Appendix C:
Biological Resources Supporting Information

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FCS
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Biological Assessment for ESA Section 7 Consultation and Biological Resources Assessment Martin Hills Ranch Residential Project Town of Danville, Contra Costa County, California

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SECTION 1: INTRODUCTION

This joint Biological Assessment (BA) for Endangered Species Act (ESA) Section 7 Consultation and Biological Resources Assessment (BRA) has been prepared by FirstCarbon Solutions (FCS) for the proposed Martin Hills Ranch Residential Project (proposed project) located in the Town of Danville in Contra Costa County, California.

The purpose of this joint BA/BRA is to review the proposed project in sufficient detail to determine to what extent the proposed action may affect any of the federally listed threatened, endangered, or proposed listed species and designated or proposed critical habitats listed in the sections below. In addition, the following information is provided to comply with statutory requirements to use the best scientific and commercial information available when assessing the risks posed to federally listed and/or proposed listed species and designated and/or proposed critical habitat by proposed federal actions. This joint BA/BRA has been prepared in accordance with legal requirements set forth under regulations implementing Section 7 of the Endangered Species Act (50 Code of Federal Regulations [CFR] 402; 16 USC 1536 (c)). This BA/BRA addresses species that fall under the jurisdiction of the United States Fish and Wildlife Service (USFWS) and provides all other necessary information that the USFWS will need if they decide to prepare a Biological Opinion (BO) for the proposed project. The BO would be prepared by the USFWS for the United States Army Corps of Engineers (USACE) pursuant to Section 7 of the federal Endangered Species Act. Additionally, this document also (1) document existing and potentially occurring biological resources on the project site and adjacent areas; (2) analyze potential project-related impacts on regulated biological resources, including federally and State threatened, endangered, and candidate species; (3) summarize relevant local, State, and federal regulations; and (4) recommend appropriate measures to mitigate potential impacts on biological resources.

1.1 - Project Location

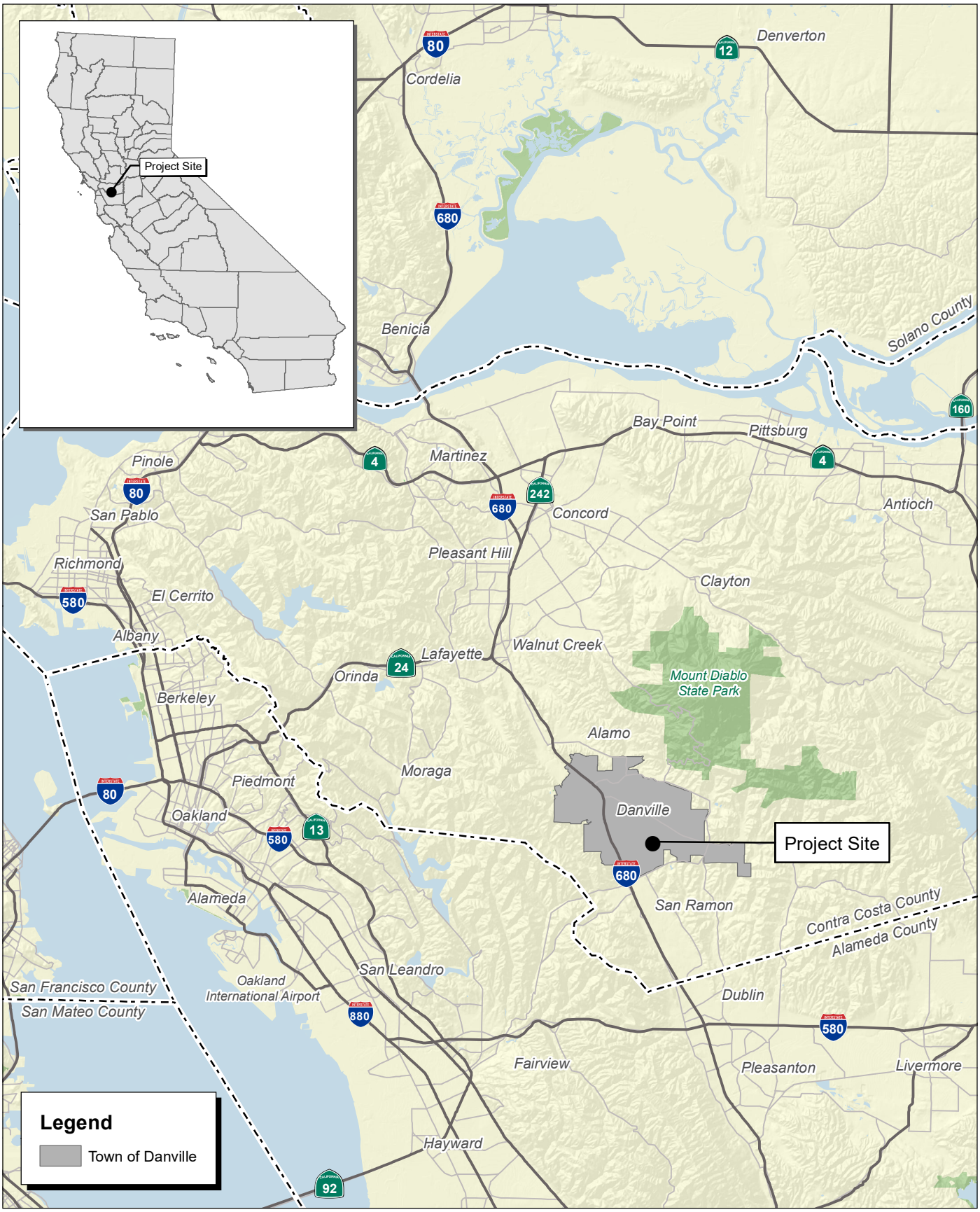
The project site is located in the Town of Danville (Town), in Contra Costa County, California (Exhibit 1). The Town is located in the eastern San Francisco Bay Area of Northern California. The Town is bordered to the north by the unincorporated community of Alamo, to the east by the unincorporated communities of Blackhawk and Diablo, to the south by the City of San Ramon, and to the west by the Las Trampas Regional Wilderness Park and unincorporated Contra Costa County. Located in southwestern Contra Costa County, the Town covers approximately 18 square miles and has historically been a suburban community serving major employment centers to the west (e.g., the City of San Francisco) and to the south (e.g., the City of San José). Regional access to the Town is provided by Interstate 680 (I-680) and State Route (SR) 24 to the west and I-580 to the south.

More specifically, the project site is located in the southern portion of the Town and is located off Borica Drive and Como Way and is generally bounded to the south and west by residential developments, to the south/southeast by residential developments and Crow Canyon Country Club Driving Range, and to the north/northeast by open space (Exhibit 2). The 100.23-acre project site consists of five Assessor's Parcel Numbers (APNs): 218-010-008, 218-010-009, 218-010-010, 218-010-011, and 218-010-012.

1.2 - Project Description

The project applicant proposes to construct 20 single-family homes, with approximately 25 percent (five homes) being designed with ADUs. The residential lots would be clustered in the southeastern portion of the approximately 102-acre project site. The proposed project is expected to generate approximately 70 residents.

The 20 residential lots would range between 14,553 square feet and 25,387 square feet, and the proposed project would also include several agricultural lots located north and west of the residences. Furthermore, the proposed project would construct project access off Como Way and internal streets to provide internal circulation within the project site (Exhibit 3).



Source: Census 2000 Data, The California Spatial Information Library (CaSIL).

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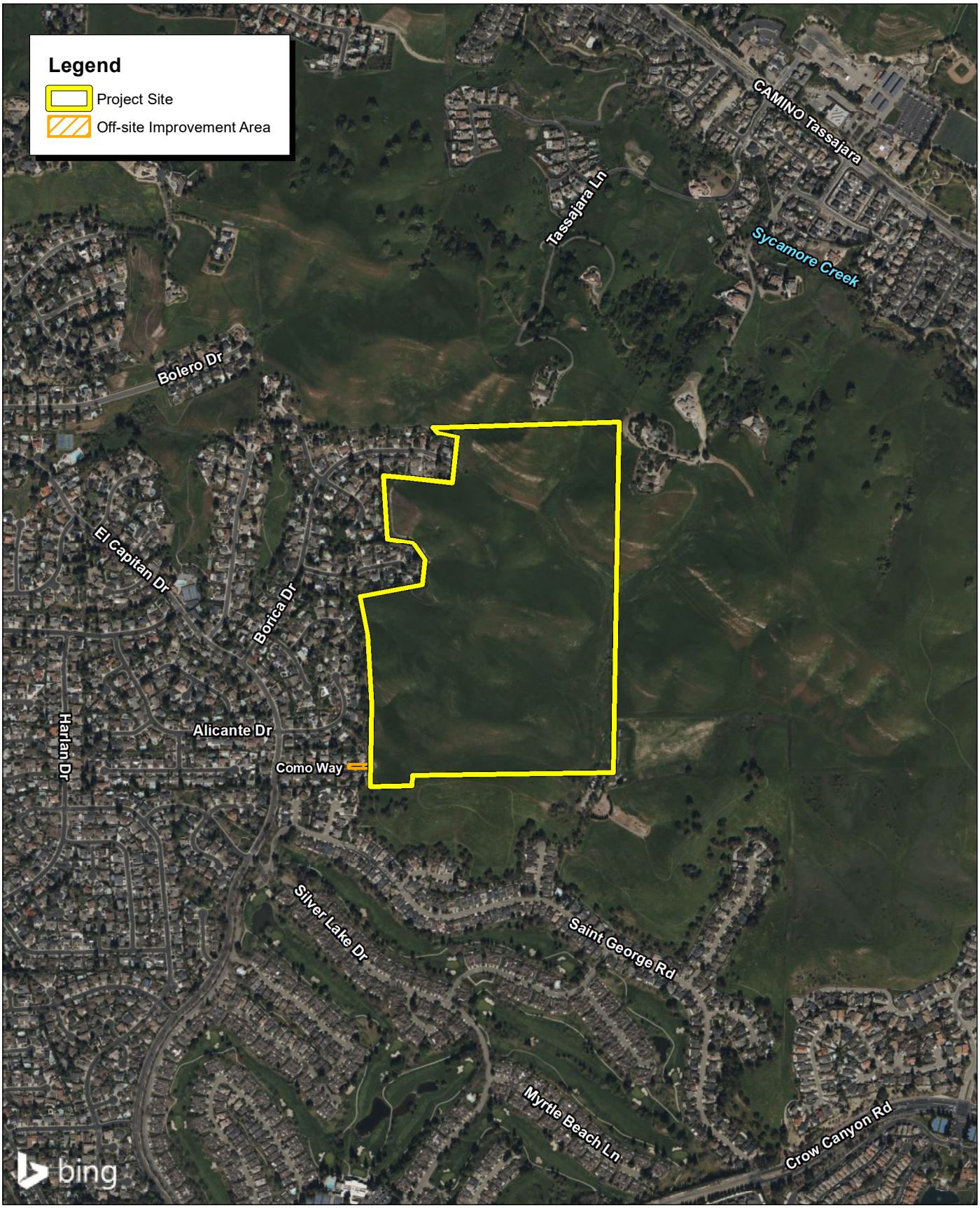
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Exhibit 1
Regional Location Map

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BATES STRINGER MARTIN HILLS RANCH, LLC
MARTIN HILLS RANCH RESIDENTIAL PROJECT
BIOLOGICAL ASSESSMENT FOR ESA SECTION 7 CONSULTATION
AND BIOLOGICAL RESOURCES ASSESSMENT

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Source: Bing Aerial Imagery. CBG Civil Engineers, January 28, 2025.

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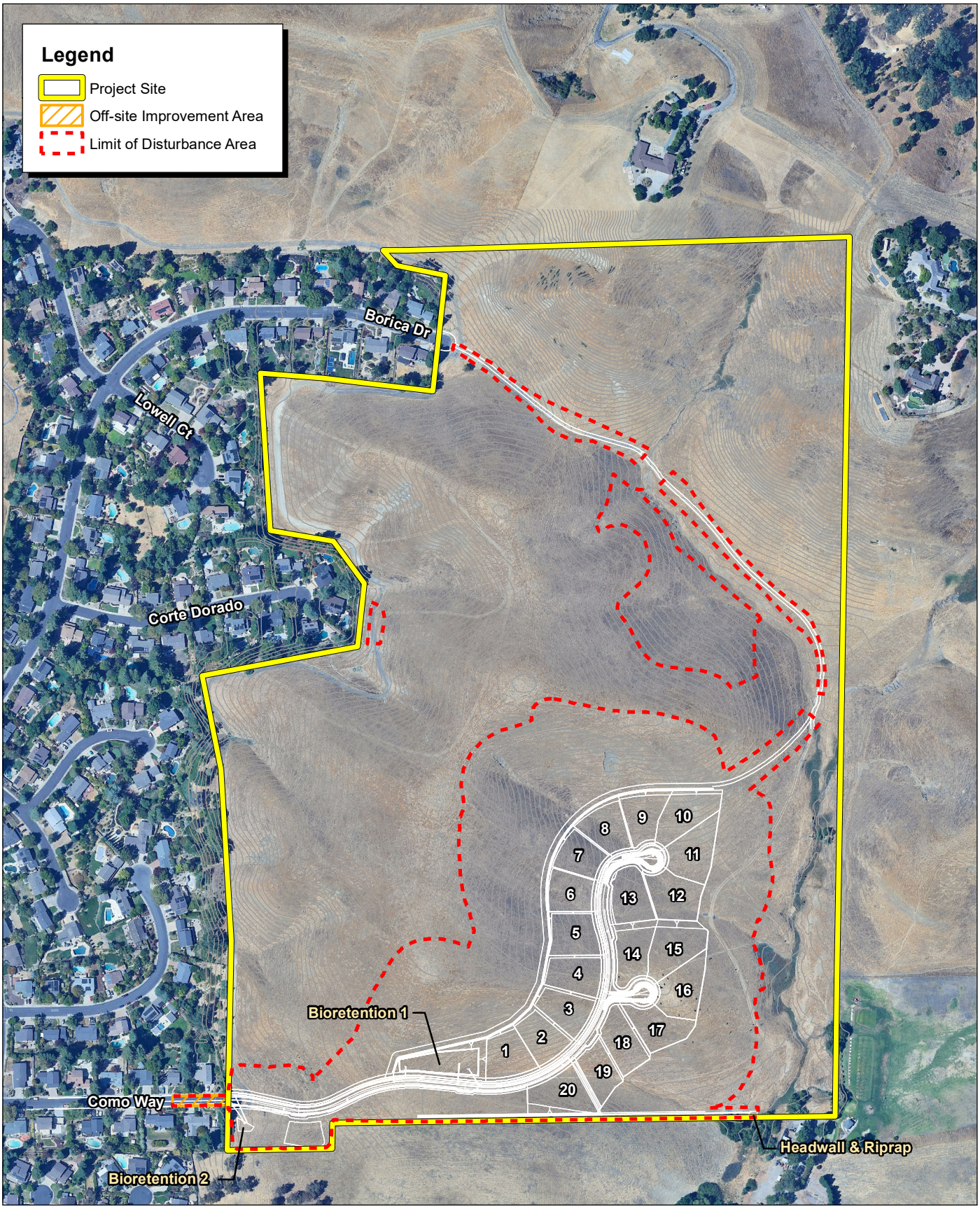
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Exhibit 2
Local Vicinity Map

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MARTIN HILLS RANCH RESIDENTIAL PROJECT
BIOLOGICAL ASSESSMENT FOR ESA SECTION 7 CONSULTATION
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Source: Google Earth Aerial Imagery. CBG Civil Engineers, January 28, 2025, updated July 30, 2025.

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Exhibit 3
Site Plan

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AND BIOLOGICAL RESOURCES ASSESSMENT

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SECTION 2: REGULATORY SETTING

2.1 - Federal

2.1.1 - Endangered Species Act

The USFWS has jurisdiction over species listed as threatened or endangered under the Endangered Species Act. Section 9 of the Endangered Species Act protects listed species from "take," which is broadly defined as actions taken to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." The Endangered Species Act protects threatened and endangered plants and animals and their critical habitat. Candidate species are those proposed for listing; these species are usually treated by resource agencies as if they were actually listed during the environmental review process.

A proposed project may acquire permission to "take" listed and candidate species through implementation of sections of the Endangered Species Act. If the proposed project is funded by, authorized by, or otherwise involves a federal agency, Section 7 requires those agencies to consult with the USFWS to ensure that the project does not jeopardize the future existence of any listed species. The consultation results in either a concurrence letter from USFWS stating that the proposed action does not jeopardize the species, or a Biological Opinion issued by USFWS that includes a defined limit of "take" of listed species that is authorized for the action. When there is no federal nexus to pursue Section 7 permissions, USFWS may authorize "take" of listed species through Section 10, which allows private landowners, corporations, Native American Tribes, states, cities, and counties to implement projects that could affect listed species. Under this process, the project proponent seeks "take" permissions through completing and submitting for approval a Habitat Conservation Plan (HCP) approved by the USFWS. The HCP defines the project and potential for "take" of species, and outlines measures to mitigate or compensate for impacts that would occur during implementation of the project. Often a draft Implementing Agreement (IA) is included with the permit application for larger HCPs, such as a regional plan. An IA is a contract that describes the roles and responsibilities of the permit holder, the federal wildlife agency, and any other parties responsible for implementing the HCP.

2.1.2 - Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by several State and federal laws. The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The MBTA prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. All migratory birds and their nests are protected from take and other impacts under the MBTA (16 USC § 703, *et seq*.).

2.1.3 - Bald and Golden Eagle Protection Act

The golden eagle (*Aquila chrysaetos*) and bald eagle (*Haliaeetus leucocephalus*) are afforded additional protection under the Eagle Protection Act, amended in 1973 (16 USC § 669, *et seq*.) and the Bald and Golden Eagle Protection Act (16 USC §§ 668–668d).

2.1.4 - Clean Water Act

Section 404

The agencies are in receipt of the U.S. Supreme Court's May 25, 2023, decision in the case of *Sackett v. Environmental Protection Agency*. In light of this decision, the agencies will interpret the phrase "waters of the United States" consistent with the Supreme Court's decision in the *Sackett* case. In *Sackett*, the Supreme Court adopted the *Rapanos* plurality's test for adjacent wetlands: only those wetlands with a continuous surface connection to other regulated waters, such that the two are indistinguishable.

The USACE administers Section 404 of the federal Clean Water Act (CWA), which regulates the discharge of dredge and fill material into waters of the United States of the CWA, the USACE regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined in in accordance with the USACE regulations at 33 Code of Federal Regulations Part 328.3(a) as:

Waters which are:

a) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

b) The territorial seas; or

c) Interstate waters;

d) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;

e) Tributaries of waters identified in paragraphs (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

Wetlands adjacent to the following waters:

a) Waters identified in paragraph (a)(1) of this section; or

b) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

The following are not "waters of the United States":

1. Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;
2. Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;
3. Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;
4. Artificially irrigated areas that would revert to dry land if the irrigation ceased;
5. Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;
6. Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;
7. Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and
8. Swales and erosional features (*e.g.,* gullies, small washes) characterized by low volume, infrequent, or short duration flow.

Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the EPA and/or USACE.

"Wetland" refers to areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and seasonal wetlands. Wetlands are considered jurisdictional if they fall under one of the categories of waters of the United States defined above. The USACE jurisdiction typically extends up to the ordinary high water mark (OHWM).

In general, a USACE permit must be obtained before placing fill in wetlands or other waters of the United States. The type of permit depends on the impacted acreage, the purpose of the proposed fill, and other factors.

Section 401

As stated in Section 401 of the CWA, "any applicant for a federal permit for activities that involve a discharge to waters of the State, shall provide the federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal Clean Water Act." Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB).

2.2 - State

2.2.1 - CEQA Guidelines

The California Environmental Quality Act (CEQA) requires public agencies to evaluate potential impacts to special-status species and their habitat. The following CEQA Guidelines Appendix G checklist questions serve as thresholds of significance when evaluating the potential impacts of a proposed project on biological resources. Impacts are considered significant if a project would:

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

2.2.2 - California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA pertains to State-listed endangered and threatened species. CESA requires State agencies to consult with the CDFW when preparing CEQA documents to ensure that the State lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (California Fish and Game Code [FGC] § 2080). CESA directs agencies to consult with the CDFW on projects or actions that could affect listed species, directs the

CDFW to determine whether jeopardy would occur, and allows the CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows the CDFW to authorize exceptions to the State's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (FGC § 2081).

2.2.3 - California Fish and Game Code

Rare, Threatened, and Endangered Species

Under CESA, the CDFW has the responsibility for maintaining a list of endangered and threatened species (FGC § 2070). Fish and Game Code Sections 2050 through 2098 outline the protection provided to California's rare, endangered, and threatened species. Fish and Game Code Section 2080 prohibits the taking of plants and animals listed under the CESA, and Fish and Game Code Section 2081 established an ITP program for State-listed species. The CDFW maintains a list of "candidate species" which it formally notices as being under review for addition to the list of endangered or threatened species.

Fully Protected Species

Fish and Game Code Sections 3500—5500 outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. The CDFW cannot issue permits or licenses that authorize the take of any fully protected species except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock.

Species of Special Concern

In addition to formal listing under the Endangered Species Act and CESA, some species receive additional consideration by the CDFW and local lead agencies during the CEQA process. Species that may be considered for review are those listed as a "Species of Special Concern." The CDFW maintains lists of "Species of Special Concern" that serve as species "watch lists." Species with this status may have limited distributions or limited populations and/or the extent of their habitats has been reduced substantially, such that their populations may be threatened. Thus, their populations are monitored, and they may receive special attention during environmental review. While Species of Special Concern are not State-listed do not receive CESA protection, they can be shown to meet the criteria for State listing and thus protected under CEQA, where they meet the CEQA definition of rare, threatened, or endangered species (CEQA Guidelines, § 15380). In addition to Species of Special Concern, the CDFW Special Animals List identifies animals that are tracked by the California Natural Diversity Database (CNDDB) and may be potentially vulnerable but warrant no federal interest and no legal protection.

Other Sensitive Species

Sensitive species that would qualify for listing but are not currently listed are afforded protection under CEQA. CEQA Guidelines Section 15065 (Mandatory Findings of Significance) requires that a substantial reduction in numbers of a rare or endangered species be considered a significant effect.

CEQA Guidelines Section 15380 (Rare or Endangered Species) provides for the assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing. Unlisted plant species on the California Native Plant Society (CNPS) List ranked 1A, 1B, and 2 would typically require evaluation under CEQA.

Native Bird Protection

Sections 3503, 3503.5, and 3513 protect native birds. Under Fish and Game Code Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any native bird. Under Fish and Game Code Section 3503.5, it is unlawful to take, possess, or destroy any birds in the orders of Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird. Under Fish and Game Code Section 3513, it is unlawful to take or possess any native, migratory bird as designated in the MBTA except as provided by rules and provisions of the MBTA. Mitigation for avoidance of impacts to nesting birds is typically included in CEQA and other permitting documents to ensure project compliance with these Fish and Game Code Sections.

Native Plant Protection Act

The Native Plant Protection Act of 1977 (NPPA) (FGC § 1900, *et seq*.) prohibits the taking, possessing, or sale within the State of any plants with a State designation of rare, threatened, or endangered (as defined by the CDFW). An exception to this prohibition in the NPPA allows landowners to take listed plant species under specified circumstances, provided that the owners first notify CDFW and give the agency at least 10 days to come and retrieve (and presumably replant) the plants before they are plowed under or otherwise destroyed. Fish and Game Code Section 1913 exempts from "take" prohibition "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right-of-way." Project impacts to these species are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of the proposed project.

Lake or Streambed Alteration

Fish and Game Code Section 1602 requires any entity to notify the CDFW before beginning any activity that "may substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake" or "deposit debris, waste, or other materials that could pass into any river, stream, or lake." "River, stream, or lake" includes waters that are episodic and perennial and ephemeral streams, desert washes, and watercourses with a subsurface flow. A Lake or Streambed Alteration Agreement will be required if the CDFW determines that project activities may substantially adversely affect fish or wildlife resources through alterations to a covered body of water. CDFW jurisdiction typically extends to the edge or "drip line" of the riparian habitat or top of bank.

Natural Community Conservation Planning Act

Section 2800 of the California Fish and Game Code establishes the Natural Community Conservation Planning Act (NCCP Act), which allows the CDFW to authorize Natural Community Conservation Plans (NCCPs) to allow "take" of species listed under CESA and other sensitive species and vegetation communities on a regional scale. The primary objective of the NCCP Act is to conserve covered

natural communities and species at the ecosystem scale while accommodating compatible land uses, or covered activities. NCCPs must provide conservation and management of natural communities and species in perpetuity within the area covered by permits. Each NCCP provides measures necessary to conserve and manage sensitive biological resources, including natural vegetation communities and the plant and wildlife species they support, within a reserve system, while also allowing compatible developments and other projects to take species and habitats under special conditions outside of areas targeted for conservation. NCCPs are different from HCPs because the NCCP Act requires that conservation actions improve the long-term conservation of species, whereas HCPs typically only require avoidance of adverse impacts to species. Additionally, while HCPs can be implemented at a project or regional scale, an NCCP must be applied across regional scales to promote the long-term recovery of species, protection of habitats and natural communities, and maintenance of species diversity at the landscape level.

2.2.4 - California Porter-Cologne Water Quality Control Act

Section 13260(a) of the Porter-Cologne Water Quality Control Act (contained in the California Water Code) requires any person discharging waste or proposing to discharge waste, other than to a community sewer system, within any region that could affect the quality of the waters of the State (all surface and subsurface waters) to file a report of waste discharge. The discharge of dredged or fill material may constitute a discharge of waste that could affect the quality of waters of the State.

2.2.5 - California State Water Resources Control Board/RWQCB Stormwater Management Permitting

While federal CWA National Pollutant Discharge Elimination System (NPDES) regulations allow two permitting options for construction-related stormwater discharges (individual permits and General Permits), the State Water Board has elected to adopt only one Statewide Construction General Permit at this time that will apply to all stormwater discharges associated with construction activity, except those located on Tribal lands in the Lake Tahoe Hydrologic Unit and those performed by the California Department of Transportation (Caltrans).

The Construction General Permit requires all dischargers where construction activity disturbs greater than 1 acre of land or those sites less than 1 acre that are part of a common plan of development or sale that disturbs more than one acre of land surface to:

1. Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater with the intent of keeping all products of erosion from moving off-site into receiving waters.
2. Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation. Achieve quantitatively defined (i.e., numeric) pollutant-specific discharge standards, and conduct much more rigorous monitoring based on the project's projected risk level.
3. Perform inspections of all BMPs.

2.2.6 - California Native Plant Society Rare Plant Rankings

CDFW, in collaboration with CNPS and other technical experts, maintains a rank of plant species that are native to California and that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. The California Rare Plant Rank (CRPR) system includes six rarity and endangerment ranks that are defined as follows:

- **Rank 1A:** Plants presumed extirpated in California and either rare or extinct elsewhere
- **Rank 1B:** Plants rare, threatened, or endangered in California and elsewhere
- **Rank 2A:** Plants presumed extirpated in California but common elsewhere
- **Rank 2B:** Plants rare, threatened, or endangered in California but more common elsewhere
- **Rank 3:** Plants about which more information is needed
- **Rank 4:** Watch List: Plants of limited distribution

Potential impacts to populations of CRPR ranked plants receive consideration under CEQA review. All plants appearing on the CNPS List ranked 1 or 2 are considered to meet the CEQA Guidelines Section 15380 criteria. Rank 3 and 4 plants do not automatically meet this definition. Impacts to Rank 3 plants may warrant consideration under CEQA if sufficient information is available to assess potential impacts to such plants. Rank 4 plants do not clearly meet CEQA standards and thresholds for impact considerations but impacts to them may warrant consideration under CEQA if cumulative impacts are significant enough to affect their overall rarity.[1,2]

2.3 - Regional and Local

2.3.1 - Town of Danville General Plan

The purpose of the Town of Danville 2030 General Plan (General Plan) is to express the broad goals, policies, and specific implementation measures, which will guide decisions on future growth, development, and the conservation of resources through the year 2030. The following are the applicable General Plan goals and policies that are relevant to this analysis are listed below with regard to protection and preservation of the natural resources in the area.

Chapter 6—Resources and Hazards

Chapter 6 addresses natural resources typically included in a general plan conservation element and the various regulations regarding biological resources.3

Goal 21 Protect and enhance Danville's natural features, including its hillsides, ridgelines, creeks, vegetation, and wildlife.

[1] California Native Plant Society (CNPS). 2020. Considerations for Including CRPR 4 Plant Taxa in CEQA Biological Resource Impact Analysis. Sacramento, CA. January 21, 2020.
[2] California Department of Fish and Wildlife (CDFW). 2018. Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities.

Policy 21.01 Preserve and enhance natural habitat areas that support wildlife, including large continuous areas of open space and wetland and riparian habitat.

Policy 21.02 Maintain open space in appropriate areas, including areas of scenic beauty, areas of economically viable agriculture, and areas where natural hazards such as flooding, and land instability preclude safe development.

Policy 21.03 Utilize the development review process to preserve adequate open space for scenic, active, and passive purposes. Require private open space areas where appropriate.

Policy 21.04 Require adequate buffering and effective fencing between agricultural and urban land uses. The urban land use should be responsible for the creation and maintenance of such buffers and the urban property owners should assume the responsibility for potential impacts upon adjacent uses. Where appropriate, disclosure notices should be used to advise homebuyers of nearby agricultural activities as a means of ensuring that such activities may continue when they are properly conducted.

Policy 21.05 Maintain development standards and regulations for hillside grading which protect public safety, discourage major changes to natural landforms, ensure that adverse visual and aesthetic impacts are minimized, and require that erosion, sedimentation, and other potentially harmful effects of grading are appropriately mitigated.

Policy 21.06 Discourage activities that would harm the health of existing trees. Prevent the unnecessary removal and alteration of such trees, including "protected" trees as defined by the Town's Tree Preservation Ordinance and other trees that contribute to the scenic beauty of the Town. Public and private improvements should be designed to minimize the removal of mature trees, regardless of species. If removal is necessary, trees should be replaced with an appropriate number and species.

Policy 21.07 Ensure that local planning and development decisions do not damage the habitat of rare and endangered plant and animal species, consistent with State and federal law.

Policy 21.08 Where appropriate, encourage the retention and re-establishment of native vegetation in private development and public facility projects.

Policy 21.09 Require the planting and maintenance of trees along Danville streets. Species should be appropriate for their settings, given considerations such as maintenance and pruning requirements, water needs, potential for sidewalk damage, and view impacts.

Policy 21.10 Require a biological assessment for development proposed on sites that are determined to have the potential to contain special-status species, sensitive natural communities, or wetland resources.

Goal 22 Improve water quality in Danville and the water bodies which receive runoff from Danville, including San Francisco Bay.

Policy 21.11 Protect the nests of raptors and other birds when in active use, as required by State Fish and Game Code and the federal Migratory Bird Treaty Act.

Policy 22.01 Maintain and enhance the natural quality of Danville's creeks, including the riparian vegetation along the banks. Setbacks should be maintained along creeks to maintain their natural appearance, reduce erosion and flood hazards, and protect their ecological functions.

Policy 22.02 Require qualifying new development projects and redevelopment projects to comply with the Municipal Regional Permit for stormwater control and treatment.

Policy 22.03 Conduct education and outreach activities to increase public awareness of water quality issues and the steps Danville residents and businesses can take to reduce water pollution.

Policy 22.04 Manage the Town's storm drainage facilities in a manner which minimizes pollution of local streams and waterways. Storm drains and other drainage facilities should be regularly maintained.

Goal 23 Promote intergovernmental coordination and cooperation to protect environmental quality.

Policy 23.01 Share information about important local biological, productive, and historic resources with other communities and agencies in the region and work with these communities and agencies to protect such resources.

Policy 23.02 Work with other communities and agencies to protect and enhance the significant ecological communities of the Tri-Valley area, including wetlands, riparian areas, and oak woodlands.

Policy 23.03 Promote a regional approach to protecting sustainable habitat in the Danville Planning Area, through mitigation banking and other means.

Policy 23.04 Support efforts to incorporate Danville's scenic ridgelines into a larger, regional open space framework that connects parts of the Tri-Valley area.

Policy 23.05 Continue cooperative planning and implementation efforts at the countywide level to ensure that qualifying new development projects and redevelopment projects comply with the hydro-modification plan/program requirements imposed through the Municipal Regional Permit.

Policy 23.06 Work with other jurisdictions and water providers to ensure a sufficient and sustainable long-term supply of potable water for existing Danville customers and for future development that is consistent with the goals of this General Plan.

Policy 23.07 Recognize the State and federal regulations that serve to protect wetlands and require full compliance with these regulations as part of development review. This would include detailed wetland delineations and assessments where waters under the jurisdiction of the U.S. Army Corps of Engineers may be affected.

2.3.2 - Town of Danville Municipal Code

Chapter 32-79.3 Protected Trees

A. Any of the following native trees having a trunk or main stem which measures ten (10) inches or greater in diameter measured four and one-half (4-1/2) feet above natural grade or, for a multiple trunked tree, a combination of trunks totaling twenty (20) inches or greater in diameter measured four and one-half (4-1 /2) feet above natural grade, on any type of lot or property:

1. Coast Live Oak (*Quercus Agrfolia*)
2. Valley Oak (*Quercus Lobata*)
3. Canyon Live Oak (*Quercus Chrysol*)
4. Blue Oak (*Quercus Doulgassi*)
5. California Black Oak (*Quercus Kelloggi*)
6. Interior Live Oak (*Quercus Wislizenii*)
7. White Alder (*Alnus Rhombifolia*)
8. California Bay (*Umbellularia California*)
9. California Buckeye (*Aesculus Californica*)
10. California Sycamore (*Platanus Racemosa*)
11. Madrone (*Arbutus Menziesii*)
12. London Plane Tree (*Platanus Acerifolia*)

B. Any Heritage Tree

C. Any Memorial Tree

D. A tree shown to be preserved on an approved Development Plan or specifically required by the Planning Commission to be retained as a condition of approval of an entitlement. A tree specifically required to be preserved by the Planning Commission shall require a subsequent Planning Commission approval for removal.

E. A tree required to be planted as mitigation for the removal of a protected tree, as established under subsection 32-79.6.d.

Except as provided in paragraph b of this subsection, no person may destroy or remove a protected tree on any property within the Town of Danville without obtaining a Tree Removal Permit from the Planning Division pursuant to subsection 32-79.6.

Chapter 32-22.12.C Creek Structure Setbacks

The Town of Danville Municipal Code (Municipal Code) (Chapter 32-22.12.C Creek Structure Setbacks) names major creeks channels as San Ramon Creek, Sycamore Creek, Green Valley Creek, East Branch of Alamo Creek, and the West Branch of Alamo Creek. For properties that abut major channels, all additions and/or new structures shall meet the creek current structure setback requirements as defined by Contra Costa County Flood Control and Water Conservation District or as determined by the City Engineer. For properties that abut non-major channels, all additions and/or new structures shall meet the structure setback requirements as defined in Municipal Code Chapter 31-29, as determined by the City Engineer. All structures shall observe the minimum creek setback, or the property line setback otherwise established under the applicable zoning district, whichever is greater.

Municipal Code Chapter 31-29 states that the width of drainage easements for unimproved channels with side slopes steeper than two horizontals to one vertical (2:1) shall be determined by a line measured from the toe of slope a distance of twice the channel depth plus the appropriate top of bank setback as shown in Table 1 below.

Table 1: Structure Setbacks

Channel Depth (Feet)	Top of Ban Setback
0-6	12 each side if within subdivision
6-12	15 each side if within subdivision
12-18	18 each side if within subdivision
18 and above	21 each side if within subdivision

The width of drainage easements for unimproved channels with side slopes flatter than two horizontals to one vertical (2:1) shall be the channel top width plus the appropriate top of bank setback.

SECTION 3: METHODS

3.1 - Literature and Database Reviews

FCS conducted a literature review to evaluate potential project impacts on biological resources on the project site and in the surrounding area.

3.1.1 - Existing Documentation

As part of the literature review, an FCS Biologist compiled and analyzed existing environmental documentation for the project site. This included a nine-quadrangle search, as further described in Section 3.1.4 below. This documentation included literature pertaining to the habitat requirements of special-status species with the potential to occur in the project site and project vicinity; and federal register listings, protocols, and species data provided by the USFWS, CDFW, and CNPS. Additional existing documentation included previous technical studies as outlined below:

- Special-Status Plant Survey Report (2024) prepared by Pinecrest Environmental;
- Preliminary Aquatic Resource Delineation Report (2024) prepared by FCS;
- Habitat Assessment for California Red-legged Frog (2024) prepared by WRA;
- California Red-legged Frog Survey Report (2024) prepared by WRA

3.1.2 - Topographic Maps and Aerial Photographs

An FCS Biologist reviewed current USGS 7.5-minute topographic quadrangle map(s) and aerial photographs as a preliminary analysis of the existing conditions within the project site and immediate vicinity.[3] Information obtained from the topographic maps included elevation, general watershed information, and potential drainage feature locations using Google Earth in conjunction with the EPA Watershed Assessment, Tracking, and Environmental Results System (WATERS).[4] Aerial photographs provided a perspective of the current site conditions relative to on-site and off-site land use, plant community locations, and potential locations of wildlife movement corridors. To assess changes in site conditions over time, FCS Biologists reviewed historical aerial imagery maintained in Google Earth[5] and assessed how these changes affected biological resources on-site.

