK & ALONG MOLLER CRK.

General: 4 ADULTS & 4 LARVAE OBSERVED 30 APR 1992. 1 OBS 11 JUL 2006. 3 ADULTS RELOCATED HERE FROM CONSTRUCTION SITE, 31 OCT 2015; 1 JUV, 2 ADULTS IN MAY 2016. UP TO 8 ADULTS OBS, 2017. ALL LIFE STAGES OBS 2018. 6+ ADULTS OBS IN 2019, 7+ IN 2020.

Owner/Manager: PVT

Occurrence No.	222	**Map Index:**	34681	**EO Index:**	31453	**Element Last Seen:**	1992-05-20
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1992-05-20
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1997-08-18

Quad Summary: Livermore (3712167), Dublin (3712168), Tassajara (3712177)

County Summary: Contra Costa

Lat/Long:	37.74643 / -121.87509	**Accuracy:**	non-specific area
UTM:	Zone-10 N4178277 E599104	**Elevation (ft):**	460
PLSS:	T02S, R01E, Sec. 21, NW (M)	**Acres:**	37.0

Location: TASSAJARA CREEK, APPROX. 0.5 MILE NORTH OF ALAMEDA/CONTRA COSTA CO LINE & 0.15 MILE EAST OF TASSAJARA ROAD, SAN RAMON.

Detailed Location: GLIDES, POOLS AND IMPOUNDMENTS IN CHANNEL, APPROX. 0.75 MILE OF CREEK WITH PAUCITY OF RIPARIAN TREES; GRAZED MARGINS.

Ecological: PATCHES OF WILLOW & BLACKBERRY OCCUR ON BANKS. TYPHA, DUCKWEED & ELODEA WETLAND PLANTS.

General: 7 ADULTS AND MANY (INFINITY SYMBOL ON SURVEY FORM) JUVENILES OBSERVED. STICKLEBACK, HYLA, BUFO AND CLEMMYS PRESENT. SITE QUALITY RATED AS GOOD TO FAIR.

Owner/Manager: PVT

Occurrence No.	227	**Map Index:**	36677	**EO Index:**	31678	**Element Last Seen:**	1997-08-08
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1997-08-08
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1999-12-09

Quad Summary: Livermore (3712167)

County Summary: Alameda

Lat/Long:	37.69702 / -121.82585	**Accuracy:**	80 meters
UTM:	Zone-10 N4172848 E603511	**Elevation (ft):**	375
PLSS:	T03S, R01E, Sec. 02 (M)	**Acres:**	0.0

Location: ARROYO LAS POSITAS, SOUTH OF I-580, BETWEEN LAS POSITAS GOLF COURSE AND THE WEST END OF LIVERMORE MUNICIPAL AIRPORT.

Detailed Location:

Ecological: HABITAT CONSISTS OF A STREAM FLOWING AT 1-2 CFS, WITH A SANDY/COBBLY BOTTOM, VARYING IN WIDTH BETWEEN 5-12 FEET (4-24 INCH DEEP). EMERGENT VEGETATION CONSISTS OF DENSE SCIRPUS CALIFORNICUS AND POLYGONUM SP, WITH NON-NATIVE GRASSES ON BANK.

General: A SINGLE ADULT FROG WAS FOUND IN A SMALL POOL ON 8 AUG 1997.

Owner/Manager: PVT

Occurrence No.	229	**Map Index:**	37736	**EO Index:**	32743	**Element Last Seen:**	1999-03-27
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1999-03-27
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2002-09-04

Quad Summary: Livermore (3712167)

County Summary: Alameda

Lat/Long:	37.70732 / -121.77879	**Accuracy:**	specific area
UTM:	Zone-10 N4174044 E607645	**Elevation (ft):**	450
PLSS:	T03S, R02E, Sec. 05 (M)	**Acres:**	104.7

Location: ALONG CAYETANO CREEK, FROM ARROYO POSITAS UPSTREAM TO 0.6 MILE SOUTH OF HARTMAN ROAD, NORTH OF LIVERMORE.

Detailed Location: CREEK FLOWS THROUGH URBAN AND RURAL AREAS.

Ecological: CREEK FLOWING THROUGH AN ERODED, SANDY CHANNEL WITH LOTS OF SILT. SURROUNDED BY URBAN AREAS AND BY OPEN, GRAZED GRASSLANDS WITH A FEW SCATTERED COAST LIVE OAKS. CLUMPS OF WILLOW AND CATTAILS FOUND AT A FEW ISOLATED AREAS ALONG THE CREEK.

General: 1 JUVENILE FROG COLLECTED (MRJ #1329) ON 15 NOV 1997 AND DEPOSITED AT CAS (CAS #203690). 1 SUBADULT OBSERVED ON 24 MAY 1998. 1 ADULT COLLECTED (MRJ #1457) ON 25 MAR 1999 AND DEPOSITED AT CAS. 27 EGG MASSES OBSERVED ON 26-27 MAR 1999.

Owner/Manager: PVT

Occurrence No.	251	**Map Index:**	38733	**EO Index:**	33740	**Element Last Seen:**	2019-04-23
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2019-04-23
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-05-07

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.73248 / -121.85514	**Accuracy:**	specific area
UTM:	Zone-10 N4176751 E600881	**Elevation (ft):**	601
PLSS:	T02S, R01E, Sec. 27, NW (M)	**Acres:**	41.0

Location:	UNNAMED TRIBUTARY TO TASSAJARA CREEK, 0.5 MILES ESE OF FALLON RD AT TASSAJARA RD, NE OF DUBLIN.
Detailed Location:	MAPPED TO INCLUDE PROVIDED COORDINATES. WITHIN NORTH DRAINAGE CONSERVATION AREA (NDCA). INCLUDES REDGEWICK POND SITE. RELEASE SITE FOR FROGS RELOCATED FROM DEVELOPMENT SITES TO SOUTH, 2003-2005.
Ecological:	ADULTS, SUBADULTS, JUVENILES AND LARVAE WERE FOUND IN POOLS WITHIN SMALL PERENNIAL STREAM IN OPEN, HEAVILY-GRAZED GRASSLAND, AND IN STOCK PONDS. AREA IS WITHIN A MITIGATION PRESERVE FOR SURROUNDING DEVELOPMENT.
General:	2 JUVENILE FROGS OBSERVED 19 APR 1998. 2 ADULTS & 2 JUVENILES OBS 2 DEC 1999. FOUND IN IN-STREAM POOLS & AT LEAST 3 PONDS; OVER 100 RELOCATED HERE 2003-2010. FOUND IN 1 POND IN 2016. LARVAE FOUND 17 APR & 16 MAY 2018. LARVAE & ADULTS, 2019.
Owner/Manager:	PVT

Occurrence No.	278	**Map Index:**	40557	**EO Index:**	35564	**Element Last Seen:**	2016-05-09
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2016-05-09
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-05-03

Quad Summary:	Livermore (3712167), Dublin (3712168)
County Summary:	Alameda, Contra Costa

Lat/Long:	37.73093 / -121.87207	**Accuracy:**	specific area
UTM:	Zone-10 N4176561 E599391	**Elevation (ft):**	422
PLSS:	T02S, R01E, Sec. 28 (M)	**Acres:**	213.0

Location:	TASSAJARA CREEK AND MOLLER CREEK DRAINAGE, FROM ABOUT 1.5 TO 3.0 MILES NORTH OF I-580, NORTH OF PLEASANTON.
Detailed Location:	2006: 1 ADULT RELOCATED HERE (TASSAJARA CREEK) FROM PG&E SUBSTATION. 2015-16: CONSTRUCTION UNDERWAY AT NE PORTION OF OCCURRENCE; ADULTS RELOCATED FROM HERE (MOLLER CK) TO "MOLLER RANCH CONSERVATION AREA" (OCCURRENCE #221).
Ecological:	RIPARIAN & RIVERINE HABITAT IN POOLS & DEEPLY-INCISED STREAMS THROUGH OPEN, GRAZED GRASSLANDS. TASSAJARA CK PROTECTED, BUT PORTIONS OF OCCURRENCE HAVE BEEN DEVELOPED. CALIFORNIA TIGER SALAMANDER & WESTERN POND TURTLE ALSO FOUND IN AREA.
General:	5+ ADULTS & 75+ SUBADULTS FOUND, 1998. ALL LIFE STAGES, 2000. 1 EGG MASS, '02. 63+ AD, '04. 76+ AD & 9 SB, '05. 32 AD, 8 SB, 53 UNK, 4 LRV, '06. 44 AD, 15 SB, 3 UNK, '07. 27 AD, 8 SB, '08. 29+, '09. 13+ AD '10. 3 AD '15. 2 AD, 1 JUV '16.
Owner/Manager:	PVT

Occurrence No.	279	**Map Index:** 40558	**EO Index:**	35565	**Element Last Seen:**	2020-01-07
Occ. Rank:	Fair		**Presence:**	Presumed Extant	**Site Last Seen:**	2020-01-07
Occ. Type:	Natural/Native occurrence		**Trend:**	Fluctuating	**Record Last Updated:**	2021-05-07

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.71138 / -121.84982	**Accuracy:**	specific area
UTM:	Zone-10 N4174416 E601378	**Elevation (ft):**	420
PLSS:	T02S, R01E, Sec. 34, S (M)	**Acres:**	49.0

Location:	ALONG FALLON RD, ABOUT 0.4 MILE NORTH OF THE I-580 JUNCTION, BETWEEN LIVERMORE & PLEASANTON.
Detailed Location:	SW-MOST POLYGON MAPPED TO 1998-2020 DETECTIONS; HALF THIS AREA LIKELY LOST TO DEVELOPMENT, BUT 2 REMAINING PONDS SUPPORT CRLF. NE POLY MAPPED TO 2016 DETECTION. 2003, 2011, 2014, 2020 FROGS RELOCATED TO EO #278 OR UNSPECIFIED LOCATIONS.
Ecological:	MANMADE PONDS W/TULES & STREAM W/WILLOWS IN GRAZED GRASSLAND. SW PORTION PROB EXTIRPATED DUE TO ROAD REALIGNMENT ('07), N POND FILLED & DEVELOPED ('11). NEW RETENTION BASIN DRAINED TO FINISH CONSTRUCTION ('14). 2016 DETECTION IN "PRESERVE."
General:	PRESENT 1998, 2000, 2001. 37 JUV, 10 ADULTS & 29 SUBADULTS RELOCATED IN 2003. 111 LARVAE, 15 JUV, 30 AD IN JUL 2011. 5 LARVAE & 12 JUV FOUND AUG 2012. 6 AD & 1 EGG MASS, MAR 2013. 1,499 FOUND, 2014. 1 JUV, 2016. 52+, 2019. 2 JUVS, 2020.
Owner/Manager:	PVT

Occurrence No.	281	**Map Index:** 40560	**EO Index:**	35567	**Element Last Seen:**	2000-06-02
Occ. Rank:	None		**Presence:**	Possibly Extirpated	**Site Last Seen:**	2000-06-02
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2009-06-29

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.70880 / -121.80454	**Accuracy:**	80 meters
UTM:	Zone-10 N4174179 E605373	**Elevation (ft):**	438
PLSS:	T03S, R02E, Sec. 06, NW (M)	**Acres:**	0.0

Location:	COLLIER CREEK, AT THE ENTRANCE TO LAS POSITAS COLLEGE, NORTH SIDE OF LIVERMORE.
Detailed Location:	25 FROGS WERE MOVED TO A POND ON PLEASANTON RIDGE; 1 FROG WAS LEFT UNDER THE CULVERT AT THE ENTRANCE TO LAS POSITAS COLLEGE.
Ecological:	HABITAT CONSISTS OF AN INTERMITTENT STREAM CHANNEL, CROSSED BY THE BRIDGE TO THE COLLEGE. SURROUNDING AREA CONSISTS OF A MIX OF LIVESTOCK GRAZING AND URBAN (COLLEGE). 2007 AERIAL PHOTO SHOWS THAT THE SITE HAS BEEN COMPLETELY DEVELOPED.
General:	6 JUVENILES OBSERVED ON 12 JUL 1998. 2 ADULTS, 9 JUVENILES, AND 15 LARVAE WERE OBSERVED ON 2 JUN 2000.
Owner/Manager:	PVT

Occurrence No.	297	**Map Index:**	26023	**EO Index:**	41047	**Element Last Seen:**	1997-01-23
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1997-01-23
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1999-05-13

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.71919 / -121.76232	**Accuracy:**	non-specific area
UTM:	Zone-10 N4175380 E609080	**Elevation (ft):**	460
PLSS:	T02S, R02E, Sec. 33 (M)	**Acres:**	1097.2

Location:	WEST OF LORRAINE STREET AND NORTH OF I-580, LIVERMORE.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF NON-NATIVE ANNUAL GRASSLAND, INTERSPERSED WITH SEASONAL WETLANDS.
General:	5 JUVENILES OBSERVED BETWEEN 21 DEC 1996 AND 23 JAN 1997; MOST LIKELY DISPERSING JUVENILES FROM ALTAMONT CREEK.
Owner/Manager:	PVT

Occurrence No.	432	**Map Index:**	38736	**EO Index:**	45303	**Element Last Seen:**	2005-03-11
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	2005-03-11
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-05-05

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.71243 / -121.85924	**Accuracy:**	specific area
UTM:	Zone-10 N4174522 E600548	**Elevation (ft):**	421
PLSS:	T02S, R01E, Sec. 34, SW (M)	**Acres:**	131.0

Location:	FROM FALLON RD TO ABOUT 0.7 MI W, AND FROM 0.2 TO 0.8 MI N OF DUBLIN BLVD, EAST OF DUBLIN.
Detailed Location:	2003-2005: FROGS RELOCATED FROM THIS OCCURRENCE TO MOLLER CREEK (OCC#278) AND PROTECTED AREAS TO THE NORTH INCLUDING NORTH DRAINAGE CONSERVATION AREA (OCC#251).
Ecological:	HABITAT CONSISTS OF A STOCK POND, SURROUNDED BY OPEN, ROLLINGS HILLS OF GRAZED GRASSLAND; SPRING BOX UPSTREAM FROM A LONE, LARGE WILLOW TREE. SINCE THE TIME OF DETECTION, MOST OF THIS SITE HAS BEEN DEVELOPED.
General:	1 ADULT OBSERVED ON 9 JUL 1999. THE CARCASS OF A CRLF WAS FOUND IN THE SPRING CISTERN BOX ON 4 FEB 2000. 4 JUVENILES OBSERVED ON 24 JUL 2001. SEVERAL HUNDRED RELOCATED FROM CONSTRUCTION SITES, 2003-2005.
Owner/Manager:	PVT

Occurrence No.	445	**Map Index:**	45621	**EO Index:**	45621	**Element Last Seen:**	2013-10-23
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2013-10-23
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-05-03

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.71249 / -121.75264	**Accuracy:**	specific area
UTM:	Zone-10 N4174648 E609944	**Elevation (ft):**	496
PLSS:	T02S, R02E, Sec. 33, SE (M)	**Acres:**	10.0

Location:	ARROYO LAS POSITAS, 0.6 MILE NORTH OF I-580 AND 0.9 MILE EAST OF NORTH LIVERMORE AVENUE, LIVERMORE.
Detailed Location:	SPRINGTOWN AREA OF LIVERMORE. SW POLYGON MAPPED TO 1997 DETECTION, NE POLYGON TO 2013 DETECTION.
Ecological:	1997: PERENNIAL CREEK WITH HIGHLY ERODED BANKS; SURROUNDED BY GRAZED GRASSLANDS. VEGETATED BY SOME TYPHA.
General:	>10 ADULTS AND >10 JUVENILES OBSERVED ON 23 JAN 1997. 1 SUBADULT OBSERVED ON 23 OCT 2013.
Owner/Manager:	PVT

Occurrence No.	449	**Map Index:**	45705	**EO Index:**	45705	**Element Last Seen:**	1997-04-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1997-04-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-05-14

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.63668 / -121.79648	**Accuracy:**	80 meters
UTM:	Zone-10 N4166186 E606187	**Elevation (ft):**	500
PLSS:	T03S, R02E, Sec. 30 (M)	**Acres:**	0.0

Location:	DATJEN POND, SOUTH OF LIVERMORE, 0.7 MILE SW INTERSECTION OF EAST VINEYARD AVE & HWY 84; 25 METERS SOUTH HWY 84.
Detailed Location:	
Ecological:	
General:	CAS #204241; JUVENILE, SVL 30 MM, 3.0 G, TAKEN FROM STOMACH OF RANA CATESBEIANA ON 10 JUL 1996. UNKNOWN NUMBER DETECTED IN MAR-APR 1997.
Owner/Manager:	UNKNOWN

Occurrence No.	608	**Map Index:**	50039	**EO Index:**	50039	**Element Last Seen:**	2001-03-16
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	2001-03-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-07-23

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.72197 / -121.84582	**Accuracy:**	specific area
UTM:	Zone-10 N4175594 E601716	**Elevation (ft):**	600
PLSS:	T02S, R01E, Sec. 34, NE (M)	**Acres:**	36.0

Location:	JUST NORTH OF THE NORTHERN END OF OLD FALLON RD, 1.5 MILES NORTH OF FALLON RD AT I-580, PLEASANTON.
Detailed Location:	MAPPED TO PROVIDED UTM COORDINATES & LOCALITY DESCRIPTIONS.
Ecological:	2001: HABITAT CONSISTED OF EPHEMERAL TRIBUTARY AND A STOCK POND WITH TYPHA LATIFOLIA WITHIN NON-NATIVE GRASSLAND. SURROUNDING AREA IS GRAZED AND IN BARLEY PRODUCTION. 2007 AERIAL PHOTO SHOWS AREA WAS GRADED FOR DEVELOPMENT.
General:	3 FROGS OBSERVED ON 16 MAR 2001. 7 OBSERVATIONS IN 2001.
Owner/Manager:	PVT

Occurrence No.	661	**Map Index:**	52091	**EO Index:**	52091	**Element Last Seen:**	2003-06-13
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2003-06-13
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2003-08-12

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.62845 / -121.78780	**Accuracy:**	80 meters
UTM:	Zone-10 N4165283 E606964	**Elevation (ft):**	600
PLSS:	T03S, R02E, Sec. 31 (M)	**Acres:**	0.0

Location:	UNNAMED CREEK, 1.6 MILES SW OF THE INTERSECTION OF ARROYO ROAD AND WETMORE ROAD, 3 MILES SOUTH OF LIVERMORE.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF A POOL IN A LIKELY-INTERMITTENT STREAM; POOL WAS 10' IN DIAMETER & 2' DEEP. TYPHA LATIFOLIA PRESENT IN POOL, AND RIPARIAN CANOPY CONSISTS OF QUERCUS AGRIFOLIA, Q. LOBATA, AND SALIX SP, SURROUNDED BY NON-NATIVE GRASSLAND.
General:	6 LARVAE OBSERVED ON 13 JUN 2003.
Owner/Manager:	PVT

Occurrence No.	737	**Map Index:**	54464	**EO Index:**	54464	**Element Last Seen:**	2005-10-06
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2005-10-06
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2006-02-21

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.62795 / -121.78132	**Accuracy:**	80 meters
UTM:	Zone-10 N4165235 E607537	**Elevation (ft):**	645
PLSS:	T03S, R02E, Sec. 32 (M)	**Acres:**	0.0

Location:	0.9 MILE WEST OF THE VETERANS HOSPITAL, SOUTH OF LIVERMORE.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF A SMALL STOCKPOND CREATED BY DAMMING THE DRAINAGE DECADES AGO; HEAVILY-DOMINATED BY NARROW-LEAF CATTAIL (TYPHA ANGUSTIFOLIA).
General:	2 ADULTS OBSERVED, 25 SEP-9 NOV 2003, DURING BULLFROG MANAGEMENT EFFORTS. 2-3 ADULTS OBSERVED ON 6 OCT 2005, DURING BULLFROG MANAGEMENT EFFORTS.
Owner/Manager:	LIVERMORE AREA RPD

Occurrence No.	770	**Map Index:**	75006	**EO Index:**	58186	**Element Last Seen:**	2008-08-18
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2008-08-18
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2017-10-11

Quad Summary:	La Costa Valley (3712157), Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.62689 / -121.80945	**Accuracy:**	specific area
UTM:	Zone-10 N4165086 E605055	**Elevation (ft):**	690
PLSS:	T03S, R01E, Sec. 36, SE (M)	**Acres:**	10.0

Location:	NW OF HIGHWAY 84, JUST SOUTH OF THE RUBY HILLS SUBDIVISION, 4 MILES SE OF PLEASANTON.
Detailed Location:	2 LOCATIONS, FOLEY POND AND A NATURAL SPRING 0.20 MI SSE OF FOLEY POND (NW OF HWY 84 & SE OF VALLECITOS RD). NOTE HWY 84 WAS RE-ALIGNED IN 2008, FORMERLY RAN THROUGH PRESENT DAY VALLECITOS RD.
Ecological:	HABITAT CONSISTED OF A SEMI-PERMANENT STOCK POND (~20 METERS IN DIAMETER); SURROUNDING GRAZED GRASSLANDS SUPPORT NUMEROUS CALIFORNIA GROUND SQUIRRELS. CTS ALSO FOUND AT THIS SITE IN 2003.
General:	FOLEY POND: 3 EGG MASSES OBSERVED 10 & 24 FEB; 1 ADULT OBS 24 FEB 2003. MULTIPLE METAMORPHS OBS 10 & 23 JAN & 1 FEB, AND 1 ADULT ON 18 AUG 2008. NATURAL SPRING: 1 ADULT OBS (NOT RELOCATED) ON 18 JUN 2008.
Owner/Manager:	PVT

Occurrence No.	778	**Map Index:** 58570	**EO Index:**	58606	**Element Last Seen:**	2004-05-11
Occ. Rank:	None		**Presence:**	Possibly Extirpated	**Site Last Seen:**	2004-05-11
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2021-05-05

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.70323 / -121.86023	**Accuracy:**	specific area
UTM:	Zone-10 N4173500 E600472	**Elevation (ft):**	353
PLSS:	T03S, R01E, Sec. 4, SE (M)	**Acres:**	68.0

Location:	FROM THE N SIDE OF I-580 TO JUST N OF DUBLIN BLVD & FROM THE INTXN OF GRAFTON ST & DUBLIN BLVD TO ABOUT 0.6 MI SE.
Detailed Location:	2003 LOCALITY: SOUTH OF CENTRAL PARKWAY AND NORTH OF I-580, DUBLIN. MAPPED TO DETECTION LOCATIONS FROM 2010 DATASET (DETECTIONS IN 2003 & 2004); RELOCATED TO PROTECTED HABITAT 1.75 MILES NORTH (OCCURRENCES #251, 278).
Ecological:	AREA HAS BEEN IN VARIOUS STAGES OF RESIDENTIAL AND COMMERCIAL DEVELOPMENT SINCE ABOUT 2010 AS WESTPORT VILLAGE, AND LIKELY ANY RESIDUAL POPULATIONS WILL BE EXTIRPATED WITH CURRENT AND FUTURE INFILL DEVELOPMENT.
General:	1 TADPOLE COLLECTED (CAS 228201) ON 25 JUL 2003. MORE THAN 50 INDIVIDUALS OF ALL AGE CLASSES COLLECTED IN 2003 & 2004 FROM CONSTRUCTION AREAS AND RELOCATED TO PROTECTED HABITAT TO NORTH.
Owner/Manager:	UNKNOWN, PVT

Occurrence No.	859	**Map Index:** 75926	**EO Index:**	76909	**Element Last Seen:**	2001-XX-XX
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:**	2001-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2009-07-22

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.72320 / -121.84118	**Accuracy:**	specific area
UTM:	Zone-10 N4175736 E602123	**Elevation (ft):**	720
PLSS:	T02S, R01E, Sec. 35, NW (M)	**Acres:**	14.0

Location:	ABOUT 0.25 MI NORTH OF THE NORTH END OF CROAK RD & ABOUT 1.5 MI NNE OF FALLON RD (EL CHARRO RD) AT I-580, PLEASANTON.
Detailed Location:	MAPPED TO PROVIDED UTM COORDINATES AND LOCALITY DESCRIPTIONS.
Ecological:	HABITAT CONSISTED OF A SPRING AT HEAD OF UNNAMED DRAINAGE; SURROUNDED BY NON-NATIVE GRASSLAND. SITE SPARSELY DEVELOPED WITH RURAL RESIDENCES, BARNS, PARKING AREAS, HORSE PADDOCKS AND OUTBUILDINGS; HISTORICALLY USED FOR GRAZING.
General:	2 OBSERVATIONS IN 2001.
Owner/Manager:	PVT

Occurrence No.	860	**Map Index:**	63733	**EO Index:**	63828	**Element Last Seen:**	2003-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2001-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2006-01-23