3.1.3 - Soils

The United States Department of Agriculture (USDA) has published soil surveys that describe the soil series (i.e., group of soils with similar profiles) occurring within a particular area.[6] These profiles include major horizons with similar thickness, arrangement, and other important characteristics.

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[3] United States Geological Survey (USGS). 2024. National Geospatial Program. Website: https://apps.nationalmap.gov/viewer/. Accessed July 2, 2024.

[4] United States Environmental Protection Agency (EPA). 2024. Watershed Assessment, Tracking and Environmental Results System (WATERS). Website: https://www.epa.gov/waterdata/waters-watershed-assessment-tracking-environmental-results-system. Accessed July 2, 2024.

[5] Google Earth 7.3.6.9345. 2025. Danville, California lat 37.475241° long -121.572056°, elevation 603 ft. Website: http://www.google.com/earth/index.html. Accessed April 1, 2025.

[6] United States Department of Agriculture (USDA). Natural Resources Conservation Service (NRCS). 2023. Web Soil Survey (WSS). Website: https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed December 13, 2023.

These series are further subdivided into soil mapping units that provide specific information regarding soil characteristics. Many special-status plant species have a limited distribution based exclusively on soil type. Therefore, pertinent USDA soil survey maps were reviewed to determine the existing soil mapping units within the project site and to inform whether the soil conditions on-site are potentially suitable for any special-status plant species. However, Natural Resources Conservation Service (NRCS) soil maps utilize an approximately 1.4-acre minimum mapping unit, and line placement may not be accurate on a large (i.e., parcel-level) scale.

3.1.4 - Special-status Species Database Search

Biological Assessment

Prior to preparing this report, FCS used the USFWS Information for Planning and Consultation (IPaC) tool to request and receive an official list of federally threatened and endangered species that may occur at the project location or that may be affected by the proposed project (Appendix B). The California Natural Diversity Database, RareFind 5 application for historic and recent records of federally protected plant and wildlife species known to occur within 2 miles of the project site were also recorded. Finally, a search of the 2024 electronic version of the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants of California for records of federally protected plants known in the region of the project site. From these database searches, a list was compiled of federally protected plant and wildlife species known from the region of the project site. Additionally, a search of all known record locations for federally listed plant and wildlife species to determine whether they could occur on the project site or within an area of affect was performed.

Biological Resource Assessment

An FCS Biologist compiled a list of threatened, endangered, and otherwise special-status species which was based on a nine-quad database review for previously recorded occurrences within the project site vicinity.[7] The list was based on FCS's special-status species assessment and subsequent supplemental documentation, search of the CDFW CNDDB, and the CNPS Electronic Inventory (CNPSEI) of Rare and Endangered Vascular Plants of California for the USGS *Diablo, California* 7.5-minute Topographic Quadrangle Map, and the eight surrounding quadrangles (Appendix B).[8,9] The CNDDB Biogeographic Information and Observation System (BIOS) database was used to determine the distance between known recorded occurrences of special-status species and the project site.[10]

3.1.5 - Sensitive Natural Communities Identification and Mapping

Sensitive natural communities are vegetation communities or special wildlife habitats that are rare or occur in limited distributions or provide specific habitat requirements for special-status plant or wildlife species. The CDFW maintains a list of natural communities which attempts to classify

[7] United States Fish and Wildlife Service (USFWS). 2024. Information for Planning and Consultation (IPaC). Website: https://ecos.fws.gov/ipac/. Accessed July 2, 2024.
[8] California Department of Fish and Wildlife (CDFW). 2024. California Natural Diversity Database (CNDDB) RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 2, 2024.
[9] California Native Plant Society (CNPS). 2024. California Native Plant Society Rare and Endangered Plant Inventory. Website: https://www.rareplants.cnps.org/. Accessed July 2, 2024.
[10] California Department of Fish and Wildlife (CDFW). 2024. Biogeographic Information and Observation System (BIOS 6). Website: https://apps.wildlife.ca.gov/bios6/. Accessed July 2, 2024.

vegetation types found within the State of California and rank them based on rarity. Communities ranked S1–S3 are considered sensitive natural communities.[11] Riparian vegetation and wetland communities are generally considered sensitive, regardless of species composition.

3.1.6 - Trees

FCS Biologists reviewed applicable Town ordinances pertaining to tree preservation and protective measures and their tree replacement conditions or permits required.

3.1.7 - Jurisdictional Waters and Wetlands

FCS Biologists reviewed USGS topographic maps and aerial photography to identify any potential natural drainage features and water bodies. In general, all surface drainage features identified as blue-line streams on USGS maps and associated riparian habitat are considered potentially subject to State and federal regulatory authority as "waters of the United States and/or State." Additionally, a preliminary Aquatic Resources Delineation Report was prepared for the project site, which is further discussed in Section 3.2.4 below.

3.1.8 - Wildlife Movement Corridors and Nursery Sites

Wildlife movement corridors link areas of suitable wildlife habitat that are otherwise separated by natural and anthropogenic dispersal barriers, including rugged terrain, changes in vegetation, development, or human disturbance. Urbanization and the resulting fragmentation of open space areas create isolated "islands" of wildlife habitat, forming separated populations. Corridors act as an effective link between populations.

The project site was evaluated for evidence of a wildlife movement corridors and nursery sites during the reconnaissance-level survey and review of aerial photographs. The focus of this study was to determine whether a change in land use at the project site could have significant impacts on the regional movement of wildlife. Conclusions are based on the information compiled during the literature review, including the aerial photographs, USGS topographic maps, and resource maps for the vicinity; the field survey; and professional experience with the desired topography, habitat, and resource requirements of the special-status species potentially utilizing the project site and vicinity.

3.2 - Field Survey and Focused Studies

3.2.1 - General Biological Survey

FCS Biologist Robert Carroll conducted a general wildlife, habitat, vegetation community and aquatic resource survey on July 12, 2024. The objective of the field survey was to ascertain general site conditions and wildlife use and to identify whether existing vegetation communities provide suitable habitat for special-status plant or wildlife species. Potentially sensitive areas identified during the literature review were ground-truthed during the field surveys for mapping accuracy. Special

[11] California Department of Fish and Wildlife (CDFW). 2024. Natural Communities List, Sacramento: California Department of Fish and Wildlife. Website: https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities. Accessed July 2, 2024.

attention was paid to sensitive habitats and areas potentially supporting special-status floral and faunal species.

Wildlife species detected during the reconnaissance-level surveys by sight, calls, tracks, scat, or other signs were recorded. Notations were made regarding suitable habitat for those special-status species determined to have the potential to occur within the project site.[12]

3.2.2 - Special-Status Plant Survey Report

Pinecrest Environmental Consulting Botanists Dr. Christopher T. DiVittorio conducted protocol-level rare plant surveys to determine the presence or absence of special-status plants and/or sensitive plant communities within the project site. Floristic plant surveys were conducted on April 5, May 2, and July 10, 2024. A complete list of all plant species detected during these surveys is presented in the Special-Status Plant Surve Report (Appendix D). All taxonomic terminology follows currently accepted nomenclature as described in The Jepson Manual (2012). Methods for detecting special-status plants followed the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities.[13]

3.2.3 - California Red-Legged Frog Habitat Assessment and Survey Report

WRA conducted a California Red-Legged Frog Habitat Assessment in May 2024. WRA senior biologist Bernhard Warzecha conducted the field component of the habitat assessment on March 21, 2024, to determine the extent to which suitable breeding, non-breeding, and/or upland dispersal and aestivation habitat is present on the site. Because of an initial assessment that California red-legged frog (*Rana draytonii*) could potentially be present in within the project site.

WRA then conducted a California Red-legged Frog Survey Report in July 2024 to support a presence/absence determination of this species within the project site. WRA senior biologist Bernhard Warzecha and WRA biologist Bailey McCann conducted eight surveys, both breeding and non-breeding, between March 21, 2024 and July 2, 2024. Surveys were conducted in accordance with the Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog.[14] These reports can be found in their entirety within Appendix E.

3.2.4 - Aquatic Resources Delineation

FCS Biologist Robert Carroll and FCS Botanist Juliet Simpson conducted an Aquatic Resources Delineation survey on September 12, 2024 (Appendix F). The survey boundaries covered the entire project site. The presence/absence of wetlands was determined based on the requirements of the Corps of Engineers Wetlands Delineation Manual and revised procedures in the Regional

[12] California Department of Fish and Wildlife (CDFW). 2024. CNDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://wildlife.ca.gov/Data/BIOS. Accessed July 2, 2024.

[13] California Department of Fish and Wildlife (CDFW). 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. Website: https://www.cnps.org/wp-content/uploads/2019/10/Bot-Cert_2018-CDFW-Plant-and-Vegetation-Survey-Protocols-LR.pdf#:~:text=The%20conservation%20of%20special%20status%20native%20plants%20and,survey%20for%20the%20presence%20of%20special%20status%20plants3. Accessed March 5, 2025.

[14] United States Fish and Wildlife Service (USFWS). 2005. Revised Guidance on Site Assessments and Field Surveys for the California Red-Legged Frog.

Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region.[12,13] Drainage channels were characterized through presence/absence of bed, bank, and OHWM. The OHWM was determined and characterized using definitions and guidance of A Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States.[14] Culverted drainage sections were examined for evidence of concentrated flow, including presence of water stains, mineral or sediment deposits, and biofilm. The Aquatic Resources Delineation was verified by the USACE on August 5, 2025.

3.2.5 - Breeding Season Burrowing Owl Survey and Report

Burrowing owl habitat had previously been mapped on the project site including the adjacent 500-foot buffer on July 12, 2024. During this effort, FCS Senior Biologist Robert Carroll mapped existing vegetation communities that may provide suitable habitat for special-status plant or wildlife species, including burrowing owl habitat, over the entire project site and surrounding area.

FCS Biologists Hannah Carney and Juliet Simpson and FCS GIS Specialist Sebastian Macias conducted the burrow survey and focused breeding season owl surveys on March 5, 2025, March 6, 2025, and March 10, 2025, within the project site and 500-foot buffer area, as well as during follow-up surveys between April 2025 through June 2025. FCS Biologists Hannah Carney and Kayla Belanger performed additional burrowing owl searches on April 16, 2025; May 14, 2025; and June 18, 2024 (Appendix G). Surveys were timed to ensure weather conditions were suitable for observing owls during each site visit.

3.2.6 - Vegetation

Common plant species observed during the reconnaissance-level surveys were identified by visual characteristics and morphology in the field and recorded. Uncommon plants were identified with the use of taxonomical guides, including Jepson eFlora and Calflora.[15,16] Taxonomic nomenclature used in this study follows The Jepson Manual: Vascular Plants of California.[17] Vegetation types and boundaries were noted on aerial photos, verified through field observation, and digitized using ESRI ArcGIS software® ArcMap 10.0. By incorporating collected field data and interpreting aerial photography, a map of habitat types, land cover types, and other biological resources within the project site was prepared. Vegetation community and land cover types used to help classify habitat types are based on the Manual of California Vegetation (MCV) and cross-referenced with the CDFW Natural Communities List.[18,19]

[15] Jepson Flora Project (eds.) 2020. Jepson eFlora, https://ucjeps.berkeley.edu/eflora/. Accessed April 1, 2025.
[16] Calflora. 2020. Calflora: Information on California plants for education, research, and conservation. Website: http://www.calflora.org/. Accessed April 1, 2025.
[17] Baldwin, B. et al. 2012. The Jepson Manual: Vascular Plants of California. Berkeley: University of California Press. County of San Bernardino (Bernardino). 2007 (amended 2015).
[18] Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento.
[19] California Department of Fish and Wildlife (CDFW). 2025. Natural Communities List, Sacramento: California Department of Fish and Wildlife. Website: https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive%20natural%20communities. Accessed April 1, 2025.

3.2.7 - Wildlife

Wildlife species detected during the reconnaissance-level surveys by sight, calls, tracks, scat, or other signs were recorded. Notations were made regarding suitable habitat for those special-status species determined to have the potential to occur within the project site.[20] Appropriate field guides were used to assist in species identification during surveys, such as Peterson, Reid, and Stebbins.[21,22,23] Online resources such as eBird and California Herps were also consulted as necessary. [24,25]

[20] California Department of Fish and Wildlife (CDFW). 2024. CNDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://wildlife.ca.gov/Data/BIOS. Accessed July 2, 2024.
[21] Peterson, T.R. 2010. A Field Guide to Birds of Western North America, 4th Edition. Boston: Houghton Mifflin Harcourt.
[22] Reid, F. 2006. A Field Guide to Mammals of North America, 4th Edition. Boston: Houghton Mifflin Harcourt.
[23] Stebbins, R.C. 2003. A Field Guide to Western Reptiles and Amphibians. Third Edition. Boston: Houghton Mifflin Harcourt.
[24] eBird. 2020. Online bird occurrence database. Website: http://ebird.org/content/ebird/. Accessed June 27, 2024.
[25] California Herps. 2020. A Guide to the Amphibians and Reptiles of California. Website: http://www.californiaherps.com/ Accessed June 27, 2024.

SECTION 4: RESULTS

This section summarizes the results of the literature search, database review, and field surveys. Sensitive biological resources including special-status species and the impact analysis are addressed separately in Section 5 and 6 of this BRA.

4.1 - Environmental Setting

The 110.23-acre project site is situated in southeast Danville, positioned just north/northwest of the Crow Canyon Country Club Driving Range. Its central coordinates are approximately 37.798069° latitude and -121.958602° longitude. The site currently contains undeveloped non-native annual grassland, intermittent and ephemeral drainages, and seasonal wetlands.

4.1.1 - Topography and Hydrology

The elevation within the project site varies, ranging from approximately 165 feet above mean sea level (AMSL) in the southeastern corner to 260 feet AMSL in the northeastern corner. Along the western boundary, elevations extend from 170 feet AMSL in the southern section to 210 feet AMSL in the northern section. The main stem intermittent drainage channel, traverses the northern portion of the site, flowing southward along the eastern project boundary before continuing off-site. The southeastern section contains intermittent and ephemeral tributaries that funnel direct precipitation into the main stem drainage, which then moves southward and exits the project area. Water leaving the site remains part of main stem drainage as it progresses into the Bay Club Crow Canyon. From there, it is presumed that the flow enters the Contra Costa County stormwater system. All stormwater systems within Contra Costa County transport water directly to the San Francisco Bay without treatment.

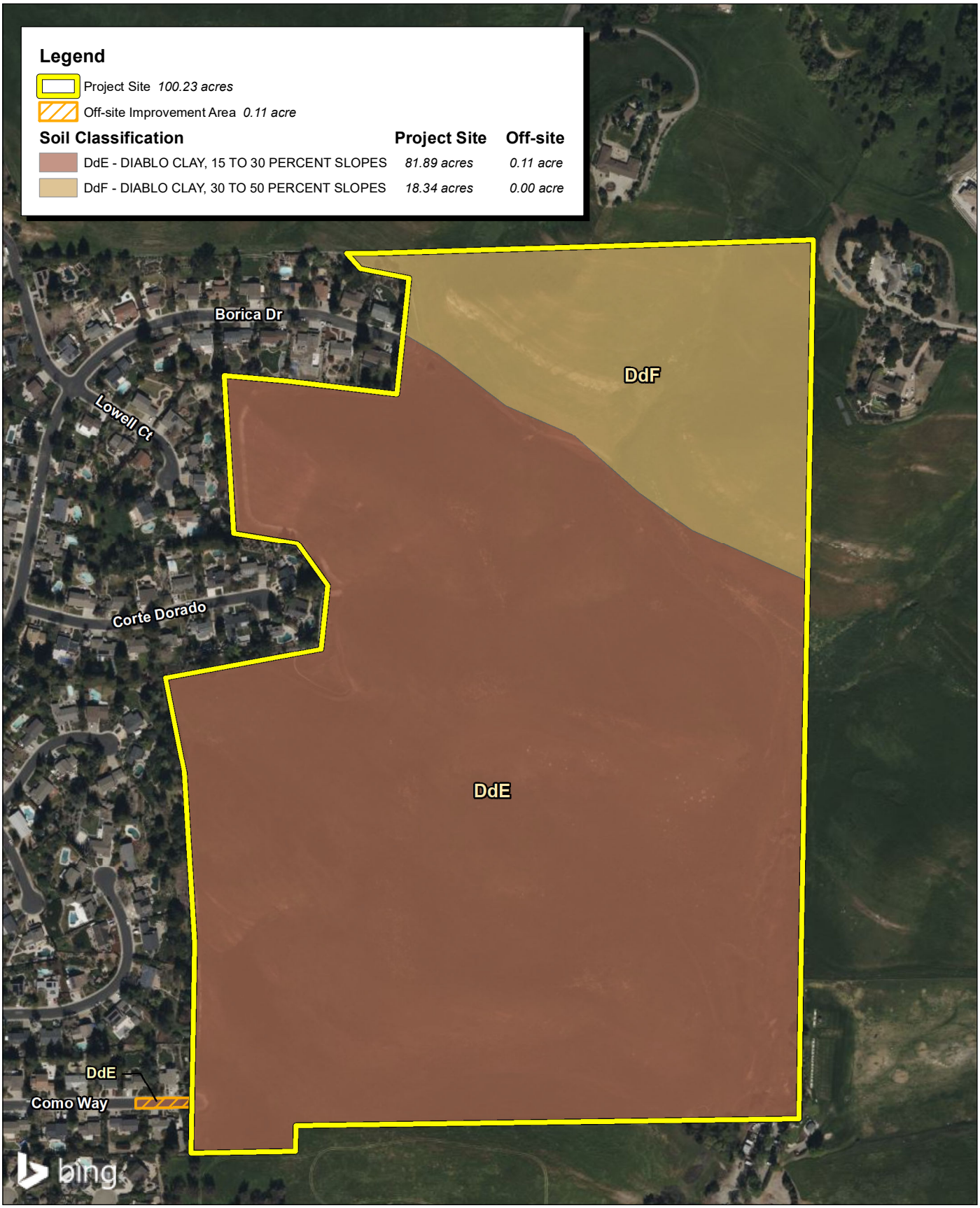
4.1.2 - Soils

The Natural Resources Conservation Service (NRCS) web soil survey identifies the soils on the project site as Diablo clay series at two different slope classes. These soil types and their primary characteristics are summarized in Table 2 and depicted on Exhibit 4.

Table 2: Soil Types Present within Project Site

Soil Name	Symbol	Slope	Description	Project site Acreage (approx.)
Diablo clay	DdE	15–30%	The Diablo series consists of well drained soils with a restrictive paralithic bedrock layer at 40–59 inches. This soil formed from residuum weathered from calcareous shale.	81.89
Diablo clay	DdF	30–50%	The Diablo series consists of well drained soils with a restrictive paralithic bedrock layer at 40–59 inches. This soil formed from residuum weathered from calcareous shale.	18.34
Source: United States Department of Agriculture (USDA) Natural Resources Conservation Service. 2025. Official Soil Series Descriptions. Website: https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed April 1, 2025.				

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Source: Google Earth Aerial Imagery. CBG Civil Engineers, January 28, 2025. USDA Soils Data Mart, Contra Costa County.

FIRSTCARBON SOLUTIONS™

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Feet

Exhibit 4
Soils Map

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4.2 - Vegetation Communities and Land Cover Types

The following section describes the vegetation communities and land cover types present on the project site, as shown on Exhibit 5. A comprehensive list of plant species observed on-site can be found in Appendix G.

4.2.1 - Wild Oats and Annual Brome Grassland

Non-native annual grassland is the dominant vegetation community on the project site, covering 97.14 acres. This community generally corresponds to 42.027.00 *Avena* spp. – *Bromus* spp. herbaceous semi-natural alliance, specifically the 42.040.03 *Brachypodium distachyon* association, which is not ranked as sensitive on the California Natural Community List. The dominant species in this community are ripgut brome (*Bromus diandrus*), soft brome (*Bromus hordeaceus*), false brome (*Brachypodium distachyon*), and Italian ryegrass (*Festuca perennis)*, with other non-native grasses also abundant including wild oat (Avena fatua), slender oat (A*vena barbata*), seaside barley (*Hordeum marinum*), and foxtail barley (*Hordeum murinum*). There are many non-native forbs present in this community as well, including black mustard (*Brassica nigra*), yellow star thistle (*Centaurea solstitialis*), artichoke (*Cynara cardunculus ssp. cardunculus*), prickly lettuce (*Lactuca serriola*), bur medic (*Medicago polymorpha*), and rose clover (*Trifolium hirtum*). Scattered native forbs are also present in this community, including small-flowered fiddleneck (*Amsinckia menziesii*), Jepson's pea (*Lathyrus jepsonii*), shining peppergrass (*Lepidium nitidum*), and blue-eyed grass (*Sisyrinchium bellum*).

4.2.2 - Rock Outcrop

There are scattered occurrences of rocky outcrops in the northeastern portion of the site, covering a total of 0.75 acre. These outcrops are outside the proposed impact area and host some species not found in the surrounding non-native grassland habitat, including naked-stemmed buckwheat (*Eriogonum nudum*) and poison oak (*Toxicodendron diversilobum*), however many of the surrounding non-native species are also present.

4.2.3 - Intermittent Drainages

There are three intermittent drainages on the project site, covering a total of 0.62 acre. The main stem drainage (Segment 1-1) is a naturally occurring headwater drainage. This drainage enters the project site in the eastern portion of the northern boundary and moves toward the center of the northern half of the site before turning back to eastern boundary and then moving south off-site. This drainage is fed by intermittent flows from the north, adjacent intermittent and ephemeral drainages, and seasonal wetlands on-site. This segment generally drains the project site to the south. Species present within this drainage segment include common spikerush (*Eleocharis macrostachya*), seep monkeyflower (*Erythranthe guttata*), toad rush (*Juncus bufonius*), iris leaved rush (*Juncus xiphioides*), hyssop loosestrife (*Lythrum hyssopifolia*), watercress (*Nasturtium officinale*), rabbitsfoot grass (*Polypogon monspeliensis*), curly dock (*Rumex crispus*), and Italian rye grass.

Intermittent Drainage Segment 1-3 is a naturally occurring drainage. This drainage segment conveys flows from Culvert Segment 1-2 in the north portion of the site southeast to In-stream Wetland

Segment 1-4. This segment generally drains the project site to the southeast. The channel is characterized by the presence of shallow, densely vegetated banks and a mostly overgrown bed. The OHWM is characterized by scour and sediment deposits. At the time of the survey, there was no water present in this drainage segment. Species present within the OHWM of this segment include sour clover, rabbitsfoot grass, toad rush, scarlet pimpernel, curly dock, and spiny sowthistle. Along the banks of this segment there are blow wives, slender oat, artichoke thistle, willow herb, red stem stork's-bill, cutleaf geranium, bristly ox-tongue, bulbous canary grass, Italian thistle, and Italian rye grass. Segment 1-3 conveys intermittent flows from Culvert Segment 1-2 through the northeast portion of the site to In-stream Wetland Segment 1-4.

Intermittent Drainage Segment 1-5 is a naturally occurring drainage. This drainage segment conveys flows from In-stream Wetland Segment 1-4 and Excavated Channel Segment 2-1 in the north portion of the site south to Culvert Segment 1-6. The channel is characterized by the presence of shallow, densely vegetated banks and a mostly overgrown bed. The OHWM is characterized by scour and sediment deposits. At the time of the survey, there was no water present in this drainage segment. Species present within the OHWM of this segment include sour clover, rabbitsfoot grass, toad rush, scarlet pimpernel, curly dock, and spiny sowthistle. Along the banks of this segment there are blow wives, slender oat, artichoke thistle, willow herb, red stem stork's-bill, cutleaf geranium, bristly ox-tongue, bulbous canary grass, Italian thistle, and Italian rye grass. Segment 1-5 conveys intermittent flows from In-stream Wetland Segment 1-4 through the northeast portion of the site to Culvert Segment 1-6.

4.2.4 - Ephemeral Drainages

There are two ephemeral drainages (that are composed of three segments) on the project site, covering a total of 0.13 acre. Both are naturally occurring and drain precipitation that falls on the western half of the project site. The northern ephemeral drainage starts at the center of the project site and flows to the southeast, emptying flows into the main stem intermittent drainage on-site. The southern ephemeral drainage starts in the southeast portion of the site just north of the project site boundary and flows to the southeast off-site. This drainage likely empties into an off-site portion of the main intermittent drainage that flows through this site. The ephemeral drainages are filled with non-native upland vegetation that dominates the surrounding annual grassland community, including Italian ryegrass, soft brome, and bur medic.

4.2.5 - Seasonal Wetland

There are five seasonal emergent wetlands within the project site, covering a total of 0.49 acre. These occur along and appear to be hydrologically connected to the intermittent drainages on-site. Obligate wetland species are dominant in these areas, including tule (*Schoenoplectus acutus* var. *occidentalis*), common cattail (*Typha latifolia*), American speedwell (*Veronica americana*), seep monkeyflower, and watercress. Facultative wetland species are also abundant in these areas, including wire rush (*Juncus balticus*), toad rush, rabbitsfoot grass. These areas all showed evidence of hydrology and hydric soils, including surface water, high water table, redoximorphic soil features, and evidence of hydrogen sulfide.

4.2.6 - Instream Wetland

There are four in-stream wetland segments on the project site, covering a total of 0.94 acre. In-Stream Wetland Segment 1-4 is an emergent freshwater wetland within the naturally occurring drainage. This in-stream wetland segment is fed by Intermittent Drainage Segment 1-3 in the northeast portion of the site and conveys flows to Intermittent Drainage Segment 1-5. The channel is characterized by the presence of shallow, densely vegetated banks and a mostly overgrown bed. The OHWM is characterized by sediment deposit and the presence of obligate wetland vegetation. At the time of the survey, this In-stream Wetland Segment was inundated with standing and gently flowing water. Soils exhibited a redox dark surface. Standing surface water was not present in this area during the surveys. Species present within the OHWM of this segment include creeping spike rush, toad rush, scarlet pimpernel, hyssop loosestrife, and rabbitsfoot grass. Along the banks of this segment there are blow wives, slender oat, red stem stork's-bill, cutleaf geranium, bristly ox-tongue, and Italian rye grass. In-stream Wetland Segment 1-4 conveys intermittent flows from Intermittent Drainage Segment 1-3 in the northeast portion of the site to Intermittent Drainage Segment 1-5.

In-stream Wetland Segment 1-7 is an emergent freshwater wetland within the naturally occurring drainage. This in-stream wetland segment is fed by Culvert Segment 1-6 and In-stream Wetland Segment 3-1 and eventually conveys flows south off-site. The channel is characterized by the presence of shallow, densely vegetated banks and a mostly overgrown bed. The OHWM is characterized by sediment deposit and the presence of obligate wetland vegetation. At the time of the survey, this In-stream Wetland Segment was inundated with standing and flowing water. Soils are loamy gleyed with a redox dark surface. Standing and flowing surface water was present in this area during spring season surveys. Species present within the OHWM of this segment include watercress, creeping spike rush, seep yellow monkeyflower, toad rush, iris leaved rush, bird's foot trefoil, rabbitsfoot grass, sour clover, and curly dock. Along the banks of this segment there are scarlet pimpernel, hyssop loosestrife, spiny sowthistle, fiddle dock, Italian rye grass, blow wives, slender oat, artichoke thistle, willow herb, red stem stork's-bill, cutleaf geranium, bristly ox-tongue, bulbous canary grass, milk thistle, spiny sowthistle, knotted hedge parsley, narrow leaf milkweed, Mediterranean linseed, soft brome, and rose clover.

In-stream Wetland Segment 3-1 is a freshwater emergent wetland within an intermittent drainage that runs northeast to southwest and terminates where it meets In-stream Wetland Segment 1-7. This segment enters the project site in the center of the eastern boundary, where it joins with Segment 1-7. This segment drains the eastern off-site cattle pasture to the west. This channel is characterized by the presence of shallow, densely vegetated banks and a mostly overgrown bed. The OHWM is characterized by sediment deposit and the presence of obligate wetland vegetation. At the time of the survey, this In-stream Wetland Segment was inundated with standing water. Soils were problematic and showed 1 centimeter muck layer. Soils were inundated to 2 inches below the surface. Species present in the OHWM of this in-stream wetland segment include creeping spike rush, seep yellow monkeyflower, toad rush, iris leaved rush, bird's foot trefoil, scarlet pimpernel, hyssop loosestrife, rabbitsfoot grass, curly dock, spiny sowthistle, and Italian rye grass. Along the banks of this segment there are narrow leaf milkweed, Mediterranean linseed, soft brome, cutleaf geranium, bulbous canary grass, and rose clover. Segment 3-1 conveys intermittent flows from east off-site the project site into In-stream Wetland Segment 1-7.

In-stream Wetland Segment 5-1 is a freshwater emergent wetland that runs east to west in the southeastern corner of the project site. The hydrology is likely influenced due to the adjacent driving range where this segment originates. This segment is characterized by the presence of shallow, densely vegetated banks and an inundated bed mostly overgrown with obligate wetland species. The OHWM is characterized by sediment deposit and the presence of obligate wetland vegetation. Soils exhibited a redox dark surface with a moderate hydrogen sulfide odor that was present when the pit was excavated. Standing surface water was present in this area resulting in an inundated soil pit, obscuring portions of the soil horizons. Species present in the OHWM of this segment include tule, seep yellow monkeyflower, watercress, and Italian rye grass. Along the banks of this tributary segment was black mustard, seaside barley, bulbous canary grass, and Italian rye grass. Segment 5-1 conveys flows from the east to the west into In-stream Wetland Segment 1-7.

4.2.7 - Excavated Channel

Excavated Channel Segment 2-1 is a manufactured channel recently excavated adjacent to Culvert Segment 1-6 as a flood prevention measure for the dirt access road on-site. This channel begins toward the southern terminus of Intermittent Drainage Segment 1-5 and conveys excess flows southwest before terminating abruptly. This channel is fed by excess seasonal flows from Intermittent Drainage Segment 1-5. The channel is characterized by the presence of shallow, densely vegetated upper banks and a bare, freshly excavated bed and lower banks, with a faint OHWM. At the time of the survey, standing water was present in some portions of this channel. Along the banks of this segment there are slender oat, red stem stork's-bill, cutleaf geranium, bristly ox-tongue, and Italian rye grass. Excavated Channel Segment 2-1 holds excess flows from Intermittent Drainage Segment 1-5 during high rain events.

4.2.8 - Culvert Segments

There are three culvert segments on the project site, covering a total of 0.005 acre. Culvert Segment 1-2 is a corrugated single-wall slotted culvert pipe that transports flows under an on-site access road from Intermittent Drainage Segment 1-1 to Intermittent Drainage Segment 1-3. This segment runs northeast to southwest in the northern portion of the project site.

Culvert Segment 1-6 is a corrugated single-wall slotted culvert pipe that transports flows under an on-site access road from Intermittent Drainage Segment 1-5 to In-stream Wetland Segment 1-7. This segment runs northeast to southwest in the eastern edge of the project site.

Culvert Segment 4-2 is a corrugated single-wall slotted culvert pipe that transports flows under an on-site access road from Ephemeral Drainage Segment 4-1 to Ephemeral Drainage Segment 4-3. This segment runs northwest to southeast in the southeastern quarter of the project site

4.2.9 - Riparian Vegetation

Riparian vegetation is present in three areas of the project site: along the eastern boundary adjacent to Segment 1-7, along the southern boundary where Segment 1-7 moves off-site, and in the southeastern corner, adjacent to Segment 5-1, covering 0.14 acre. Red willow tree (*Salix laevigata*) and pacific willow (*Salix lasiandra)* were observed and constitute the entirety of the woody riparian

vegetation. Understory species included with seep monkey flower, watercress, curly dock, annual bluegrass (*Poa annua*), Italian ryegrass, irisleaf rush, American speedwell, Italian ryegrass, seaside barley, and tall flatsedge (*Cyperus eragrostis*).

4.2.10 - Developed (Off-site Improvement)

The project site does not contain any development within the project site boundaries but does contain development within the off-site improvement area (0.11 acre). This area is located outside of the southwest portion of the site and contains a portion of Como Way. Como Way is a concrete paved road that will be extended as the entrance road to the development. No vegetation outside of ornamental vegetation is located along Como Way.

4.3 - Trees

There are two willow trees present growing adjacent to the main stem intermittent drainage on-site. Additionally, there is a single blackwood acacia (Acacia melanoxylon) located at the northwestern corner of the project site. These trees are outside of the proposed impact area and therefore would not be impacted by project construction. No other trees are present on-site.

4.4 - Common Wildlife

The project site may provide habitat for specialist, generalist, and opportunistic wildlife species that are able to thrive in undisturbed and semi-natural habitat. The non-native annual grassland drainage channels, and seasonal wetlands within the project site could provide suitable habitat for various migratory or resident nesting birds and aquatic species.

Avian species observed on-site during the 2024 site survey consisted of American pipit (*Anthus rubescens*), common raven (*Corvus corax*), red-tailed hawk (*Buteo jamaicensis*), crow (*Corvus brachyrhynchos*), song sparrow (*Melospiza melodia*), house finch (*Haemorhous mexicanus*), white crowned sparrow (*Zonotrichia leucophrys*), lesser goldfinch (*Spinus psaltria*), American kestrel (*Falco sparverius*), American robin (*Turdus migratorius*), Anna's hummingbird (*Calypte anna*), and others.

Other wildlife species observed within the project site include the California ground squirrel (*Otospermophilus beecheyi*), western toad (*Anaxyrus boreas*), Sierran treefrog (*Pseudacris sierra*), yellow-faced bumble bee (*Bombus vosnesenskii*), and others. A comprehensive list of wildlife species observed can be found in Appendix G.

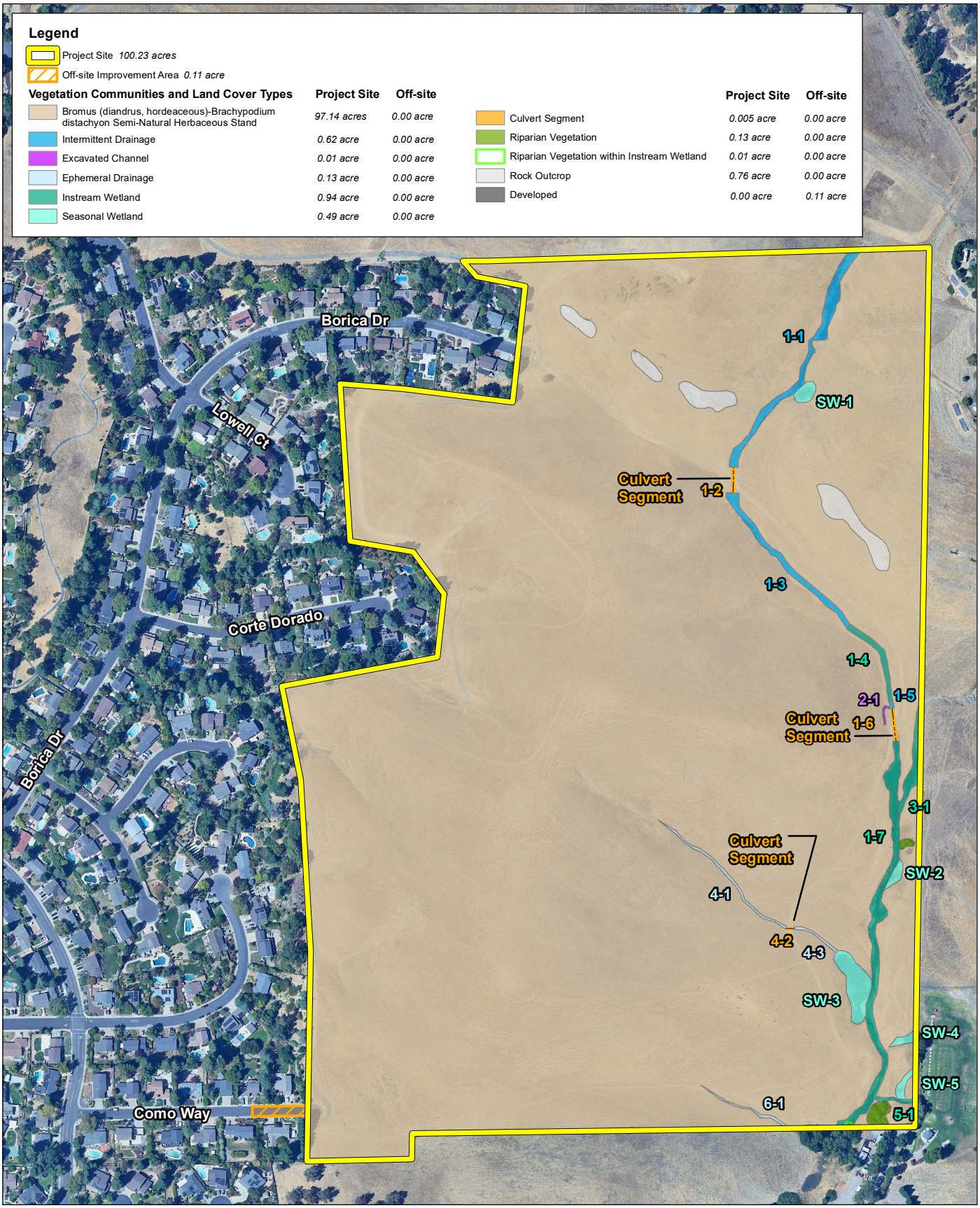
4.5 - Jurisdictional Waters and Wetlands

An Aquatic Resources Delineation Report was prepared by FCS on June 26, 2025, and verified by the USACE on August 5, 2025. The report concluded that the project site contains seven open and vegetated ephemeral and intermittent channels connected by three culvert segments and four in-stream wetland segments. Additionally, there were five wetlands observed within the project site.