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.70496 / -121.84037	**Accuracy:**	80 meters
UTM:	Zone-10 N4173713 E602219	**Elevation (ft):**	415
PLSS:	T03S, R01E, Sec. 02 (M)	**Acres:**	0.0

Location:	EAST SIDE OF CROAK ROAD, ABOUT 0.25 MILE NORTH OF I-580, NW OF LIVERMORE.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF A SPRING AT THE HEAD OF AN UNNAMED DRAINAGE; SURROUNDED BY NON-NATIVE GRASSLAND.
General:	1 OBSERVATION IN 2002.
Owner/Manager:	PVT

Occurrence No.	864	**Map Index:**	64242	**EO Index:**	64337	**Element Last Seen:**	2020-03-12
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2020-03-12
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-04-23

Quad Summary:	Livermore (3712167), Tassajara (3712177)
County Summary:	Alameda

Lat/Long:	37.75271 / -121.80013	**Accuracy:**	specific area
UTM:	Zone-10 N4179056 E605700	**Elevation (ft):**	700
PLSS:	T02S, R02E, Sec. 18, SW (M)	**Acres:**	22.0

Location:	WEST BRANCH CAYETANO CREEK, 0.5 MI SW OF MANNING RD AT HIGHLAND RD, 5 MI NNW OF LIVERMORE & 5.4 MI WSW OF BRUSHY PEAK.
Detailed Location:	MAPPED TO INCLUDE PROVIDED COORDINATES. DESCRIBED AS CAYETANO CREEK NORTHERN IN CHANNEL POOL NEAR ACTC EAST POND, EAGLE RIDGE PRESERVE.
Ecological:	RIPARIAN CORRIDOR IN CATTLE-GRAZED ANNUAL GRASSLAND. 2005: FOUND DURING TRANSMISSION LINE CONSTRUCTION. 2012: FOUND IN REMNANT POOL. 2017: POOLS IN STREAM ON GRAZED CONSERVATION LAND. 2019: BREEDING POND IN CREEK; ADULTS ON BANKS, IN POND.
General:	28 ADULTS & 3 JUVENILES OBSERVED 9-23 SEP 2005. 9 ADULTS DEC 2005- AUG '06. 1 AD 50-100 LARVAE 2 OCT '12. 4 ADS, 20 LV 21 AUG '17. EGGS, 12 ADS, 200+ LV, '18. 6 ADS, 100 LV 26 AUG '19. EGGS, 2 ADS, 200+ LV, 2020.
Owner/Manager:	PVT

Occurrence No.	1019	**Map Index:** 74016	**EO Index:**	75014	**Element Last Seen:**	2008-05-22
Occ. Rank:	Good		**Presence:**	Presumed Extant	**Site Last Seen:**	2008-05-22
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2009-05-11

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.73451 / -121.80921	**Accuracy:**	80 meters
UTM:	Zone-10 N4177027 E604925	**Elevation (ft):**	570
PLSS:	T02S, R01E, Sec. 25, NE (M)	**Acres:**	0.0

Location:	ALONG COLLIER CANYON ROAD, 2.5 MILES NORTH OF I-580, NW OF LIVERMORE.
Detailed Location:	
Ecological:	HABITAT DESCRIBED AS PONDS IN VALLEY GRASSLANDS, W/RANCHING, RESIDENTIAL, GRAZING, & EQUIPMENT STORAGE. CALIF. TIGER SALAMANDER ALSO AT/NEAR LOCATION.
General:	AN EGG MASS, INDICATING A BREEDING AREA, WAS OBSERVED ON 25 FEB 2007. 11 LARVAE OBSERVED ON 22 MAY 2008. NUMBERS CAPTURED ARE APPROXIMATE.
Owner/Manager:	PVT

Occurrence No.	1215	**Map Index:** 75917	**EO Index:**	76910	**Element Last Seen:**	2001-XX-XX
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:**	2001-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2009-07-22

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.72657 / -121.84554	**Accuracy:**	80 meters
UTM:	Zone-10 N4176106 E601735	**Elevation (ft):**	750
PLSS:	T02S, R01E, Sec. 27, SE (M)	**Acres:**	0.0

Location:	ALONG UNNAMED DRAINAGE TO FALLON CREEK, ABOUT 1.7 MI NORTH OF HWY I-580 & FALLON RD JCT.
Detailed Location:	MAPPED TO PROVIDED UTM COORDINATES & LOCALITY DESCRIPTION.
Ecological:	HABITAT CONSISTED OF NON-NATIVE GRASSLANDS WITH TOPOGRAPHY OF LOW TO MODERATELY SLOPING HILLS DIVIDED BY INTERMITTENT DRAINAGES, WHICH FLOW SOUTHWARD. SITE SPARSELY DEVELOPED; HISTORICALLY USED FOR GRAZING.
General:	1 OBSERVATION IN 2001.
Owner/Manager:	PVT

Occurrence No.	1380	**Map Index:**	95341	**EO Index:**	96471	**Element Last Seen:**	2010-04-21
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-04-21
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-03-02

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.73795 / -121.82492	**Accuracy:**	80 meters
UTM:	Zone-10 N4177390 E603536	**Elevation (ft):**	735
PLSS:	T02S, R01E, Sec. 26, NE (M)	**Acres:**	0.0

Location:	DRAINAGE NE OF DOOLAN CYN/COTTONWOOD CRK, 0.3 MI SW OF VABM DOOLAN 2 BENCHMARK, 2.4 MI N OF N CANYONS PKWY AT DOOLAN RD.
Detailed Location:	"POND 7" IN UNNAMED DRAINAGE. MAPPED TO COORDINATES AND MAP.
Ecological:	SITE USED FOR BREEDING. 3 OTHER PONDS IN VICINITY; CALIFORNIA TIGER SALAMANDER KNOWN FROM ONE.
General:	ADULT AND JUVENILE DETECTED ON 25 MAR, AND 2 ADULTS DETECTED ON 21 APR, 2010.
Owner/Manager:	PVT

Occurrence No.	1381	**Map Index:**	95342	**EO Index:**	96472	**Element Last Seen:**	2011-04-06
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2011-04-06
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-03-02

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.73882 / -121.83607	**Accuracy:**	80 meters
UTM:	Zone-10 N4177475 E602553	**Elevation (ft):**	645
PLSS:	T02S, R01E, Sec. 23, SW (M)	**Acres:**	0.0

Location:	E SIDE OF DOOLAN RD & COTTONWOOD CREEK, 1.8 MI E OF FALLON RD AT COUNTY LINE, 2.6 MI NNW OF N CANYONS PKWY AT DOOLAN RD.
Detailed Location:	"POND 9" IN DOOLAN CANYON. MAPPED TO COORDINATES AND MAP.
Ecological:	STOCK POND IN PASTURE GRAZED BY CATTLE. CATTAILS WITHIN POND AWAY FROM EDGES. POND ABOUT 6 FEET DEEP.
General:	THREE ADULTS AND 35 LARVAE DETECTED WITH DIP-NET SAMPLING ON 6 APR 2011.
Owner/Manager:	EBRPD-DOOLAN CANYON

Occurrence No.	1382	**Map Index:** 95343	**EO Index:**	96473	**Element Last Seen:**	2020-01-24
Occ. Rank:	Excellent		**Presence:**	Presumed Extant	**Site Last Seen:**	2020-09-24
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2021-04-23

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.74562 / -121.79046	**Accuracy:**	specific area
UTM:	Zone-10 N4178281 E606562	**Elevation (ft):**	630
PLSS:	T02S, R02E, Sec. 19, E (M)	**Acres:**	10.0

Location:	DRAINAGE NW OF CAYETANO CREEK, 0.8 MI SW OF MORGAN TERRITORY RD AT MANNING RD, 3 MI N OF I-580 AT ISABEL AVE, LIVERMORE.
Detailed Location:	MAPPED TO PROVIDED COORDINATES AND HABITAT DESCRIPTION. DESCRIBED AS CAYETANO CREEK SOUTHERN IN CHANNEL POOL NEAR ACTC WEST POND, EAGLE RIDGE PRESERVE.
Ecological:	2013: FOUND IN 2-3' DEEP REMNANT POOL IN CREEK CHANNEL, NO FLOWING WATER; RED WILLOW RIPARIAN AREA W/WATERCRESS ALONG SHALLOW PORTIONS. 2015: ON STREAM BANK IN PRIVATELY OWNED PRESERVE. 2020: IN SMALL PLUNGE POOL AREA USED FOR GRAZING.
General:	2 ADULTS & ABOUT 50 TADPOLES DETECTED ON 31 MAY 2013. 1 ADULT OBSERVED ON 20 MAR 2015. UP TO 4 ADULTS, 20 LARVAE OBSERVED 21 AUG 2017. 1 ADULT OBS 9 APR 2018. POSSIBLY OBS, 2019. 1 ADULT OBSERVED ON 24 JAN 2020. ACTC WEST POND DRY IN 2020.
Owner/Manager:	PVT

Occurrence No.	1383	**Map Index:** 95344	**EO Index:**	96478	**Element Last Seen:**	2012-05-16
Occ. Rank:	Poor		**Presence:**	Presumed Extant	**Site Last Seen:**	2012-05-16
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2015-03-02

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.69440 / -121.86524	**Accuracy:**	specific area
UTM:	Zone-10 N4172514 E600042	**Elevation (ft):**	345
PLSS:	T03S, R01E, Sec. 09, NE (M)	**Acres:**	1.0

Location:	VICINITY OF GULFSTREAM ST AT W LAS POSITAS BLVD, ALONG FLOOD CONTROL CHANNEL UPSTREAM (N) OF ARROYO MOCHO, PLEASANTON.
Detailed Location:	MAPPED TO COORDINATES, MAP, AND DESCRIPTION.
Ecological:	INDIVIDUALS OBSERVED SHELTERING IN WILLOW THICKET OR ON BANK ABOVE WATER LINE.
General:	TWO SUBADULTS OBSERVED ON 16 MAY 2012.
Owner/Manager:	ALA COUNTY-FLOOD CONTROL DIST

Occurrence No.	1419	**Map Index:**	99048	**EO Index:**	100568	**Element Last Seen:**	2019-08-23
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2019-08-23
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-10-30

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.73231 / -121.80216	**Accuracy:**	specific area
UTM:	Zone-10 N4176790 E605550	**Elevation (ft):**	657
PLSS:	T02S, R02E, Sec. 30, NW (M)	**Acres:**	12.0

Location:	ABOUT 1.5 MILES N OF LAS POSITAS COLLEGE & 1.8 MILES SW OF HIGHLAND RD AT MANNING RD, LIVERMORE.
Detailed Location:	MARCIEL PROPERTY. MAPPED TO PROVIDED COORDINATES, INCLUDES PONDS 1 & 4.
Ecological:	PONDS IN A LIGHTLY GRAZED, NON-NATIVE ANNUAL GRASSLAND PROPOSED AS A HABITAT/SPECIES MITIGATION PROPERTY.
General:	5 LARVAE FOUND IN SOUTH POND AND 1 ADULT FOUND IN NORTH POND ON 23 APR 2015. 6 LARVAE FOUND ON 23 APR 2019. 3 ADULTS AND UP TO 35 SUBADULTS & METAMORPHS FOUND DURING ANNUAL MONITORING IN AUG 2019.
Owner/Manager:	PVT

Occurrence No.	1499	**Map Index:**	A6988	**EO Index:**	108779	**Element Last Seen:**	2015-09-09
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2015-09-09
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2017-10-25

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.62994 / -121.86665	**Accuracy:**	80 meters
UTM:	Zone-10 N4165361 E600005	**Elevation (ft):**	414
PLSS:	T03S, R01E, Sec. 33, E (M)	**Acres:**	5.0

Location:	PONDS ON E SIDE OF SANCTUARY LANE, 1.2 MILES SE OF SUNOL BLVD AT I-680, CALLIPE PRESERVE GOLF COURSE, SOUTH PLEASANTON.
Detailed Location:	
Ecological:	PAIR OF ARTIFICIAL CONCRETE LINED PONDS THAT PROVIDES IRRIGATION TO GOLF COURSE. CRLF COLONIZED PONDS IN 2011 FROM UPSTREAM POND (OCC #1478) AFTER ERADICATION OF BASS & BULLFROGS. DEWATERED TO ERADICATE NON-NATIVE FISH IN 2013.
General:	6 DETECTED IN 2012. 6 CAUGHT AND RELOCATED (TO OCC #1478) ON 14 OCT 2013; 16 CAUGHT AND RELEASED BETWEEN OCT 15 & 17 2013. 14 DETECTED ON 9 SEP 2015.
Owner/Manager:	CITY OF PLEASANTON

Occurrence No.	1587	**Map Index:**	B2909	**EO Index:**	114840	**Element Last Seen:**	2016-05-04
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2016-05-04
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-05-14

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.71182 / -121.82385	**Accuracy:**	80 meters
UTM:	Zone-10 N4174493 E603667	**Elevation (ft):**	429
PLSS:	T02S, R01E, Sec. 35, SE (M)	**Acres:**	5.0

Location:	ALONG COTTONWOOD CREEK & DOOLAN RD ABOUT 0.6 MILES N OF N CANYON PARKWAY, N OF I-580, LIVERMORE.
Detailed Location:	ON DUBLIN PRESERVE CONSERVATION BANK. MAPPED TO PROVIDED COORDINATES.
Ecological:	POOL AT CULVERT IN COTTONWOOD CREEK DRAINAGE, SURROUNDED BY ANNUAL GRASSLAND WITH EUCALYPTUS GROVES, STOCK PONDS, & WETLANDS ON ROLLING HILLS USED FOR RANCHING. WITHIN 1,200-AC PRESERVE. RURAL RESIDENTIAL & COMMERCIAL DEVELOPMENT TO SOUTH.
General:	20 LARVAE OBSERVED ON 30 MAR 2010. 1 LARVA OBSERVED ON 27 MAY 2015. 30 LARVAE OBSERVED ON 4 MAY 2016.
Owner/Manager:	PVT

Occurrence No.	1645	**Map Index:**	B6345	**EO Index:**	119399	**Element Last Seen:**	2020-06-18
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2020-06-18
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2021-04-23

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.7403 / -121.80043	**Accuracy:**	specific area
UTM:	Zone-10 N4177679 E605691	**Elevation (ft):**	772
PLSS:	T02S, R02E, Sec. 19, SW (M)	**Acres:**	16.0

Location:	ABOUT 1.3 MI SSW OF THE MANNING RD AT HIGHLAND RD, & ABOUT 2.3 MI NNE OF COLLIER CANYON RD AT N CANYON PKWY, LIVERMORE.
Detailed Location:	NORTH POLYGON MAPPED TO COORDINATES GIVEN FOR BANKE POND; SOUTH POLYGON MAPPED TO FALLON POND. EAGLE RIDGE PRESERVE.
Ecological:	BANKE: FORMER CATTLE STOCK POND NOW USED AS MITIGATION POND. MORE THAN 7 FT DEEP, SURROUNDED BY CATTAILS ON MITIGATION PROPERTY USED FOR CATTLE GRAZING. FALLON: POND CREATED FOR MITIGATION, 2.5 FT DEEP W/ABUNDANT EMERGENT VEG IN AUG 2018.
General:	FALLON: 2 ADULTS OBSERVED 15 AUG 2018. 0 IN 2019. 0 IN 2020, POND DRY BY MAY. BANKE: AT LEAST 8 ADULTS & 5 JUVENILES OBS APR-AUG 2018. 3 LARVAE OBS 29 MAY 2019. AT LEAST 3 ADS, 5 LARVAE, & 5 JUVS OBS IN 2019 & 2020.
Owner/Manager:	PVT

Occurrence No.	1646	**Map Index:**	B6356	**EO Index:**	119410	**Element Last Seen:**	2017-05-24
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-05-24
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-10-28

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.72574 / -121.80128	**Accuracy:**	80 meters
UTM:	Zone-10 N4176062 E605637	**Elevation (ft):**	592
PLSS:	T02S, R02E, Sec. 30, SW (M)	**Acres:**	5.0

Location:	ABOUT 1.4 MI NNE OF COLLIER CYN RD AT N CANYON PKWY & 1.75 MI WNW OF HARTMAN RD AT N LIVERMORE BLVD.
Detailed Location:	MAPPED TO COORDINATES PROVIDED FOR POND 3 ON MURRAY RANCH.
Ecological:	PERENNIAL STOCK POND ON MITIGATION BANK USED FOR CATTLE RANCHING. POND SUPPORTED LUSH EMERGENT VEGETATION, WITH SUFFICIENT HYDROPERIOD FOR SUCCESSFUL METAMORPHOSIS OF LARVAE.
General:	19 LARVAE DETECTED ON 27 APR & 16 ON 24 MAY 2017. DETECTED DURING CTS SEINING SURVEYS.
Owner/Manager:	PVT

Occurrence No.	1647	**Map Index:**	B6358	**EO Index:**	119412	**Element Last Seen:**	2015-01-06
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2015-01-06
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2020-10-28

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.7279 / -121.8222	**Accuracy:**	80 meters
UTM:	Zone-10 N4176278 E603790	**Elevation (ft):**	579
PLSS:	T02S, R01E, Sec. 25, SW (M)	**Acres:**	5.0

Location:	ABOUT 1.8 MI NW OF COLLIER CYN RD AT N CANYON PKWY & 2.3 MI NE OF I-580 AT FALLON RD, LIVERMORE.
Detailed Location:	MAPPED TO PROVIDED COORDINATES.
Ecological:	POND IN HEAVILY GRAZED NON-NATIVE GRASSLAND AMONG ROLLING HILLS. RURAL RESIDENTIAL AREA USED FOR CATTLE GRAZINGL RESIDENTIAL DEVELOPMENT 0.9 MI SW OF SITE (2015).
General:	1 ADULT OBSERVED ON 6 JAN 2015. INDIVIDUAL WAS BASKING ON BANK AND JUMPED INTO WATER UPON APPROACH.
Owner/Manager:	PVT

Rana boylii

Element Code: AAABH01050

foothill yellow-legged frog

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	Endangered		**State:**	S3
	Other:	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened, USFS_S-Sensitive			
Habitat:	**General:**	PARTLY-SHADED, SHALLOW STREAMS AND RIFFLES WITH A ROCKY SUBSTRATE IN A VARIETY OF HABITATS.			
	Micro:	NEEDS AT LEAST SOME COBBLE-SIZED SUBSTRATE FOR EGG-LAYING. NEEDS AT LEAST 15 WEEKS TO ATTAIN METAMORPHOSIS.			

Occurrence No.	790	**Map Index:** 68481	**EO Index:**	76075	**Element Last Seen:** 1974-08-28
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:** 1993-05-03
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:** 2018-08-21

Quad Summary: Mendenhall Springs (3712156), La Costa Valley (3712157), Altamont (3712166), Livermore (3712167)

County Summary: Alameda

Lat/Long:	37.62022 / -121.75491	**Accuracy:**	1 mile
UTM:	Zone-10 N4164408 E609878	**Elevation (ft):**	500
PLSS:	T04S, R02E, Sec. 04 (M)	**Acres:**	0.0

Location: ARROYO DEL VALLE CREEK, NW OF LAKE DEL VALLE, SOUTH OF LIVERMORE.

Detailed Location: INCLUDES LOCALITIES DESCRIBED AS "DEL VALLE REGIONAL PARK," "ARROYO RD, 1 MI N DEL VALLE LAKE," "4 MI S LIVERMORE," "5 MI S LIVERMORE, ARROYO DEL VALLE CREEK," AND SIMPLY "LIVERMORE."

Ecological:

General: COLLECTED IN 1960, 1969, AND 1973. DETECTED IN AUG 1974. NONE DETECTED DURING HERP SURVEYS IN 1993.

Owner/Manager: UNKNOWN

Agelaius tricolor

Element Code: ABPBXB0020

tricolored blackbird

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G1G2
	State:	Threatened		**State:**	S1S2
	Other:	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern			
Habitat:	**General:**	HIGHLY COLONIAL SPECIES, MOST NUMEROUS IN CENTRAL VALLEY & VICINITY. LARGELY ENDEMIC TO CALIFORNIA.			
	Micro:	REQUIRES OPEN WATER, PROTECTED NESTING SUBSTRATE, AND FORAGING AREA WITH INSECT PREY WITHIN A FEW KM OF THE COLONY.			

Occurrence No.	254	**Map Index:**	24015	**EO Index:**	7280	**Element Last Seen:**	1980-06-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2014-04-20
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2016-06-02

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.68215 / -121.83944	**Accuracy:**	non-specific area
UTM:	Zone-10 N4171184 E602334	**Elevation (ft):**	332
PLSS:	T03S, R01E, Sec. 11 (M)	**Acres:**	1783.0

Location:	N SIDE OF STANLEY BLVD, AREA JUST NE OF VALLEY AVE INTERSECTION, 1.8 MI SW OF I-580 & AIRWAY BLVD INTXN, W OF LIVERMORE.
Detailed Location:	1976-1980 LOCATION DESCRIBED AS "GRAVEL PIT AREA BELONGING TO KAISER GRAVEL COMPANY ON N SIDE OF STANLEY BLVD, 3 MI W OF LIVERMORE, & 3 MI E OF PLEASANTON." COLONY DATA STORED IN UCD TRBL PORTAL; SITE NAME WAS "KAISER GRAVEL COMPANY."
Ecological:	HABITAT IN 1976-1980 DESCRIBED AS FRESHWATER CATTAIL MARSH; LARGE SHALLOW POND WITH DEEP MUD BOTTOM. SIZE OF COLONY ABOUT 10 ACRES.
General:	16+ PAIRS OBSERVED BETWEEN 24 APR-7 JUN 1976. HUNDREDS OF PAIRS OBSERVED BETWEEN 28 MAR-30 APR 1978. 125 PAIRS OBSERVED IN JUN 1980. 0 BIRDS OBSERVED ON 20 APR 2014.
Owner/Manager:	PVT-KAISER GRAVEL CO

Occurrence No.	255	**Map Index:**	24017	**EO Index:**	7278	**Element Last Seen:**	1974-05-11
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1974-05-11
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2016-06-02

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.654 / -121.8032	**Accuracy:**	1/5 mile
UTM:	Zone-10 N4168100 E605570	**Elevation (ft):**	409
PLSS:	T03S, R02E, Sec. 19, SW (M)	**Acres:**	70.0

Location:	ARROYO DEL VALLE, NE OF THE INTERSECTION OF VINEYARD AVENUE WITH ISABEL AVENUE, SW OF LIVERMORE.
Detailed Location:	1974 LOCATION DESCRIBED AS "INTERSECTION OF ISABEL AVENUE & VINEYARD AVENUE WHERE ARROYO DEL VALLE CROSSES ISABEL AVENUE ON NORTHEAST CORNER." COLONY DATA STORED IN THE UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAME WAS "ARROYO DEL VALLE."
Ecological:	HABITAT IN 1974 WAS A CATTAIL MARSH; SURROUNDING AREA MOSTLY MULEFAT, SMALL WILLOWS, GRASS, & LOW SHRUBS. NO SUBSTRATE IN 2011, SURROUNDED BY DEVELOPMENT. GRAVEL PIT, RANCHETTES, & VINEYARDS. SOME WATER IN DRAINAGE IN 2014, MOSTLY WILLOWS.
General:	ABOUT 60 PAIRS OBSERVED BETWEEN 4 APR-11 MAY 1974; UNKNOWN IF COLONY FLEDGED YOUNG, HOWEVER, MANY EMPTY NESTS OBSERVED ON 11 MAY. 0 BIRDS OBSERVED ON 17 APR 2011 AND 20 APR 2014.
Owner/Manager:	UNKNOWN

Occurrence No.	256	**Map Index:**	24016	**EO Index:**	7279	**Element Last Seen:**	1985-05-26
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2014-04-20
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2016-06-22

Quad Summary:	Livermore (3712167)
County Summary:	Alameda

Lat/Long:	37.6629 / -121.8129	**Accuracy:**	2/5 mile
UTM:	Zone-10 N4169077 E604701	**Elevation (ft):**	411
PLSS:	T03S, R01E, Sec. 24, N (M)	**Acres:**	280.0

Location:	ABOUT 0.5 MILE WEST OF ISABEL AVENUE AND 0.5 MILE NORTH OF VINEYARD AVENUE, SW OF LIVERMORE.
Detailed Location:	1985 LOCATION DESCRIBED AS "GRAVEL PIT AREA 0.5 MI E OF ISABEL AVE & 0.5 MI N OF VINEYARD AVE... KWIK-SET CO." GRAVEL PIT LOCATED ON W SIDE OF ISABEL RD. COLONY DATA STORED IN UCD TRBL PORTAL; SITE WAS "VINEYARD AVENUE AT ISABEL AVENUE."
Ecological:	NESTING SUBSTRATE CONSISTED OF CATTAILS WITHIN A SHALLOW POND WITH A DEEP MUD BOTTOM. 1994 FLOCK WAS FORAGING ON E SIDE OF ISABEL AVE; THIS AREA HAS SINCE BEEN DEVELOPED WITH RESIDENTIAL HOMES.
General:	SEVERAL THOUSAND PAIRS OBS BTWN 4-26 MAY 1985; PRESUMED NESTING, UNK IF COLONY FLEDGED YOUNG. ACTIVITY REPORTED BY HAMILTON ON 7 APR 1994; SMALL MIXED FLOCK OF TRICOLOREDS & RED-WINGS OBS ON 23 APR. 0 BIRDS OBS IN 2008, 2011 & 2014.
Owner/Manager:	PVT-KWIK SET CO