4.6 - Wildlife Movement Corridors and Nursery Sites

A wildlife corridor is an area of habitat connecting wildlife populations separated by human activities or structures (such as roads, development, or logging). This allows an exchange of individuals between populations, which may help prevent the negative effects of inbreeding and reduced genetic diversity (via genetic drift) that often occur within isolated populations. An FCS Biologist evaluated the CDFW's BIOS 6 information on wildlife linkages within the project site and concluded that the proposed project does not have the potential to interfere with the movement of native wildlife. The project has no history of associated disturbance and currently contains aquatic features that drain into an off-site municipal stormwater system. The remainder of the site consists of undisturbed non-native annual grassland habitat. The project site is bordered to the south and west by dense, urban development that would limit wildlife movement. Although there are areas of undeveloped grassland to the north and east or the project site, these areas are further bound by residential developments and busy roadways that would constrict the movement of wildlife.

Wildlife nursery sites include nesting birds and maternity bat roosts, aquatic breeding habitats, and special-status and non-special-status wildlife breeding or nesting colonies. No significant breeding/nesting colonies were observed during field surveys. However, individual nesting birds have the potential of being present on-site and within disturbance distance seasonally. For example, songbirds and raptor species may nest on adjacent properties. The project site contains marginal nesting habitat given the lack of large mature trees.



Source: Google Earth Aerial Imagery. CBG Civil Engineers, January 28, 2025.

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Exhibit 5
Vegetation Communities and Land Cover Types

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SECTION 5: SENSITIVE BIOLOGICAL RESOURCES

The following section discusses the existing site conditions and presence or potential presence for sensitive biological resources to occur within the project site.

5.1 - Sensitive Natural Communities

Sensitive natural communities are vegetation communities or special wildlife habitats that are rare or occur in limited distributions or provide specific habitat requirements for special-status plant or wildlife species. The CDFW maintains a list of natural communities that classifies vegetation types found within the State of California and rank them based on rarity. Communities identified on CDFW's list as "sensitive" and/or communities ranked S1-S3 are considered sensitive natural communities under CEQA.[26] Wetlands and riparian habitats are also typically considered sensitive natural communities and are addressed in the environmental review process.

5.1.1 - Seasonal Wetland Communities

The vegetation communities of the wetland features are dominated by obligate and facultative wetland species as described in Section 4.2.5. Naturally occurring seasonal wetland plant communities can be considered sensitive natural communities. However, the proposed project would avoid all impacts to the on-site seasonal wetlands.

5.1.2 - Riparian Habitat

Riparian habitat occurs within the eastern/southeast portion of the project site as described in Section 4.2.9. Riparian habitat occurring on-site is within the jurisdiction of CDFW pursuant to California Fish and Game Code 1600-1607, which regulates activities within or affecting rivers, streams, or lakes. As such, riparian habitat is generally identified as a sensitive natural community. No riparian vegetation would be removed as part of the proposed project. However, work would occur within the understory of the riparian canopy which is rooted off-site to the south of the project boundary.

5.2 - Federally Listed Species

This section addresses federally listed species occurrences and designated critical habitat within 2 miles of the project site (Exhibit 6). A list of federally listed species with historic and/or recent occurrences in the vicinity of the project site that may potentially be affected by the project are listed in Table 3 below. This table includes four threatened or endangered species that have been recorded to occur within 2 miles of the project site. The table concludes that all federally listed endangered species are unlikely to occur on-site because (1) suitable habitat is not present in the project site; (2) the project site is isolated from occurrences within the greater project vicinity; or (3) the proposed action would not generate any off-site effects to suitable habitat. However, the

[26] California Department of Fish and Wildlife (CDFW). 2025. Natural Communities List, Sacramento: California Department of Fish and Wildlife. https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities. Accessed March 5, 2025.

California red-legged frog (*Rana draytonii*) and Alameda whipsnake (*Masticophis lateralis*) are discussed in greater detail below.

Table 3: Federally Listed Species within 2-Miles of the Project Site

Scientific Name Common Name	Status ESA[1]	Habitat Description[2]	Habitat Value and Rationale[2]
Ambystoma californiense pop. 1 California tiger salamander	FT	Need underground refuges, especially ground squirrel burrows, and vernal pools, ponds or other standing water bodies for breeding.	**No Effect**: There is one occurrence of this species within 2 miles of the site, Occurrence #436 from 1952. This occurrence is located northwest of the project site. Per the California Natural Diversity Database (CNDDB), the exact location is unknown, and Jennings and Hayes considered this site extirpated in their 1994 review. While there are additional occurrences outside the 2-mile radius, these are all outside of the 1.3-mile dispersal distance for this species from a known breeding pond. Moreover, these occurrences are separated by several housing developments and highly trafficked roads. Therefore, it is reasonable to assume that California tiger salamander is absent from the project site.
Rana draytonii California red-legged frog	FT	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development	**No Effect:** There are three recorded occurrences of this species within 2 miles of the project site. However, a habitat assessment and protocol-level surveys were conducted for this species, following United States Fish and Wildlife Service (USFWS) protocols. The reports concluded that this species is absent from the project site.
Vulpes macrotis mutica San Joaquin kit fox	FE	Annual grasslands or grassy open stages with scattered shrubby vegetation.	**No Effect**: The project site contains suitable grasslands. There are 2 occurrences of this species within 2 miles of the project site. Occurrence #544 from 1989, and Occurrence #572 from 1990. The project site is isolated from these locations. There are numerous anthropogenic barriers (roadways and residential development) between the two occurrence locations and the project site due to large scale urbanization of the area. Both occurrence locations are in areas where there is no direct migratory pathway onto the project site, further precluding dispersal potential. Additionally, this species has not been detected within a 2 or 5-mile radius of the project site in 35 years. Therefore, this species is expected to be absent from the project site.

Scientific Name Common Name	Status ESA[1]	Habitat Description[2]	Habitat Value and Rationale[2]
Masticophis lateralis euryxanthus Alameda whipsnake	FT	Typically found in chaparral and scrub habitats but will also use adjacent grassland, oak savanna and woodland habitats. Specifically, mostly south-facing slopes and ravines, with rock outcrops, deep crevices or abundant rodent burrows, where shrubs form a vegetative mosaic with oak trees and grasses.	**No Effect:** The project site contains grassland, rocky outcrops, and rodent burrows that could provide suitable habitat. While there are no historical occurrence of this species within 2 miles of the project site critical habitat is present approximately 2 miles west of the project site on the western side of Interstate 680 (I-680). Additionally, the project site does not contain the species preferred habitats in the form of chaparral, scrub, oak savanna, or woodland habitats. The nearest recorded occurrence (Occurrence No. 124) from 1994 is located approximately 2.7 miles north of the project site. Both the critical habitat designation and Occurrence No. 124 are separated from the project site by I-680, Blackhawk Road, Camino Tassajara, and residential housing developments which further precludes dispersal onto the project site. Given the project site's isolation nature due to anthropogenic influences, it is reasonable to assume that this species is absent from the project site.

Code Designations

Notes:
ESU = Evolutionary Significant Unit is a distinctive population.
FC = Candidate for listing (threatened or endangered) under the Endangered Species Act.
FD = Delisted in accordance with the Endangered Species Act.
FE = Listed as endangered under the Endangered Species Act.
FPD = Federally Proposed to be Delisted.
FPT = Proposed threatened under the Endangered Species Act
FT = Listed as threatened under the Endangered Species Act.
MBTA = protected by the Migratory Bird Treaty Act

[1] Federal Status: 2025 Endangered Species Act Listing

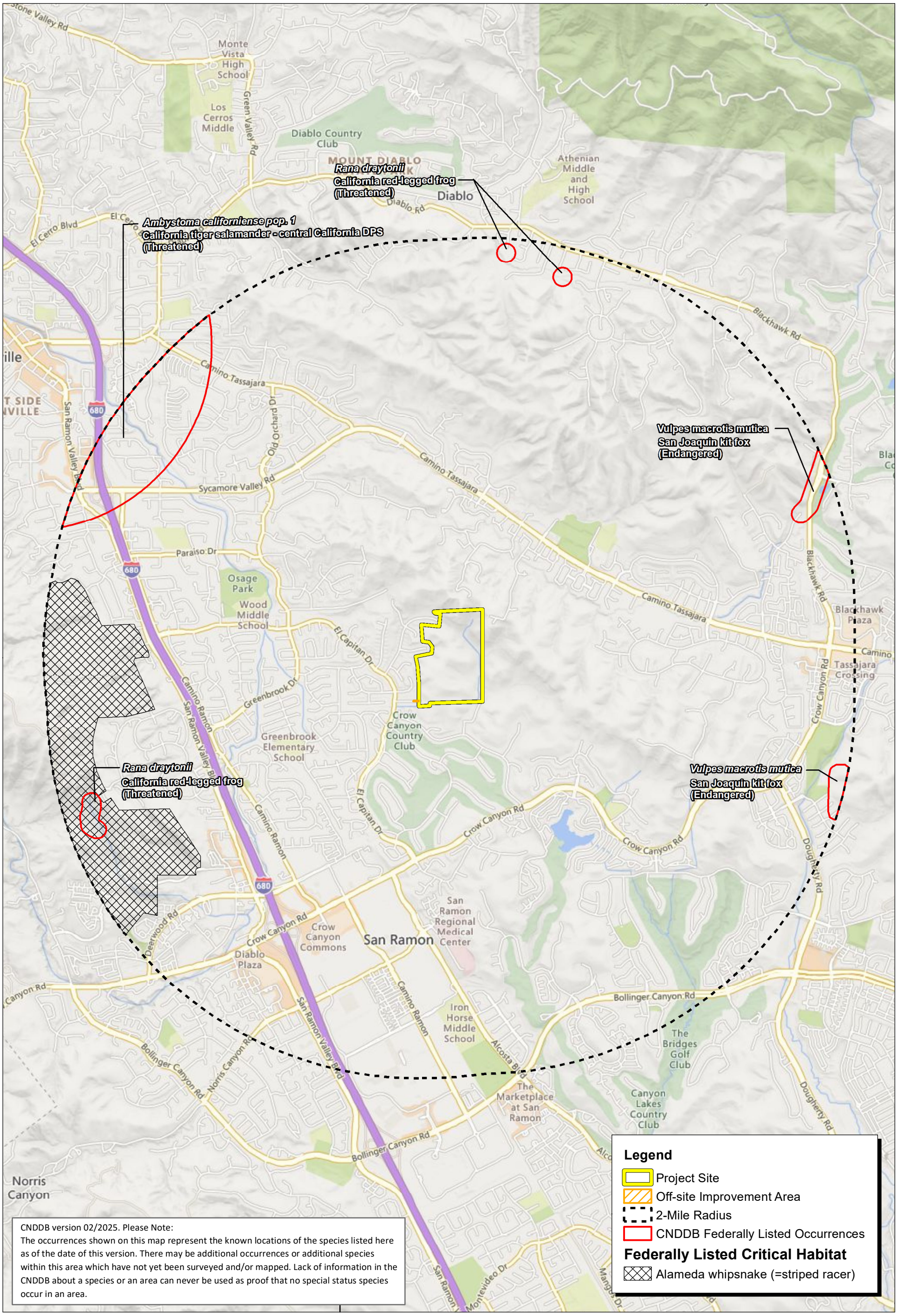
[2] Habitat Description: Habitat description adapted from CNDDB or other specified source*

[3] Habitat Value and Rationale: Location of recorded species occurrences determined by geospatial information from BIOS 6 or other specified source*

Sources:
California Department of Fish and Wildlife (CDFW). 2020. CNDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx. Accessed March 5, 2025.

California Department of Fish and Wildlife (CDFW). 2023. Biogeographic Information and Observation System (BIOS 6). Website: https://wildlife.ca.gov/Data/BIOS. Accessed March 5, 2025.
United States Fish and Wildlife Service (USFWS). 2025. Information for Planning and Consultation (IPaC). Website: https://ecos.fws.gov/ipac/. Accessed March 5, 2025.

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Source: Bing Street Imagery. U.S. Fish and Wildlife, February 5, 2025. California Natural Diversity Database (CNDDB), February 2025.

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2,500 1,250 0 2,500 Feet

Exhibit 6
Federally Listed Species Occurrence within a 2-Mile Radius

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5.2.1 - California Red-legged Frog (No Effect)

California red-legged frog (CRLF) is designated as a federally threatened species and a State Species of Special Concern under CDFW. CRLF inhabits lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation. According to the 2024 California Red-legged Frog Survey Report conducted by WRA for the project site, the intermittent drainage is more adequately described as a vegetated swale that conveys very shallow (up to approximately 6 inches) of intermittent flow during the wet season, presumably during years with above normal rainfall (as in 2024). The report states that while shallow surface water (up to 6 inches in flat areas and none in sloped segments) was still present on April 30, 2024, the two very small and relatively shallow areas of open ponding water present are not typically considered suitable for CRLF breeding, regardless of whether they would pond for 20 weeks or longer. Additionally, no CRLF egg masses, tadpoles, or adult/sub-adult CRLF were observed during the eight surveys conducted by WRA and the report reasons that it is unlikely that any feature within the project site would provide suitable CRLF breeding habitat. The report concludes with WRA's professional opinion that based on the negative results of the CRLF surveys conducted in 2024, in combination with the absence of CRLF records in the Sherbourne Hills, the likely absence of suitable breeding habitat on-site and nearby, the presence of dispersal barriers between the project site and known breeding locations, and the distance of known breeding locations from the project site, it is reasonable to assume that CRLF are absent from the project site. Therefore, in accordance with WRA's findings and the limited area of disturbance impacted by the proposed project, the project will have no effect on the CRLF.

5.2.2 - Alameda Whipsnake (No Effect)

The Alameda whipsnake is designated as a federally and State threatened species. The Alameda whipsnake typically is found in chaparral and scrub habitats but will also use adjacent grassland, oak savanna, and woodland habitats. Specifically, mostly south-facing slopes and ravines, with rock outcrops, deep crevices or abundant rodent burrows, where shrubs form a vegetative mosaic with oak trees and grasses. CNDDB lists 14 occurrences of Alameda whipsnake within 5 miles of the project site. The closest occurrence (Occurrence No. 124) from 1994 is located 2.7 miles north while the most recent occurrence (Occurrence No. 171) from 2012 is 4.1 miles west of the project site. Both occurrences have multiple dispersal barriers separating them from the property such as I-680 and housing developments. There are two critical habitats for Alameda whipsnake located within 5 miles of the project site. The closest critical habitat for Alameda whipsnake is located 1.3 miles west of the property but is separated by I-680. The second critical habitat is located 2.4 miles east and is separated by several housing developments, multiple rolling hills, and Blackhawk Road. Therefore, it is unlikely Alameda whipsnake would be able to traverse from the critical habitats onto the project site. Therefore, due to the lack of dispersal opportunities for this species onto the project site, the project will have no effect on the Alameda whipsnake.

5.3 - Special-status Plant Species

The CNDDB and CNPS list 73 special-status or sensitive plant species that have been recorded within the *Diablo, California* USGS Topographic Quadrangle Map and the eight surrounding

quadrangles.[27,28,29] The CNDDB occurrences near the project site are shown on Exhibit 7. The Special-status Plant Species Evaluation Table (Appendix A, Table 1) includes the species' status, required habitat, and potential to occur within the project site. Special-status plant species that were determined to have no potential to occur on-site are also included in the table, along with the justification for their exclusion from further discussion. Several special-status plant species were determined to have the potential to occur on-site based on suitable habitat, past and current land use, and recent occurrences recorded within the boundaries of the nine quad search.

As described in Section 3.2.2 above, three protocol-level special-status plant surveys were conducted by Dr. Christopher DiVittorio to ascertain whether special-status plants are present within the project site. A Special-status Plant Survey Report was produced on July 30, 2024, summarizing the surveys' findings. This report concluded that a total of 34 native species and 42 non-native species were found on-site, but no special-status plant species were identified within the project site. Therefore, due to the lack of special-status plant species found on-site, implementation of the proposed project would not impact special-status plant species and no further discussion on special-status plants is required.

5.4 - Special-status Wildlife Species

CNDDB identifies 33 federal and State-listed threatened and/or endangered wildlife species and State SSC that have been recorded within the *Diablo, California* USGS Topographic Quadrangle Map and eight surrounding quadrangles. The CNDDB occurrences near the project site are shown on Exhibit 7.

The Special-status Wildlife Species Evaluation Table (Appendix A, Table 2) includes the species' status, required habitat types and features, and potential to occur within the project site. The table also includes special-status wildlife species that have been determined to have no potential to occur on-site, primarily based on the absence of suitable habitat and the lack of recorded occurrence in the project vicinity, along with other justification(s) for their exclusion from further discussion. Four special-status wildlife species—Crotch's bumble bee (*Bombus crotchii),* burrowing owl, white-tailed kite (*Elanus leucurus*), and northern harrier (*Circus hudsonius)*—have at least a low potential to occur within the project site and are therefore discussed in further detail below.

[27] United States Geological Survey (USGS). 2024. National Geospatial Program. Website: https://apps.nationalmap.gov/viewer/. Accessed March 6, 2025.
[28] California Department of Fish and Wildlife (CDFW). 2024. CNDDB RareFind 5 California Natural Diversity Database Query for Special-status Species. Website: https://wildlife.ca.gov/Data/BIOS. Accessed March 6, 2025.
[29] California Native Plant Society (CNPS). 2024. California Native Plant Society Rare and Endangered Plant Inventory. Website: http://www.rareplants.cnps.org/. Accessed March 6, 2025.

CNDDB version 02/2025. 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.

Legend

- Project Site

CNDDB

Symbology

- Plant (80m)
- Plant (specific)
- Plant (non-specific)
- Plant (circular)
- Animal (80m)
- Animal (specific)
- Animal (non-specific)
- Animal (circular)
- Terrestrial Comm. (80m)
- Terrestrial Comm. (specific)
- Terrestrial Comm. (non-specific)
- Terrestrial Comm. (circular)
- Aquatic Comm. (80m)
- Aquatic Comm. (specific)
- Aquatic Comm. (non-specific)
- Aquatic Comm. (circular)
- Multiple (80m)
- Multiple (specific)
- Multiple (non-specific)
- Multiple (circular)
- Sensitive EO's (Commercial only)

Source: Bing Street Imagery. California Natural Diversity Database (CNDDB), February 2025.

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8.5 4.25 0 8.5 Miles

Exhibit 7
CNDDB Special-Status Species Occurrences

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5.4.1 - Crotch's Bumble bee

Crotch's bumble bee primarily inhabits areas of coastal California east to the Sierra-Cascade crest and south into Mexico. According to CDFW, floral associations for this species include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia*, and *Eriogonum*. Known floral associations (Appendix G), for this species are present on-site. *Eschscholzia californica* and *Eriogonum nudum* were observed during field surveys. While there are no historically significant occurrences of the species within 5 miles of the project site, this species has a low potential to occur given the presence of foraging plants.

5.4.2 - Burrowing Owl

The burrowing owl is designated a California SSC and was recently designated a Candidate species under CESA. This species receives additional protection under the MBTA and California Fish and Game Code Section 3503. The burrowing owl inhabits open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. It is a subterranean nester and is dependent upon burrowing mammals, most notably, the California ground squirrel. CNDDB records show seven occurrences of burrowing owl within 5 miles of the project site. The closest (Occurrence #506) is approximately 4-miles away near Camp Parks in Dublin. The presence of California ground squirrel burrows and suitable grassland habitat on-site leaves open the possibility that burrowing owl may inhabit the project site.

Small burrows of less than 4 inches in diameter were observed on-site which were determined to be unsuitable for occupancy by burrowing owls. Some potential burrows of sufficient size for burrowing owls were observed on-site but were partially occluded with dirt. A total of 200 suitable burrows were recorded on the project site. During the burrow and breeding season surveys, suitable burrows were recorded in the northwestern, western, eastern, and southeastern portion of the project site. No burrowing owls or sign of burrowing owls or sign of burrowing owls were detected at any of the suitable burrows on-site or adjacent to the site; however, this species has the potential to colonize the site in the future, such as before start of project construction. As such, burrowing owl cannot be ruled out and therefore has low potential to occur on-site.

5.4.3- Protected Nesting Birds (Including All Special-status Bird Species)

The project site contains three trees within its project boundary and adjacent trees off-site within disturbance distance which could provide suitable nesting habitat for native resident and migratory bird species, including birds of prey (raptors) protected under federal and State regulations while nesting. Additionally, the grasslands present on-site are suitable for ground nesting species such as northern harrier (observed during field surveys). White-tailed kite is unlikely to nest on-site, as more suitable nesting sites are present within the greater site vicinity. It is more likely that these species may fly over the project site while foraging; however, potential for these species to nest on-site remains low.

5.5 - State and Federally Protected Waters and Wetlands

FCS conducted a jurisdictional delineation of the project site on September 12, 2024, and drafted an Aquatic Resources Delineation Report on June 26, 2025. This report was subsequently verified by the USACE on August 5, 2025. The report concluded that the project site contains seven open and vegetated ephemeral and intermittent channels connected by three culvert segments and four in-stream wetland segments. Additionally, there were five wetlands observed within the project site The project site includes waters of the United States and potential waters of the State. Any impacts on drainage channels and associated riparian vegetation are expected to be regulated by the CDFW pursuant to the Streambed Alteration Program, California Fish and Game Code Section 1602, *et seq.*

5.6 - Protected Trees

As described in Section 4.3 above, the project site contains two willow trees and one blackwood acacia tree, which are not covered species and therefore not protected under the Town of Danville's Tree Preservation Ordinance. Moreover, these trees are located outside the impact footprint of the proposed project and no direct or indirect impacts to these trees would occur. As such, this resource category is not further addressed in the Impact Analysis and Recommendations section of this document.

SECTION 6: IMPACT ANALYSIS AND RECOMMENDATIONS

The following discussion addresses potential project impacts on sensitive biological resources, including special-status species, and recommends measures to avoid and/or mitigate impacts to a less than significant level under CEQA (Exhibit 8).

6.1 - Impact Analysis for Federally Listed Species

6.1.1 - Action Area

The action area is defined in Code of Federal Regulations (CFR) Section 402.02 as "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action." The action area for the proposed project consists of the roughly 33.10-acre portion of the southern portion of the project site where project development would occur. The project site and the Action Area does not contain any Critical Habitat for any federally listed plant or wildlife species.[30]

6.1.2 - Proposed Mitigation

The proposed project would have no adverse effects on any federally listed plants or terrestrial wildlife or on any fish species. Adverse effects to federally listed species would not occur due to the limited size and scope of the proposed project, which is limited to the southern portion of the project site. In addition, the project site either does not provide suitable habitat or is isolated from other federally listed species occurrences precluding dispersal opportunities. No mitigation is proposed or warranted with regards to federally listed species as the proposed project is not anticipated to result in any adverse effects to any federally listed plants or wildlife.

6.1.3 - Conclusion

After reviewing the status of federally listed species identified 2 miles of the project site, the environmental baseline for the action area, and the effects of the proposed action, FCS concludes that the proposed project would have no effect on any federally listed plant or wildlife species or designated critical habitat.

6.2 - Impact Analysis for Special-status Wildlife Species

6.2.1- Crotch's Bumble Bee

In June of 2019, the California Fish and Game Commission voted 3-1 that listing the Crotch's bumblebee may be warranted under CESA; however, a Superior Court ruling in January 2021 blocked the listing. The listing decision by the Commission was ultimately upheld and the species' candidacy was reinstated under CESA on September 30, 2022. Known floral associations are present within the

[30] USFWS. 2025. Critical Habitat for Threatened & Endangered Species. Website: https://fws.maps.arcgis.com/apps/mapviewer/index.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77. Accessed March 7, 2025.

project site and the site is within the known range of this species. Therefore, there is a potential for these species to occur on-site.

Implementation of Mitigation Measure (MM) BIO-1 would ensure potential project-related impacts to Crotch's bumble bee would be reduced to a less than significant level.

MM BIO-1 Pre-construction Survey for Crotch's Bumble Bee

Focused Crotch's bumble bee surveys, in accordance with survey guidelines described in the 2023 California Department of Fish and Wildlife (CDFW) Survey Considerations for California Endangered Species Act (CESA) candidate Bumble Bee Species, shall be conducted within 1 year of initiation of ground-disturbing activities (i.e., grubbing, grading, disking, etc.). If the focused surveys are positive for Crotch's bumblebee, the project applicant shall obtain take authorization under CESA in the form of an Incidental Take Permit (ITP) issued by CDFW prior to conducting any ground-disturbing activities. Mitigation measures outlined in the ITP shall be used to offset impacts to this species.

6.2.1 - Burrowing Owl

Burrowing owl, a Candidate listed species under CESA, was assessed as having a low potential to occur within the project site due to the presence of suitable habitat and California ground squirrel burrows observed on-site. Mitigation for this species includes pre-construction surveys and, if found, notification to the CDFW and avoidance of occupied nests and burrows.

Implementation of MM BIO-2 would ensure potential project-related impacts to burrowing owl would be reduced to a less than significant level.

MM BIO-2 Burrowing Owl Pre-construction Survey

To determine whether burrowing owl have occupied the project site prior to its development, a qualified Biologist shall perform a pre-construction burrowing owl survey to determine burrow locations within 30 days prior to construction activities using California Department of Fish and Wildlife (CDFW) Guidelines. If construction is delayed or suspended for more than 30 days after the survey, the area shall be resurveyed. Surveys for occupied burrows shall be completed within all construction areas and within 500 feet of the proposed project impact area (where possible). At least 15 days prior to the expected start of any project-related ground disturbance activities, or the restart of activities, the project applicant shall provide a burrowing owl survey report with mapping exhibits to the Town. If no burrowing owl are detected during the pre-construction survey, no further action is necessary.

If burrowing owl are detected during the pre-construction survey, the following actions shall be taken to offset impacts during construction (as outlined in the CDFW 2012 Guidelines):

- During the nonbreeding season (September 1 through January 31), no disturbance shall occur within an approximately 160-foot radius of an occupied burrow. During the nesting season (February 1 through August 31), occupied burrows shall not be disturbed within a 300-foot radius unless a qualified Biologist approved by the CDFW verifies through non-invasive methods that either (1) the birds have not begun egg-laying and incubation; or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.
- If owls must be moved away from the disturbance area, passive relocation techniques (as outlined by the CDFW [i.e., use of one-way doors]) should be used rather than trapping. At least one or more weeks will be necessary to accomplish this and to allow the owls to acclimate to alternate burrows.
- If unpaired owls or paired owls are present in or within 300 feet of areas scheduled for disturbance or degradation (e.g., grading) and nesting is not occurring, owls are to be removed per CDFW-approved passive relocation protocols. Passive relocation requires the use of one-way exclusion doors, which must remain in place at least 48 hours prior to site disturbance to ensure owls have left the burrow prior to construction. A CDFW-approved exclusion plan would be required to implement this measure.
- If paired owls are nesting in areas scheduled for disturbance or degradation, nest(s) shall be avoided from February 1 through August 31 by a minimum 300-foot buffer or until fledging has occurred. Following fledging, owls may be passively relocated.

6.2.2 - Protected Nesting Birds (Including Northern Harrier and White-tailed Kite)

Trees within the project site and within disturbance distance could provide suitable nesting habitat for a variety of native, migratory, or other bird species, including special-status species such as white-tailed kite. Additionally, the grasslands present on-site provide suitable nesting habitat for ground nesting birds (e.g., northern harrier). Construction activities that occur during the avian nesting season (generally February 1 to August 31) could significantly disturb or destroy nesting sites for bird species protected under the Fish and Game Code or MBTA. Construction during the nesting season could result in direct harm to nesting birds, while noise, light, and other man-made disturbances may cause nesting birds to prematurely abandon their nests.

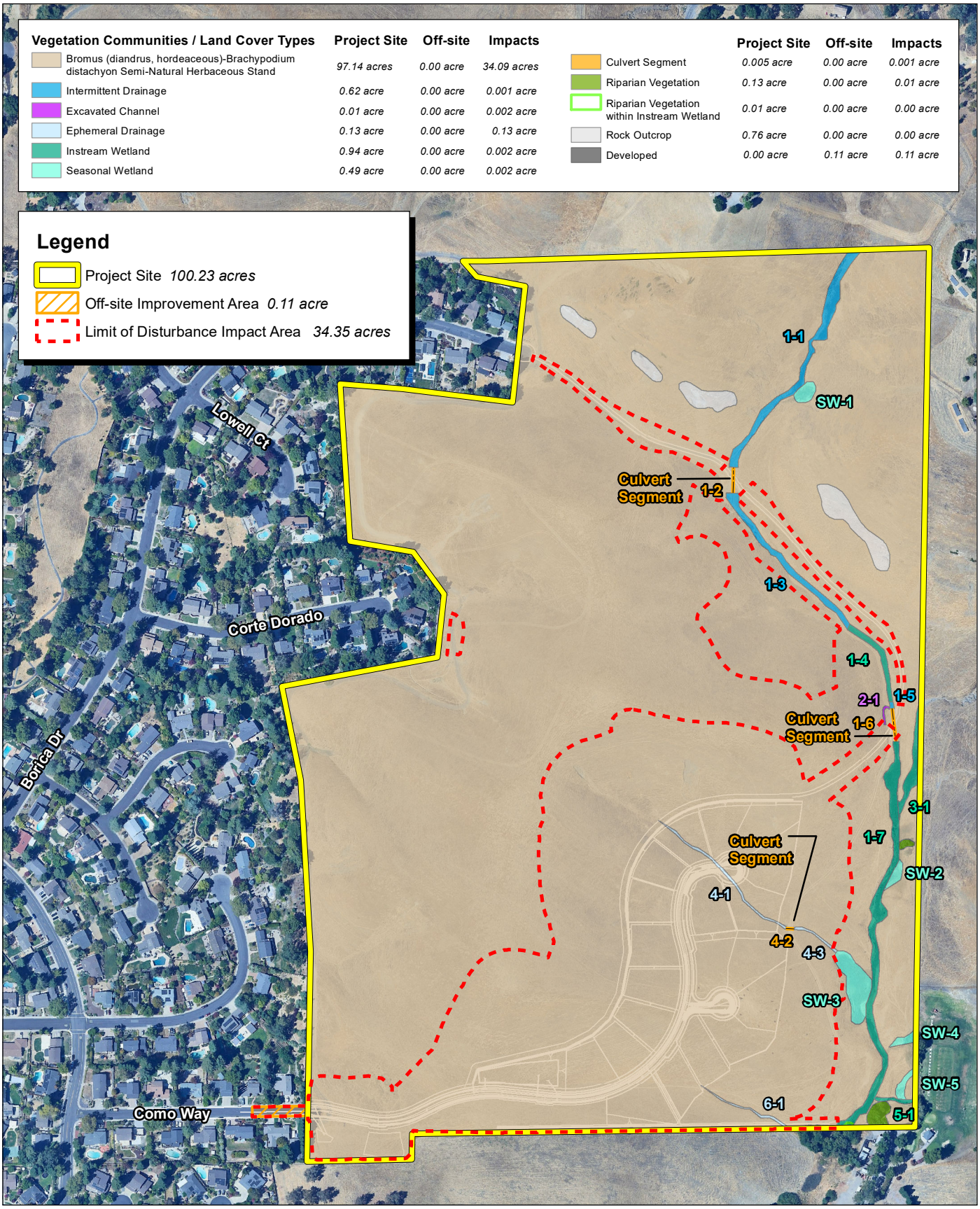
Implementation of MM BIO-3 would ensure potential project-related impacts to protected nesting birds would be reduced to a less than significant level.

MM BIO-3 Impacts to Nesting Birds

If the proposed project requires vegetation to be removed during the nesting season (February 1 to August 31), a pre-construction surveys shall be conducted no more than 7 days prior to the start of ground or vegetation disturbance to determine whether or not active nests are present.

If an active nest is located during pre-construction surveys, a qualified Biologist shall determine an appropriately sized avoidance buffer based on the species and anticipated disturbance level. (The California Department of Fish and Wildlife [CDFW] recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors.) A qualified Biologist will delineate the avoidance buffer using Environmentally Sensitive Area fencing, pin flags, and/or yellow caution tape. The buffer zone will be maintained around the active nest site(s) until the young have fledged and are foraging independently. No construction activities or construction foot traffic is allowed to occur within the avoidance buffer(s).

The qualified Biologist shall monitor the active nest during construction activities and modify the protection zone accordingly to prevent project-related nest disturbance until the young have fledged.



Source: Google Earth Aerial Imagery. CBG Civil Engineers, January 28, 2025, updated July 30, 2025.

FIRSTCARBON SOLUTIONS™

400 200 0 400 Feet

Exhibit 8
Impacts Map

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6.3 - Impact Analysis for Wildlife Movement Corridors and Nursery Sites

The project site is not within a designated wildlife corridor based on the Essential Connectivity Areas geospatial data set, which uses habitat modeling to identify areas of land with value as wildlife corridors. [31] Moreover, and as noted in Section 4.6 of this report, based on the CNDDB Terrestrial Connectivity Areas of Conservation Emphasis (ACE) Map, the project site is considered to have limited connectivity opportunity. The project site is directly bounded on three sides by residential and commercial development and active roadways which serves as significant barriers to movement of terrestrial species. The project site does not provide corridor functions beyond connecting developed land parcels in the local surrounding areas. Therefore, the project site is not likely to function as a wildlife movement corridor.

The project site does not contain native wildlife nursery sites. No significant breeding/nesting colonies were observed during the field survey. However, individual nesting birds have the potential of being present on-site seasonally. Potential impacts to individual nesting birds are addressed through the implementation of MM BIO-2 and MM-BIO-3. As such, impacts to nursery sites would be less than significant.

6.4 - Impact Analysis for State and Federally Protected Waters and Wetlands

Based on the preliminary jurisdictional determination by the USACE on August 5, 2025, all on-site aquatic features are subject to USACE jurisdiction under the Clean Water Act. Additionally, these features are also expected to be potential waters of the State based on the State Water Resources Control Board's Procedures.[32] CDFW will likely assert regulatory oversight over potential impacts on all drainage channels and associated vegetation pursuant to California Fish and Game Code Section 1602.

The proposed project will result in direct impacts to the site's aquatic features, including impacts to 0.001 acre of intermittent drainage, 0.002 acre of excavated channel, 0.13 acres of ephemeral drainages, 0.002 acre of instream wetlands, and 0.002 acre of seasonal wetlands (Exhibit 8).

Implementation of MM BIO-4a through MM BIO-4c would ensure potential project-related impacts to State and federally protected waters and wetlands would be reduced to a less than significant level.

MM BIO-4a Coordination with Regulatory Agencies

A jurisdictional determination has been made by the United States Army Corps of Engineers [USACE]. As such, the applicant shall coordinate, to the extent required under applicable laws and regulations, with the applicable regulatory agencies, Regional Water Quality Control Board [RWQCB], and California Department of Fish

[31] California Department of Fish and Wildlife (CDFW) and California Department of Transportation (Caltrans). 2024. California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California. California Department of Fish and Wildlife, Sacramento, CA. Website: https://www.wildlife.ca.gov/Conservation/Planning/Connectivity/CEHC. Accessed July 2, 2024.

[32] State Water Resources Control Board. State Wetland Definition and Procedures for Discharges of Dredged or Fill Materials into Waters of the State. April 2, 2019

and Wildlife [CDFW] to determine to what extent the wetlands and drainages within the site are protected under Section 401 of the Clean Water Act and Section 1602 of California Fish and Game Code.

MM BIO-4b Obtain CWA Sections 401 and 404 Permits Prior to Construction (After Agency Coordination)

To the extent resource agency coordination is required pursuant to this measure, after such coordination with the RWQCB, the applicant shall comply with applicable laws and regulations including, if required, obtaining a Section 404 CWA permit for impacts to waters of the United States and a Section 401 Water Quality Certification from the RWQCB. Any such required permit and certification shall be obtained prior to issuance of grading permits for the implementation of the proposed development.