Occurrence No.	987	**Map Index:**	A2263	**EO Index:**	103872	**Element Last Seen:**	1993-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1994-04-23
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2016-10-18

Quad Summary:	Livermore (3712167), Tassajara (3712177)
County Summary:	Alameda

Lat/Long:	37.747 / -121.8188	**Accuracy:**	2/5 mile
UTM:	Zone-10 N4178401 E604063	**Elevation (ft):**	759
PLSS:	T02S, R01E, Sec. 24, NW (M)	**Acres:**	280.0

Location:	ABOUT 0.6 MI SSW OF COLLIER CANYON RD & DOOLAN RD INTERSECTION, NNW OF LIVERMORE.
Detailed Location:	MAPPED AS BEST GUESS BY CNDDB TO PROVIDED LOCATION DESCRIPTION OF "HILLSIDE ON WEST SIDE OF COLLIER CANYON ROAD NEAR CONTRA COSTA CO. LINE, NORTH OF LIVERMORE."
Ecological:	TALL GREEN MUSTARD FIELD IN 1993. LITTLE TALL GREEN MUSTARD PRESENT IN 1994; MUSTARD EITHER DRIED UP OR REMOVED.
General:	BREEDING COLONY OBSERVED IN 1993; FIRST OCCUPIED AROUND 1 MAY. 0 BIRDS OBSERVED ON 23 APR 1994.
Owner/Manager:	UNKNOWN

Vulpes macrotis mutica **Element Code:** AMAJA03041

San Joaquin kit fox

Listing Status:	**Federal:**	Endangered	**CNDDB Element Ranks:**	**Global:**	G4T2
	State:	Threatened		**State:**	S2
	Other:				
Habitat:	**General:**	ANNUAL GRASSLANDS OR GRASSY OPEN STAGES WITH SCATTERED SHRUBBY VEGETATION.			
	Micro:	NEED LOOSE-TEXTURED SANDY SOILS FOR BURROWING, AND SUITABLE PREY BASE.			

Occurrence No.	1031 **Map Index:** 67980	**EO Index:**	68130	**Element Last Seen:**	1975-07-XX
Occ. Rank:	Unknown	**Presence:**	Presumed Extant	**Site Last Seen:**	1975-07-XX
Occ. Type:	Natural/Native occurrence	**Trend:**	Unknown	**Record Last Updated:**	2007-01-30

Quad Summary: Livermore (3712167), Dublin (3712168)

County Summary: Alameda

Lat/Long:	37.72666 / -121.87813	**Accuracy:**	non-specific area
UTM:	Zone-10 N4176081 E598862	**Elevation (ft):**	470
PLSS:	T02S, R01E, Sec. 29 (M)	**Acres:**	440.0

Location: SAN RAMON, NEAR TASSAJARA CREEK REGIONAL PARK, ABOUT 1.7 MI N OF INTERSECTION OF HWY 580 & TASSAJARA RD.

Detailed Location:

Ecological:

General: SIGHTING AT DEN SOMETIME FROM 1972 THROUGH JUL 1975.

Owner/Manager: UNKNOWN

Branchinecta lynchi **Element Code:** ICBRA03030

vernal pool fairy shrimp

Listing Status:	**Federal:**	Threatened	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S3
	Other:	IUCN_VU-Vulnerable			
Habitat:	**General:**	ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MOUNTAINS, AND SOUTH COAST MOUNTAINS, IN ASTATIC RAIN-FILLED POOLS.			
	Micro:	INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS.			

Occurrence No.	99	**Map Index:** 25002	**EO Index:** 1458	**Element Last Seen:**	1996-12-27
Occ. Rank:	Good		**Presence:** Presumed Extant	**Site Last Seen:**	2000-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2014-09-29

Quad Summary: Altamont (3712166), Livermore (3712167)

County Summary: Alameda

Lat/Long:	37.72272 / -121.76091	**Accuracy:**	non-specific area
UTM:	Zone-10 N4175773 E609198	**Elevation (ft):**	500
PLSS:	T02S, R02E, Sec. 33 (M)	**Acres:**	501.0

Location: SPRINGTOWN & STONECHASE SITES, SOUTH OF RAYMOND RD FROM 0.6 MILE WEST TO 1 MILE EAST OF LORRAINE STREET, LIVERMORE.

Detailed Location: EXACT LOCATIONS FOR 1991-1992 DETECTIONS NOT KNOWN, LOCALITIES "SPRINGTOWN ALKALI SINK" & SIMILAR; MAPPED TO PROPERTY E OF LORRAINE ST PER 1993 SURVEY FORM. 1996 DETECTIONS ON STONECHASE PROPERTY W OF LORRAINE, MAPPED TO PROVIDED LOCATIONS.

Ecological: SPRINGTOWN SITE IS AN ALKALI SINK CONTAINING VERNAL POOLS. STONECHASE PROPERTY SUPPORTED SEASONAL WETLANDS IN NON-NATIVE ANNUAL GRASSLAND WITH VERNAL POOL INDICATOR PLANTS PRESENT.

General: DETECTED 1991-93, COLLECTED IN 1991 & 1992 (USNM #1144065, 1072656, 1072657) FOUND IN 9 POOLS & 3 SWALES IN 1996, COLLECTED (CASIZ #106740-106744, 106747, 107395, 107396). NOT FOUND AT SPRINGTOWN SITE IN 2000.

Owner/Manager: CITY OF LIVERMORE, PVT

Chloropyron palmatum **Element Code:** PDSCR0J0J0

palmate-bracted bird's-beak

Listing Status:	**Federal:**	Endangered	**CNDDB Element Ranks:**	**Global:**	G1
	State:	Endangered		**State:**	S1
	Other:	Rare Plant Rank - 1B.1, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden			
Habitat:	**General:**	CHENOPOD SCRUB, VALLEY AND FOOTHILL GRASSLAND.			
	Micro:	USUALLY ON PESCADERO SILTY CLAY WHICH IS ALKALINE, WITH DISTICHLIS, FRANKENIA, ETC. 5-155 M.			

Occurrence No.	10	**Map Index:** 10692	**EO Index:** 3037	**Element Last Seen:**	2018-07-24
Occ. Rank:	Good		**Presence:** Presumed Extant	**Site Last Seen:**	2018-07-24
Occ. Type:	Natural/Native occurrence		**Trend:** Fluctuating	**Record Last Updated:**	2018-11-30

Quad Summary: Altamont (3712166), Livermore (3712167)

County Summary: Alameda

Lat/Long:	37.72391 / -121.74466	**Accuracy:**	specific area
UTM:	Zone-10 N4175924 E610629	**Elevation (ft):**	510
PLSS:	T02S, R02E, Sec. 27, S (M)	**Acres:**	370.0

Location: SPRINGTOWN WETLANDS RESERVE, APPROX 2.5 MILES NORTH OF LIVERMORE, WEST OF VASCO ROAD, SOUTH OF RAYMOND RD-HARTFORD AVE.

Detailed Location: MAPPED AS 5 POLYGONS BASED MOSTLY ON A 1989 MORENO MAP ENCOMPASSING MULTIPLE YEARS OF DATA. PORTIONS OF POP HAVE BEEN EXTIRPATED BY DEVELOPMENT. DISTRIBUTION OF PLANTS ESP IN E PORTION OF SITE HAS DECREASED SIGNIFICANTLY FROM 1990 TO 2010.

Ecological: ALONG BRAIDED DRAINAGE CHANNELS ON PESCADERO CLAY & SOLANO LOAM. IODINE BUSH & ALKALI GRASSLAND SUBTYPES OF THE VALLEY SINK SCRUB VEGETATION TYPE. OTHER RARE SPECIES: ATRIPLEX DEPRESSA; A. CORDULATA FOUND SOUTH OF BLUEBELL DRIVE.

General: OBS IN 1982-88. 9,994 IN 1990, 10,439 IN 1991, 36,594 IN 1992, ~11,000 IN 1993, 52,954 IN 1997, 130 IN 1999, <50,000 IN 2004, LOCALLY SCATTERED IN 2005, 388 IN 2009, 1000S IN 2010, 1100 IN 2012, 100S IN 2013, 1200+ IN 2017, 947+ IN 2018.

Owner/Manager: PVT, CITY OF LIVERMORE, DFG

Appendix C: U.S. Fish and Wildlife Service iPAC

IPaC resource list

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

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

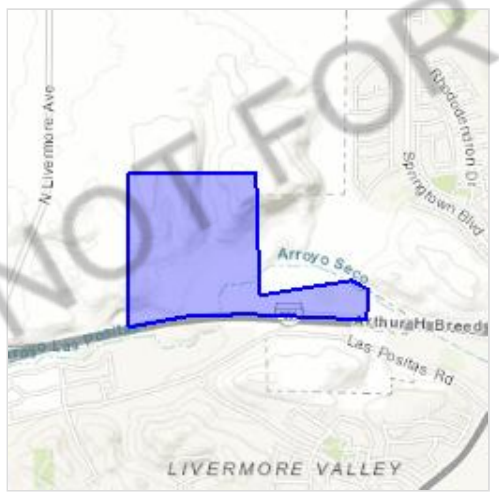
Project information

NAME

Monte Vista Memorial Gardens

LOCATION

Alameda County, California



DESCRIPTION

The Monte Vista Memorial Gardens (MVMG) is a proposed memorial park that includes a funeral home, extensive cemetery grounds area and a number of associated services described below. The project proposes to develop 6.8 acres in the southeastern portion of the site, east of Arroyo Las Positas, with a funeral home, parking facilities and associated mortuary, crematorium and other interment services. Two bridges would span the Arroyo Las Positas to connect the funeral home area to the cemetery grounds in the western portion of the site. The cemetery grounds also would support several man-made lake features, a flowing waterway, an area of depressional wetlands on the north side of I-580, as well as lawn and other landscape elements requiring the installation and

maintenance of on-site water irrigation and management systems. The project intends to re-use onsite surface water as much as possible to minimize groundwater and municipal water demand.

Local office

Sacramento Fish And Wildlife Office

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

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

Endangered species

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

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

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

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

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. 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.

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

Mammals

NAME	STATUS

San Joaquin Kit Fox Vulpes macrotis mutica No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2873	Endangered

Birds

NAME	STATUS
California Least Tern Sterna antillarum browni No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8104	Endangered

Reptiles

NAME	STATUS
Alameda Whipsnake (=striped Racer) Masticophis lateralis euryxanthus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5524	Threatened

Amphibians

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

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS

San Bruno Elfin Butterfly Callophrys mossii bayensis There is **proposed** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/3394	Endangered
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp Branchinecta conservatio There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp Branchinecta lynchi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
Palmate-bracted Bird's Beak Cordylanthus palmatus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1616	Endangered

Critical habitats

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

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

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

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

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

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Allen's Hummingbird Selasphorus sasin — Breeds Feb 1 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9637

Bald Eagle Haliaeetus leucocephalus — Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1626

Burrowing Owl Athene cunicularia — Breeds Mar 15 to Aug 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9737

Clark's Grebe Aechmophorus clarkii — Breeds Jan 1 to Dec 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Lewis's Woodpecker Melanerpes lewis — Breeds Apr 20 to Sep 30

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9408

Long-billed Curlew Numenius americanus — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5511

Marbled Godwit Limosa fedoa — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Rufous Hummingbird selasphorus rufus — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8002

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Song Sparrow Melospiza melodia — Breeds Feb 20 to Sep 5

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee Pipilo maculatus clementae — Breeds Apr 15 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/4243

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Willet Tringa semipalmata — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie Pica nuttalli

Breeds Apr 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▪)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

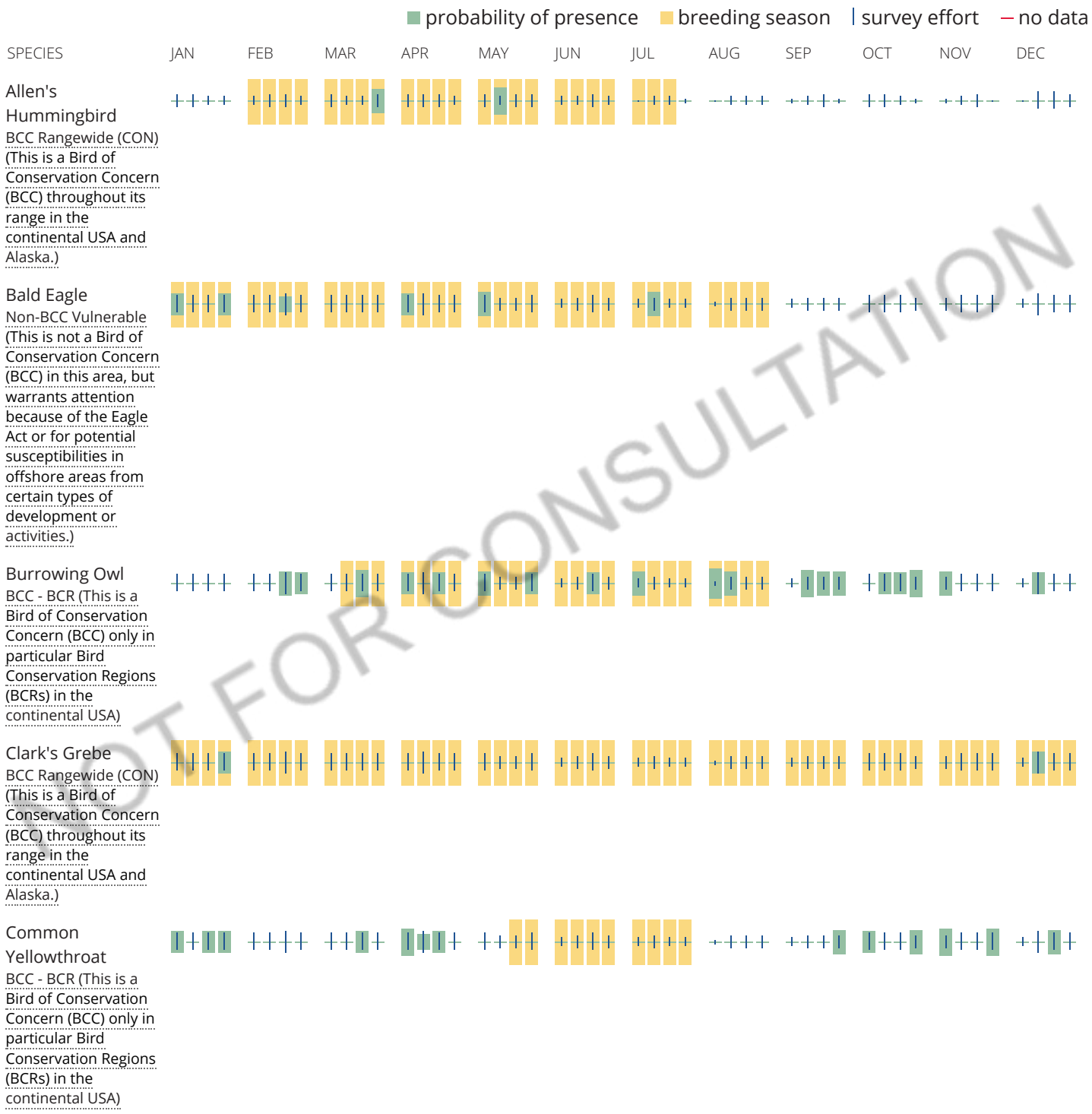
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

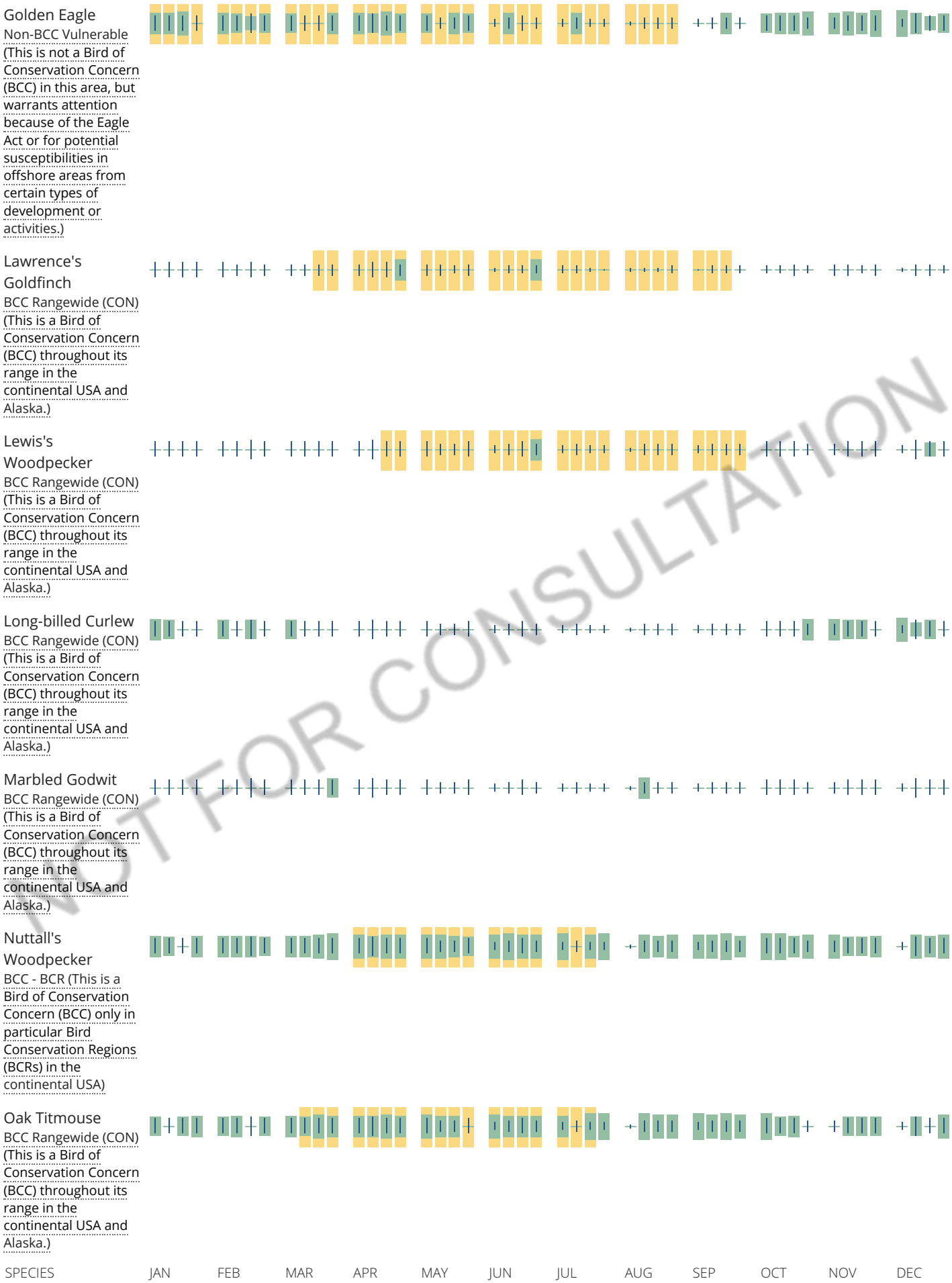
No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

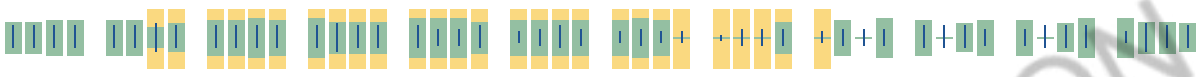




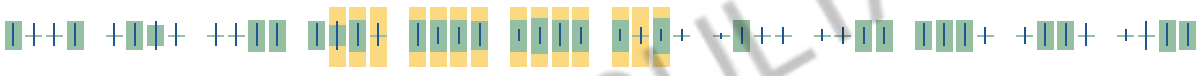
Rufous Hummingbird
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Short-billed Dowitcher
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

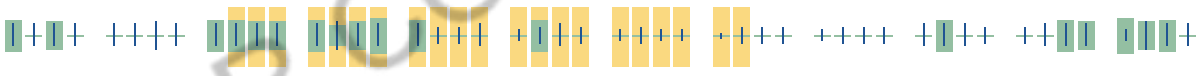
Song Sparrow
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



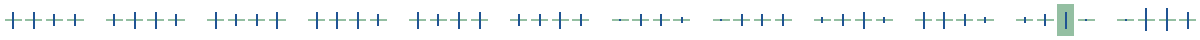
Spotted Towhee
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



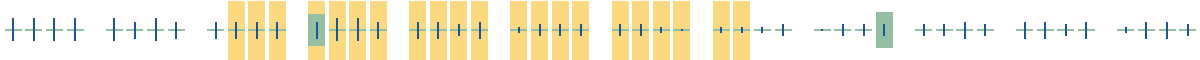
Tricolored Blackbird
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



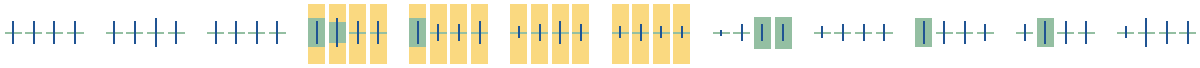
Willet
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Wrentit
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Yellow-billed Magpie
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



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

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

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

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

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

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

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

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

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

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

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

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

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

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

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

PEM1Cx

RIVERINE

R4SBC

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

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

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

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

Data exclusions

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

Data precautions

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

Appendix D: California Tiger Salamander Sampling 90-Day Report

MADRONE ECOLOGICAL CONSULTING

Memo

To: Samantha Lantz, Ph. D., U.S. Fish and Wildlife Service

From: Dustin Brown, Senior Biologist/Regulatory Specialist

Date: 19 May 2021

Subject: Monte Vista Memorial Gardens, 2021 California Tiger Salamander Larvae Sampling 90-Day Report (2021-TA-1331)

This memorandum serves to document the methods and results of the 2021 aquatic larvae sampling for California tiger salamander (*Ambystoma californiense*)(CTS) for the Monte Vista Memorial Gardens project (Study Area). The 2021 survey consists of the first round of CTS larvae sampling with the Study Area.

The Study Area is located at the northern edge of urban development within the City of Livermore immediately north of Interstate 580 and approximately 0.4 mile east of North Livermore Avenue, and 1.0 mile south of Harford Avenue (**Figure 1**). The Study Area corresponds to portions of Section 4, Township 2 North, and Range 2 East of the "Livermore, California" 7.5-minute quadrangle (USGS 2018). The approximate center of the Study Area is located at latitude 37.70604° and longitude -121.760884°.

Prior to the survey a CTS habitat assessment for the Study Area was conducted (Madrone 2021). This habitat assessment was conducted in accordance with the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) in the *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander* (USFWS and CDFW 2003). During this habitat assessment only one of the six aquatic features within the Study Area represented potential aquatic habitat for CTS. An additional six offsite features within 2 km of the Study Area were identified as potential CTS aquatic habitat.

Due to private property constraints, this survey targeted the one onsite feature (Feature E on **Attachment A**) and two of the six offsite features (Features 5 and 6 on **Figure 2**). However, it should be noted that all onsite and offsite potential CTS aquatic habitat features, with the exception of offsite Feature 6, remained dry during the 2020-2021 wet season.

Methods

The surveys were conducted in accordance with the *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander* (USFWS and CDFW 2003). Permitted CTS biologist Dustin Brown (Federal Permit #TE85084C-0, CDFW SCP and MOU SC-006845) received approval from the USFWS to conduct the surveys on 19 March 2021 (USFWS Reference Number 2021-TA-1331).

The protocol requires three surveys, spaced at least 10 days, to be conducted during the months of March, April, and May. The CTS larvae surveys were conducted on 26 March, 5 April, and 11 May 2021 by Madrone

biologists Dustin Brown and Bonnie Peterson. Only offsite Feature 6 contained water during the 2020-2021 wet season. A 15-foot wide seine net and dip nets with one-eighth-inch mesh were used to sample pools for CTS larvae during all surveys. The number of seine pulls varied based on pool size and other factors such as the presence of abundant vegetation. Seining was performed within the pools until all portions of the pools that could be effectively seined had been sampled. The length of each seine pull was estimated in the field using both surveyor pacing and visual estimates. To prevent the spread of aquatic pathogens, all sampling equipment including nets, buckets, measuring equipment, waders, and boots were decontaminated prior to entering the features with the use of Quat 128 or a mild bleach solution.