If required pursuant to an approved Section 404 permit and 401 water quality certification, the applicant shall design said proposal to result in no net loss of functions and values of waters of the United States and State by incorporating impact avoidance, impact minimization, and/or compensatory mitigation for the impact, as set forth in the subject Section 404 permit and 401 water quality certification.

If required pursuant to an approved Section 404 permit and 401 water quality certification, compensatory mitigation may consist of (1) obtaining credits from a mitigation bank; (2) making a payment to an in lieu fee program that would conduct wetland, stream, or other aquatic resource restoration, creation, enhancement, or preservation activities; and/or (3) providing compensatory mitigation through an aquatic resource restoration, establishment, enhancement, and/or preservation activity. This final type of compensatory mitigation may be provided at or adjacent to the impact site (i.e., on-site mitigation) or at another location, usually within the same watershed as the permitted impact (i.e., off-site mitigation). The project/permit applicant shall retain responsibility for the implementation and success of the mitigation approach in connection with any development proposal.

MM BIO-4c Obtain Approval of and File Notification of Streambed Alteration Agreement Prior to Construction (After Agency Coordination)

The applicant after coordination with the CDFW, shall obtain and file a notification of a Streambed Alteration Agreement, if and to the extent required by applicable laws and regulations, prior to conducting construction activities within any aquatic resources that may qualify as streams under CDFW jurisdiction (i.e., those having bed and bank and at least periodical flow). If required, the relevant applicant shall implement all mitigation measures imposed by the CDFW related to the subject Streambed Alteration Agreement, which may include but not be limited to the implementation of erosion and bank stabilization measures, riparian habitat

enhancement, and/or restoration and revegetation of the stream corridor habitat at no less than a 1:1 ratio, as determined by the CDFW.

6.5 - Impact Analysis for Local Policies or Ordinances

Local policies or ordinances applicable to the proposed project include the Town of Danville General Plan Chapter 6: Goal 21-23 and the Town of Danville Municipal Code Chapters 32-70.3 and 32-22.12.C. The proposed project would adhere to the Town of Danville General Plan Chapter 6: Goal 21-23 through the implementation of MM BIO-1a through MM BIO-4c, which would protect and preserve sensitive habitats and special-status species with the potential to occur within the project site.

Additionally, there are three trees within the project site which are not protected under the Town of Danville Tree Preservation Ordinance. The proposed project would not impact any on-site trees and therefore would adhere to the Town of Danville Municipal Code Chapters 32-70.3 and 32-22.12.C.

Therefore, with adherence to the local policies and ordinances outlined in Town of Danville Municipal Code Chapters 32-70.3 and 32-22.12.C, and the Town of Danville General Plan Chapter 6: Goal 21-23, and with implementation of MM BIO-1 through MM BIO-4c, the proposed project would not conflict with the Town of Danville local policies and ordinances.

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Appendix A:
Special-status Species Occurrence Evaluation

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Table 1: Special-status Plant Species Evaluated

Scientific Name Common Name	Status			Habitat Description[4]	Estimated Potential to Occur and Rationale
	USFWS[1]	CDFW[2]	CNPS[3]		
Amsinckia grandiflora large-flowered fiddleneck	FE	CE	1B.1	Cismontane woodland and valley and foothill grassland. Elevation: 270-550 m. Blooming period: April-May	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Amsinckia lunaris bent-flowered fiddleneck	—	—	1B.2	Cismontane woodland, coastal bluff scrub, and grassland. Elevation: 3-795 m. Blooming period: March- June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Androsace elongata ssp. acuta California androsace	—	—	4.2	Chaparral, cismontane woodland, coastal scrub, meadows and seeps, pinyon and juniper woodland, and valley and foothill grassland. Elevation: 150-1305 m. Blooming period: March-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Anomobryum julaceum slender silver moss	—	—	4.2	Broadleafed upland forest, lower montane coniferous forest, north coast coniferous forest. Moss which grows on damp rocks and soil; acidic substrates. Usually seen on roadcuts. Elevation: 100-1000 m. Blooming period: March-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Arabis blepharophylla coast rockcress	—	—	4.3	Broadleafed upland forest, coastal bluff scrub, coastal prairie, and coastal scrub. In rocky soils. Elevation: 3-1100 m. Blooming period: February-May	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Arctostaphylos auriculata Mt. Diablo manzanita	—	—	1B.3	Chaparral, cismontane woodland. In canyons and slopes on sandstone. Elevation: 180-565 m. Blooming period: January-March	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Arctostaphylos manzanita ssp. laevigata Contra Costa manzanita	—	—	1B.2	Chaparral on rocky slopes. Elevation: 150-610 m. Blooming period: January-March (April)	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Astragalus tener var. tener alkali milk-vetch	—	—	1B.2	Playas, valley and foothill grassland, and vernal pools. Prefers alkaline soils. Elevation: 1-60 m. Blooming period: March-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Atriplex coronata var. coronata crownscale	—	—	4.2	Chenopod scrub, valley and foothill grassland, and vernal pools. Elevation: 1-590 m. Blooming period: March-October	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.

Scientific Name Common Name	Status			Habitat Description[4]	Estimated Potential to Occur and Rationale
	USFWS[1]	CDFW[2]	CNPS[3]		
Atriplex depressa brittlescale	—	—	1B.2	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland, and vernal pools. In alkaline and clay soils. Elevation: 1-320 m. Blooming period: April-October	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Atriplex minuscula lesser saltscale	—	—	1B.1	Chenopod scrub, playas, and valley and foothill grassland. In alkaline and sandy soils. Elevation: 15-200 m. Blooming period: May-October	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Balsamorhiza macrolepis big-scale balsamroot	—	—	1B.2	Chaparral, cismontane woodland, and valley and foothill grassland. Sometimes in serpentine soils. Elevation 45-1555 m. Blooming period: March-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Blepharizonia plumosa Big tarplant	—	—	1B.1	Valley and foothill grassland. Dry hills & plains in annual grassland. Clay to clay-loam soils; usually on slopes and often in burned areas. Elevation: 60-505 m. Blooming period: July-October	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Calandrinia breweri Brewer's calandrinia	—	—	4.2	Chaparral and coastal scrub. In burned areas, disturbed areas, and loam (sometimes) and sandy (sometimes) soils. Elevation: 10-1220 m. Blooming period: March-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Calochortus pulchellus Mt. Diablo fairy-lantern	—	—	1B.2	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland. On wooded and brushy slopes. Elevation: 45-915 m. Blooming period: April-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Calochortus umbellatus Oakland star-tulip	—	—	4.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland. In serpentine soils (often). Elevation: 100-700 m. Blooming period: March-May	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Castilleja ambigua var. ambigua johnny-nip	—	—	4.2	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, and vernal pools (margins). Elevation: 0-435 m. Blooming period: March-August	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Centromadia parryi ssp. congdonii Congdon's tarplant	—	—	1B.1	Valley and foothill grassland. Alkaline soils, sometimes described as heavy white clay. Elevation: 0-230 m. Blooming period: (April) May-October (November)	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.

Scientific Name Common Name	Status			Habitat Description[4]	Estimated Potential to Occur and Rationale
	USFWS[1]	CDFW[2]	CNPS[3]		
Chloropyron palmatum palmate-bracted bird's-beak	FE	CE	1B.1	Chenopod scrub and valley and foothill grassland. In alkaline soils. Elevation: 5-155 m. Blooming period: May-October	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Clarkia concinna ssp. automixa Santa Clara red ribbons	—	—	4.3	Chaparral and cismontane woodland. Elevation: 90-1500 m. Blooming period: May-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Collomia diversifolia serpentine collomia	—	—	4.3	Chaparral and cismontane woodland. In gravelly (sometimes), rocky (sometimes), and serpentine (sometimes) soils. Elevation: 200-600 m. Blooming period: May-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Convolvulus simulans small-flowered morning-glory	—	—	4.2	Chaparral (openings), coastal scrub, and valley and foothill grassland. In clay soils, seeps, and serpentinite. Elevation:30-740 m. Blooming period: March-July	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Cordylanthus nidularius Mt. Diablo bird's-beak	—	CR	1B.1	Chaparral, usually on serpentinite. Elevation: 600-800 m. Blooming period: June-August	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Cryptantha hooveri Hoover's cryptantha	—	—	1A	Inland dunes and valley and foothill grassland in sandy soils. Elevation: 9-150 m. Blooming period: April-May	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Delphinium californicum ssp. interius Hospital Canyon larkspur	—	—	1B.2	Cismontane woodland in mesic soils, chaparral, coastal scrub. In wet, boggy meadows, openings in chaparral and in canyons. Elevation:195-1095 m. Blooming period: April-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Eriastrum ertterae Lime Ridge eriastrum	—	—	1B.1	Chaparral in openings or edges. Alkaline or semi alkaline sandy substrates. Elevation: 210-275 m. Blooming period: June-July	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Eriogonum truncatum Mt. Diablo buckwheat	—	—	1B.1	Chaparral, coastal scrub, valley and foothill grassland. In dry, exposed clay or sandy substrates. Elevation:105-350 m. Blooming period: April-September (November-December)	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Eriogonum umbellatum var. bahiiforme bay buckwheat	—	—	4.2	Cismontane woodland and lower montane coniferous forest. In rocky and serpentine (often) soils. Elevation: 700-2200 m. Blooming period: July-September	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.

Scientific Name Common Name	Status			Habitat Description[4]	Estimated Potential to Occur and Rationale
	USFWS[1]	CDFW[2]	CNPS[3]		
Eriophyllum jepsonii Jepson's woolly sunflower	—	—	4.3	Chaparral, cismontane woodland, and coastal scrub. In serpentinite (sometimes). Elevation: 200-1025 m. Blooming period: April-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Eryngium jepsonii Jepson's coyote-thistle	—	—	1B.2	Vernal pools, valley and foothill grassland. In clay substrate. Elevation: 3-305 m. Blooming period: April-August	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Erythranthe inconspicua small-flowered monkeyflower	—	—	4.3	Chaparral, cismontane woodland, and lower montane coniferous forest. In mesic soils. Elevation: 274-760 m. Blooming period: May-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Extriplex joaquinana San Joaquin spearscale	—	—	1B.2	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland. In seasonal alkali wetlands or alkali sink scrub with Distichlis spicata, Frankenia, etc. Elevation: 0-800 m. Blooming period: April-October	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Fritillaria agrestis stinkbells	—	—	4.2	Chaparral, cismontane woodland, pinyon and juniper woodland, and valley and foothill grassland. In clay and serpentine (sometimes) soils. Elevation: 10-1555 m. Blooming period: March-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Fritillaria liliacea fragrant fritillary	—	—	1B.2	Coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland. Often on serpentine; various soils reported though usually on clay, in grassland. Elevation: 3-385 m. Blooming period: February-April	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Galium andrewsii ssp. gatense phlox-leaf serpentine bedstraw	—	—	4.2	Chaparral, cismontane woodland, and lower montane coniferous forest. In rocky and serpentine soils. Elevation: 150-1450 m. Blooming period: April-July	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Grimmia torenii Toren's grimmia	—	—	1B.3	Chaparral, cismontane woodland, and lower montane woodland. Prefers carbonate, openings, and rocky and volcanic areas. Elevation: 325-1160 m. Blooming period: NA	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.

Scientific Name Common Name	Status			Habitat Description[4]	Estimated Potential to Occur and Rationale
	USFWS[1]	CDFW[2]	CNPS[3]		
Helianthella castanea Diablo helianthella	—	—	1B.2	Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland. Usually in chaparral/oak woodland interface in rocky, azonal soils. Often in partial shade. Elevation: 45-1070 m. Blooming period: March-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Hesperevax caulescens hogwallow starfish	—	—	4.2	Valley and foothill grassland (mesic clay) and vernal pools (shallow). In alkaline (sometimes) soils. Elevation: 0-505 m. Blooming period: March-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Hesperolinon breweri Brewer's western flax	—	—	1B.2	Chaparral, cismontane woodland, and valley and foothill grassland, usually on serpentinite. Elevation: 30-945 m. Blooming period: May-July	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Hoita strobilina Loma Prieta hoita	—	—	1B.1	Chaparral, cismontane woodland, and riparian woodland. Prefers mesic soil, usually found on serpentinite. Elevation: 30-860 m. Blooming period: May-July	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Holocarpha macradenia Santa Cruz tarplant	FT	CE	1B.1	Coastal prairie, coastal scrub, and valley and foothill grassland. Prefers clay and sandy soils. Elevation 10-220 m. Blooming period: June-October	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Isocoma arguta Carquinez goldenbush	—	—	1B.1	Valley and foothill grassland. Alkaline soils. Elevation: 1-20 m. Blooming period: August-December	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Lasthenia conjugens Contra Costa goldfields	FE	—	1B.1	Valley and foothill grassland, vernal pools, alkaline playas, cismontane woodland, swales, low depressions, in open grassy areas. Elevation: 1-450 m. Blooming period: March-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Lasthenia ferrisiae Ferris' goldfields	—	—	4.2	Vernal pools (alkaline, clay). Elevation: 20-700 m. Blooming period: February-May	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Leptosiphon ambiguus Serpentine leptosiphon	—	—	4.2	Cismontane woodland, coastal scrub, valley and foothill grassland. Elevation: 120-1130 m Blooming period: Mar-Jun	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.

Scientific Name Common Name	Status			Habitat Description[4]	Estimated Potential to Occur and Rationale
	USFWS[1]	CDFW[2]	CNPS[3]		
Leptosiphon aureus Bristly leptosiphon	—	—	4.2	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation: 55-1500 m. Blooming period: Apr-Jul	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Leptosiphon grandiflorus Large-flowered leptosiphon	—	—	4.2	Coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal dunes, coastal priarie, coastal scrub, valley and foothill grassland. Elevation: 5-1200 m. Blooming period: Apr-Aug	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Madia radiata showy golden madia	—	—	1B.1	Cismontane woodland and valley and foothill grassland. Elevation: 25-1215 m. Blooming period: March-May	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Malacothamnus hallii Hall's bush-mallow	—	—	1B.2	Chaparral, coastal scrub. Some populations on serpentine soils. Elevation: 10-735 m. Blooming period: (April) May-September (October)	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Microseris sylvatica sylvan microseris	—	—	4.2	Chaparral, cismontane woodland, Great Basin scrub, pinyon and juniper woodland, and valley and foothill grassland. In serpentine soils (rarely). Elevation: 45-1500 m. Blooming period: March-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Monolopia gracilens woodland woollythreads	—	—	1B.2	Broadleafed upland forest (openings), chaparral (openings), cismontane woodland, North Coast coniferous forest (openings), and valley and foothill grassland. Found on serpentinite. Elevation: 100-1200 m. Blooming period: March-July	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Navarretia gowenii Lime Ridge navarretia	—	—	1B.1	Chaparral on calcium carbonate rich soils with high clay content. Elevation: 180-305 m. Blooming period: May-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Navarretia heterandra Tehama navarretia	—	—	4.3	Valley and foothill grassland (mesic) and vernal pools. Elevation: 30-1010 m. Blooming period: April-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Navarretia nigelliformis ssp. radians shining navarretia	—	—	1B.2	Cismontane woodland, valley and foothill grassland, and vernal pools. Sometimes in clay soils. Elevation: 65-1000 m. Blooming period: April-July	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.

Scientific Name Common Name	Status			Habitat Description[4]	Estimated Potential to Occur and Rationale
	USFWS[1]	CDFW[2]	CNPS[3]		
Navarretia prostrata prostrate vernal pool navarretia	—	—	1B.2	Coastal scrub, meadows and seeps, valley and foothill grassland in alkaline soils, and vernal pools. In mesic soils. Elevation: 3-1210 m. Blooming period: April-July	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Oenothera deltoides ssp. howellii Antioch Dunes evening primrose	FE	SE	1B.1	Interior dunes in remnant river bluffs and sand dunes east of Antioch. Elevation: 1-15 m. Blooming period: March-September	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Phacelia phacelioides Mt. Diablo phacelia	—	—	1B.2	Chaparral and cismontane woodland. Prefers rocky areas. Elevation: 500-1370 m. Blooming period: April-May	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Piperia michaelii Michael's rein orchid	—	—	4.2	Coastal bluff scrub, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, and lower montane coniferous forest. Elevation: 3-915 m. Blooming period: April-August	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Plagiobothrys glaber hairless popcornflower	—	—	1A	Meadows and seeps in alkaline soils and marshes and swamps. Elevation: 15-180 m. Blooming period: March-May	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Polemonium carneum Oregon polemonium	—	—	2B.2	Coastal prairie, coastal scrub, and lower montane coniferous forest. Elevation: 0-1830 m. Blooming period: April-September	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Puccinellia simplex California alkali grass	—	—	1B.2	Chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools. In alkaline soils, flats, lake margins, and vernally mesic areas. Elevation: 2-930 m. Blooming period: March-May	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Ranunculus lobbii Lobb's aquatic buttercup	—	—	4.2	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, and vernal pools. In mesic soils. Elevation:15-470 m. Blooming period: February-May	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Ravenella exigua Chaparral harebell	—	—	1B.2	Chaparral. Elevation: 90-1375 m. Blooming period: May-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.

Scientific Name Common Name	Status			Habitat Description[4]	Estimated Potential to Occur and Rationale
	USFWS[1]	CDFW[2]	CNPS[3]		
Sanicula saxatilis rock sanicle	—	CR	1B.2	Broadleafed upland forest, chaparral, and valley and foothill grassland. Grows in rocky, scree, and talus areas. Elevation: 620-1175 m. Blooming period: April-May	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Senecio aphanactis chaparral ragwort	—	—	2B.2	Chaparral, cismontane woodland, and coastal scrub. Can grow in alkaline soils. Elevation: 15-800 m. Blooming period: January-April	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Spergularia macrotheca var. longistyla long-styled sand-spurrey	—	—	1B.2	Meadows and seeps, Marshes and swamps with alkaline soils. Elevation: 0-255 m. Blooming period: February-May	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Streptanthus albidus ssp. peramoenus most beautiful jewelflower	—	—	1B.2	Chaparral, cismontane woodland, and valley and foothill grassland. Grows on serpentinite. Elevation: 95-1000 m. Blooming period: April-September	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Streptanthus hispidus Mt. Diablo jewelflower	—	—	1B.3	Chaparral and valley and foothill grassland. Prefers rocky areas. Elevation: 365-1200 m. Blooming period: March-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Stuckenia filiformis ssp. alpina northern slender pondweed	—	—	2B.2	Marshes and swamps. Shallow, clear water of lakes and drainage channels. Elevation: 5-2325 m. Blooming period: May-July	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Trifolium hydrophilum saline clover	—	—	1B.2	Marshes and swamps, valley and foothill grassland in mesic or alkaline soils, and vernal pools. Elevation: 0-300 m. Blooming period: April-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Triquetrella californica coastal triquetrella	—	—	1B.2	Coastal bluff scrub and coastal scrub. Elevation:10-100 m. Blooming period: NA	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Tropidocarpum capparideum caper-fruited tropidocarpum	—	—	1B.1	Valley and foothill grassland in alkaline hills. Elevation: 1-455 m. Blooming period: March-April	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.
Viburnum ellipticum oval-leaved viburnum	—	—	2B.3	Chaparral, coniferous forest on north facing slopes. Elevation: 215-1400 m. Blooming period: May-June	**None**: Species was not observed during appropriately timed protocol-level rare plant surveys.

Scientific Name Common Name	Status			Habitat Description[4]	Estimated Potential to Occur and Rationale
	USFWS[1]	CDFW[2]	CNPS[3]		

Code Designations

[1] Federal Status: 2025 USFWS Listing

- **ESU** = Evolutionary Significant Unit is a distinctive population.
- **FE** = Listed as endangered under the FESA.
- **FT** = Listed as threatened under the FESA.
- **FC** = Candidate for listing (threatened or endangered) under FESA.
- **FD** = Delisted in accordance with the FESA.
- **FPD** = Federally Proposed to be Delisted.
- **MBTA** = protected by the Migratory Bird Treaty Act
- **—** = Not federally listed

[2] State Status: 2025 CDFW Listing

- **SE** = Listed as endangered under the CESA.
- **ST** = Listed as threatened under the CESA.
- **SSC** = Species of Special Concern as identified by the CDFW.
- **FP** = Listed as fully protected under FGC.
- **CFG** = FGC =protected by FGC 3503.5
- **CR** = Rare in California.
- **—** = Not state listed

[3] CNPS: 2025 CNPS Listing

- **Rank 1A** = Plants species that presumed extinct in California.
- **Rank 1B** = Plant species that are rare, threatened, or endangered in California and elsewhere.
- **Rank 2** = Plant species that are rare, threatened, or endangered in California, but more common elsewhere.
- **Rank 3** = Plants about which we need more information—A Review List
- **Rank 4** = Plants of limited distribution—A Watch List

Blooming period: Months in parentheses are uncommon.

[4] **Habitat Description**: Habitat description adapted from CNDDB[1] and CNPS online inventory[2] or other specified source*.
[5] **Potential to Occur and Rationale**: Location of recorded species occurrences determined by geospatial information from BIOS 6[3] or other specified source*.

[1] California Department of Fish and Wildlife (CDFW). 2025. CNDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx. Accessed April 29, 2025.
[2] California Native Plant Society (CNPS). 2025. California Native Plant Society Rare and Endangered Plant Inventory. Website: http://www.rareplants.cnps.org/. Accessed April 29, 2025.
[3] California Department of Fish and Wildlife (CDFW). 2025. Biogeographic Information and Observation System (BIOS 5). Website: https://map.dfg.ca.gov/bios/. Accessed April 29, 2025.

Table 2: Special-status Wildlife Species Evaluated

Scientific Name Common Name	Status		Habitat Description[3]	Estimated Potential to Occur and Rationale
	USFWS[1]	CDFW[2]		
Amphibians				
Ambystoma californiense pop. 1 California tiger salamander	FT	ST	Need underground refuges, especially ground squirrel burrows, and vernal pools, ponds or other standing water bodies for breeding.	**None**: There is marginal refuge habitat suitable for this species on-site due to the presence of on-onsite burrows. There is one occurrence of this species within 2 miles of the site, (Occurrence No. 436) from 1952. Per CNDDB, the exact location is unknown, and Jennings and Hayes considered this site extirpated in their 1994 review. Outside of occurrence 436, the nearest recorded occurrence (Occurrence No. 1067) from 2018 is located approximately 3 miles northwest of the project site. This occurrence is located outside of the 1.3-mile distribution radius for this species, therefore precluding dispersal ability. Additionally, there are no recorded breeding ponds or recorded observations within the 1.3-mile radius of the project site.
Rana boylii foothill yellow-legged frog	—	SE SSC	Found in or near streams with cobble-sized substrate for egg-laying with open sunny banks in forest, chaparral, and woodland habitats.	**None:** Lack of suitable habitat and no ideal egg-laying habitat present on-site. There are a cluster of recorded occurrences (Occurrences Nos. 33-36) approximately 5-6 miles north of the site all associated with Mt. Diablo State Park. Of these occurrences, the most recent was observed in 1953 and all are likely extirpated.
Rana draytonii California red-legged frog	FT	SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development	**None:** Protocol-level surveys were conducted for this species in 2024 in accordance with the "Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog" which can be found in its entirety within Appendix E. Based on the negative results of these surveys which concluded the absence of California Red-legged Frog (CRLF) records in the greater project vicinity, the likely absence of suitable breeding habitat on-site and nearby, the presence of dispersal barriers between the project site and known breeding locations, and the distance of known breeding locations from the project site, it is reasonable to assume that CRLF are absent from the project site.
Birds				
Accipiter straitus Sharp-skinned hawk	MBTA	—	Can be found in cismontane woodland, lower montane coniferous forest, riparian forest and riparian woodland. North facing slopes with plucking perches are critical recruitments. Nests usually within 275 ft of water.	**None:** The site does not contain suitable habitat in the form of cismontane woodland, lower montane coniferous forest, riparian forest and riparian woodland.
Agelaius tricolor Tricolored blackbird	MBTA	ST SSC	Breeds near fresh water in dense emergent vegetation.	**None:** The site does not contain suitable aquatic resources with dense stands of emergent vegetation required for breeding. The nearest recorded occurrence (Occurrence No. 228) from 1995 is located approximately 3 miles to the east within a mitigation pond.

Scientific Name Common Name	Status		Habitat Description[3]	Estimated Potential to Occur and Rationale
	USFWS[1]	CDFW[2]		
Aquila chrysaetos Golden eagle	MBTA	FP	Typically frequents rolling foothills, mountain areas, sage-juniper flats and desert	**None:** The project site does not contain rolling foothills, mountain areas, sage-juniper flats or deserts. No historically significant occurrences of the species within 5 miles of the project site.
Athene cunicularia Burrowing owl	MBTA	CE SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	**Low:** The property offers short, grazed grasslands and ground squirrel burrows which provide potential burrowing owl habitat. The closest (occurrence No. 506) is approximately 4 miles away near camp parks in Dublin.
Buteo regalis Furruginous hawk	MBTA	—	Can be found in great basin grassland, great basin scrub, pinon and juniper woodlands, valley and foothill grasslands.	**None:** The site does not contain suitable habitat in the form of great basin grassland, great basin scrub, pinon and juniper woodlands. No historically significant occurrences of the species within 5 miles of the project site.
Buteo swainsoni Swainson's hawk	MBTA	ST	Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	**None:** The project site does not contain stands with trees, juniper-sage flats, riparian areas or oak savannahs. No historically significant occurrences of the species within 5 miles of the project site.
Circus hudsonius northern harrier	MBTA	SSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	**High:** This species has been observed during field surveys in a foraging capacity. However, this species is unlikely to nest on-site given the lack of suitable nesting habitat.
Elanus leucurus white-tailed kite	MBTA	FP	Grasslands and open coastal scrub in coastal and valley lowlands; rarely found away from agricultural areas. Inhabits herbaceous, open stages of most habitats mostly in cismontane California.	**Low:** While the project site contains grasslands, there are no historically significant occurrences of the species within 5 miles of the site.
Eremophila alpestris actia California horned lark	MBTA	—	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	**None:** The project site does not contain suitable habitat. No occurrences of this species within a 5-mile radius in over 30 years.
Falco mexicanus Prairie falcon	MBTA	—	Inhabits dry, open terrain, either level or hilly. Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores. Found in Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, and valley & foothill grassland	**None:** The project site does not contain suitable habitat to support this speices.
Falco peregrinus anatum American peregrine falcon	FD	—	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	**None:** The site does not contain suitable nesting habitat due to the lack of cliffs, ledges, or other human-made structures.
Gymnogyps californianus California Condor	FE	—	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest	**None:** While the project site contains grasslands, the project site lacks the microhabitat required to support this species. There are no historically significant occurrences of the species within 5 miles of the project site.

Scientific Name Common Name	Status		Habitat Description[3]	Estimated Potential to Occur and Rationale
	USFWS[1]	CDFW[2]		
Setophaga petechia yellow warbler	MBTA	SSC	Occurs and nests in willow shrubs and thickets, cottonwoods, sycamores, ash, and alders, predominantly in riparian habitats. Long-distance migrant.	**None:** The project site contains willows they are not a part of a dense continuous community. The site does not contain cottonwoods, sycamores, ash, or alders. There are no historically significant occurrences of the species within 5 miles of the project site
Sternula antillarum browni California Least Tern	FE	_	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, land fills, or paved areas.	**None:** The project site does not contain suitable habitat to support this species.
Invertebrates				
Bombus crotchii Crotch's bumble bee	—	CE	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	**Low:** The project site generally lacks the necessary floral associations; however, *Eschscholzia californica* and *Eriogonum nudum* were observed during field surveys. While there are no historically significant occurrences of the species within 5 miles of the project site, this species has a low potential to occur given the presence of foraging plants.
Bombus occidentalis western bumble bee	—	CE	Depends on habitats with rich floral resources throughout the nesting season. Floral associations include *Erythronium grandiflorum, Hedysarum alpinum, Ipomopsis aggregata, Pedicularis capitata, and Symphoricarpos albus*. Require above and below-ground micro-sites for overwintering and nesting, including logs, stumps, and abandoned rodent and ground-nesting bird nests.	**None:** The project site does not contain a rich variety of floral resources and is mostly composed of non-native grasses such as *Festuca perennis*. Moreover, the project site does not contain the known floral associations for this species. The nearest recorded occurrence (Occurrence No. 217) from 1960 is located approximately 3.5 miles northwest of the project site.
Branchinecta lynchi vernal pool fairy shrimp	FT	—	Small vernal pools with cool water (10ºC), moderate alkalinity and conductivity, and less than 1 m deep.	**None:** The project site does not contain required aquatic features, including vernal pools, to support this species.
Danaus plexippus plexippus pop. 1 monarch butterfly- California overwintering population	FC	—	Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	**None:** The project site does not contain suitable tree groves to support overwintering populations of this species. No known overwintering site known nearby. No monarch hostplants (*Asclepius* spp.) present on site.
Lepidurus packardi vernal pool tadpole shrimp	FE	—	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	**None:** The project site does not contain required aquatic features, including vernal pools to support this species.
Mammals				
Antrozous pallidus Pallid bat	—	SSC	Inhabits low elevation (below 1,830 m./6,000 feet) rocky arid deserts and canyonlands, shrub-steppe grasslands, karst formations, and higher elevation coniferous forests (below 2,100 m./7,000 feet). Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees, and various	**None**: While the project site contains grasslands, there are no historically significant sightings of the species within 5 miles of the project site. Moreover, the project site does not contain suitable trees or buildings for roosting.

Scientific Name Common Name	Status		Habitat Description[3]	Estimated Potential to Occur and Rationale
	USFWS[1]	CDFW[2]		
			human structures such as bridges, barns, porches, bat boxes, and human-occupied as well as vacant buildings.	
Corynorhinus townsendii Townsend's big-eared bat	—	SSC	Found throughout California in a wide variety of habitats. Most common in mesic sites, but also found in broadleaved upland forest, chaparral, and chenopod scrub. Roosts in the open, hanging from walls and ceilings. This species is extremely sensitive to human disturbance.	**None:** The site does not contain suitable habitat to support this species. The nearest recorded occurrence (Occurrence No. 423) from 1926 is located 5 miles north of the project site, associated with Mt. Diablo.
Eumops perotis californicus western mastiff bat	—	SSC	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	**None**: While the project site contains grasslands, there are no historically significant sightings of the species within 5 miles of the project site. Moreover, the project site does not contain suitable trees or buildings for roosting.
Lasiurus frantzii western red bat	—	SSC	Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	**None:** The project site does not contain suitable habitat to support this species. There are no historically significant sightings of the species within 5 miles of the project site. Moreover, the project site does not contain suitable trees for roosting.
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	—	SSC	Forest habitats of moderate canopy and moderate to dense understory. May prefer chaparral and redwood habitats. Constructs nests of shredded grass, leaves and other material. May be limited by availability of nest-building materials.	**None:** The project site does not contain forest and riparian habitats with moderate canopy coverage and moderate to dense understory. There are no historically significant sightings of the species within 5 miles of the project site.
Taxidea taxus American badger	—	SSC	Found in drier open stages of most shrub, forest and herbaceous habitats with friable soils, specifically grassland environments. Natal dens occur on slopes.	**None:** The project site contains suitable habitat in the form of grasslands. However, the nearest occurrence of the species (Occurrence No. 410) from 2007 is located approximately 4.7 miles east of the project site. The project site is isolated due to habitat fragmentation from Occurrence No. 410 and from other occurrences within a 5-mile radius of the project site. There are numerous anthropogenic barriers between the project site and these recorded occurrences, further precluding dispersal potential onto the site.
Vulpes macrotis mutica San Joaquin kit fox	FE	ST	Annual grasslands or grassy open stages with scattered shrubby vegetation.	**None**: While the project site contains grassland habitat and there are two recorded occurrences within 5 miles of the project site (Occurrence No. 544 from 1989, and Occurrence No. 572 from 1990) the project site is isolated from these locations. There are numerous anthropogenic barriers (roadways and residential development) between the two occurrence

Scientific Name Common Name	Status		Habitat Description[3]	Estimated Potential to Occur and Rationale
	USFWS[1]	CDFW[2]		
				locations and the project site due to large scale urbanization of the area. Both occurrence locations are in areas where there is no direct migratory pathway onto the project site, further precluding dispersal potential. This species has not been detected within a 5-mile radius of the project site in 35 years.
Reptiles				
Actinemys marmorata Northwestern pond turtle	FPT	SSC	Can be found in a variety of aquatic habitats; ponds, lakes, streams, rivers, and marshes with abundant vegetation. Logs, rocks, cattail mats, and exposed banks required for basking. Typically associated with perennial or nearly perennial water features.	**None:** The project site does not contain suitable habitat to support this species, as the site only contains isolated small pooling areas with limited to no cover. The pooling features on-site do not provide the microhabitat required such as logs, rocks, or mats of floating vegetation. The nearest recorded occurrence (Occurrence No. 510) from 2004 is located approximately 3.5 miles east of the site associated with Alamo Creek with abundant *Scirpus* and *Typha*. All other occurrences within 5 miles of the project site are associated with perennial creeks containing emergent vegetation. This species was not observed during any of the field surveys.
Anniella pulchra Northern California legless lizard	—	SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	**None**: Suitable habitat is not present on site due to a lack of sandy soils. There are no historically significant sightings of the species within 5 miles of the project site.
Masticophis lateralis euryxanthus Alameda whipsnake	FT	ST	Typically found in chaparral and scrub habitats but will also use adjacent grassland, oak savanna and woodland habitats. Specifically, mostly south-facing slopes and ravines, with rock outcrops, deep crevices or abundant rodent burrows, where shrubs form a vegetative mosaic with oak trees and grasses.	**None:** The project site does not contain the species preferred habitats in the form of chaparral, scrub, oak savanna, or woodland habitats. The nearest recorded occurrence (Occurrence No. 124) from 1994 is located approximately 2.7 miles north of the project site. Moreover, there are two critical habitat designations within 5 miles of the project site, Unit 2 and Unit 4. Both critical habitat designations and Occurrence No. 124 are separated from the project site by I-680, Blackhawk Road, Camino Tassajara, and residential housing developments which further precludes dispersal onto the project site.
Phrynosoma blainvillii coast horned lizard	—	SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	**None**: Lack of suitable habitat due to lack of sandy washes at site precludes presence. There are no historically significant sightings of the species within 5 miles of the project site.

Scientific Name Common Name	Status		Habitat Description[3]	Estimated Potential to Occur and Rationale
	USFWS[1]	CDFW[2]		

Code Designations

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[2] State Status: 2025 CDFW Listing

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- **ST** = Listed as threatened under the CESA.
- **SSC** = Species of Special Concern as identified by the CDFW.
- **FP** = Listed as fully protected under FGC.
- **CFG** = FGC =protected by FGC 3503.5
- **CR** = Rare in California.
- **—** = Not state listed

[3] **Habitat Description**: Habitat description adapted from CNDDB[4] or other specified source*.
[4] **Potential to Occur and Rationale**: Location of recorded species occurrences determined by geospatial information from BIOS 6[5] or other specified source*.

[4] California Department of Fish and Wildlife (CDFW). 2025. CNDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx. Accessed April 29, 2025.
[5] California Department of Fish and Wildlife (CDFW). 2025. Biogeographic Information and Observation System (BIOS 6). Website: https://map.dfg.ca.gov/bios/. Accessed April 29, 2025.

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Appendix B:
Database Search Results

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Diablo (3712178) OR Walnut Creek (3712281) OR Clayton (3712188) OR Antioch South (3712187) OR Las Trampas Ridge (3712271) OR Tassajara (3712177) OR Hayward (3712261) OR Dublin (3712168) OR Livermore (3712167))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter striatus sharp-shinned hawk	ABNKC12020	None	None	G5	S4	WL
Actinemys marmorata northwestern pond turtle	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S2	SSC
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	G2G3T3	S3	WL
Amsinckia grandiflora large-flowered fiddleneck	PDBOR01050	Endangered	Endangered	G1	S1	1B.1
Amsinckia lunaris bent-flowered fiddleneck	PDBOR01070	None	None	G3	S3	1B.2
Andrena blennospermatis Blennosperma vernal pool andrenid bee	IIHYM35030	None	None	G2	S1	
Anniella pulchra Northern California legless lizard	ARACC01020	None	None	G3	S2S3	SSC
Anomobryum julaceum slender silver moss	NBMUS80010	None	None	G5	S2	4.2
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Arctostaphylos auriculata Mt. Diablo manzanita	PDERI04040	None	None	G2	S2	1B.3
Arctostaphylos manzanita ssp. laevigata Contra Costa manzanita	PDERI04273	None	None	G5T2	S2	1B.2
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	Candidate Endangered	G4	S2	SSC
Atriplex depressa brittlescale	PDCHE042L0	None	None	G2	S2	1B.2
Atriplex minuscula lesser saltscale	PDCHE042M0	None	None	G2	S2	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Balsamorhiza macrolepis big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
Blepharizonia plumosa big tarplant	PDAST1C011	None	None	G1G2	S1S2	1B.1
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G2G3	S1S2	
Bombus crotchii Crotch's bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	
Bombus occidentalis western bumble bee	IIHYM24252	None	Candidate Endangered	G3	S1	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S4	
Calochortus pulchellus Mt. Diablo fairy-lantern	PMLIL0D160	None	None	G2	S2	1B.2
Centromadia parryi ssp. congdonii Congdon's tarplant	PDAST4R0P1	None	None	G3T2	S2	1B.1
Chloropyron palmatum palmate-bracted bird's-beak	PDSCR0J0J0	Endangered	Endangered	G1	S1	1B.1
Circus hudsonius northern harrier	ABNKC11011	None	None	G5	S3	SSC
Cordylanthus nidularius Mt. Diablo bird's-beak	PDSCR0J0F0	None	Rare	G1	S1	1B.1
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
Cryptantha hooveri Hoover's cryptantha	PDBOR0A190	None	None	GH	SH	1A
Danaus plexippus plexippus pop. 1 monarch - California overwintering population	IILEPP2012	Proposed Threatened	None	G4T1T2Q	S2	
Delphinium californicum ssp. interius Hospital Canyon larkspur	PDRAN0B0A2	None	None	G3T3	S3	1B.2
Dipodomys heermanni berkeleyensis Berkeley kangaroo rat	AMAFD03061	None	None	G4T1	S2	
Efferia antiochi Antioch efferian robberfly	IIDIP07010	None	None	G1G2	S1S2	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Eremophila alpestris actia California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Eriastrum ertterae Lime Ridge eriastrum	PDPLM030F0	None	Endangered	G1	S1	1B.1
Eriogonum truncatum Mt. Diablo buckwheat	PDPGN085Z0	None	None	G1	S1	1B.1
Eryngium jepsonii Jepson's coyote-thistle	PDAPI0Z130	None	None	G2	S2	1B.2
Eumops perotis californicus western mastiff bat	AMACD02011	None	None	G4G5T4	S3S4	SSC
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Falco mexicanus prairie falcon	ABNKD06090	None	None	G5	S4	WL
Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	
Fritillaria liliacea fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
Grimmia torenii Toren's grimmia	NBMUS32330	None	None	G2	S2	1B.3
Helianthella castanea Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
Helminthoglypta nickliniana bridgesi Bridges' coast range shoulderband	IMGASC2362	None	None	G3T1	S1S2	
Hesperolinon breweri Brewer's western flax	PDLIN01030	None	None	G2	S2	1B.2
Hoita strobilina Loma Prieta hoita	PDFAB5Z030	None	None	G2?	S2?	1B.1
Holocarpha macradenia Santa Cruz tarplant	PDAST4X020	Threatened	Endangered	G1	S1	1B.1
Isocoma arguta Carquinez goldenbush	PDAST57050	None	None	G1	S1	1B.1
Lasiurus cinereus hoary bat	AMACC05032	None	None	G3G4	S4	
Lasiurus frantzii western red bat	AMACC05080	None	None	G4	S3	SSC
Lasthenia conjugens Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G3	S3	
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Lytta molesta molestan blister beetle	IICOL4C030	None	None	G2	S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Madia radiata showy golden madia	PDAST650E0	None	None	G3	S3	1B.1
Malacothamnus hallii Hall's bushmallow	PDMAL0Q0F0	None	None	G2	S2	1B.2
Masticophis lateralis euryxanthus Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
Microcina lumi Lum's micro-blind harvestman	ILARA47050	None	None	G1	S1	
Monolopia gracilens woodland woollythreads	PDAST6G010	None	None	G3	S3	1B.2
Myotis yumanensis Yuma myotis	AMACC01020	None	None	G5	S4	
Navarretia gowenii Lime Ridge navarretia	PDPLM0C120	None	None	G1	S1	1B.1
Navarretia nigelliformis ssp. radians shining navarretia	PDPLM0C0J2	None	None	G4T2T3	S2S3	1B.2
Navarretia prostrata prostrate vernal pool navarretia	PDPLM0C0Q0	None	None	G2	S2	1B.2
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	AMAFF08082	None	None	G5T2T3	S2S3	SSC
Oenothera deltoides ssp. howellii Antioch Dunes evening-primrose	PDONA0C0B4	Endangered	Endangered	G5T1	S1	1B.1
Perognathus inornatus San Joaquin pocket mouse	AMAFD01060	None	None	G2G3	S2S3	
Phacelia phacelioides Mt. Diablo phacelia	PDHYD0C3Q0	None	None	G2	S2	1B.2
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G4	S4	SSC
Plagiobothrys glaber hairless popcornflower	PDBOR0V0B0	None	None	GX	SX	1A
Polemonium carneum Oregon polemonium	PDPLM0E050	None	None	G3G4	S2	2B.2
Puccinellia simplex California alkali grass	PMPOA53110	None	None	G2	S2	1B.2
Rana boylii pop. 4 foothill yellow-legged frog - central coast DPS	AAABH01054	Threatened	Endangered	G3T2	S2	
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Ravenella exigua chaparral harebell	PDCAM020A0	None	None	G2	S2	1B.2
Sanicula saxatilis rock sanicle	PDAPI1Z0H0	None	Rare	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Senecio aphanactis chaparral ragwort	PDAST8H060	None	None	G3	S2	1B.2
Serpentine Bunchgrass Serpentine Bunchgrass	CTT42130CA	None	None	G2	S2.2	
Setophaga petechia yellow warbler	ABPBX03010	None	None	G5	S3	SSC
Spergularia macrotheca var. longistyla long-styled sand-spurrey	PDCAR0W062	None	None	G5T2	S2	1B.2
Streptanthus albidus ssp. peramoenus most beautiful jewelflower	PDBRA2G012	None	None	G2T2	S2	1B.2
Streptanthus hispidus Mt. Diablo jewelflower	PDBRA2G0M0	None	None	G2	S2	1B.3
Stuckenia filiformis ssp. alpina northern slender pondweed	PMPOT03091	None	None	G5T5	S2S3	2B.2
Sycamore Alluvial Woodland Sycamore Alluvial Woodland	CTT62100CA	None	None	G1	S1.1	
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2
Triquetrella californica coastal triquetrella	NBMUS7S010	None	None	G2	S2	1B.2
Tropidocarpum capparideum caper-fruited tropidocarpum	PDBRA2R010	None	None	G1	S1	1B.1
Valley Needlegrass Grassland Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	
Valley Sink Scrub Valley Sink Scrub	CTT36210CA	None	None	G1	S1.1	
Viburnum ellipticum oval-leaved viburnum	PDCPR07080	None	None	G4G5	S3	2B.3
Vulpes macrotis mutica San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2	S3	

Record Count: 97

CALIFORNIA NATIVE PLANT SOCIETY

CNPS Rare Plant Inventory

Search Results

73 matches found. Click on scientific name for details

Search Criteria: , Quad is one of [3712178:3712281:3712188:3712187:3712271:3712177:3712261:3712168:3712167]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	BLOOMING PERIOD	FED LIST	STATE LIST	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED
Amsinckia grandiflora	large-flowered fiddleneck	Boraginaceae	(Mar)Apr-May	FE	CE	S1	1B.1	Yes	1974-01-01
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	Mar-Jun	None	None	S3	1B.2	Yes	1974-01-01
Androsace elongata ssp. *acuta*	California androsace	Primulaceae	Mar-Jun	None	None	S3S4	4.2		1994-01-01
Anomobryum julaceum	slender silver moss	Bryaceae		None	None	S2	4.2		2001-01-01
Arabis blepharophylla	coast rockcress	Brassicaceae	Feb-May	None	None	S4	4.3	Yes	1974-01-01
Arctostaphylos auriculata	Mt. Diablo manzanita	Ericaceae	Jan-Mar	None	None	S2	1B.3	Yes	1974-01-01
Arctostaphylos manzanita ssp. *laevigata*	Contra Costa manzanita	Ericaceae	Jan-Mar(Apr)	None	None	S2	1B.2	Yes	1984-01-01
Astragalus tener var. *tener*	alkali milk-vetch	Fabaceae	Mar-Jun	None	None	S1	1B.2	Yes	1994-01-01

Atriplex coronata var. *coronata*	crownscale	Chenopodiaceae	Mar-Oct	None	None	S3	4.2	Yes	1994-01-01
Atriplex depressa	brittlescale	Chenopodiaceae	Apr-Oct	None	None	S2	1B.2	Yes	1994-01-01
Atriplex minuscula	lesser saltscale	Chenopodiaceae	May-Oct	None	None	S2	1B.1	Yes	1994-01-01
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	Mar-Jun	None	None	S2	1B.2	Yes	1974-01-01
Blepharizonia plumosa	big tarplant	Asteraceae	Jul-Oct	None	None	S1S2	1B.1	Yes	1994-01-01
Calandrinia breweri	Brewer's calandrinia	Montiaceae	(Jan)Mar-Jun	None	None	S4	4.2		1994-01-01
Calochortus pulchellus	Mt. Diablo fairy-lantern	Liliaceae	Apr-Jun	None	None	S2	1B.2	Yes	1974-01-01
Calochortus umbellatus	Oakland star-tulip	Liliaceae	Mar-May	None	None	S3?	4.2	Yes	1980-01-01
Castilleja ambigua var. *ambigua*	johnny-nip	Orobanchaceae	Mar-Aug	None	None	S3S4	4.2		2009-02-04
Centromadia parryi ssp. *congdonii*	Congdon's tarplant	Asteraceae	(Apr)May-Oct(Nov)	None	None	S2	1B.1	Yes	1994-01-01
Chloropyron palmatum	palmate-bracted bird's-beak	Orobanchaceae	May-Oct	FE	CE	S1	1B.1	Yes	1974-01-01
Clarkia concinna ssp. *automixa*	Santa Clara red ribbons	Onagraceae	(Apr)May-Jun(Jul)	None	None	S3	4.3	Yes	1994-01-01
Collomia diversifolia	serpentine collomia	Polemoniaceae	May-Jun	None	None	S4	4.3	Yes	1974-01-01
Convolvulus simulans	small-flowered morning-glory	Convolvulaceae	Mar-Jul	None	None	S4	4.2		1994-01-01

Cordylanthus nidularius	Mt. Diablo bird's-beak	Orobanchaceae	Jun-Aug	None	CR	S1	1B.1	Yes	1974-01-01
Cryptantha hooveri	Hoover's cryptantha	Boraginaceae	Apr-May	None	None	SH	1A	Yes	1974-01-01
Delphinium californicum ssp. *interius*	Hospital Canyon larkspur	Ranunculaceae	Apr-Jun	None	None	S3	1B.2	Yes	1984-01-01
Eriastrum ertterae	Lime Ridge eriastrum	Polemoniaceae	Jun-Jul	None	CE	S1	1B.1	Yes	2013-12-19
Eriogonum truncatum	Mt. Diablo buckwheat	Polygonaceae	Apr-Sep(Nov-Dec)	None	None	S1	1B.1	Yes	1974-01-01
Eriogonum umbellatum var. *bahiiforme*	bay buckwheat	Polygonaceae	Jul-Sep	None	None	S3	4.2	Yes	2001-01-01
Eriophyllum jepsonii	Jepson's woolly sunflower	Asteraceae	Apr-Jun	None	None	S3	4.3	Yes	1974-01-01
Eryngium jepsonii	Jepson's coyote-thistle	Apiaceae	Apr-Aug	None	None	S2	1B.2	Yes	2016-09-13
Erythranthe inconspicua	small-flowered monkeyflower	Phrymaceae	May-Jun	None	None	S4	4.3	Yes	1974-01-01
Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	Apr-Oct	None	None	S2	1B.2	Yes	1988-01-01
Fritillaria agrestis	stinkbells	Liliaceae	Mar-Jun	None	None	S3	4.2	Yes	1980-01-01
Fritillaria liliacea	fragrant fritillary	Liliaceae	Feb-Apr	None	None	S2	1B.2	Yes	1974-01-01
Galium andrewsii ssp. *gatense*	phlox-leaf serpentine bedstraw	Rubiaceae	Apr-Jul	None	None	S3	4.2	Yes	1994-01-01
Grimmia torenii	Toren's grimmia	Grimmiaceae		None	None	S2	1B.3	Yes	2014-05-14

Helianthella castanea	Diablo helianthella	Asteraceae	Mar-Jun	None	None	S2	1B.2	Yes	1974-01-01
Hesperevax caulescens	hogwallow starfish	Asteraceae	Mar-Jun	None	None	S3	4.2	Yes	2001-01-01
Hesperolinon breweri	Brewer's western flax	Linaceae	May-Jul	None	None	S2	1B.2	Yes	1974-01-01
Hoita strobilina	Loma Prieta hoita	Fabaceae	May-Jul(Aug-Oct)	None	None	S2?	1B.1	Yes	2001-01-01
Holocarpha macradenia	Santa Cruz tarplant	Asteraceae	Jun-Oct	FT	CE	S1	1B.1	Yes	1974-01-01
Isocoma arguta	Carquinez goldenbush	Asteraceae	Aug-Dec	None	None	S1	1B.1	Yes	1994-01-01
Lasthenia conjugens	Contra Costa goldfields	Asteraceae	Mar-Jun	FE	None	S1	1B.1	Yes	1974-01-01
Lasthenia ferrisiae	Ferris' goldfields	Asteraceae	Feb-May	None	None	S3	4.2	Yes	2001-01-01
Leptosiphon ambiguus	serpentine leptosiphon	Polemoniaceae	Mar-Jun	None	None	S4	4.2	Yes	1994-01-01
Leptosiphon aureus	bristly leptosiphon	Polemoniaceae	Apr-Jul	None	None	S4?	4.2	Yes	1994-01-01
Leptosiphon grandiflorus	large-flowered leptosiphon	Polemoniaceae	Apr-Aug	None	None	S3S4	4.2	Yes	1994-01-01
Madia radiata	showy golden madia	Asteraceae	Mar-May	None	None	S3	1B.1	Yes	1988-01-01
Malacothamnus hallii	Hall's bushmallow	Malvaceae	(Apr)May-Sep(Oct)	None	None	S2	1B.2	Yes	1974-01-01
Microseris sylvatica	sylvan microseris	Asteraceae	Mar-Jun	None	None	S4	4.2	Yes	2001-01-01
Monolopia gracilens	woodland woollythreads	Asteraceae	(Feb)Mar-Jul	None	None	S3	1B.2	Yes	2010-04-06
Navarretia gowenii	Lime Ridge navarretia	Polemoniaceae	May-Jun	None	None	S1	1B.1	Yes	2008-05-15

Navarretia heterandra	Tehama navarretia	Polemoniaceae	Apr-Jun	None	None	S4	4.3		1974-01-01
Navarretia nigelliformis ssp. *radians*	shining navarretia	Polemoniaceae	(Mar)Apr-Jul	None	None	S2S3	1B.2	Yes	1994-01-01
Navarretia prostrata	prostrate vernal pool navarretia	Polemoniaceae	Apr-Jul	None	None	S2	1B.2	Yes	2001-01-01
Oenothera deltoides ssp. *howellii*	Antioch Dunes evening-primrose	Onagraceae	Mar-Sep	FE	CE	S1	1B.1	Yes	1974-01-01
Phacelia phacelioides	Mt. Diablo phacelia	Hydrophyllaceae	Apr-May	None	None	S2	1B.2	Yes	1974-01-01
Piperia michaelii	Michael's rein orchid	Orchidaceae	Apr-Aug	None	None	S3	4.2	Yes	1984-01-01
Plagiobothrys glaber	hairless popcornflower	Boraginaceae	Mar-May	None	None	SX	1A	Yes	1974-01-01
Polemonium carneum	Oregon polemonium	Polemoniaceae	Apr-Sep	None	None	S2	2B.2		2008-11-03
Puccinellia simplex	California alkali grass	Poaceae	Mar-May	None	None	S2	1B.2		2015-10-15
Ranunculus lobbii	Lobb's aquatic buttercup	Ranunculaceae	Feb-May	None	None	S3	4.2		1974-01-01
Ravenella exigua	chaparral harebell	Campanulaceae	May-Jun	None	None	S2	1B.2	Yes	1974-01-01
Sanicula saxatilis	rock sanicle	Apiaceae	Apr-May	None	CR	S2	1B.2	Yes	1974-01-01
Senecio aphanactis	chaparral ragwort	Asteraceae	Jan-Apr(May)	None	None	S2	1B.2		1994-01-01
Spergularia macrotheca var. *longistyla*	long-styled sand-spurrey	Caryophyllaceae	Feb-May	None	None	S2	1B.2	Yes	2017-06-16

Streptanthus albidus ssp. *peramoenus*	most beautiful jewelflower	Brassicaceae	(Mar)Apr-Sep(Oct)	None	None	S2	1B.2	Yes	1988-01-01
Streptanthus hispidus	Mt. Diablo jewelflower	Brassicaceae	Mar-Jun	None	None	S2	1B.3	Yes	1974-01-01
Stuckenia filiformis ssp. *alpina*	northern slender pondweed	Potamogetonaceae	May-Jul	None	None	S2S3	2B.2		1994-01-01
Trifolium hydrophilum	saline clover	Fabaceae	Apr-Jun	None	None	S2	1B.2	Yes	2001-01-01
Triquetrella californica	coastal triquetrella	Pottiaceae		None	None	S2	1B.2		2001-01-01
Tropidocarpum capparideum	caper-fruited tropidocarpum	Brassicaceae	Mar-Apr	None	None	S1	1B.1	Yes	1974-01-01
Viburnum ellipticum	oval-leaved viburnum	Viburnaceae	May-Jun	None	None	S3	2B.3		1974-01-01

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United States Department of the Interior

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

In Reply Refer To: 04/30/2025 18:41:04 UTC
Project Code: 2025-0090538
Project Name: Martin Hills Ranch Residential Project

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

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

This species list is provided by:

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

PROJECT SUMMARY

Project Code: 2025-0090538
Project Name: Martin Hills Ranch Residential Project
Project Type: Residential Construction
Project Description: The project applicant proposes to construct 20 single-family homes, with approximately 25 percent (five homes) being designed with ADUs. The residential lots would be clustered in the southeastern portion of the approximately 102-acre project site. The proposed project is expected to generate approximately 70 residents.1,2

The 20 residential lots would range between 14,553 square feet and 25,387 square feet, and the proposed project would also include several agricultural lots located north and west of the residences. Furthermore, the proposed project would construct project access off Como Way and internal streets to provide internal circulation within the project site.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.7973905,-121.9583648375,14z



Counties: Contra Costa County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 10 threatened, endangered, or candidate species on this species list.

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

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

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

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

MAMMALS

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

BIRDS

NAME	STATUS
California Condor *Gymnogyps californianus* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered
California Least Tern *Sternula antillarum browni* No critical habitat has been designated for this species. Species profile: 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 does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5524	Threatened
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened
Foothill Yellow-legged Frog *Rana boylii* Population: Central Coast Distinct Population Segment (Central Coast DPS) There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5133	Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRUSTACEANS

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

CRITICAL HABITATS

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

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

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Robert Carroll
Address: 2999 Oak Rd # 290
City: Walnut Creek
State: CA
Zip: 94597
Email kevans@fcs-intl.com
Phone: 7142069473

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Danville town

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Appendix C: Site Photographs

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Photograph 1: Elevated view of main stem drainage, northern portion of site.



Photograph 2: Drainage and willow tree within central portion of the site.



Photograph 3: Drainage feature, looking upstream from willow tree



Photograph 4: Northern most ephemeral drainage, with culvert in background.



Photograph 5: Northern wetland adjacent to drainage.



Photograph 6: Upland area, northern portion of site.



Photograph 7: Drainage from golf course, southern area of site



Photograph 8: Southernmost ephemeral drainage, showing offsite area.

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Appendix D:
Rare Plant Report

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Pinecrest Research Corporation

PINECREST RESEARCH CORPORATION, INC.
6425 TELEGRAPH AVENUE #8
OAKLAND, CA 94609

WWW.PINECRESTENVIRONMENTAL.ORG
INFO@PINECRESTENVIRONMENTAL.ORG
510-881-3039

SPECIAL-STATUS PLANT SURVEY REPORT

Date: July 30, 2024

To: Rachel Krusenoski, FCS International, Inc.

From: Dr. Christopher T. DiVittorio, Pinecrest Research Corp., Inc.

Subject: Results of special-status plant surveys at Martin Hills Ranch project (Contra Costa County APN 218-010-008, 218-010-009, 218-010-010, 218-010-011 & 218-010-012)

Rachel Krusenoski,

This report details the findings of protocol-level special-status plant surveys conducted in 2024 on April 5, May 2, and July 10, at the above-referenced parcels. This memorandum is intended as an addendum to the Biological Resources Assessment (BRA) dated January 9, 2024 that was previously prepared for the property by FCS International, Inc. (FCS). A description of natural habitats, jurisdictional watercourses, potential wetlands, and special-status species known from the vicinity can be found in the original BRA.

Methods

Three surveys were conducted by PRC botanist Dr. Christopher DiVittorio, who surveyed the entirety of the project area using methods as specified in the California Department of Fish & Wildlife (CDFW) publication titled *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*, dated March 20, 2018. The project area comprises the entirety of the parcels listed above. Surveys were timed to coincide with the flowering times of known special-status plants in the region. A list of the special-status plants that are known from the region and that were specifically targeted by these surveys are provided in Table 2 of the BRA.

Protocol-level field surveys involved walking the entirety of the project area on foot in approximately parallel lines no less than 20 feet apart, identifying every species that was flowering, and making note of any species that were past flowering or that had not yet flowered. Table 1 of this report contains a list of all plant species observed in the project area. All terminology follows currently accepted nomenclature as described in *The Jepson Manual* (2012) or subsequent taxonomic treatments. Community types are described according to the *Manual of California Vegetation 2nd Edition* (2008).

Results & Recommendations

All plant species encountered during the three surveys were able to be identified to species level (Table 1). A map of the major biological habitats onsite is provided in Figure 1. As described in the BRA, the majority of the site contains annual grassland dominated by non-native species. The *Manual of California Vegetation* (MCV) community classification of this habitat is *Bromus* (*diandrus, hordeaceous*)-*Brachypodium distachyon* Semi-Natural Herbaceous Stand (Figure 2). Some rock outcrop habitat also exists that contains some plants not found elsewhere in the project area such as *Eriogonum nudum* and *Toxicodendron diversilobium* (Figure 3), however the vegetation on these rock outcrops is largely the

same as that in the surrounding grassland habitat. The species found in the grassland and rock outcrop habitats are presented in Table 1 as "upland" plants.

A small amount of the project area is emergent wetland and ephemeral watercourse habitat. The MCV classification of the wetland habitats are *Juncus* (*oxymeris, xiphioides*) Provisional Herbaceous Alliance (Figure 4), with some regions of *Juncus arcticus* (var. *balticus, mexicanus*) Herbaceous Alliance in low-lying ephemeral watercourses. There is also a small perennial pond in the southeast corner of the project area that is classified as *Typha* (*angustifolia, domingensis, latifolia*) Herbaceous Alliance (Figure 5). Subdominant species in these habitat types include *Nasturtium officinale* and *Eleocharis acicularis*. Species found in the *Juncus* and *Typha* habitats are presented in Table 1 as "wetland" plants.

All of the plant species identified at the time of the surveys are presented in Table 1. No special-status plant species and no sensitive plant community types were positively identified from the site. A total of 34 native species and 42 non-native species were found onsite. Of these, 61 species were found in upland habitats and 15 species were found in wetland habitats (Table 1).

Due to the lack of special-status plant species or sensitive natural communities found onsite, we have no recommendations for avoidance, minimization, or mitigation measures at this time.

Please contact us anytime at the email or phone number below if you have any questions about this report or other studies we've completed for this or other projects.

Sincerely,



Christopher T. DiVittorio, PhD
President, PRC
(510) 881-3039
chris@pinecrestenvironmental.org

Table 1: List of all plant species observed onsite during three protocol-level plant surveys in 2024. Special-status species are denoted in bold (no special-status species were found onsite).

Scientific Name	**Common Name**
NATIVE UPLAND	
Achyrachaena mollis	blow wives
Amsinckia menziesii	small-flowered fiddleneck
Calystegia sepium	Western hedge bindweed
Castilleja attenuata	narrow-leaf owl's clover
Dipterostemon capitatus	blue dicks
Epilobium canum	California fuchsia
Eriogonum nudum	naked-stemmed buckwheat
Eschscholzia californica	California poppy
Grindelia hirsutula	hairy gumweed
Heterotheca sessiliflora	golden aster
Lathyrus jepsonii	Jepson's pea
Lepidium nitidum	shining peppergrass
Lupinus bicolor	annual lupine
Lupinus formosus var. *formosus*	Western lupine
Madia gracilis	slender tarweed
Marah fabacea	California man-root
Microseris douglasii	Douglas' silverpuffs
Monardella villosa	coyote mint
Plantago erecta	California plantain
Ranunculus occidentalis var. *occidentalis*	Western buttercup
Sisyrinchium bellum	blue-eyed grass
Toxicodendron diversilobum	poison oak
Triteleia laxa	Ithuriel's spear
Uropappus lindleyi	silver puffs
NATIVE WETLAND	
Eleocharis macrostachya	common spikerush
Epilobium ciliatum	slender willow herb
Erythranthe guttata	seep monkeyflower
Juncus balticus	wire rush
Juncus bufonius	toad rush
Juncus xiphioides	iris-leaved rush
Nasturtium officinale	watercress
Salix lasiandra	Pacific willow
Schoenoplectus americanus	chairmaker's bulrush
Typha latifolia	common cattail
NON-NATIVE UPLAND	
Acacia melanoxylon	blackwood acacia
Avena fatua	wild oats
Bellardia trixago	Mediterranean lineseed

Brachypodium distachyon	false brome
Brassica nigra	black mustard
Bromus diandrus	ripgut brome
Bromus hordeaceous	soft chess
Bromus madritensis	red brome
Capsella bursa-pastoris	Shepherd's purse
Carduus pycnocephalus	Italian thistle
Centaurea solstitialis	yellow star thistle
Cerastium glomeratum	mouse-ear chickweed
Cirsium vulgare	bull thistle
Convolvulus arvensis	field bindweed
Cynara cardunculus ssp. *cardunculus*	wild artichoke
Erodium cicutarium	coastal heron's bill
Festuca myuros	Zorro fescue
Festuca perennis	Italian ryegrass
Foeniculum vulgare	fennel
Geranium dissectum	wild geranium
Hirschfeldia incana	shortpod mustard
Hordeum marinum	seaside barley
Hordeum murinum	foxtail barley
Lactuca serriola	prickly lettuce
Lotus corniculatus	bird's foot trefoil
Malva parviflora	cheeseweed
Medicago polymorpha	bur clover
Plantago lanceolata	ribwort
Poa annua	annual blue grass
Sherardia arvensis	field madder
Silybum marianum	milk thistle
Sonchus oleraceus	common sow thistle
Torilis nodosa	field parsley
Trifolium campestre	field clover
Trifolium hirtum	rose clover
Vicia sativa	spring vetch
Xanthium spinosum	spiny cocklebur
NON-NATIVE WETLAND	
Helminthotheca echioides	bristly ox-tongue
Lythrum hyssopifolia	Hyssop loosestrife
Polypogon monspeliensis	rabbitsfoot grass
Rumex crispus	curly dock
Sherardia arvensis	field madder

Figure 1: Habitat map showing locations of wetland, watercourse, and rock outcrop habitats.

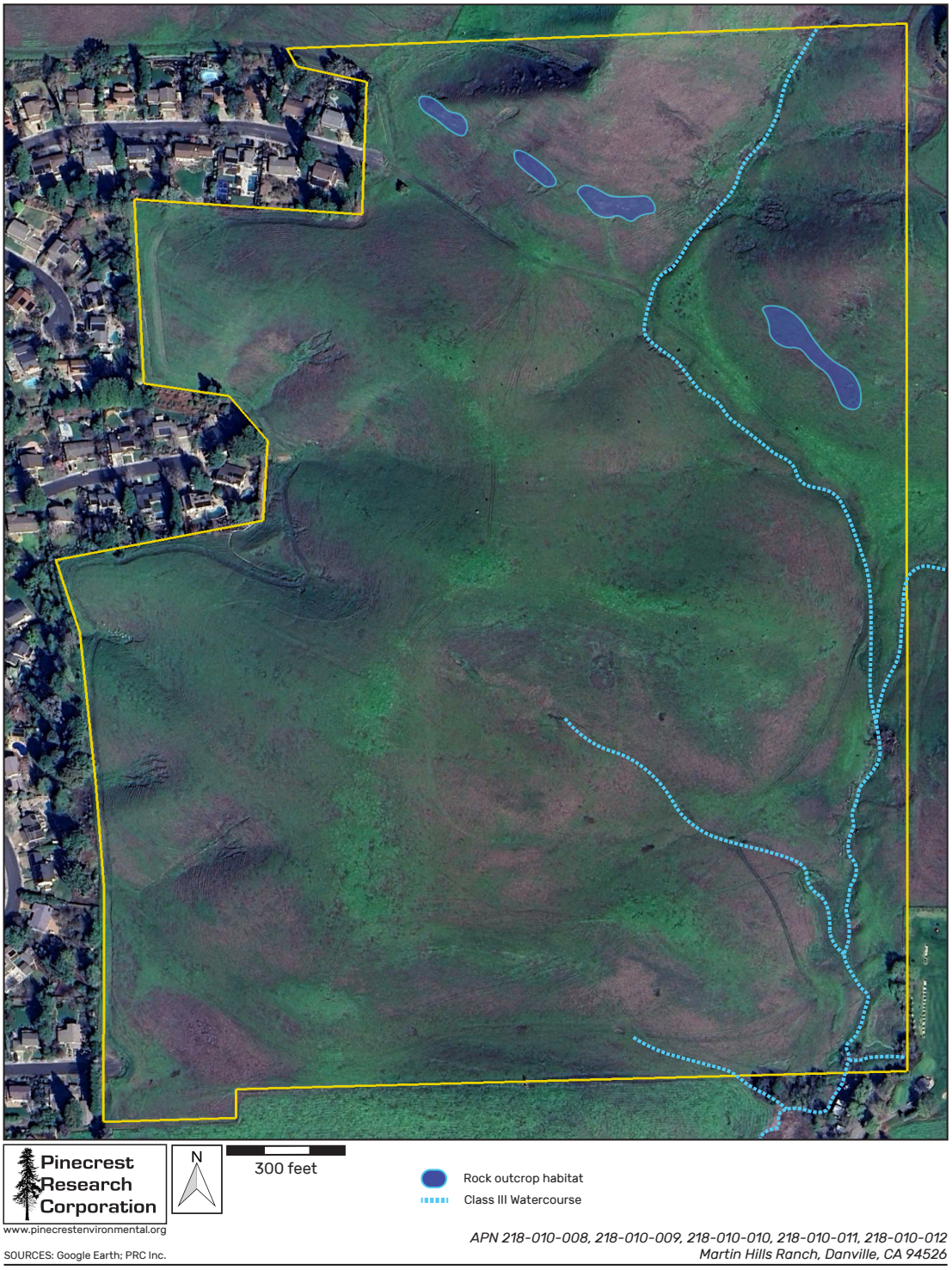


Figure 2: Photograph of annual grassland habitat.



Pinecrest Research Corporation
www.pinecrestenvironmental.org

APN 218-010-008, 218-010-009, 218-010-010, 218-010-011, 218-010-012
Martin Hills Ranch, Danville, CA 94526

SOURCES: PRC Inc.

Figure 3: Photograph of rock outcrop habitat.



Pinecrest Research Corporation
www.pinecrestenvironmental.org

APN 218-010-008, 218-010-009, 218-010-010, 218-010-011, 218-010-012
Martin Hills Ranch, Danville, CA 94526

SOURCES: PRC Inc.

Figure 4: Photograph of *Typha* wetland habitat.



Pinecrest Research Corporation
www.pinecrestenvironmental.org

APN 218-010-008, 218-010-009, 218-010-010, 218-010-011, 218-010-012
Martin Hills Ranch, Danville, CA 94526

SOURCES: PRC Inc.

Figure 5: Photograph of *Juncus* wetland habitat.



Pinecrest Research Corporation
www.pinecrestenvironmental.org

SOURCES: PRC Inc.

APN 218-010-008, 218-010-009, 218-010-010, 218-010-011, 218-010-012
Martin Hills Ranch, Danville, CA 94526

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Appendix E:
California Red-legged Frog Habitat Assessment

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MEMORANDUM

TO:	Robert Carroll, FCS	**FROM:**	Bernhard Warzecha Bernhard.warzecha@wra-ca.com
CC:	Leslie Allen allen@wra-ca.com		
DATE:	May 9, 2024		
SUBJECT:	California Red-legged Frog Habitat Assessment for the Elworthy Property East Study Area		

1.0 BACKGROUND

WRA, Inc. (WRA) has prepared this Habitat Assessment in accordance with the *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* ("Guidance," USFWS 2005) for the Elworthy Property East Study Area ("Study Area", Attachment 1, Figures 1 and 2).

The purpose of this Habitat Assessment is to determine the extent to which suitable breeding, non-breeding, and/or upland dispersal and aestivation habitat is present on the site, which in turn informs the need for presence/absence surveys. Because of an initial assessment that California red-legged frog (*Rana draytonii*; CRF or CRLF) could potentially be present in the Study Area, WRA has also begun to conduct protocol-level visual encounter surveys (VES), and a separate CRLF Survey Report will be submitted after the mandatory surveys during the non-breeding season (starting July 1 in this region) will be completed.

1.1 Study Area Location

The Study Area consists of a property on the southwest-facing portion of the Sherbourne Hills, Danville, Contra Costa County, California (Figure 1 and 2). It is located within the Diablo USGS 7.5-minute topographic quadrangle ("Diablo quad") and centered around latitude 37.798049° and longitude -121.958563°.

2.0 METHODS

Before conducting the field component for this Habitat Assessment, all information related to CRLF and their habitat within and in the vicinity of the Study Area was evaluated. This information included current and historic range, known observations from California Natural Diversity Database (CNDDB, CDFW 2024) and iNaturalist, aerial photography, and available landcover mapping within at least 2 miles of the Study Area, including aquatic features as mapped by the USFWS National Wetland Inventory (USFWS 2024a) (Figure 3), and the USFWS

Critical Habitat Mapper (USFWS 2024b). Additionally, a longitudinal gradient profile of the drainage feature on the site was determined and analyzed using Google Earth Pro.

WRA senior biologist Bernhard Warzecha, holding a valid ESA 10(a)1(a) Recovery Permit for CRLF (TE-75187D) in both the jurisdictions covered by the Sacramento and the Bay Delta office, conducted the field component of the habitat assessment on March 21, 2024. Results from additional CRLF and habitat surveys conducted on April 11 and April 30, 2024 are incorporated in this report. This assessment included surveys and evaluation of potential upland and aquatic habitats of the Study Area and adjacent areas where visible from an accessible viewpoint. Additionally, dispersal routes and general conditions of upstream and downstream water bodies were evaluated, including conditions of Sycamore Creek and San Ramon Creek. Field surveys followed the decontamination requirements provided in Appendix B of the Guidance.

Focus of the field survey included the drainage features on the site, and adjacent upland areas, determining the extent to which site conditions would provide the USFWS-defined Primary Constituent Elements (PCEs) needed to support CRLF. Specifically, depths and lateral extent of standing water were measured, vegetation cover and other species observed were noted, water temperature was measured, and general site conditions were evaluated following the requirements of the Guidance. A copy of the USFWS-provided CRLF Habitat Assessment form is included as Attachment 4.

3.0 RESULTS

The following section summarizes the results of literature and database searches, and the results of the field surveys, following the requirements of the Guidance.

3.1 Land Use and Proposed Project

Past and current land use on the Study Area appear to have consisted of, and still consist exclusively of cattle grazing. The Project proponent is evaluating the property (i.e., parts of the Study Area) regarding future development potential. Detailed Project descriptions or plans are not available to WRA at this point and would not be relevant for the results and conclusions of this Habitat Assessment.

3.2 USFWS-designated Critical Habitat

“Critical Habitat” is a term defined and used by the Endangered Species Act as a specific, designated geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. No portion of the Study Area is within USFWS-designated Critical Habitat for CRLF. The closest USFWS-designated Critical Habitat for CRLF is located 2.2 miles northeast of the Study Area (USFWS 2024b). Between the Study Area and the Critical Habitat are two fully developed corridors (along Camino Tassajara and Blackhawk Road, which would function as significant dispersal barriers between the Critical Habitat and the Study Area.

3.3 Range and Known Records of CRLF

The Study Area is within the historic and current range of CRF, as defined in the *Recovery Plan for the California Red-legged Frog* (*Rana aurora draytonii*) (“Recovery Plan,” hereafter).