Results

No CTS eggs, larvae, or adults were observed during the 2021 surveys. Only one feature identified during the habitat assessment as potential CTS aquatic habitat retained water and was sampled. This feature, Feature 6, is located approximately 0.1 mile west of the Study Area immediately north of I-580. This feature contained two sub basins that are connected only during heavy rain events. This feature is located within the historical streambed of Arroyo Las Positas. The stream was relocated to the south of I-580 during the construction of the interstate. The feature is still hydrologically connected to Arroyo Las Positas by a culvert that goes under I-580. Feature 6 contains abundant trash, notably nylon gloves, Styrofoam, and plastics. The feature also received storm water runoff from the interstate.

Data sheets from the 2021 CTS larvae surveys are found in **Attachment B.** A variety of expected invertebrate species were found in Feature 6 including Corixidae, Copepoda, Ostracoda, Chironomidae, Culicoidea, Hirudinida, and Cladoceran. Adult Sierran chorus frogs (*Pseudacris sierra*) were also observed within Feature 6. See **Attachment B** for photographs of the surveys.

Discussion

From November 2020 through May 2021 Livermore received only 46% of average precipitation (**Table 1**).

Table 1. Current vs. Historical Precipitation

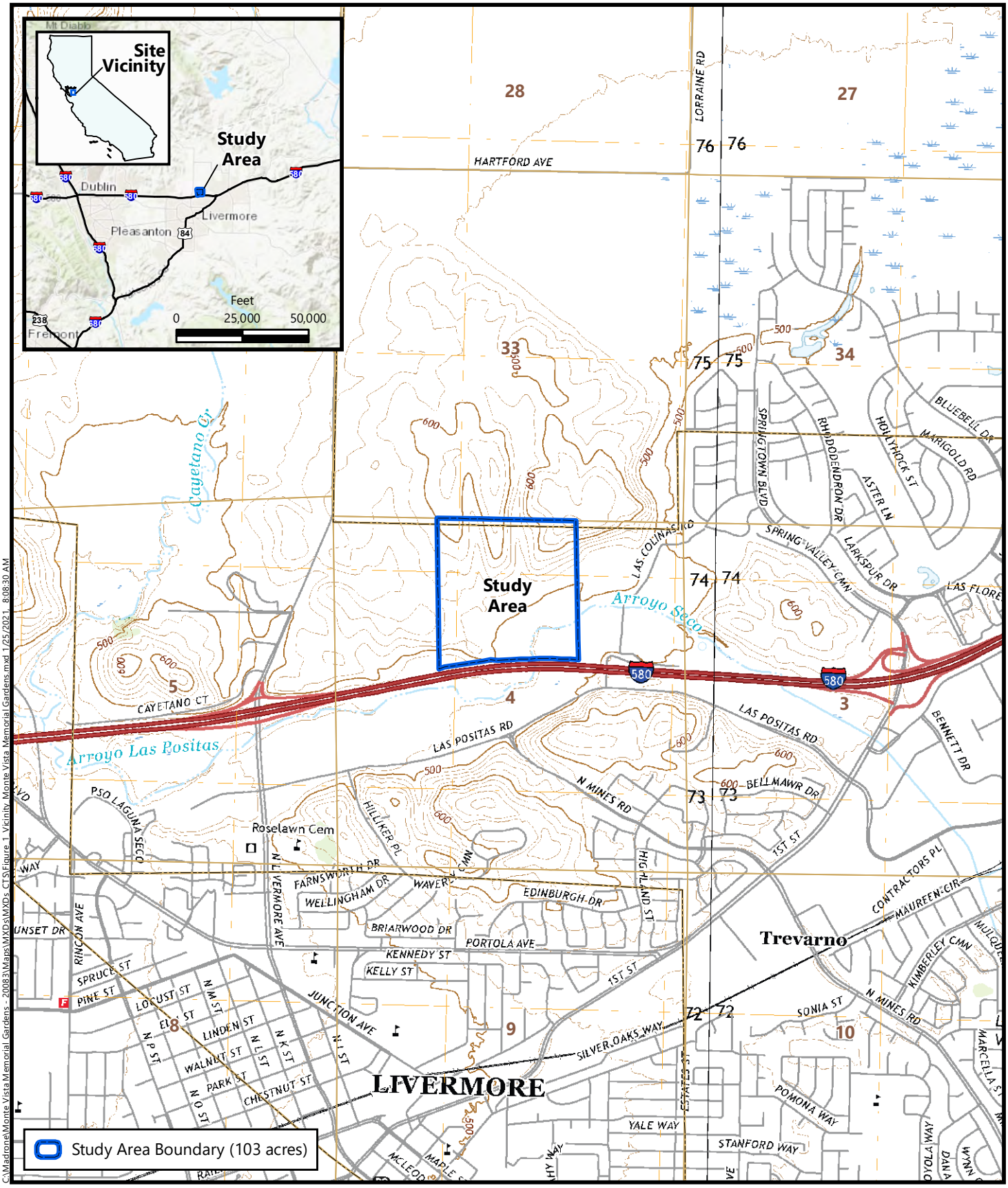
Month	**2020-2021 Monthly Precipitation***	**Average Monthly Precipitation**
November 2020	0.40	1.40
December 2020	1.26	2.53
January 2021	2.71	2.48
February 2021	0.45	2.49
March 2021	0.75	1.87
April 2021	0.05	1.07
May 2021	0.00	0.41
Total	**5.62**	**12.25**

*California Irrigation Management Information System (CIMIS)

Due to the abnormally dry winter, CTS may have chosen to forgo breeding this season. Because of this, it is recommended that additional surveys including one upland drift fence/pitfall trap survey and an additional aquatic larvae survey be conducted to determine the presence or presumed absence of CTS within the Study Area.

Figures and Attachments:
Figure 1. Location and Vicinity
Figure 2. Potential Off-Site CTS Habitats
Attachment A – Aquatic Resources Delineation (Onsite)
Attachment B – Data Sheets
Attachment C – Representative Survey Photographs

CC:
Ryan Olah, U.S. Fish and Wildlife Service



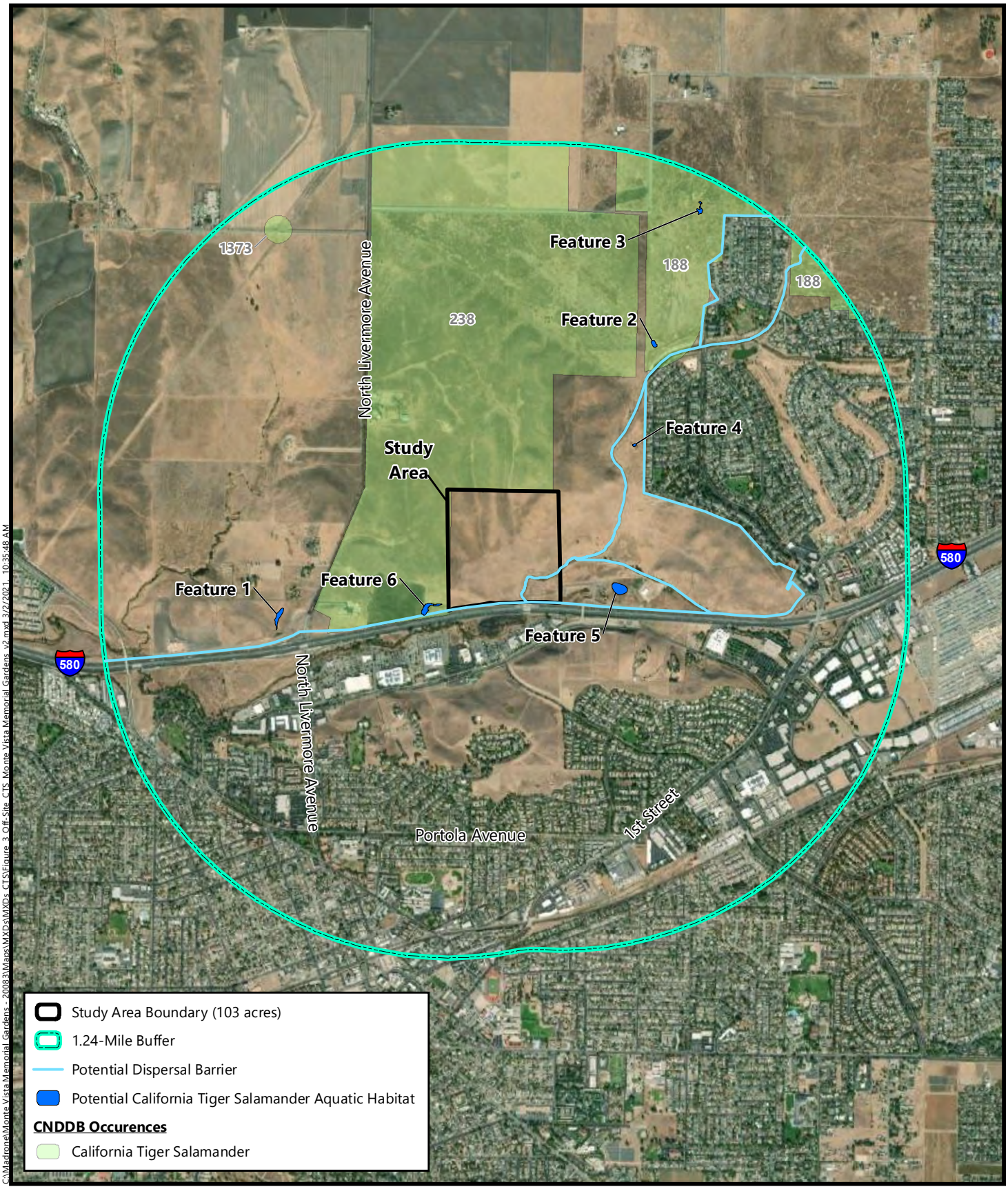
Source: United States Geologic Survey, 2018.
Las Positas Civil Land Grant
Section 4, Township 2 South, Range 2 East, MDB&M
"Livermore, California" 7.5-Minute Topographic Quadrangle
Longitude -121.760884, Latitude 37.70604

Figure 1
Site and Vicinity

Monte Vista Memorial Gardens
Livermore, Alameda County, California

MADRONE ECOLOGICAL CONSULTING

C:\Madrone\Monte Vista Memorial Gardens - 20083\Maps\MXDs\MXDs CTS\Figure 1 Vicinity Monte Vista Memorial Gardens.mxd 1/25/2021 8:08:30 AM