Three CNDDB records of CRLF have been documented within 2 miles of the Study Area boundary, as shown in Table 2, below. CNDDB records for all CRLF observations in the Diablo quad are included as Attachment 3. The Diablo Quad covers all areas within and beyond 2 miles of the Study Area.

Table 1. CRLF Records within 2 Miles of Study Area

EUCLIDEAN DISTANCE TO STUDY AREA (MI)	CNDDB OCCURRENCE NUMBER	OCCURRENCE TYPE	NOTES
1.78	638	Breeding	Last seen in 2000. Location has no hydrological connection to Study Area; At least 1.26 mile of developed land and I-680 would prohibit dispersal to the Study Area.
1.79	1358	Breeding	Last seen in 2011. Location has no hydrological connection to Study Area. At least 0.25 mile of developed land and Camino Tassajara would prohibit dispersal to the Study Area.
1.87	1357	Breeding	Last seen in 2006. Location has no hydrological connection to Study Area. At least 0.25 mile of developed land and Camino Tassajara would prohibit dispersal to the Study Area.

3.4 Existing Habitat Types and Conditions

3.4.1 Existing Habitat Types and Conditions within the Study Area

General habitat types in the Study Area (Figure 2) consist almost exclusively of hilly, non-native annual upland grassland, with a first and second order intermittent stream with seasonal wetland swale characteristics crossing the entire length of the Study Area from north to south. Short and small ephemeral swales connect to the mainstream during rain events (Figure 2). The stream gradient varies from about 18 percent on the steeper hillside in the north, to about 3 percent in the mid and lower foothill section of the stream. During the field survey at the end of the wet season, a steady but slow and shallow flow (between 0 and 6 inches) of water was observable throughout almost the entire length of the stream. No flowing water was observed in the ephemeral side arms, and in flat portions of the stream. Wetland vegetation appears to be correlated to stream gradient as well. Flat sections exhibited robust wetland vegetation and would be best described as wetland swales rather than “stream” due to the absence of a clear and continuous ordinary high water mark, but presence of dominant cover of facultative and obligate wetland species.

Only two areas were observed where open water pooled (Figure 2, identified as “mini plunge pool” and “terminal ponding area”). The first consisted of a small, 3-foot-wide and 5-foot-long plunge pool, formed below a head cut (Attachment 2, Photo 4). The maximum standing water depth of this pool is approximately 15 inches. The second ponding area is located directly where

the stream leaves the Study Area on its southern boundary ("Terminal Ponding Area," Figure 2, and Photo 5). This pool is very shallow with a variable depth between 2 and 12 inches. Water quality appears low due to cattle grazing and related ammonia concentration. Specifically in the lower, flatter reaches of the stream on the site, the water is turbid and reeks strongly of ammonia. Elevated levels of ammonia are thought to act as an environmental stressor to amphibians and could lead to decreased hatching success, survival, or growth rates (Harris et al. 1998). There is no visible hydrological connection to the next downstream stream (San Ramon Creek), which is a heavily urbanized and partially undergrounded channel in Danville.

Water temperature was measured at 60.9° F. It is assumed that running water in this feature will completely stop flowing within days or weeks after the last significant rainstorm. Once flow has stopped, surface water will evaporate and evapo-transpirate rapidly. Saturation may linger into late spring to early summer, depending upon annual climatic variation. The assumptions regarding hydro periods of this feature will be confirmed or adjusted following the CRLF VES scheduled for late spring/early summer and summarized in the future CRLF survey report.

Vegetation associated with the wetlands of the stream includes a mix of native and non-native herbaceous species, including Italian rye grass, seaside barley (*Hordeum marinum),* Baltic rush (*Juncus balticus),* bristly oxtongue (*Helminthotheca echioides),* common toad rush (*Juncus bufonius),* beardless wild rye (*Elymus triticoides),* timothy grass (*Phleum alpinum),* bulrush (*Typha latifolia),* curly dock (*Rumex crispus),* tall flatsedge (*Cyperus eragrostis),* hyssop loosestrife (*Lythrym hyssopifolia),* brass buttons (*Cotula coronopifolia),* soft brome (*Bromus hordeaceus),* prickly lettuce (*Lactuca serriola),* and rabbit's foot grass (*Polypogon monspeliensis*).

Upland vegetation throughout the Study Area is dominated by non-native annual grasses, including wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), hare barley (*Hordeum murinum*), and Italian ryegrass (*Festuca perennis*), among others. Common non-native forbs observed during field surveys include black mustard (*Brassica nigra*), Mediterranean linseed (*Bellardia trixago*), yellow starthistle (*Centaurea solstitialis*), Italian thistle (*Carduus pycnocephalus*), milk thistle (*Silybum marianum*), filaree (*Erodium* spp.), and bur clover (*Medicago polymorpha*).

Riparian woodland persists in the Study Area only in the form of a small stand of willow trees (*Salix* sp.) on the lower/mid-section of the stream, and a second small stand of willow trees directly on the southern border of the Study Area.

Other noteworthy wildlife species observed include a large population of Western toad (*Anaxyrus boreas*), observed as adults, egg masses, and tadpoles; and a very large, ubiquitous number of chorus frogs (*Pseudocaris sierra*), with adults observed and heard. Both aquatic and terrestrial insects, including aquatic beetles were observed in the water column, providing ample prey base for amphibians. The presence of California ground squirrel and other mammal burrows is sparse, but they do occur, predominantly close to the adjacent golf course in the southeastern corner of the Study Area. No substantial ground squirrel complexes were observed, specifically not within 500 feet from the drainage on the site.

Predation pressure on amphibians inhabiting the Study Area appears relatively low. The stream is unsuitable for fish; however, species present or expected to be present at least periodically and known to predate on amphibians opportunistically include mallards (*Anas platyrhynchos*),

American crows (*Corvus brachyrhynchos*), Raven (*Corvus corax*), red-tailed hawk (*Buteo jamaicensis*), coyote (*Canis latrans*), racoon (*Procyon lotor*), and skunk (*Mephitis mephitis*).

3.4.2 Existing Habitat Types and Conditions Adjacent to the Study Area

The following section describes existing conditions relevant to CRLF within 1 mile of the Study Area. The 1-mile distance from the Study Area is shown on Figure 3. Land cover types of this area relevant to this CRLF habitat assessment can be grouped into three categories: developed, non-native annual grassland, and aquatic features. The Study Area is part of the Sherbourne Hills, which consist predominantly of grazed annual grassland, and is surrounded by residential and commercial development. The developed areas are generally considered unsuitable for CRLF and would function as ecological population sinks. Annual grassland is typically considered suitable dispersal habitat for CRLF, if within dispersal distance of breeding sites.

Both developed and grassland areas include streams and ponds as shown on Figure 3. The streams include ephemeral and intermittent first and second order drainages, which could provide aquatic CRLF dispersal and foraging habitat. Perennial creek segments include segments of Sycamore Creek and San Ramon Creek. Perennial creeks are generally considered potential CRLF breeding habitat if they provide certain conditions; however, high flows and cold temperatures in streams during the spring often make these sites risky environments for eggs and tadpoles. Both San Ramon and Sycamore Creek segments within 1 mile of the Study Area are relatively lotic, urbanized, often channelized, modified, or otherwise disturbed, and may not provide CRLF breeding habitat in their current condition. This assessment is consistent with the fact that no observations of CRLF have been reported from these segments.

Both developed and grassland areas within 1 mile of the Study Area contain ponds. The ponds in developed areas are predominantly ornamental, or otherwise highly disturbed or managed, surrounded by developed areas, and therefore unsuitable for CRLF. The ponds in the grassland areas in the Sherbourne Hills consist of stock ponds, which could provide suitable CRLF breeding habitat; however, no CRLF breeding or even presence is known from these ponds.

The closest water body that potentially could provide hydroperiods suitable for CRLF breeding is located on the southern border of Sycamore Valley Open Space Preserve South (“Preserve”); and would require a CRLF to travel a minimum of 0.94 mile to reach the Study Area. No CRLF (breeding or non-breeding) has been reported from this feature. Because East Bay Regional Park District managing the Preserve employs staff biologists, it is assumed that the presence of CRLF would be known and reported to the CNDDB.

4.0 DISCUSSION

The following section discusses the findings presented in the Results section in the light of CRLF habitat requirements and draws a conclusion to what extent the Study Area provides suitable CRLF habitat.

CRLF habitat requirements are defined by USFWS in the Recovery Plan and can be categorized into breeding and non-breeding habitats. A slightly different definition of habitat types and requirements are published in the Federal Register, ((50 CFR 17.95(d)(1 & 2)) as “primary constituent elements” (PCE); however, these PCE apply within specifically defined designated Critical Habitat Units and their primary intent is to identify critical CRLF habitat components

within these designated Critical Habitat Units. The Study Area is not within Critical Habitat Units; therefore, definitions of suitable habitat may be different and may instead rely on the Recovery Plan and other relevant scientific literature and sources.

4.1 CRLF Breeding Habitat

Relevant to the conditions of the Study Area as described in the Results section, and per the Recovery Plan, CRLF breeding sites are in a variety of aquatic habitats; larvae, tadpoles, and metamorphs have been collected from streams, deep pools, backwaters within streams and creeks, ponds, marshes, sag ponds, dune ponds, and lagoons. Breeding adults are often associated with deep (greater than 2 feet) still or slow-moving water and dense, shrubby riparian or emergent vegetation and water bodies that typically become inundated during winter rains and hold water for a minimum of 20 weeks in "all but the driest of years" ((50 CFR 17.95(d)(2)(i)).

While the aquatic feature on the site can be described as an intermittent stream based on its hydrological regime, in the context of CRLF habitat, it is more adequate to describe the feature as a vegetated swale that conveys very shallow (up to approximately 6 inches) of intermittent flow during the wet season, presumably during years with above normal rainfall (as in 2024). While shallow surface water (up to 6 inches in flat areas and none in sloped segments) was still present on April 30, 2024, the two very small and relatively shallow areas of open ponding water present (one mini plunge pool [Photo 4] and the terminal ponding area [Photo 5]) are not typically considered suitable for CRLF breeding, regardless of whether they would pond for 20 weeks or longer.

Consistent with this finding, no CRLF egg masses, tadpoles, or adult/sub-adult CRLF were observed during the surveys conducted to date, including on March 21, April 11, and April 30, 2024. The aggregate observations, data, and results indicate that it is unlikely that any feature within the Study Area would provide suitable CRLF breeding habitat.

4.2 CRLF Non-Breeding Habitat

CRLF non-breeding habitat includes aquatic and upland dispersal, forage, and aestivation habitat (also called "summer habitat" in the Recovery Plan).

The grassland and the drainage features in the Study Area do provide conditions typically considered suitable for CRLF forage and dispersal; however, it is not clear between which suitable breeding site dispersal would occur, since no suitable breeding sites appear to be located on either side of the Study Area. In contrast, unsuitable, developed habitat surrounds the Sherbourne Hills on all sides.

Mammal burrows, vegetation litter, and shrink-swell cracks distributed across the Study Area (and specifically along the drainage) provide conditions typically considered suitable for CRLF aestivation habitat; however, for these aestivation sites to be occupied by CRLF, a breeding site within dispersal distance would have to be present (see Section 4.3).

In summary, the Study Area provides potentially suitable aquatic and upland dispersal, forage, and aestivation habitat for adult CRLF; however, no CRLF has been observed on the site despite several surveys, and no CRLF have been reported from within dispersal distance.

4.3 Dispersal from Known Breeding Sites

Direct upland dispersal or migration from a known breeding site (Table 2 and Figure 2) is improbable due to the distance in combination with dispersal barriers between the breeding sites and the Study Area. Dispersal via drainages and streams would necessitate CRLF to travel more than 3.2 miles through partially underground and ephemeral channels in urban environments first, and then additionally traverse dry land, including developed land. This distance is outside the dispersal distances reported in the literature, e.g., by Fellers and Kleeman, who estimate 1.74 mile as the farthest CRLF dispersal distance (Fellers and Kleeman 2007); and the Recovery Plan, which estimates up to 2 miles as the farthest CRLF dispersal distance.

5.0 CONCLUSION

Based on all available background and database information to date, in combination with the results of a habitat assessment per the requirements of the USFWS, it is WRA's professional opinion that the Study Area most likely does not provide suitable CRLF breeding habitat. The Study Area could provide potential dispersal habitat if CRLF are breeding in the Sherbourne Hills (which is not known to occur); and would provide areas of potential suitable foraging and aestivation habitat.

Presence of CRLF is unlikely, however, CRLF presence/absence will have to be confirmed through completing CRLF surveys per the protocol defined in the USFWS Guidance.

REFERENCES

CDFW 2024 California Department of Fish and Wildlife (CDFW). 2024. California Natural Diversity Database CNDDB. Commercial Version. Sacramento California. Accessed May 2024.

Fellers & Kleeman 2007 Gary M. Fellers and Patrick M. Kleeman. 2007. California Red-Legged Frog (Rana Draytonii) Movement and Habitat Use: Implications for Conservation. Journal of Herpetology 41, no. 2 (June 2007): 276–86, https://doi.org/10.1670/0022.

Harris et al. 1998 Harris, M. L., C. S. Bishop, J. Struger, B. Ripley, and J. P. Bogart. 1998. The functional integrity of northern leopard frog (Rana pipiens) and green frog (Rana clamitans) populations in orchard wetlands. II. Effects of pesticides and eutrophic conditions on early life stage development. Environmental Toxicology and Chemistry 17(7): 1351-1363.

USFWS 2005 United States Fish and Wildlife Service (USFWS). 2005. Revised Guidance on Site Assessments and Field Surveys for the California Red-Legged Frog.

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USFWS 2024b United States Fish and Wildlife Service (USFWS). 2024. ECOS Critical Habitat Mapper. Available online at: https://ecos.fws.gov/ecp/report/table/critical-habitat. Most Recently Accessed: May 2024.

Attachments

Attachment 1. Figures
Attachment 2. Photographs
Attachment 3. CNNDB Records
Attachment 4. USFWS Habitat Assessment Data Form

Attachment 1.

Figures



Path: L:\Acad 2000 Files\330000\330077\GIS\ArcMap\330077Base.aprx Layout Name:EL_Fig1_Regional Location

Sources: National Geographic, WRA | Prepared By: njander, 4/25/2024

Figure 1. Regional Location

Elworthy Property East Project
Contra Costa County, California

0 0.25 0.5 Miles

N

wra Environmental Consultants



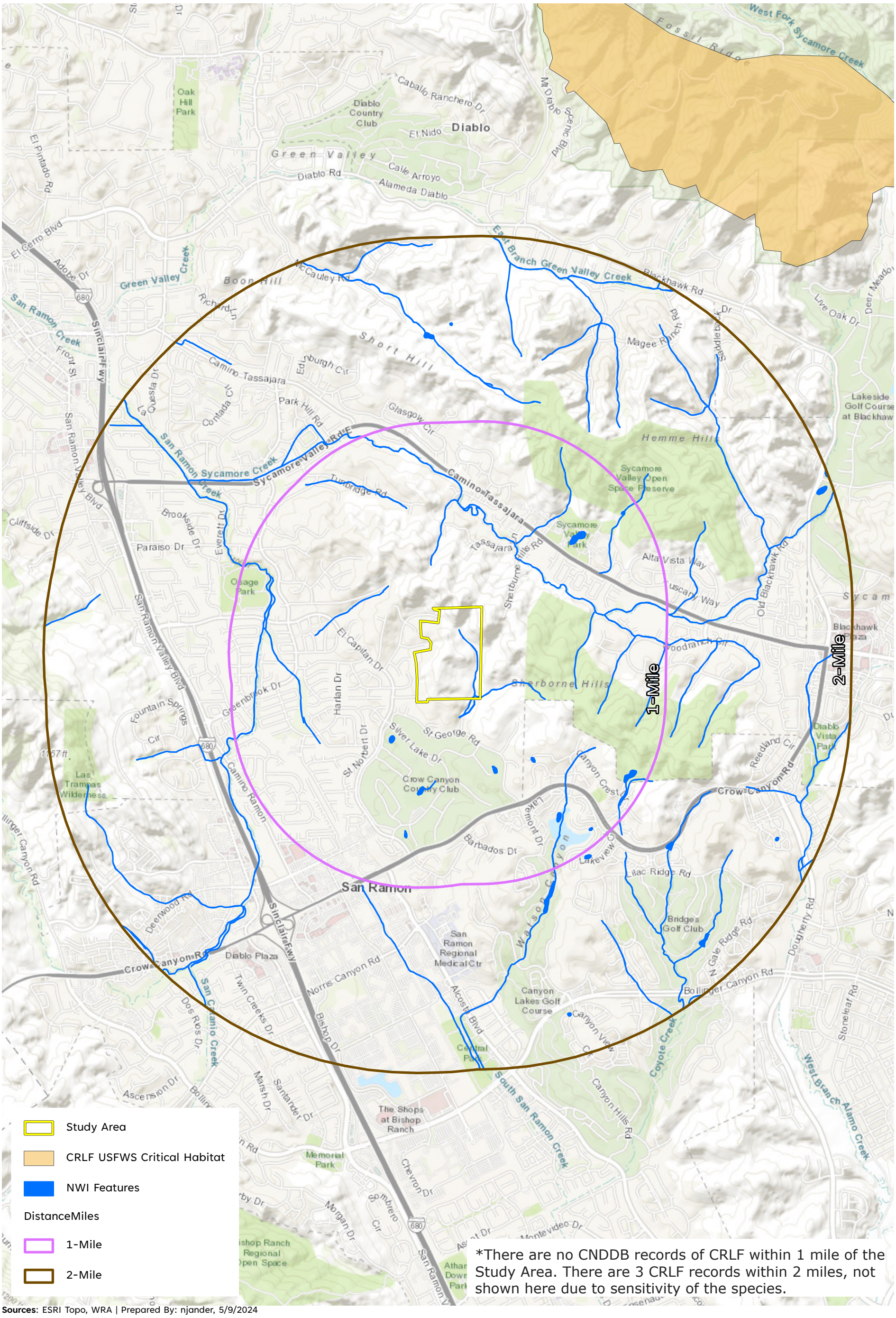
Figure 2. Habitat Types and Site Features

Elworthy Property East Project
Contra Costa County, California

0 100 200 Feet

N

wra Environmental Consultants



Path: L:\Acad 2000 Files\330000\330077\GIS\ArcMap\330077Base.aprx Layout Name: EL_Fig3_Known CRLF Records and Aquatic Features

Sources: ESRI Topo, WRA | Prepared By: njander, 5/9/2024

Figure 3. Known CRLF Records and Aquatic Features*

Elworthy Property East Project
Contra Costa County, California

wra Environmental Consultants

Attachment 2.

Photographs

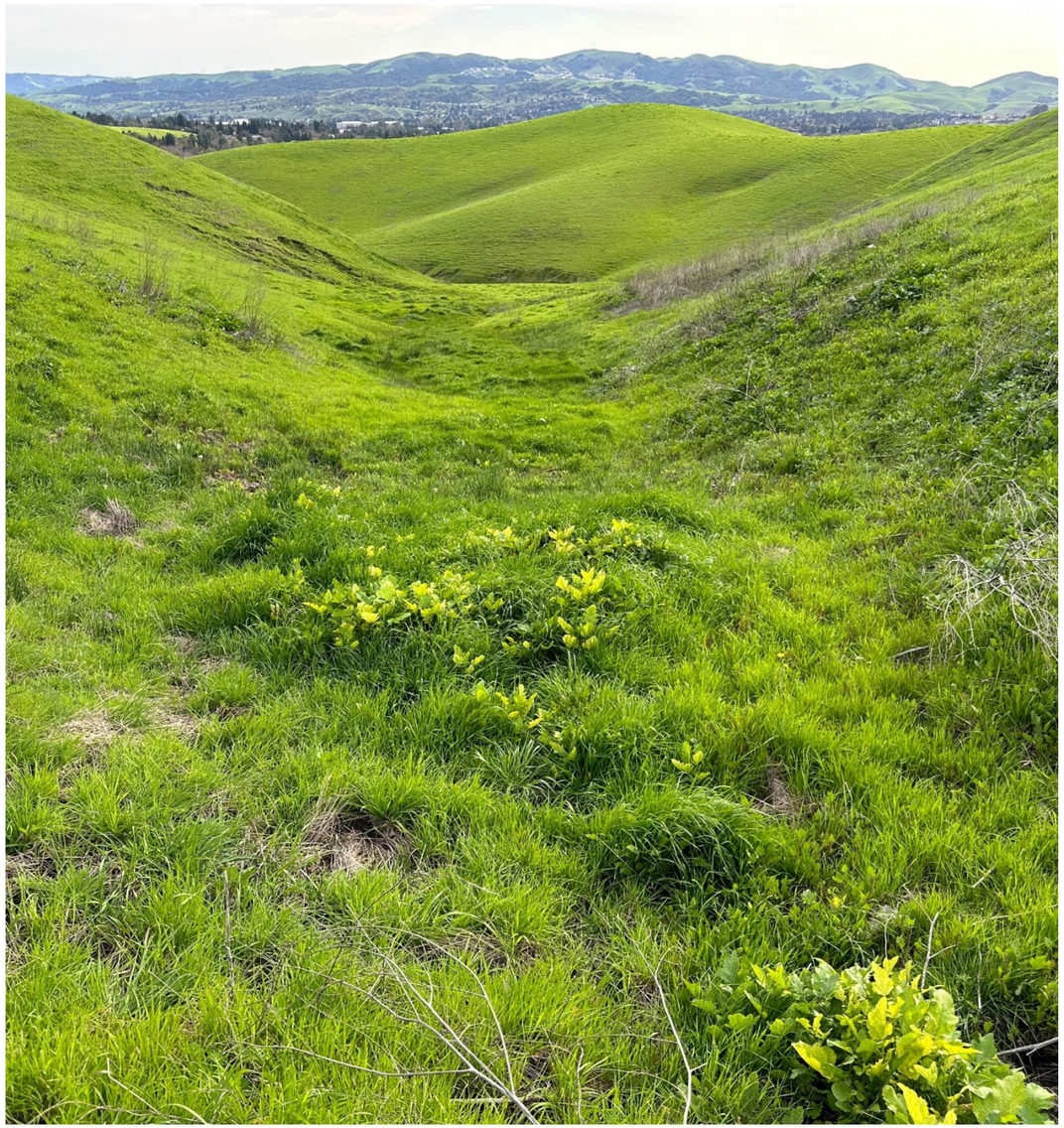


Photo 1. View from the northern boundary of the Study Area southwest, down the uppermost and steepest (first order) segment of the drainage on site. All photos taken March, 21, 2024, unless otherwise stated.



Photo 2. View of the mid-segment of the drainage on site, looking northwest (upslope).



Photo 3. View of the mid-segment of the drainage on site, looking south (downslope). At this location, and downstream, the slope becomes much less pronounced, and shallow water slowly moves through and supports more typical wetland vegetation.



Photo 4. A mini plunge pool which is one of the 2 features that have open water. Location of this feature is shown on Figure 2. This feature was found occupied by multiple adult western toads, and chorus frogs.



Photo 5. The terminal ponding area, at the southern boundary of the Study Area. Note the high turbidity. This location was found to be heavily visited by cattle.



Photo 6. View of the largest wetland area and riparian willow stand in the mid-section of the drainage, looking north (upslope).



Photo 7. The terminal ponding area as seen during a CRLF night-shine survey on April 11, 2024.



Photo 8. Example of adult western toad, of which a robust, reproducing population occupies predominantly the mid-section of the drainage.



Photo 9. Close up image of Western toad egg strings found on site.



Photo 10. Western toad larvae.

Attachment 3.

CNDDB Records

NOT FOR PUBLICATON

Multiple Occurrences per Page

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Species IS (Rana draytonii)
 AND Quad IS (Diablo (3712178))

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.	83	**Map Index:**	25058	**EO Index:**	6160	**Element Last Seen:**	1993-05-04
Occ. Rank:	Poor			**Presence:**	Presumed Extant	**Site Last Seen:**	1993-05-04
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1994-01-24

Quad Summary: Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.78497 / -121.88285	**Accuracy:**	80 meters
UTM:	Zone-10 N4182545 E598370	**Elevation (ft):**	740
PLSS:	T02S, R01E, Sec. 05, SE (M)	**Acres:**	0.0

Location: ALONG A TRIBUTARY TO ALAMO CREEK, 1 MILE SOUTH OF TASSAJARA ROAD AND 1 MILE EAST OF LAWRENCE RD, 6 MILES SE OF DANVILLE.

Detailed Location:

Ecological: HABITAT CONSISTS OF A LARGE DETENTION POND, 120 X 80 FEET, WITH A DEPTH GREATER THAN 4 FEET. WATER IS TURBID, WITH NO AQUATIC VEGETATION. VEGETATION AROUND POND MARGIN IS HEAVILY GRAZED. ADJACENT UPLAND IS OPEN BLUE OAK WOODLAND/GRASSLAND.

General: 1 ADULT OBSERVED ON 4 MAY 1993. PREVIOUS YEAR DETENTION POND WAS COMPLETELY DRY DURING THIS SAME PERIOD.

Owner/Manager: PVT

Occurrence No.	223	**Map Index:**	36459	**EO Index:**	31456	**Element Last Seen:**	1993-05-04
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	1993-05-04
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1997-08-19

Quad Summary: Tassajara (3712177), Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.75793 / -121.87230	**Accuracy:**	non-specific area
UTM:	Zone-10 N4179556 E599335	**Elevation (ft):**	560
PLSS:	T02S, R01E, Sec. 16, SW (M)	**Acres:**	60.8

Location: TASSAJARA CREEK AND ADJACENT UPLANDS ON RAPP RANCH, 1.4 MILES SOUTH OF THE INTERSECTION OF TASSAJARA AND HIGHLAND ROADS.

Detailed Location: CREEK AND UPLAND SPRING IMPOUNDMENTS.

Ecological: CREEK SITE SURROUNDED BY WILLOW SHRUBS/ TREES WITH AQUATIC VEG TYPHA AND ELODEA. UPLAND SPRING SITE SURROUNED BY GRAZED GRASSLAND, TYPHA ABUNDANT, DEPTH UP TO 13 FEET, HYLA PRESENT. COMMON MOORHEN BREEDING.

General: 30 JUVENILES AND AT LEAST ONE ADULT OBSERVED. BOTH CREEK AND SPRING SITES PROVIDE OPTIMAL CONDITIONS FOR RANA AURORA. CLEMMYS MARMORATA ALSO FOUND HERE (1993).

Owner/Manager: PVT

Occurrence No.	238	**Map Index:**	38216	**EO Index:**	33223	**Element Last Seen:**	1997-07-03
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1997-07-03
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-02-25

Quad Summary:	Diablo (3712178)
County Summary:	Contra Costa

Lat/Long:	37.79013 / -121.88311	**Accuracy:**	80 meters
UTM:	Zone-10 N4183117 E598340	**Elevation (ft):**	740
PLSS:	T02S, R01E, Sec. 05, NE (M)	**Acres:**	0.0

Location:	STOCK POND, 0.5 MILE SSE OF THE INTERSECTION OF ALAMO CREEK AND TASSAJARA ROAD, 1 MILE WEST OF TASSAJARA.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF A SPRING-FED, 0.5 ACRE STOCK POND; EMERGENT VEGETATION (SCIRPUS & TYPHA) COVERS 70% OF PERIMETER, WHILE FLOATING VEGETATION COVERS 60% OF SURFACE. SURROUNDING UPLAND CONSISTS OF NON-NATIVE GRASSLAND/DRY LAND AGRICULTURE.
General:	7 ADULTS AND 3 JUVENILES OBSERVED ON 3 JULY 1997, DURING NOCTURNAL SURVEYS. NO BULLFROGS OBSERVED AT POND, ALTHOUGH ABUNDANT IN NEARBY ALAMO CREEK.
Owner/Manager:	UNKNOWN

Occurrence No.	239	**Map Index:**	38221	**EO Index:**	33228	**Element Last Seen:**	2004-08-11
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2004-08-11
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2006-04-26

Quad Summary:	Diablo (3712178)
County Summary:	Contra Costa

Lat/Long:	37.79443 / -121.88868	**Accuracy:**	non-specific area
UTM:	Zone-10 N4183588 E597844	**Elevation (ft):**	680
PLSS:	T02S, R01E, Sec. 05, NE (M)	**Acres:**	69.4

Location:	ALAMO CREEK, SOUTH OF TASSAJARA ROAD AND EAST OF LAWRENCE ROAD, 4 MILES EAST OF SAN RAMON.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF A PERENNIAL CREEK WITH NO CANOPY VEGETATION; EMERGENT VEGETATION CONSISTS OF SCIRPUS AND TYPHA. POOLS IN CREEK >6 FEET DEEP. AS OF 2004, CREEK WAS NO LONGER INTERMITTENT. WESTERN POND TURTLE AND TREEFROGS ALSO PRESENT.
General:	3 ADULT FROGS OBSERVED ON 29 APRIL 1992. 8 ADULT FROGS OBSERVED ON 1 MAY 1997. 7 ADULTS OBSERVED ON 11 AUG 2004.
Owner/Manager:	UNKNOWN

Occurrence No.	365	**Map Index:**	42767	**EO Index:**	42767	**Element Last Seen:**	1999-05-11
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1999-05-11
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2003-05-22

Quad Summary: Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.75828 / -121.88750	**Accuracy:**	80 meters
UTM:	Zone-10 N4179579 E597996	**Elevation (ft):**	600
PLSS:	T02S, R01E, Sec. 17 (M)	**Acres:**	0.0

Location: EAST BRANCH OF ALAMO CREEK, IN DOUGHERTY VALLEY, EAST OF SAN RAMON.

Detailed Location: SITE IS WHERE HISTORIC POND WAS AT. SITE HAS SINCE BEEN GRADED (2002) AND DEVELOPED (2004) AND A NEW CATCHMENT BASIN IS JUST SOUTH OF ORIGINAL OCCURRENCE. THIS MAY PROVIDE MARGINAL REFUGE IF ANY SALAMANDERS STILL EXIST IN THE AREA.

Ecological: HABITAT CONSISTS OF A SEASONAL STOCKPOND FORMED BY A BERMED DRAINAGE, IN NON-NATIVE GRASSLAND. CTS LARVAE AND ADULT BULLFORGS ALSO FOUND IN THIS POND.

General: 4 ADULTS OBSERVED ON 11 MAY 1999. SINCE THEN THE SITE HAS BEEN DEVELOPED AND IT IS UNKNOWN IF MARGINAL HABITAT SUPPORTS ANY CRLF; RESEARCH NEEDED. PROBABLY EXTIRPATED.

Owner/Manager: PVT

Occurrence No.	463	**Map Index:**	46005	**EO Index:**	46005	**Element Last Seen:**	2001-09-15
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2001-09-15
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2001-10-01

Quad Summary: Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.82487 / -121.89407	**Accuracy:**	2/5 mile
UTM:	Zone-10 N4186960 E597329	**Elevation (ft):**	975
PLSS:	T01S, R01E, Sec. 20, SW (M)	**Acres:**	0.0

Location: WEST BRANCH OF ALAMO CREEK, NEAR BLACKHAWK MEADOW DRIVE, EAST OF DANVILLE.

Detailed Location: THE CREEK IS ENCLOSED IN A SHOTCRETE CHANNEL, NEAR THE RESIDENCE AT 3130 BLACKHAWK MEADOW DRIVE.

Ecological: HABITAT CONSISTS OF A POOL IN A SECTION OF ALAMO CREEK; SURROUNDED BY OAK RIPARIAN WOODLAND, DOMINATED BY COAST LIVE OAK, WESTERN SYCAMORE, AND CALIFORNIA BAY. THE STREAM LIES IN A HIGHLY-INCISED, SOUTH-FACING CHANNEL.

General: 1 ADULT OBSERVED ON 15 SEP 2001.

Owner/Manager: PVT

Occurrence No.	636	**Map Index:**	51366	**EO Index:**	51366	**Element Last Seen:**	1999-05-11
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1999-05-11
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2003-05-22

Quad Summary:	Diablo (3712178)
County Summary:	Contra Costa

Lat/Long:	37.77693 / -121.88274	**Accuracy:**	80 meters
UTM:	Zone-10 N4181653 E598390	**Elevation (ft):**	800
PLSS:	T02S, R01E, Sec. 08, NE (M)	**Acres:**	0.0

Location:	UPPERMOST STOCKPOND FEEDING INTO THE EAST BRANCH OF ALAMO CREEK, 4.5 MILES EAST OF SAN RAMON VALLEY.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF A BERMED DRAINAGE STOCKPOND, SURROUNDED BY NON-NATIVE GRASSLAND.
General:	11 LARVAE AND 4 ADULTS / SUBADULTS OBSERVED ON 11 MAY 1999.
Owner/Manager:	PVT

Occurrence No.	637	**Map Index:**	51367	**EO Index:**	51367	**Element Last Seen:**	2017-04-27
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-04-27
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2019-08-30

Quad Summary:	Diablo (3712178)
County Summary:	Contra Costa

Lat/Long:	37.76851 / -121.88861	**Accuracy:**	80 meters
UTM:	Zone-10 N4180712 E597884	**Elevation (ft):**	600
PLSS:	T02S, R01E, Sec. 08, SW (M)	**Acres:**	0.0

Location:	POND IN DRAINAGE OF E BRANCH ALAMO CREEK, ABOUT 0.2 MI NNE OF ALBION RD AT SILVA WAY & 4.5 MI ESE OF SAN RAMON VALLEY.
Detailed Location:	MAPPED TO COORDINATES GIVEN FOR POND #10, WINDEMERE RANCH PRESERVE.
Ecological:	1999: BERMED DRAINAGE STOCKPOND, SURROUNDED BY NON-NATIVE GRASSLAND. 2016: LAND HAS BEEN PURCHASED AND PROTECTED; STOCK PONDS WITH TULE, ELEOCHARIS & JUNCUS ON CONSERVATION LAND USED FOR CATTLE GRAZING. SURROUNDED BY RESIDENTIAL DEVELOPMENT
General:	6 LARVAE AND 4 ADULTS OBSERVED ON 11 MAY 1999. ADULTS HEARD CALLING ON 15 FEB; 2 LARVAE OBSERVED ON 26 APR 2016. 2 ADULTS AND 6 LARVAE OBSERVED ON 27 APR 2017.
Owner/Manager:	CITY OF SAN RAMON, CNLM

Occurrence No.	638	**Map Index:**	51369	**EO Index:**	51369	**Element Last Seen:**	2000-04-07
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2000-04-07
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2003-05-22

Quad Summary: Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.78584 / -121.99412	**Accuracy:**	specific area
UTM:	Zone-10 N4182530 E588571	**Elevation (ft):**	800
PLSS:	T02S, R01W, Sec. 05, SE (M)	**Acres:**	15.7

Location: SOUTH SIDE OF LAS TRAMPAS RIDGE, SAN RAMON.

Detailed Location:

Ecological: HABITAT CONSISTS OF A SERIES OF TWO BERMED DRAINAGE STOCKPONDS, SURROUNDED BY NON-NATIVE GRASSLAND.

General: 10+ LARVAE SEINED ON 13 MAY 1999, FROM THE LARGER POND. 4 ADULTS OBSERVED ON 22 FEB 2000; 10 LARVAE SEINED FROM LARGER POND ON 7 APR 2000. 1 ADULT MALE CAPTURED AND AN ADULT OBSERVED ON 7 APR 2000, AT THE SMALLER POND.

Owner/Manager: PVT

Occurrence No.	817	**Map Index:**	61510	**EO Index:**	61546	**Element Last Seen:**	2004-07-20
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2004-07-20
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2005-06-08

Quad Summary: Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.83378 / -121.96158	**Accuracy:**	non-specific area
UTM:	Zone-10 N4187881 E591376	**Elevation (ft):**	500
PLSS:	T01S, R01W, Sec. 22, NW (M)	**Acres:**	14.2

Location: EAST BRANCH GREEN VALLEY CREEK, JUST SOUTH OF DIABLO.

Detailed Location:

Ecological: HABITAT CONSISTS OF A PERENNIAL CREEK WITH DEEP PLUNGE POOLS; NATIVE RIPARIAN CANOPY ALONG CREEK.

General: 4 LARVAE OBSERVED ON 20 JUL 2004.

Owner/Manager: PVT

Occurrence No.	919	**Map Index:**	68028	**EO Index:**	68180	**Element Last Seen:**	2006-08-04
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2006-08-04
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-02-06

Quad Summary: Tassajara (3712177), Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.85034 / -121.87634	**Accuracy:**	80 meters
UTM:	Zone-10 N4189804 E598855	**Elevation (ft):**	1752
PLSS:	T01S, R01E, Sec. 16, NW (M)	**Acres:**	0.0

Location: UNNAMED DRAINAGE 0.2 MILE SOUTH OF WINDY POINT, MOUNT DIABLO STATE PARK.

Detailed Location:

Ecological: HABITAT CONSISTS OF A CONSTRUCTED CATTLE POND ALONG AN UNNAMED DRAINAGE; SURROUNDED BY OAK WOODLAND AND NON-NATIVE GRASSLAND. POND DEPTH 1.5 M.

General: BREEDING SITE; 18 JUVENILE FROGS OBSERVED ON 4 AUG 2006.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No.	920	**Map Index:**	68029	**EO Index:**	68181	**Element Last Seen:**	2006-08-05
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2006-08-05
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-02-06

Quad Summary: Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.87221 / -121.97028	**Accuracy:**	specific area
UTM:	Zone-10 N4192136 E590564	**Elevation (ft):**	636
PLSS:	T01S, R01W, Sec. 04 (M)	**Acres:**	3.0

Location: PINE POND, ALONG PINE CREEK, MOUNT DIABLO STATE PARK.

Detailed Location:

Ecological: HABITAT CONSISTS OF A CONSTRUCTED CATTLE POND ALONG PINE CREEK; SURROUNDED BY OAK WOODLAND AND NON-NATIVE GRASSLAND. POND DEPTH ~1.2 METERS; VEGETATED BY CATTAILS AND WILLOW. WESTERN POND TURTLE OBSERVED IN OPEN WATER.

General: BREEDING SITE; 1 JUVENILE FROG OBSERVED ON 5 AUG 2006.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No.	921	**Map Index:**	68030	**EO Index:**	68182	**Element Last Seen:**	2006-08-05
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2006-08-05
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-02-06

Quad Summary: Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.86776 / -121.98729	**Accuracy:**	80 meters
UTM:	Zone-10 N4191627 E589073	**Elevation (ft):**	825
PLSS:	T01S, R01W, Sec. 04 (M)	**Acres:**	0.0

Location: ALONG AN UNNAMED TRIBUTARY TO SAN RAMON CREEK, MOUNT DIABLO STATE PARK.

Detailed Location:

Ecological: HABITAT CONSISTS OF A CONSTRUCTED CATTLE POND ALONG AN UNNAMED DRAINAGE; SURROUNDED BY OAK WOODLAND AND NON-NATIVE GRASSLAND. POND DEPTH ~1.5 METERS; VEGETATED BY ALGAE AND CATTAILS. GARTER SNAKE OBSERVED WITH A JUVENILE CRLF.

General: BREEDING SITE; 7 JUVENILE FROGS AND 1 LARVA OBSERVED ON 5 AUG 2006.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No.	922	**Map Index:**	68031	**EO Index:**	68183	**Element Last Seen:**	2006-08-05
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2006-08-05
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-02-06

Quad Summary: Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.86204 / -121.91032	**Accuracy:**	80 meters
UTM:	Zone-10 N4191067 E595851	**Elevation (ft):**	1715
PLSS:	T01S, R01E, Sec. 07, NW (M)	**Acres:**	0.0

Location: HIDDEN POND, BETWEEN MANZANITA SPRINGS CREEK AND ALDER CREEK, MOUNT DIABLO STATE PARK.

Detailed Location:

Ecological: HABITAT CONSISTS OF A CONSTRUCTED CATTLE POND; SURROUNDED BY OAK WOODLAND AND NON-NATIVE GRASSLAND. POND DEPTH ~1.5 METERS; VEGETATED BY SPIKEWEED AND COYOTE THISTLE.

General: BREEDING SITE; 4 ADULT FROGS, 19 JUVENILE FROGS, AND 1 LARVA OBSERVED ON 5 AUG 2006.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No.	1357	**Map Index:**	83438	**EO Index:**	84455	**Element Last Seen:**	2011-05-13
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2011-05-13
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2011-08-03

Quad Summary: Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.82989 / -121.95324	**Accuracy:**	80 meters
UTM:	Zone-10 N4187457 E592115	**Elevation (ft):**	575
PLSS:	T01S, R01W, Sec. 22, SE (M)	**Acres:**	0.0

Location: ALONG EAST BRANCH GREEN VALLEY CREEK, ABOUT 1/10TH OF A MILE SOUTH OF BLACKHAWK RD AT MT DIABLO SCENIC BLVD, DANVILLE.

Detailed Location: OBSERVED BREEDING IN A KOI POND IN THE BACK YARD OF 10 CREEKLEDGE CT & TRAPPED IN THE SWIMMING POOL SKIMMER AT 9 CREEKLEDGE CT. TRAPPED FROGS WERE RELEASED NEAR E BRANCH GREEN VALLEY CRK ABOUT 50 METERS AWAY. MAPPED TO LOCATION DESCRIPTION.

Ecological: IMMEDIATE HABITAT CONSISTED OF A KOI POND AND SWIMMING POOL, BUT IS ADJACENT TO A NATURAL CREEK WHERE OTHER R. DRAYTONII HAVE BEEN KNOWN TO OCCUR ABOUT 0.5 MI DOWN STREAM (OCC #817, EONDX 61546). ADJ TO RIPARIAN IS GRAZED PASTURE & HOUSES.

General: OVER 9 SEPARATE SITE VISITS FROM 9 MAR-13 MAY 2011 BY P. HASKINS & M. YOUNG, & OWNER C. CHAMBERLAIN DOCUMENTED UP TO 16 EGG MASSES, 100S-1000S OF TADPOLES, & ABOUT 5 FROGS. ACCIDENTALLY TRAPPED FROGS WERE RELEASED NEAR E GREEN VALLEY CREEK.

Owner/Manager: PVT

Occurrence No.	1358	**Map Index:**	83439	**EO Index:**	84460	**Element Last Seen:**	2011-04-22
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2011-04-22
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2011-08-03

Quad Summary:	Diablo (3712178)
County Summary:	Contra Costa

Lat/Long:	37.82798 / -121.94770	**Accuracy:**	80 meters
UTM:	Zone-10 N4187251 E592604	**Elevation (ft):**	615
PLSS:	T01S, R01W, Sec. 23, SW (M)	**Acres:**	0.0

Location:	ALONG EAST BRANCH GREEN VALLEY CREEK, ABOUT 0.4 MILE SE OF BLACKHAWK RD AT MT DIABLO SCENIC BLVD, DANVILLE.
Detailed Location:	FROGS & EGG MASS OBSERVED IN CREEK ADJACENT TO 199 ARENDS DR, AND FROGS FREQUENTLY FOUND & RESCUED FROM SWIMMING POOL AT 199 ARENDS DR. RECENTLY TRAPPED FROGS RELEASED INTO CREEK. MAPPED TO PROVIDED COORDINATES.
Ecological:	FROGS AND EGG MASS OBSERVED IN OR NEARBY A LARGE POOL IN EAST BRANCH GREEN VALLEY CREEK. FROGS FOUND IN ADJACENT SWIMMING POOL; LIKELY DISPERSING TO FIND BREEDING HABITAT OR MATES.
General:	OVER 6 SEPARATE SITE VISITS FROM 9 MAR-22 APR 2011 BY P. HASKINS & M. YOUNG, & PROPERTY OWNERS DOCUMENTED UP TO 4 FROGS AND 1 EGG MASS. ACCIDENTALLY TRAPPED FROGS IN SWIMMING POOL WERE RELEASED NEAR ADJACENT CREEK.
Owner/Manager:	PVT

Occurrence No.	1572	**Map Index:**	B1218	**EO Index:**	113111	**Element Last Seen:**	2017-05-26
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-05-26
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2018-10-24

Quad Summary:	Diablo (3712178)
County Summary:	Contra Costa

Lat/Long:	37.78394 / -121.89716	**Accuracy:**	80 meters
UTM:	Zone-10 N4182416 E597111	**Elevation (ft):**	607
PLSS:	T02S, R01E, Sec. 6, SE (M)	**Acres:**	5.0

Location:	ABOUT 0.1 MILES SSE OF LAWRENCE RD AT MEADOW LAKE DR & 1.2 MILES NNE OF BOLLINGER CYN RD AT MONARCH RD, E OF SAN RAMON.
Detailed Location:	MAPPED TO PROVIDED COORDINATES. DETECTED ON UNNAMED DRAINAGE TRIBUTARY TO ALAMO CREEK.
Ecological:	CREEK DOMINATED BY PHALARIS AQUATICA W/ OAK WOODLAND CANOPY. CREEK BED HAD BEEN DRY FOR AT LEAST A MONTH AT TIME OF DETECTION. NEAREST SUITABLE BREEDING HABITAT ABOUT 0.23 MI W & 0.21 MI S OF DETECTION SITE. SURROUNDED BY SMALL RANCHETTES.
General:	1 ADULT OBSERVED ON BANK OF DRY CREEK ON 26 MAY 2017.
Owner/Manager:	PVT

Attachment 4.

USFWS Habitat Assessment Data Form

Appendix D.

California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 3/21/24 (mm/dd/yyyy)

Site Assessment Biologists: WARZECHA BERNHARD (Last name) (first name) _____ (Last name) (first name)

_____ (Last name) (first name) _____ (Last name) (first name)

Site Location: SHERBOURNE HILLS, DANVILLE, CONTRA COSTA

(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

Lat/Long: 37.7960° -121.956144°

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: ELWORTHY PROPERTY EAST PROJECT

Brief description of proposed action:

Potential Development

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)

If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: NO POND Maximum depth: _____

Vegetation: emergent, overhanging, dominant species: _____

_____

_____

Substrate: _____

_____

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: Intermittent, anticipated to go dry in spring

Appendix D.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: 20' (+/-20')

Depth at bank full: 0-6"

Stream gradient: AVG 3.8%. (760' − 550' = 210') ~~218'~~

MAX: 18%.

Are there pools (circle one)? (YES) NO 2 pools

If yes,

Size of stream pools: 3'x5' / 30'x5'

Maximum depth of stream pools: 15" / 12"

Characterize non-pool habitat: run, riffle, glide, other: vegetated swale

Vegetation: emergent, overhanging, dominant species: seasonal wetland vegetation, dominated by Poa spp. (non-native)

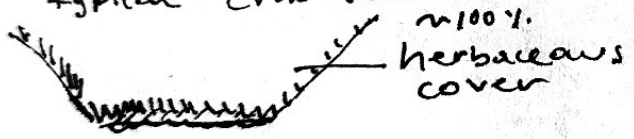
Substrate: _____

Bank description: generally gentle slope, vegetated w/ herbaceous species, mostly non-native annual grass

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: Intermittent, low flow on 3/21/24, expected to dry by (late?) spring

Other aquatic habitat characteristics, species observations, drawings, or comments:

typical cross-section



- 100+ western toads
- 1,000+ chorus frogs
- very few ground squirrels near Golf Club
- water turbid, low quality due to grazing, ammonia concentration high

Necessary Attachments:

1. All field notes and other supporting documents ✓
2. Site photographs ✓
3. Maps with important habitat features and species location ✓

Elworthy Property East Project

California Red-Legged Frog Survey Report

Danville, Contra Costa County, California









Prepared for:

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Attn: Robert Carroll
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July 2023

WRA#30077

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List of Contributors

Leslie Allen	Principal in Charge
Bernhard Warzecha	Senior Biologist
Bailey McCann	Biologist
Neal Jander	GIS Specialist

List of Acronyms

CRF or CRLF	California Red-Legged Frog
CWA	Clean Water Act
ESA	Endangered Species Act of 1973
FCS	FirstCarbon Solutions
USFWS	US Fish and Wildlife Service
VES	Visual Encounter Survey

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1.0 INTRODUCTION

On behalf of FirstCarbon Solutions, Inc. (FCS), WRA, Inc. (WRA) has prepared this California Red-legged Frog Survey Report (Report) in accordance with the "Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog" (USFWS 2005; "Guidance" hereafter) for the Elworthy Property East Project Study Area (Study Area; Figures 1 and 2).

The purpose of this Report is to support a presence/absence determination for California Red-legged Frog (*Rana draytonii*; CRF or CRLF) for the Study Area. Furthermore, this Report is intended to support a Clean Water Act (CWA) Sections 404/401 application (including documentation supporting the Endangered Species Act of 1973 (ESA) Section 7 consultation or Section 10 compliance, if needed), and potentially other resource agency permit applications for this property.

1.1 Study Area Location

The Study Area consists of a property on the southwest-facing portion of the Sherbourne Hills, Danville, Contra Costa County, California (Figure 1 and 2). It is located within the Diablo USGS 7.5-minute topographic quadrangle (Diablo quad) and centered around latitude 37.798049° and longitude -121.958563°.

1.2 Land Use and Proposed Project

Past and current land use on the Study Area appear to have consisted of, and still consist exclusively of cattle grazing. The Project proponent is evaluating the property regarding future development potential. Detailed Project descriptions or plans are not available to WRA at this point and would not be relevant for the results and conclusions of this Report.

1.3 Previous Communication and Reporting

WRA is not aware of previous communication related to the Study Area related to potential presence or regulatory concerns related to CRLF.

Previous reporting consists of the "California Red-legged Frog Habitat Assessment for the Elworthy Property East Project" ("Habitat Assessment"; WRA, 2024). The Habitat Assessment is provided as Appendix D. The purpose of the Habitat Assessment was to determine the extent to which suitable breeding, non-breeding, and/or upland dispersal and aestivation habitat is present on the site, which in return informed the presence/absence surveys and analysis presented in this Report.

2.0 METHODS

Before conducting the field component for the CRLF presence/absence surveys, WRA biologists reviewed the Guidance, and evaluated all available information about CRLF and their habitats in the vicinity of the project site. This information includes current and historic range, known observations from California Natural Diversity Database (CNDDB; CDFW 2024), aerial photography, and landcover mapping within at least 2 mile of the project site.

WRA senior biologist Bernhard Warzecha, holding a valid ESA 10(a)1(a) Recovery Permit for CRLF (TE-75187D) for both areas covered by the Sacramento and the Bay Delta office, and WRA

biologist Bailey McCann conducted CRLF presence/absence visual encounter surveys (VES) following the requirements of the Guidance, including as it relates to decontamination as described in Appendix B of the Guidance, and surveyor qualifications (Appendix C). A total of eight surveys were conducted, as listed in Table 1, below. More details for each of the surveys (incl. personnel, start and end times, equipment, conditions, and others) are provided in the Survey Data Sheets (Appendix A).

Table 1. Overview of Survey Dates and Type

DATE	BREEDING/NON-BREEDING SEASON	DAY/NIGHT	NOTES
3/21/2024	Breeding	Day	Included search for egg masses, larvae, metamorphs, adults; predator pressure; dispersal barriers, hydrology, other relevant environmental conditions – See datasheets (Appendix A) for more details
4/10/2024	Breeding	Day	
3/21/2024	Breeding	Night	
4/11/2024	Breeding	Night	
4/30/2024	Breeding	Night	
6/20/2024	Breeding	Night	
7/2/2024	Non-Breeding	Day	
7/2/2024	Non-Breeding	Night	

Daytime VES were conducted by walking along all aquatic (including wetland) features and adjacent upland areas while repeatedly scanning for frogs and listening for vocalizations. This procedure allowed surveyors to scan the area from at least two different angles. Surveyors began by first working along the banks, then by entering the drainage (after ensuring no egg masses would be crushed or disturbed where water was present), and visually scanning all drainage and bank areas and all aquatic habitats and suitable upland habitats within the Study Area. When wading, surveyors took maximum care to avoid disturbing sediments, vegetation, or larvae. When walking along the drainage, surveyors took care not to crush root balls, overhanging banks, and stream-side vegetation as much as feasible. Daytime VES were completed before one hour before sunset.

Nighttime VES were conducted using adequate headlamps, handheld flashlights, and binoculars to search for eye shine and individuals along all aquatic (including wetland) features and adjacent upland areas, and adjacent vegetation. Night surveys commenced not earlier than 1 hour after sunset. Upon arrival at the Study Area, surveyors listened for a few minutes for frogs calling, prior to walking and looking for eye shine. Eye shine was observed, but found to be from Western toads (*Anaxyrus boreas*) in every case. Field observations and notes on conditions during surveys were recorded on datasheets developed by USFWS (Appendix A).

All surveys were conducted with air temperature over 10 degrees Celsius (50 degrees Fahrenheit), wind speeds generally under 8 kilometers/hour (5 miles/hour) at the survey site, and under clear to partly cloudy skies or high clouds and not under dense fog or during rain.

3.0 RESULTS

This section provides a summary of the results of CRLF breeding and non-breeding surveys. All observations, survey dates, and weather conditions during surveys were recorded on datasheets developed by the USFWS and are provided in Appendix A. Representative photographs of the surveyed sites taken during the breeding and non-breeding surveys are provided in Appendix B.

Habitat conditions were consistent with those described in both Habitat Assessments for the site (Appendix D).

No CRLF of any life stage were observed during any of the surveys conducted for this Report. This result is consistent with the absence of CRLF records from the Sherbourne Hills and nearby creek segments.

The only amphibians detected were robust populations of western chorus frog (*Pseudocaris sierra;* egg masses, larvae, metamorphs, adults), and Western toad (including egg strings, larvae, and adults), and a single adult arboreal salamander (*Aneides lugubris*).

Potential CRLF predators observed include mallards (*Anas platyrhynchos*), American crow (*Corvus brachyrhynchos*), raven (*Corvus corax*), coyote (*Canis latrans*), red-tailed hawk (*Buteo jamaicensis*).

4.0 CONCLUSION

Based on the negative results of the CRLF surveys conducted in 2024, in combination with the absence of CRLF records in the Sherbourne Hills, the likely absence of suitable breeding habitat on-site and nearby, the presence of dispersal barriers between the Study Area and known breeding locations, and the distance of known breeding locations from the Study Area, it is reasonable to assume that CRLF are absent from the Study Area.

Figure 1. Project Location Map



Path: L:\Acad 2000 Files\330000\330077\GIS\ArcMap\330077Base.aprx Layout Name:EL_Fig1_Regional Location

Sources: National Geographic, WRA | Prepared By: njander, 4/25/2024

Figure 1. Regional Location

Elworthy Property East Project
Contra Costa County, California

0 0.25 0.5 Miles

N

wra Environmental Consultants

Figure 2. Elworthy Property East Project Overview



Figure 2. Habitat Types and Site Features

Elworthy Property East Project
Contra Costa County, California

0 100 200 Feet

N

wra Environmental Consultants

5.0 REFERENCES

CDFW 2023 California Department of Fish and Wildlife (CDFW). 2023. California Natural Diversity Database CNDDB. Commercial Version. Sacramento California. Accessed January 9, 2023

USFWS 2005 United States Fish and Wildlife Service (USFWS). 2005. Revised Guidance on Site Assessments and Field Surveys for the California Red-Legged Frog.

WRA WRA, Inc. 2024. California Red-legged Frog Habitat Assessment for the Elworthy Property East Study Area

APPENDIX A. SURVEY DATA SHEETS

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Survey: 3/21/2024 (mm/dd/yyyy) **Survey Biologist:** WARZECHA BERNHARD (Last name) (first name)

Survey Biologist: _____ (Last name) (first name)

Site Location: SHERBOURNE HILLS, DANVILLE, CoCoCo.
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).
37.79600 -121.956144°

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: ELWORTHY PROPERTY EAST PROJECT
Brief description of proposed action:

Potential Development

Type of Survey (circle one): **(DAY)** NIGHT **(BREEDING)** NON-BREEDING

Survey number (circle one): **(1)** 2 3 4 5 6 7 8

Begin Time: 15:30 **End Time:** 17:45

Cloud cover: 10-20 high Cloudy **Precipitation:** 0

Air Temperature: 68° F **Water Temperature:** 60.9 F

Wind Speed: 3-10 **Visibility Conditions:** EXCELLENT

Moon phase: n/a **Humidity:** 49%

Description of weather conditions: Dry, Clear, → partly cloudy

Brand name and model of light used to conduct surveys: BLACK DIAMOND SPOT-R

Were binoculars used for the surveys (circle one)? **(YES)** NO
Brand, model, and power of binoculars: NIKON PROSTAFF 10 x 42

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
ANAXYRUS BOREAS	10s	O	ADULT EGGMASSES	3-5"	100
PSEUDACRIS SIERRA	1000s	O/H	ADULT	2-3"	100

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: NO SUITABLE FISH HABITAT NO BULLFROGS OBSERVED TO DATE, RACOONS LIKELY, CROWS, RAVENS, HAWKS

Other notes, observations, comments, *etc.*

Only 2 small areas of open ponding, unlikely to be suitable CRLF breeding, shallow (15") & entire watercourse is very shallow (0-6") lots of grazing; high ammonia concentrations in lower third of the swale

Necessary Attachments:

4. All field notes and other supporting documents ✓
5. Site photographs ✓
6. Maps with important habitat features and species locations ✓

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Survey: 03/21/2024 (mm/dd/yyyy)

Survey Biologist: WARZECHA BERNHARD (Last name) (first name)

Survey Biologist: McCANN BAILEY (Last name) (first name)

Site Location: DANVILLE, SHERBOURNE HILLS 37.7966 -121.95938
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).
COCOCO.

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: ELWORTHY PROPERTY EAST PROJECT
Brief description of proposed action:
Potential Development

Type of Survey (circle one): **DAY** (**NIGHT**) (**BREEDING**) **NON-BREEDING**

Survey number (circle one): (1) (2) 3 4 5 6 7 8

Begin Time: 20:25 **End Time:** 21:43

Cloud cover: 0-10 **Precipitation:** 0

Air Temperature: 60 F **Water Temperature:** 60.1 F

Wind Speed: 3-5 **Visibility Conditions:** GOOD

Moon phase: WAXING GIBBOUS **Humidity:** 74%

Description of weather conditions: DRY CLEAR

Brand name and model of light used to conduct surveys: BLACK DIAMOND SPOT-R

Were binoculars used for the surveys (circle one)? (**YES**) **NO**
Brand, model, and power of binoculars: NIKON PROSTAFF 10 X 42
CELESTRON 12 X 25

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Anaxyrus boreas	100s	O	ADULT, EGGMASSES	3-5"	100
Pseudacris sierra	1000s	O + H	ADULT	~2-3"	100

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: NO ~~FISH~~ SUITABLE FISH HABITAT, NO BULLFROGS OBSERVED TO DATE, RACCOONS LIKELY, CROWS, RAVENS, HERA,

Other notes, observations, comments, *etc.*

Only 2 areas of open ponding, very small, unlikely to be suitable for breeding entire swale is very shallow
Grazing: Water reeks of ammonia in downstream third

Necessary Attachments:

4. All field notes and other supporting documents ✓
5. Site photographs ✓
6. Maps with important habitat features and species locations ✓

California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Survey: 4/11/24 (mm/dd/yyyy)

Survey Biologist: WARZECHA BERNHARD (Last name) (first name)

Survey Biologist: MACLANN BAILEY (Last name) (first name)

Site Location: SHERBOURNE HILLS, DANVILLE, CONTRA COSTA CO
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).
37.7960° -121.956144°

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: ELWORTHY PROPERTY EAST PROJECT
Brief description of proposed action:

Potential development

Type of Survey (circle one): **DAY** (**NIGHT**) (**BREEDING**) **NON-BREEDING**

Survey number (circle one): **1** **2** (**3**) **4** **5** **6** **7** **8**

Begin Time: 20:41 **End Time:** 22:20

Cloud cover: 0 **Precipitation:** 0

Air Temperature: 65 **Water Temperature:** 63.1 F

Wind Speed: 0 - 5 **Visibility Conditions:** Excellent

Moon phase: WAXING CRESCENT **Humidity:** 79 %

Description of weather conditions: DRY, CLEAR

Brand name and model of light used to conduct surveys: BLACK DIAMOND SPOT-R

Were binoculars used for the surveys (circle one)? (**YES**) **NO**
Brand, model, and power of binoculars: NIKON PRO STD FF 35 10X42

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
PSEUDOCARIS SIERRA	1000s	H+O	adult	1-2	100
WESTERN TOAD ANAXYRUS BOREAS	10s	O	adult egg masses		100
WESTERN TOAD A. BOREAS	100s	O	tadpoles	1mm-5mm	90

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: SEE DATAFORM SURVEY (2)

Mallards

Other notes, observations, comments, *etc.*

coyote
grazing

Necessary Attachments:

4. All field notes and other supporting documents ✓
5. Site photographs ✓
6. Maps with important habitat features and species locations ✓

Appendix E.

California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Survey: 4/30/24 (mm/dd/yyyy)

Survey Biologist: WARZECHA (Last name) BERNHARD (first name)

Survey Biologist: MCCANN (Last name) BAILEY (first name)

Site Location: SHERBOURNE HILLS, DANVILLE, CONTRA COSTA CO.
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).
37.7960° -121.956144°

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: ELWORTHY PROPERTY EAST PROJECT
Brief description of proposed action:

Potential Development

Type of Survey (circle one): **DAY** (**NIGHT**) (**BREEDING**) **NON-BREEDING**

Survey number (circle one): **1** **2** **3** (**4**) **5** **6** **7** **8**

Begin Time: 20:58 **End Time:** 21:30

Cloud cover: 0 **Precipitation:** 0

Air Temperature: 62 F **Water Temperature:** 55.1 – 58.2 F

Wind Speed: 0-2 mph **Visibility Conditions:** GOOD

Moon phase: WANING GIBBOUS **Humidity:** 58%

Description of weather conditions: Dry, clear, warming trend

Brand name and model of light used to conduct surveys: Black Diamond Spot-R

Were binoculars used for the surveys (circle one)? (**YES**) **NO**
Brand, model, and power of binoculars: NIKON PRO-STAFF 35 10x42

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
PSEUDOCARIS SIERRA	1,000s	O/H	ADULT	1-2"	100
ANAXYRUS BOREAS	100s	O	LARVAE	0.1-0.2"	90

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: no new predators observed. See previous data forms for a list of observed predators

Other notes, observations, comments, *etc.* almost no open water
2 small plunge pools (~ 2×3')
Water depths: 3.5", 13"
T: 55 F

1 area of open water on southern/western boundary:
appr. 20×3' in size, but very shallow: 4.5"

→ unlikely that there is suitable breeding for CRLF on site

Necessary Attachments:

4. All field notes and other supporting documents ✓
5. Site photographs ✓
6. Maps with important habitat features and species locations ✓

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Survey: 4/10/24 (mm/dd/yyyy)

Survey Biologist: WARZECHA BERNHARD (Last name) (first name)

Survey Biologist: _____ (Last name) (first name)

Site Location: SHERBOURNE HILLS, DANVILLE, CoCoCo
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).
37.796° −121.956144°

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: ELWORTHY PROPERTY EAST PROJECT
Brief description of proposed action:
Potential Development

Type of Survey (circle one): (DAY) NIGHT (BREEDING) NON-BREEDING

Survey number (circle one): 1 2 3 4 (5) 6 7 8

Begin Time: 9:45 am **End Time:** 11:30 am

Cloud cover: 0 **Precipitation:** 0

Air Temperature: ~~53~~ 73→80F **Water Temperature:** 59.2

Wind Speed: 0-4 mph **Visibility Conditions:** excellent

Moon phase: n/a (day survey) **Humidity:** 38.1

Description of weather conditions: SUNNY, WARM

Brand name and model of light used to conduct surveys: n/a (day)

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: NIKON PROSTAFF 10x42

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Western toad	10s-100s	O	larval	1-2mm SVT	90%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: see previous data sheets

Other notes, observations, comments, *etc.*

no cattle,
surface water present,
water clear

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Survey: 6|20|24 (mm/dd/yyyy)

Survey Biologist: WARTELLA BERNHARD (Last name) (first name)

Survey Biologist: McCANN BAILEY (Last name) (first name)

Site Location: SHERBOURNE HILLS, DANVILLE, CoCoCo
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).
37.796° -121.956144°

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: ELWORTHY PROPERTY EAST PROJECT
Brief description of proposed action:
Potential development

Type of Survey (circle one): **DAY** (**NIGHT**) (**BREEDING**) **NON-BREEDING**

Survey number (circle one): 1 2 3 4 5 (6) 7 8

Begin Time: 21:34 **End Time:** 22:45

Cloud cover: 5 % **Precipitation:** 0

Air Temperature: 55° **Water Temperature:** 63 F

Wind Speed: 0 - 7 mph **Visibility Conditions:** excellent

Moon phase: WAXING GIBBOUS **Humidity:** 83 %

Description of weather conditions: Dry, clear, light breeze

Brand name and model of light used to conduct surveys: BLACK DIAMOND SPOT-R

Were binoculars used for the surveys (circle one)? (**YES**) **NO**
Brand, model, and power of binoculars: NIKON PRO-STAFF 10x42
CELESTRON 12x25

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Pseudacris sierra	100s	H/O	adult	1-2"	100%
Western toads	10s	O	adult	5"	100%
arboreal salamander	1	O	juvenile	2.5"	100%
Pseudacris sierra	100s	O	larva & metamorphs	.5"-1"	100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: See previous datasheets. No new predators observed

Other notes, observations, comments, *etc.*

Standing water present (9" in small plunge pool)

No flowing water

drainage drying up

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ _____ _____
(FWS Field Office) (date) (biologist)

Date of Survey: 7/2/24 (mm/dd/yyyy)

Survey Biologist: WARZECHA BERNHARD (Last name) (first name)

Survey Biologist: _____ (Last name) (first name)

Site Location: DANVILLE, SHERBOURNE HILLS 37.7966 -121.955938
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: ELWORTHY PROPERTY EAST PROJECT
Brief description of proposed action:

POT. DEVELOPMENT

Type of Survey (circle one): (DAY) NIGHT BREEDING (NON-BREEDING)

Survey number (circle one): 1 2 3 4 5 6 (7) 8

Begin Time: 8:45 am **End Time:** 10:50

Cloud cover: 0 **Precipitation:** /

Air Temperature: 79 F **Water Temperature:** 75 F

Wind Speed: 0-3 **Visibility Conditions:** good

Moon phase: n/a **Humidity:** 41 %

Description of weather conditions: Sunny, warm, dry

Brand name and model of light used to conduct surveys: n/a

Were binoculars used for the surveys (circle one)? (YES) NO
Brand, model, and power of binoculars: NIKON PROSTAFF

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
PSEUDACRIS SIERRA	3	O	adult/juv	2-3"	100%
P. Sierra	10	O	larvae	0.5-1"	100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: see earlier data forms, report

Other notes, observations, comments, *etc.*

localized standing water,
no flowing water
water clear (light grazing)
see Report

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Survey: 7/2/24 (mm/dd/yyyy)

Survey Biologist: WARZECHA BERNHARD (Last name) (first name)

Survey Biologist: McCANN BAILEY (Last name) (first name)

Site Location: DANVILLE SHERBOURNE HILLS 37.7966 -121.955938
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: ELWORTHY PROPERTY EAST PROJECT
Brief description of proposed action:

POT DEVELOPMENT

Type of Survey (circle one): **DAY** (**NIGHT**) **BREEDING** (**NON-BREEDING**)

Survey number (circle one): 1 2 3 4 5 6 7 (8)

Begin Time: 21:35 **End Time:** 22:55

Cloud cover: 0 **Precipitation:** 0

Air Temperature: 84 F **Water Temperature:** 74.7 F

Wind Speed: 0-2 **Visibility Conditions:** good

Moon phase: Waning crescent **Humidity:** 53 %

Description of weather conditions: Warm, clear, dry

Brand name and model of light used to conduct surveys: BLACK DIAMOND SPOT-R

Were binoculars used for the surveys (circle one)? (**YES**) **NO**
Brand, model, and power of binoculars: NIKON PRO-STAFF 10x42

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
western toad ANAXYRUS BOREAS	100s	O	adult	3-5"	100%.
P. sierra	10s	O/H	adult+juv	1-3"	100%.
P. Sierra	10s	O	larvae	0.5-1"	100%.

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: See report, previous data forms

Other notes, observations, comments, *etc.*

See report, previous data forms

water clear, standing localized

light grazing

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

APPENDIX B. PHOTOGRAPHS

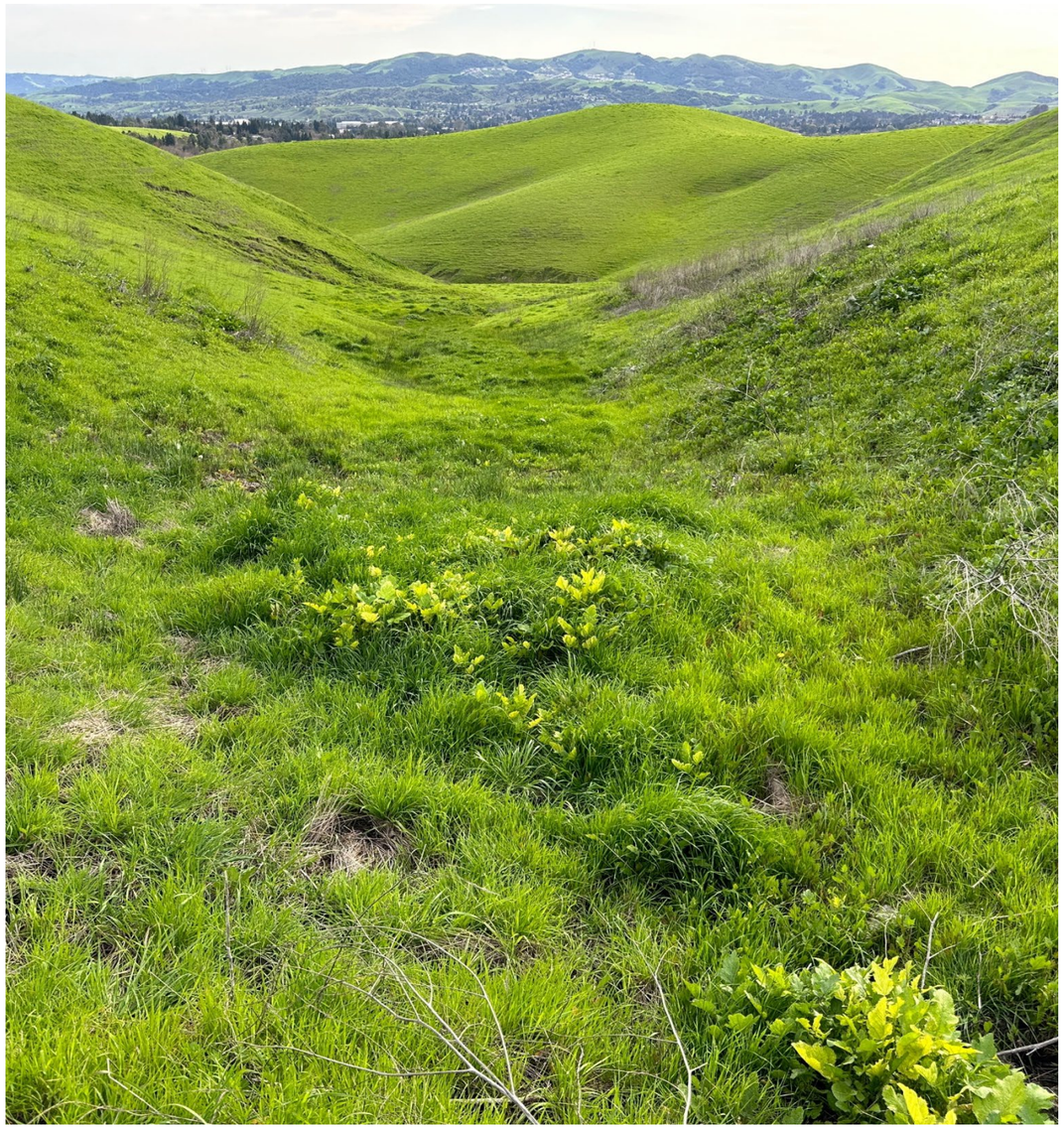


Photo 1. View from the northern boundary of the Study Area southwest, down the uppermost and steepest (first order) segment of the drainage on site. All photos taken March, 21, 2024, unless otherwise stated.



Photo 2. View of the mid-segment of the drainage on site, looking northwest (upslope).



Photo 3. View of the mid-segment of the drainage on site, looking south (downslope). At this location, and downstream, the slope becomes much less pronounced, and shallow water slowly moves through and supports more typical wetland vegetation.



Photo 4. A mini plunge pool that is one of the 2 features that have open water. Location of this feature is shown on Figure 2. This feature was found occupied by multiple adult western toads and chorus frogs.



Photo 5. The terminal ponding area, at the southern boundary of the Study Area. Note the visible turbidity. This location was found to be heavily visited by cattle.



Photo 6. View of the largest wetland area and riparian willow stand in the mid-section of the drainage, looking north (upslope).



Photo 7. The terminal ponding area as seen during a CRLF night-shine survey on April 11, 2024.



Photo 8. Example of adult western toad, of which a robust, reproducing population occupies predominantly the mid-section of the drainage.



Photo 9. Close up image of Western toad egg strings found on site.



Photo 10. Western toad larvae.



Photo 11. Conditions at the mini plunge pool during night survey April 30, 2024.



Photo 12. Conditions at the terminal ponding area during the day survey May 10, 2024. Residual ponding water is clear and very shallow.



Photo 13. Conditions at the terminal ponding area during the night survey June 6, 2024. Residual ponding water is clear and very shallow.



Photo 14. Upper swale as seen looking upslope (northeast) during the day survey July 2, 2024. No flowing or standing water remaining.



Photo 15. Conditions at the terminal ponding area during the day survey July 2, 2024. Residual ponding water is clear and very shallow.