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N

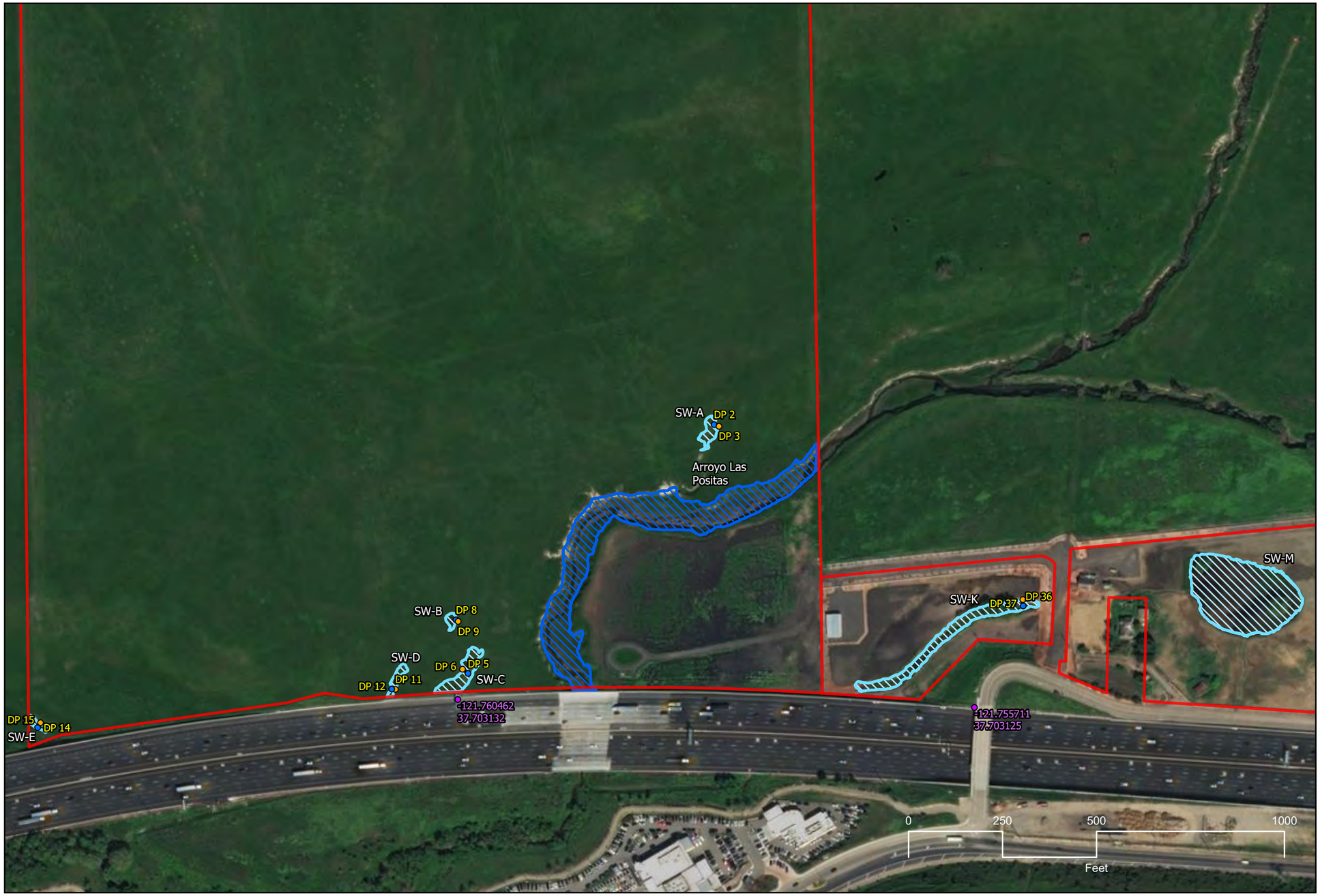
Feet
0 1,250 2,500

Figure 2
Potential Off-Site California Tiger Salamander Habitats

Monte Vista Memorial Gardens
Livermore, Alameda County, California

Source: *California Department of Fish and Wildlife*, January 2021.
Aerial Source: Maxar, 24 October 2019

MADRONE ECOLOGICAL CONSULTING



Delineation Table Study Area

Description	Area (SF)	Area (AC)
Intermittent Stream	80,823	1.855
Seasonal Wetlands		
SW-A	2,248	0.052
SW-B	843	0.019
SW-C	5,341	0.123
SW-D	1,441	0.033
SW-E	784	0.018
Total SW	10,657	0.245
Total All	91,480	2.1

Delineation Table Adjacent Parcels

Description	Area (SF)	Area (AC)
Seasonal Wetlands		
SW-K	13,340	0.306
SW-M	46,720	1.073
Total	60,060	1.379

Data Points
- Upland
- Wetland

Project Area

Intermittent Stream

Seasonal Wetland

Microsoft. Field data collected 12/11/2018. Scale: 1:3,300 original report 11x 17.

FIGURE 5 - PROJECT AREA WETLANDS AND "OTHER WATERS OF THE U.S."

KAHNCO (LIVERMORE) MONTE VISTA PROJECT• ALAMEDA COUNTY, CALIFORNIA

Date: February 05, 2019

N

BARNETT ENVIRONMENTAL

Feature 6-2 sub basin pools

California Tiger Salamander Survey Data Sheet

Date: 3/26/2021	Surveyors: DB, BP, Monte Vista Memorial Gardens, Survey #1		
Pool ID: Feature 6	% Cloud Cover: Ø	Time: 1050 hrs	
Weather: Clear, 3-10 mph		Air Temp.: 60-70°F	Water Temp: 60°F
Current Surface Area (ft2): ≈20,000 + ≈1,500	Current Max Depth (in.): 28" in eastern pool, 34" in western pond		
% Inundation: 90%	Turbidity (circle): clear tea-colored (turbid) - moderate		
General Hydrology Notes (connected to drainages or receives runoff?): Pool is connected to Arroyo Las Positas by a culvert under I-580.			
Substrate Composition (soil/clay, sand, gravel, cobble, boulder, other): Soil substrate			
% submerged vegetation: filamentous algae ≈20%	Submerged Vegetation Type: ≈25% emergent Sparganium		
% of Pool Sampled*: 60	Reason for not sampling 100% (circle): too deep unconsolidated bottom (abundant algae or vegetation) heavy cattle grazing high rain year		
Other amphibians observed (lifestage): Western spadefoot (Sierran chorus frog) Adult Western toad American bullfrog			
Aquatic Predators: NONE			
Location and numbers of aquatic predators:			
Notes: Two sub-basins were sampled within the old Arroyo Las Positas Creek channel. Small pool on the east is 28" in depth, wetted area is ≈12'x60', water is moderately turbid, salt crust observed on the margins of the pool. Pool is surrounded by salt grass with some Rumex crispus and Juncus mexicanus.			

*Sample 100% of pool if less than one acre (43,560 ft2). Sample 30% of the pool if more than one acre

						Late Season Survey		
Pull #	Length (ft.)	Width (ft.)	Depth (ave. in in.)	# of CTS Larvae	Size Class*	SVL (range in in.)	TL (range in in.)	Notes:
Small Pool ↓ Large Pool 1	60	12	20	Ø	-	-	-	Microturbullaria and Notonectidae
2	60	12	20	Ø	-	-	-	"
1	150	15	24	Ø	-	-	-	"
2	100	15	24	Ø	-	-	-	"
3	175	15	24	Ø	-	-	-	"
4	150	15	24	Ø	-	-	-	"
Dip net both pools	#50 & 100	-	-	Ø	-	-	-	

*Total length in inches. Class 1: <0.5, Class 2: 0.5 to <1, Class 3: 1 to <2, Class 4: 2 to <3, Class 5: 3 to <4, Class 6: 4+

California Tiger Salamander Survey Data Sheet

Date: 4/5/2021	Surveyors: DB, BP, Monte Vista Memorial Gardens, Survey #2		
Pool ID: Feature 6	% Cloud Cover: 100%	Time: 1100 hrs	
Weather: 5-15mph wind, overcast		Air Temp.: 62°F	Water Temp: 59°F (Sm.), 65°F (Lg.)
Current Surface Area (ft2): ≈15,000 + ≈1,200	Current Max Depth (in.): 26" in small pool, 30" in large pool		
% Inundation: 80%	Turbidity (circle): clear (Lg.) tea-colored turbid	moderate turbidity (small)	
General Hydrology Notes (connected to drainages or receives runoff?): These two subbasins form one large pool when fully inundated. Pools are located in the old Arroyo Las Positas Creek channel. The large pool is connected to Arroyo Las positas by a culvert under I-580			
Substrate Composition (soil/clay, sand, gravel, cobble, boulder, other): Soil			
% submerged vegetation: 30	Submerged Vegetation Type: algae, ≈30% emergent Sparganium		
% of Pool Sampled*: 70	Reason for not sampling 100% (circle): too deep unconsolidated bottom abundant algae or vegetation heavy cattle grazing high rain year		
Other amphibians observed (lifestage): Western spadefoot (Sierran chorus frog Adult) Western toad American bullfrog			
Aquatic Predators: none			
Location and numbers of aquatic predators: —			
Notes: Abundant trash in pool, notible are 100's of rubber/latex gloves, styrafoam, and plastics.			

*Sample 100% of pool if less than one acre (43,560 ft2). Sample 30% of the pool if more than one acre

						Late Season Survey		
Pull #	**Length (ft.)**	**Width (ft.)**	**Depth (ave. in in.)**	**# of CTS Larvae**	**Size Class***	**SVL (range in in.)**	**TL (range in in.)**	**Notes:**
Small Pool 1	60	12	18	Ø	-	—	—	Corixidae, Copepod Ostracod, Cladocera
2	60	12	18	Ø	-	-	—	"
Lg. Pool 1	150	15	20	Ø	—	-	—	Corixidae, Adult Chorus frog, mosquito larvae, Ostracod
2	175	15	20	Ø	—	-	-	"
3	200	15	20	Ø	—	-	—	"
Dip Nettings	50 + 100	-	-	Ø	-	—	—	"

*Total length in inches. Class 1: <0.5, Class 2: 0.5 to <1, Class 3: 1 to <2, Class 4: 2 to <3, Class 5: 3 to <4, Class 6: 4+

California Tiger Salamander Survey Data Sheet

Date: 5/11/2021	Surveyors: DB, BP, Monte Vista Memorial Gardens, Survey #3		
Pool ID: Feature 6	% Cloud Cover: Ø	Time: 1015 hours	
Weather: Warm, light wind		Air Temp.: 64°F	Water Temp: 62°F
Current Surface Area (ft2): 200 (Sm.), 1,500 (Lg)		Current Max Depth (in.): 17" (Sm.), 21" (Lg.)	
% Inundation: 20	Turbidity (circle): clear (tea-colored) turbid		
General Hydrology Notes (connected to drainages or receives runoff?): Same as previous surveys.			
Substrate Composition (soil/clay, sand, gravel, cobble, boulder, other): Soil			
% submerged vegetation: 25	Submerged Vegetation Type: Algae, 40% emergent Sparganium		
% of Pool Sampled*: 70 Reason for not sampling 100% (circle): too deep unconsolidated bottom (abundant algae or vegetation) heavy cattle grazing high rain year			
Other amphibians observed (lifestage): Western spadefoot (Sierran chorus frog) Adult Western toad American bullfrog			
Aquatic Predators: None			
Location and numbers of aquatic predators: –			
Notes: Poor water quality. Trash is abundant along with mosquito larvae and small leeches.			

*Sample 100% of pool if less than one acre (43,560 ft2). Sample 30% of the pool if more than one acre

						Late Season Survey		
Pull #	**Length (ft.)**	**Width (ft.)**	**Depth (ave. in in.)**	**# of CTS Larvae**	**Size Class***	**SVL (range in in.)**	**TL (range in in.)**	**Notes:**
Sm. Pool 1	40	8	12	Ø	–	–	–	Corixidae, Copepoda, Ostracoda, Chironomidae,
Lg. Pool 1	100	15	15	Ø	–	–	–	mosquito larvae, Cladoceran, leech.
2	80	15	15	Ø	–	–	–	"
3	80	15	15	Ø	–	–	–	"
Dip Nets	30 + 50	–	–	Ø	–	–	–	"

*Total length in inches. Class 1: <0.5, Class 2: 0.5 to <1, Class 3: 1 to <2, Class 4: 2 to <3, Class 5: 3 to <4, Class 6: 4+

Facing east at the eastern sub basin of Feature 6. Dated 26 March 2021.

Facing east at the western sub basin of Feature 6. Dated 26 March 2021. Note abundant trash.

Looking south at I-580 and culvert entrance that connects Feature 6 to Arroyo Las Positas.

Facing southwest at the western sub basin of Feature 6. Dated 26 March 2021.

Facing west at the eastern sub basin of Feature 6. Dated 5 April 2021.

Facing southwest at the western sub basin of Feature 6. Dated 5 April 2021.

Facing south at the western sub basin of Feature 6. Dated 11 May 2021.

Facing southeast at the eastern sub basin of Feature 6. Dated 11 May 2021.

Photograph of offsite Feature 5. This feature was dry during site visits on 11 February, 26 March, 5 April, and 11 May 2021.

Photograph of offsite Feature 1. This feature was dry during site visits on 11 February, 26 March, 5 April, and 11 May 2021.

Photograph of offsite Feature 2. This feature was dry during site visits on 11 February, 26 March, 5 April, and 11 May 2021.

Appendix E:
Photo Plate

Photo Plate
Monte Vista Memorial Gardens

PHOTO PLATE MAP

Date: January 14, 2021

KAHNCO (LIVERMORE) MONTE VISTA PROJECT • ALAMEDA COUNTY, CA

BARNETT ENVIRONMENTAL

1. Gravel road leading to the property off of Las Colinas.

2. Gravel road leading into the property

3. Grasslands on the property

4. Arroyo Las Positas flowing underneath 1-580, Arthur H Breed, Jr Freeway

5. Arroyo Las Positas flowing towards 1-580, Arthur H Breed, Jr Freeway

6. Photograph from the northwest of Arroyo Las Positas flowing underneath Arthur H Breed, Jr Freeway

7. Arroyo las Positas running through the property

8. Photograph from the south of Arroyo Las Positas' deeply incised channel.

9. Wider stretch of Arroyo Las Positas.

10. Squirrel burrows that could provide habitat for the burrowing owl.

11. Photograph showing grasslands in the central part of the property.

12. Plowed field in the central portion of the property.

13. Photograph showing the grasslands of the site and the elevated hilly terrain of the northern portion of the site.

14. Photograph of seasonal wetland on the southwest portion of the property.