Photo 16. Pacific chorus frog dispersing along the main drainage swale, as observed during the July 2, 2024, night survey.

APPENDIX C. QUALIFICATIONS



Bernhard Warzecha

Senior Biologist

Senior Regulatory Permitting Specialist

YEARS OF EXPERIENCE
14

EDUCATION
M.S. Biological Science (Ecology, Evolution, and Conservation), San Francisco State University

B.S. Biology, Freie Universitaet, Berlin, Germany

PERMITS / CERTIFICATIONS
Endangered Species Act Section 10(a)(1)(B) Recovery Permit, #TE-75187D-0

- **California red-legged frog**

FAA Remote Pilot Certification, Small Unmanned Aircraft Systems (UAS) with Part 107 License, #4500983

California Rapid Assessment Method (CRAM), San Francisco Estuary Institute

Project Management Certification, AEC Business Solutions

Wetland Delineation Certification, Wetland Training Institute, Inc.

SPECIALIZED TRAINING
*Listed at end of resume

wra Environmental Consultants

Bernhard Warzecha has over 14 years of experience as a professional biologist, including special-status species surveys and reports, including for California red-legged frog (*Rana draytonii;* CRLF) and others.

RELEVANT PROJECT EXPERIENCE SPECIFIC TO CRLF

Date	Location (include County)	Permitted Individual and Permit	Hours of Survey	Type of Survey/ Activity	Species Name, Life Stage and # handled or observed	Other Notes
10/17/2014	SFPUC Bioregional Restoration at Sheep Camp Creek, Sunol, Alameda County	David Simi, BO 8I420-2009-F-1339	8	Daytime Visual Encounter Survey (VES)	Observed 1 adult CRLF (3 inch SVL)	During bullfrog control measure; Identification, hand-capture and handling of several bullfrogs
7/05/2018 7/10/2018	West-of-Bayshore, Millbrae, San Mateo County	Natalie Reeder, authorized individual under TE176209-3	7	Daytime VES; Hand and dipnet capture	Detected 2 adult CRLF; hand-captured and relocated /released 1 CRLF (2.5 inch SVL), relocated 1 CRLF; Relocated/released 2 CRLF (3 inch SVL)	CRLF found in base of Pampas grass that was being removed
2/26/2018 - 2/27/2018	West-of-Bayshore, Millbrae, San Mateo County	John Kunna #TE-40218B-O	8	Egg mass survey	One egg mass in South Lomita Canal (SLC) near bridge on 2/26, 15 egg masses on 2/27 elsewhere in SLC	Surveyed from land and using a kayak.
1/29/2018	West-of-Bayshore, Millbrae, San Mateo County	John Kunna #TE-40218B-O	4	Egg mass survey	Observed 1 adult CRLF (2 inch SVL)	
2/6/2018	Stonebrae, Alameda County	Todd Catalini, LSA (BO 1-1-98-F-168)	8	Egg mass survey	Observed 3 egg masses and 1 adult CRLF.	

7/18/2018	West-of-Bayshore, Millbrae, San Mateo County	Natalie Reeder, authorized individual under TE176209-3	8	Tadpole dipnet survey	Caught and released 14 CRLF tadpoles, Gosner stages 25 to 46.	
12/18/2018	West-of-Bayshore, Millbrae, San Mateo County	Natalie Reeder, authorized individual under TE176209-3	3	Night eyeshine survey	Observed 39 adult and subadult CRLF (between 2-3 inch SVL)	
01/30/2019	West-of-Bayshore, Millbrae, San Mateo County	John Kunna #TE-40218B-O, Natalie Reeder authorized individual under TE176209-3	8	Egg mass and VES of adults	Observed 10 CRLF egg masses in 5 different features; observed 2 CRLF adults (2-3 inch SVL) in 2 separate features	
6/14/2019	West-of-Bayshore, Millbrae, San Mateo County	Natalie Reeder and John Kunna; authorized individual under TE176209-3	8	Tadpole dipnet survey	Capture and release 6 CRLF tadpoles, Gosner stages 27 to 34. Observed, but did not handle, an additional 6 CRLF tadpoles	
7/24/2019 - 08/01/2019	West-of-Bayshore, Millbrae, San Mateo County	Natalie Reeder and John Kunna; authorized individual under TE176209-3	24	Monitoring of cattail clearing	Capture and release 1 adult CRLF (~3 inch SVL); released 3 juvenile CRLF (~1.5 inch SVL)	

Other amphibians I have observed and identified include:

- Bullfrog (*Lithobates catesbeianus*, egg masses, tadpoles, subadults, adults; capture, handle, control)
- Pacific tree frog (*Pseudocaris regilla; egg masses,* tadpoles, adults; capture, handle, release)
- California newt (*Taricha torosa*)
- Arboreal salamander (*Aneides lugubris*)
- Slender salamander (*Batrachoseps attenuates*)

- California toad (*Anaxyrus boreas halophilus*)
- California tiger salamander (*Ambystoma californiense*; including larval surveys with seine assisting permitted individual; VES for adult).

SUMMARY OF WORK EXPERIENCE

- Senior Biologist and Regulatory Permitting Specialist, WRA, Inc., Emeryville, 2023 - now
- Senior Biologist Project Manager, FirstCarbon Solutions, Inc., Walnut Creek, 2020-2023
- Senior Biologist/Ecologist and Project Manager, LSA Associates, Inc., Point Richmond, CA, 2018–2020
- Biologist/Ecologist and Project Manager, LSA Associates, Inc., Point Richmond, CA, 2014–2018
- Biologist, Avila and Associates Consulting Engineers, Inc., San Francisco, CA, 2014
- Land Stewardship Coordinator, Solano Land Trust and San Francisco Bay National Estuarine Research Reserve, Tiburon and Fairfield, CA, 2014
- Volunteer, Solano Land Trust, 2014
- Volunteer, Richardson Bay Audubon Society, 2014
- Volunteer, Golden Gate National Parks Conservancy, 2014
- Research Assistant, San Francisco State University, San Francisco, CA, 2012–2014
- Volunteer, USFWS, 2013
- Biology Intern, USFWS, Fremont, CA, 2013
- Ecological Research Laboratory Technician, Dahlem Center of Plant Science, Freie Universitaet Berlin, Germany, 2009–2011

PRESENTATIONS

- Poster, Ecological Society of America, Sacramento, CA, 2014
- Posters, Northern California Botanists Symposium, Chico, CA, 2013 and 2014
- Talk, California Botanical Society Centennial Meeting, Berkeley, CA, 2013

PUBLICATION

Warzecha B & VT Parker. 2014. "Differential post-dispersal seed predation drives chaparral seed bank dynamics". Plant Ecology. Volume 215, Issue 11, pp 1313-1322. http://link.springer.com/article/10.1007%2Fs11258-014-0389-9



Bailey McCann

Marine Ecologist

YEARS OF EXPERIENCE
3

EDUCATION
M.S., Biology, California Polytechnic University, Humboldt

B.S., Marine Biology, California State University, Long Beach

LICENSES / CERTIFICATIONS
Certified Caulerpa Surveyor, NOAA Fisheries, 2024

AAUS Scientific SCUBA Diver, Ocean Studies Institute, 2018

First Aid for Professional Divers Certification, 2022

SPECIALIZED TRAINING
Small Craft Operator Training Course, Southern California Marine Institute, 2018

BoatUS Safety Training Course, 2018

wra Environmental Consultants

Bailey McCann is a multi-disciplinary biologist with experience in special-status species research and monitoring, ecological restoration, outreach and education, and environmental consulting.

RELEVANT PROJECT EXPERIENCE RELATED TO CRLF

Date	Location	Permitted Individual and Permit	Hours of Survey	Type of Survey/ Activity	Species Name, Life Stage and # handled or observed
2/28/2024	Ridge Top Ranch Conservation Bank, Solano County	Rob Schell TE-212445-3	3	Egg mass survey	CRLF; 1 adult identified by sound
1/19/2023 1/26/2023	Fortuna, Humboldt County	Sharyn Marks, Jessica Jones CDFW: S-221640001-22170-001	12	Egg mass survey	Northern Red Legged Frog; 60+ egg masses observed
9/2020 – 9/2021	Southern District: Los Angelos, Orange and San Diego Counties	Otis Horning	2,000+	Species ID	Bocaccio, Giant Sea Bass, Yelloweye Rockfish, various rockfish; juvenile and adult; 200+ fish identified
3/21/2017 3/22/2017	Angeles National Forest, Los Angelos County	Thomas Coleman	18	Protocol level habitat suitability survey	Santa Ana Sucker; No individuals observed

Other amphibians I have observed and identified include:

- Arboreal salamander (*Aneides lugubris*)
- Bullfrog (*Lithobates catesbeianus*)
- California Newt (*Taricha torosa*)
- California slender salamander (*Batrachoseps attenuates*)
- Ensatina (*Ensatina eschcholtzii*)
- Northwestern salamander (*Ambystoma gracile*)
- Pacific giant salamander (*Dicamptodon tenebrosus*)
- Pacific tree frog (*Pseudocaris regilla*)

SUMMARY OF WORK EXPERIENCE

- Marine Ecologist, WRA Inc., Emeryville 2023-Present
- Field Technician, University of California, Irvine, 2023

- Volunteer, Cal Poly Humboldt, 2022-2023
- Graduate Researcher, Cal Poly Humboldt, 2021-2023
- Scientific Aid, CDFW, 2020-2021
- Research Assistant, CSULB, Long Beach, 2018-2021
- Restoration Intern, Tidal Influence, Long Beach, 2019
- Research Assistant, Wrigley Institute, Catalina Island, 2018
- Education Intern, Aquarium of the Pacific, Long Beach, 2017
- Volunteer, USFWS, Angeles National Forest, 2017
- Volunteer, CSULB, Colorado Lagoon, 2016

PRESENTATIONS

McCann, B., 2023. Will climate warming amplify the competitive and predatory effects of a range-expanding marine gastropod? Western Society of Naturalists conference. November 11. Monterey Bay, CA.

McCann, B., 2023. Scientific Proposal Writing. Guest lecture for Intertidal Ecology. February 28. California Polytechnic University Humboldt, Arcata, CA.

McCann, B., Bourdeau, P. 2022. Is a range-expanding marine gastropod a competitive threat to local species? Western Society of Naturalists conference. November 14. Oxnard, CA. Poster.

McCann, B., 2022. Marine Dispersal & Invasive Species. Guest lecture for Intertidal Ecology, April 22. California Polytechnic University Humboldt, Arcata, CA.

McCann, B., 2020. Estimating growth, size-dependent mortality, and tag loss in a mark-recapture study of wavy turban snails. Western Society of Naturalists annual conference, November 6. Online.

McCann, B., 2018. The effect of substrate type on the feeding rate of *Halichoeres semicinctus*. CSU Catalina Marine Biology Semester Research Symposium, December 6. USC Wrigley Institute, Santa Catalina Island, CA.

PUBLICATIONS

McCann, B. N., Bourdeau, P. E., 2024. Will climate warming amplify the effects of a range-expanding marine predator?. *Oecologia*. In Review.

McCann, B., Johnson, D., 2020. Estimating growth, size-dependent mortality, and tag loss in a mark-recapture study: Demography of wavy turban snails in Southern California. *Marine Ecology Progress Series*.

APPENDIX D. CALIFORNIA RED-LEGGED FROG HABITAT ASSESSMENT FOR THE ELWORTHY PROPERTY EAST PROJECT

MEMORANDUM

TO:	Robert Carroll, FCS	**FROM:**	Bernhard Warzecha Bernhard.warzecha@wra-ca.com
CC:	Leslie Allen allen@wra-ca.com		
DATE:	May 9, 2024		
SUBJECT:	California Red-legged Frog Habitat Assessment for the Elworthy Property East Study Area		

1.0 BACKGROUND

WRA, Inc. (WRA) has prepared this Habitat Assessment in accordance with the *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* ("Guidance," USFWS 2005) for the Elworthy Property East Study Area ("Study Area", Attachment 1, Figures 1 and 2).

The purpose of this Habitat Assessment is to determine the extent to which suitable breeding, non-breeding, and/or upland dispersal and aestivation habitat is present on the site, which in turn informs the need for presence/absence surveys. Because of an initial assessment that California red-legged frog (*Rana draytonii*; CRF or CRLF) could potentially be present in the Study Area, WRA has also begun to conduct protocol-level visual encounter surveys (VES), and a separate CRLF Survey Report will be submitted after the mandatory surveys during the non-breeding season (starting July 1 in this region) will be completed.

1.1 Study Area Location

The Study Area consists of a property on the southwest-facing portion of the Sherbourne Hills, Danville, Contra Costa County, California (Figure 1 and 2). It is located within the Diablo USGS 7.5-minute topographic quadrangle ("Diablo quad") and centered around latitude 37.798049° and longitude -121.958563°.

2.0 METHODS

Before conducting the field component for this Habitat Assessment, all information related to CRLF and their habitat within and in the vicinity of the Study Area was evaluated. This information included current and historic range, known observations from California Natural Diversity Database (CNDDB, CDFW 2024) and iNaturalist, aerial photography, and available landcover mapping within at least 2 miles of the Study Area, including aquatic features as mapped by the USFWS National Wetland Inventory (USFWS 2024a) (Figure 3), and the USFWS

Critical Habitat Mapper (USFWS 2024b). Additionally, a longitudinal gradient profile of the drainage feature on the site was determined and analyzed using Google Earth Pro.

WRA senior biologist Bernhard Warzecha, holding a valid ESA 10(a)1(a) Recovery Permit for CRLF (TE-75187D) in both the jurisdictions covered by the Sacramento and the Bay Delta office, conducted the field component of the habitat assessment on March 21, 2024. Results from additional CRLF and habitat surveys conducted on April 11 and April 30, 2024 are incorporated in this report. This assessment included surveys and evaluation of potential upland and aquatic habitats of the Study Area and adjacent areas where visible from an accessible viewpoint. Additionally, dispersal routes and general conditions of upstream and downstream water bodies were evaluated, including conditions of Sycamore Creek and San Ramon Creek. Field surveys followed the decontamination requirements provided in Appendix B of the Guidance.

Focus of the field survey included the drainage features on the site, and adjacent upland areas, determining the extent to which site conditions would provide the USFWS-defined Primary Constituent Elements (PCEs) needed to support CRLF. Specifically, depths and lateral extent of standing water were measured, vegetation cover and other species observed were noted, water temperature was measured, and general site conditions were evaluated following the requirements of the Guidance. A copy of the USFWS-provided CRLF Habitat Assessment form is included as Attachment 4.

3.0 RESULTS

The following section summarizes the results of literature and database searches, and the results of the field surveys, following the requirements of the Guidance.

3.1 Land Use and Proposed Project

Past and current land use on the Study Area appear to have consisted of, and still consist exclusively of cattle grazing. The Project proponent is evaluating the property (i.e., parts of the Study Area) regarding future development potential. Detailed Project descriptions or plans are not available to WRA at this point and would not be relevant for the results and conclusions of this Habitat Assessment.

3.2 USFWS-designated Critical Habitat

“Critical Habitat” is a term defined and used by the Endangered Species Act as a specific, designated geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. No portion of the Study Area is within USFWS-designated Critical Habitat for CRLF. The closest USFWS-designated Critical Habitat for CRLF is located 2.2 miles northeast of the Study Area (USFWS 2024b). Between the Study Area and the Critical Habitat are two fully developed corridors (along Camino Tassajara and Blackhawk Road, which would function as significant dispersal barriers between the Critical Habitat and the Study Area.

3.3 Range and Known Records of CRLF

The Study Area is within the historic and current range of CRF, as defined in the *Recovery Plan for the California Red-legged Frog* (*Rana aurora draytonii*) (“Recovery Plan,” hereafter).

Three CNDDB records of CRLF have been documented within 2 miles of the Study Area boundary, as shown in Table 2, below. CNDDB records for all CRLF observations in the Diablo quad are included as Attachment 3. The Diablo Quad covers all areas within and beyond 2 miles of the Study Area.

Table 1. CRLF Records within 2 Miles of Study Area

EUCLIDEAN DISTANCE TO STUDY AREA (MI)	CNDDB OCCURRENCE NUMBER	OCCURRENCE TYPE	NOTES
1.78	638	Breeding	Last seen in 2000. Location has no hydrological connection to Study Area; At least 1.26 mile of developed land and I-680 would prohibit dispersal to the Study Area.
1.79	1358	Breeding	Last seen in 2011. Location has no hydrological connection to Study Area. At least 0.25 mile of developed land and Camino Tassajara would prohibit dispersal to the Study Area.
1.87	1357	Breeding	Last seen in 2006. Location has no hydrological connection to Study Area. At least 0.25 mile of developed land and Camino Tassajara would prohibit dispersal to the Study Area.

3.4 Existing Habitat Types and Conditions

3.4.1 Existing Habitat Types and Conditions within the Study Area

General habitat types in the Study Area (Figure 2) consist almost exclusively of hilly, non-native annual upland grassland, with a first and second order intermittent stream with seasonal wetland swale characteristics crossing the entire length of the Study Area from north to south. Short and small ephemeral swales connect to the mainstream during rain events (Figure 2). The stream gradient varies from about 18 percent on the steeper hillside in the north, to about 3 percent in the mid and lower foothill section of the stream. During the field survey at the end of the wet season, a steady but slow and shallow flow (between 0 and 6 inches) of water was observable throughout almost the entire length of the stream. No flowing water was observed in the ephemeral side arms, and in flat portions of the stream. Wetland vegetation appears to be correlated to stream gradient as well. Flat sections exhibited robust wetland vegetation and would be best described as wetland swales rather than “stream” due to the absence of a clear and continuous ordinary high water mark, but presence of dominant cover of facultative and obligate wetland species.

Only two areas were observed where open water pooled (Figure 2, identified as “mini plunge pool” and “terminal ponding area”). The first consisted of a small, 3-foot-wide and 5-foot-long plunge pool, formed below a head cut (Attachment 2, Photo 4). The maximum standing water depth of this pool is approximately 15 inches. The second ponding area is located directly where

the stream leaves the Study Area on its southern boundary ("Terminal Ponding Area," Figure 2, and Photo 5). This pool is very shallow with a variable depth between 2 and 12 inches. Water quality appears low due to cattle grazing and related ammonia concentration. Specifically in the lower, flatter reaches of the stream on the site, the water is turbid and reeks strongly of ammonia. Elevated levels of ammonia are thought to act as an environmental stressor to amphibians and could lead to decreased hatching success, survival, or growth rates (Harris et al. 1998). There is no visible hydrological connection to the next downstream stream (San Ramon Creek), which is a heavily urbanized and partially undergrounded channel in Danville.

Water temperature was measured at 60.9° F. It is assumed that running water in this feature will completely stop flowing within days or weeks after the last significant rainstorm. Once flow has stopped, surface water will evaporate and evapo-transpirate rapidly. Saturation may linger into late spring to early summer, depending upon annual climatic variation. The assumptions regarding hydro periods of this feature will be confirmed or adjusted following the CRLF VES scheduled for late spring/early summer and summarized in the future CRLF survey report.

Vegetation associated with the wetlands of the stream includes a mix of native and non-native herbaceous species, including Italian rye grass, seaside barley (*Hordeum marinum),* Baltic rush (*Juncus balticus),* bristly oxtongue (*Helminthotheca echioides),* common toad rush (*Juncus bufonius),* beardless wild rye (*Elymus triticoides),* timothy grass (*Phleum alpinum),* bulrush (*Typha latifolia),* curly dock (*Rumex crispus),* tall flatsedge (*Cyperus eragrostis),* hyssop loosestrife (*Lythrym hyssopifolia),* brass buttons (*Cotula coronopifolia),* soft brome (*Bromus hordeaceus),* prickly lettuce (*Lactuca serriola),* and rabbit's foot grass (*Polypogon monspeliensis*).

Upland vegetation throughout the Study Area is dominated by non-native annual grasses, including wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), hare barley (*Hordeum murinum*), and Italian ryegrass (*Festuca perennis*), among others. Common non-native forbs observed during field surveys include black mustard (*Brassica nigra*), Mediterranean linseed (*Bellardia trixago*), yellow starthistle (*Centaurea solstitialis*), Italian thistle (*Carduus pycnocephalus*), milk thistle (*Silybum marianum*), filaree (*Erodium* spp.), and bur clover (*Medicago polymorpha*).

Riparian woodland persists in the Study Area only in the form of a small stand of willow trees (*Salix* sp.) on the lower/mid-section of the stream, and a second small stand of willow trees directly on the southern border of the Study Area.

Other noteworthy wildlife species observed include a large population of Western toad (*Anaxyrus boreas*), observed as adults, egg masses, and tadpoles; and a very large, ubiquitous number of chorus frogs (*Pseudocaris sierra*), with adults observed and heard. Both aquatic and terrestrial insects, including aquatic beetles were observed in the water column, providing ample prey base for amphibians. The presence of California ground squirrel and other mammal burrows is sparse, but they do occur, predominantly close to the adjacent golf course in the southeastern corner of the Study Area. No substantial ground squirrel complexes were observed, specifically not within 500 feet from the drainage on the site.

Predation pressure on amphibians inhabiting the Study Area appears relatively low. The stream is unsuitable for fish; however, species present or expected to be present at least periodically and known to predate on amphibians opportunistically include mallards (*Anas platyrhynchos*),

American crows (*Corvus brachyrhynchos*), Raven (*Corvus corax*), red-tailed hawk (*Buteo jamaicensis*), coyote (*Canis latrans*), racoon (*Procyon lotor*), and skunk (*Mephitis mephitis*).

3.4.2 Existing Habitat Types and Conditions Adjacent to the Study Area

The following section describes existing conditions relevant to CRLF within 1 mile of the Study Area. The 1-mile distance from the Study Area is shown on Figure 3. Land cover types of this area relevant to this CRLF habitat assessment can be grouped into three categories: developed, non-native annual grassland, and aquatic features. The Study Area is part of the Sherbourne Hills, which consist predominantly of grazed annual grassland, and is surrounded by residential and commercial development. The developed areas are generally considered unsuitable for CRLF and would function as ecological population sinks. Annual grassland is typically considered suitable dispersal habitat for CRLF, if within dispersal distance of breeding sites.

Both developed and grassland areas include streams and ponds as shown on Figure 3. The streams include ephemeral and intermittent first and second order drainages, which could provide aquatic CRLF dispersal and foraging habitat. Perennial creek segments include segments of Sycamore Creek and San Ramon Creek. Perennial creeks are generally considered potential CRLF breeding habitat if they provide certain conditions; however, high flows and cold temperatures in streams during the spring often make these sites risky environments for eggs and tadpoles. Both San Ramon and Sycamore Creek segments within 1 mile of the Study Area are relatively lotic, urbanized, often channelized, modified, or otherwise disturbed, and may not provide CRLF breeding habitat in their current condition. This assessment is consistent with the fact that no observations of CRLF have been reported from these segments.

Both developed and grassland areas within 1 mile of the Study Area contain ponds. The ponds in developed areas are predominantly ornamental, or otherwise highly disturbed or managed, surrounded by developed areas, and therefore unsuitable for CRLF. The ponds in the grassland areas in the Sherbourne Hills consist of stock ponds, which could provide suitable CRLF breeding habitat; however, no CRLF breeding or even presence is known from these ponds.

The closest water body that potentially could provide hydroperiods suitable for CRLF breeding is located on the southern border of Sycamore Valley Open Space Preserve South (“Preserve”); and would require a CRLF to travel a minimum of 0.94 mile to reach the Study Area. No CRLF (breeding or non-breeding) has been reported from this feature. Because East Bay Regional Park District managing the Preserve employs staff biologists, it is assumed that the presence of CRLF would be known and reported to the CNDDB.

4.0 DISCUSSION

The following section discusses the findings presented in the Results section in the light of CRLF habitat requirements and draws a conclusion to what extent the Study Area provides suitable CRLF habitat.

CRLF habitat requirements are defined by USFWS in the Recovery Plan and can be categorized into breeding and non-breeding habitats. A slightly different definition of habitat types and requirements are published in the Federal Register, ((50 CFR 17.95(d)(1 & 2)) as “primary constituent elements” (PCE); however, these PCE apply within specifically defined designated Critical Habitat Units and their primary intent is to identify critical CRLF habitat components

within these designated Critical Habitat Units. The Study Area is not within Critical Habitat Units; therefore, definitions of suitable habitat may be different and may instead rely on the Recovery Plan and other relevant scientific literature and sources.

4.1 CRLF Breeding Habitat

Relevant to the conditions of the Study Area as described in the Results section, and per the Recovery Plan, CRLF breeding sites are in a variety of aquatic habitats; larvae, tadpoles, and metamorphs have been collected from streams, deep pools, backwaters within streams and creeks, ponds, marshes, sag ponds, dune ponds, and lagoons. Breeding adults are often associated with deep (greater than 2 feet) still or slow-moving water and dense, shrubby riparian or emergent vegetation and water bodies that typically become inundated during winter rains and hold water for a minimum of 20 weeks in "all but the driest of years" ((50 CFR 17.95(d)(2)(i)).

While the aquatic feature on the site can be described as an intermittent stream based on its hydrological regime, in the context of CRLF habitat, it is more adequate to describe the feature as a vegetated swale that conveys very shallow (up to approximately 6 inches) of intermittent flow during the wet season, presumably during years with above normal rainfall (as in 2024). While shallow surface water (up to 6 inches in flat areas and none in sloped segments) was still present on April 30, 2024, the two very small and relatively shallow areas of open ponding water present (one mini plunge pool [Photo 4] and the terminal ponding area [Photo 5]) are not typically considered suitable for CRLF breeding, regardless of whether they would pond for 20 weeks or longer.

Consistent with this finding, no CRLF egg masses, tadpoles, or adult/sub-adult CRLF were observed during the surveys conducted to date, including on March 21, April 11, and April 30, 2024. The aggregate observations, data, and results indicate that it is unlikely that any feature within the Study Area would provide suitable CRLF breeding habitat.

4.2 CRLF Non-Breeding Habitat

CRLF non-breeding habitat includes aquatic and upland dispersal, forage, and aestivation habitat (also called "summer habitat" in the Recovery Plan).

The grassland and the drainage features in the Study Area do provide conditions typically considered suitable for CRLF forage and dispersal; however, it is not clear between which suitable breeding site dispersal would occur, since no suitable breeding sites appear to be located on either side of the Study Area. In contrast, unsuitable, developed habitat surrounds the Sherbourne Hills on all sides.

Mammal burrows, vegetation litter, and shrink-swell cracks distributed across the Study Area (and specifically along the drainage) provide conditions typically considered suitable for CRLF aestivation habitat; however, for these aestivation sites to be occupied by CRLF, a breeding site within dispersal distance would have to be present (see Section 4.3).

In summary, the Study Area provides potentially suitable aquatic and upland dispersal, forage, and aestivation habitat for adult CRLF; however, no CRLF has been observed on the site despite several surveys, and no CRLF have been reported from within dispersal distance.

4.3 Dispersal from Known Breeding Sites

Direct upland dispersal or migration from a known breeding site (Table 2 and Figure 2) is improbable due to the distance in combination with dispersal barriers between the breeding sites and the Study Area. Dispersal via drainages and streams would necessitate CRLF to travel more than 3.2 miles through partially underground and ephemeral channels in urban environments first, and then additionally traverse dry land, including developed land. This distance is outside the dispersal distances reported in the literature, e.g., by Fellers and Kleeman, who estimate 1.74 mile as the farthest CRLF dispersal distance (Fellers and Kleeman 2007); and the Recovery Plan, which estimates up to 2 miles as the farthest CRLF dispersal distance.

5.0 CONCLUSION

Based on all available background and database information to date, in combination with the results of a habitat assessment per the requirements of the USFWS, it is WRA's professional opinion that the Study Area most likely does not provide suitable CRLF breeding habitat. The Study Area could provide potential dispersal habitat if CRLF are breeding in the Sherbourne Hills (which is not known to occur); and would provide areas of potential suitable foraging and aestivation habitat.

Presence of CRLF is unlikely, however, CRLF presence/absence will have to be confirmed through completing CRLF surveys per the protocol defined in the USFWS Guidance.

REFERENCES

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Attachments

Attachment 1. Figures
Attachment 2. Photographs
Attachment 3. CNNDB Records
Attachment 4. USFWS Habitat Assessment Data Form

Attachment 1.

Figures



Path: L:\Acad 2000 Files\330000\330077\GIS\ArcMap\330077Base.aprx Layout Name:EL_Fig1_Regional Location

Sources: National Geographic, WRA | Prepared By: njander, 4/25/2024

Figure 1. Regional Location

Elworthy Property East Project
Contra Costa County, California

0 0.25 0.5 Miles

N

wra Environmental Consultants



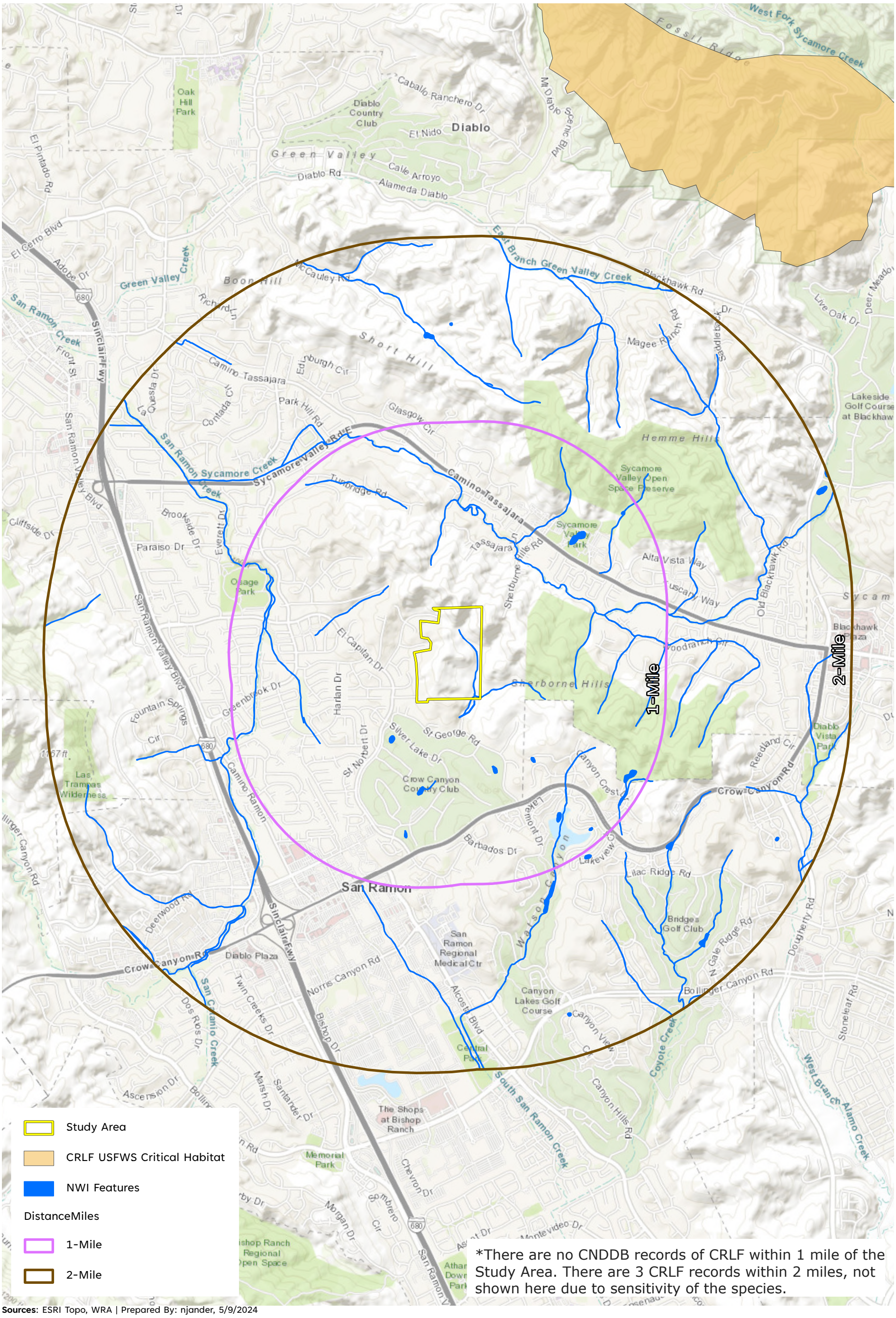
Figure 2. Habitat Types and Site Features

Elworthy Property East Project
Contra Costa County, California

0 100 200 Feet

N

wra Environmental Consultants



Path: L:\Acad 2000 Files\330000\330077\GIS\ArcMap\330077Base.aprx Layout Name: EL_Fig3_Known CRLF Records and Aquatic Features

Sources: ESRI Topo, WRA | Prepared By: njander, 5/9/2024

Figure 3. Known CRLF Records and Aquatic Features*

Elworthy Property East Project
Contra Costa County, California

wra Environmental Consultants

Attachment 3.

CNDDB Records

NOT FOR PUBLICATON

Multiple Occurrences per Page

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Species IS (Rana draytonii)
 AND Quad IS (Diablo (3712178))

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.	83	**Map Index:**	25058	**EO Index:**	6160	**Element Last Seen:**	1993-05-04
Occ. Rank:	Poor			**Presence:**	Presumed Extant	**Site Last Seen:**	1993-05-04
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1994-01-24

Quad Summary: Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.78497 / -121.88285	**Accuracy:**	80 meters
UTM:	Zone-10 N4182545 E598370	**Elevation (ft):**	740
PLSS:	T02S, R01E, Sec. 05, SE (M)	**Acres:**	0.0

Location: ALONG A TRIBUTARY TO ALAMO CREEK, 1 MILE SOUTH OF TASSAJARA ROAD AND 1 MILE EAST OF LAWRENCE RD, 6 MILES SE OF DANVILLE.

Detailed Location:

Ecological: HABITAT CONSISTS OF A LARGE DETENTION POND, 120 X 80 FEET, WITH A DEPTH GREATER THAN 4 FEET. WATER IS TURBID, WITH NO AQUATIC VEGETATION. VEGETATION AROUND POND MARGIN IS HEAVILY GRAZED. ADJACENT UPLAND IS OPEN BLUE OAK WOODLAND/GRASSLAND.

General: 1 ADULT OBSERVED ON 4 MAY 1993. PREVIOUS YEAR DETENTION POND WAS COMPLETELY DRY DURING THIS SAME PERIOD.

Owner/Manager: PVT

Occurrence No.	223	**Map Index:**	36459	**EO Index:**	31456	**Element Last Seen:**	1993-05-04
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	1993-05-04
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1997-08-19

Quad Summary: Tassajara (3712177), Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.75793 / -121.87230	**Accuracy:**	non-specific area
UTM:	Zone-10 N4179556 E599335	**Elevation (ft):**	560
PLSS:	T02S, R01E, Sec. 16, SW (M)	**Acres:**	60.8

Location: TASSAJARA CREEK AND ADJACENT UPLANDS ON RAPP RANCH, 1.4 MILES SOUTH OF THE INTERSECTION OF TASSAJARA AND HIGHLAND ROADS.

Detailed Location: CREEK AND UPLAND SPRING IMPOUNDMENTS.

Ecological: CREEK SITE SURROUNDED BY WILLOW SHRUBS/ TREES WITH AQUATIC VEG TYPHA AND ELODEA. UPLAND SPRING SITE SURROUNED BY GRAZED GRASSLAND, TYPHA ABUNDANT, DEPTH UP TO 13 FEET, HYLA PRESENT. COMMON MOORHEN BREEDING.

General: 30 JUVENILES AND AT LEAST ONE ADULT OBSERVED. BOTH CREEK AND SPRING SITES PROVIDE OPTIMAL CONDITIONS FOR RANA AURORA. CLEMMYS MARMORATA ALSO FOUND HERE (1993).

Owner/Manager: PVT

Occurrence No.	238	**Map Index:**	38216	**EO Index:**	33223	**Element Last Seen:**	1997-07-03
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1997-07-03
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-02-25

Quad Summary:	Diablo (3712178)
County Summary:	Contra Costa

Lat/Long:	37.79013 / -121.88311	**Accuracy:**	80 meters
UTM:	Zone-10 N4183117 E598340	**Elevation (ft):**	740
PLSS:	T02S, R01E, Sec. 05, NE (M)	**Acres:**	0.0

Location:	STOCK POND, 0.5 MILE SSE OF THE INTERSECTION OF ALAMO CREEK AND TASSAJARA ROAD, 1 MILE WEST OF TASSAJARA.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF A SPRING-FED, 0.5 ACRE STOCK POND; EMERGENT VEGETATION (SCIRPUS & TYPHA) COVERS 70% OF PERIMETER, WHILE FLOATING VEGETATION COVERS 60% OF SURFACE. SURROUNDING UPLAND CONSISTS OF NON-NATIVE GRASSLAND/DRY LAND AGRICULTURE.
General:	7 ADULTS AND 3 JUVENILES OBSERVED ON 3 JULY 1997, DURING NOCTURNAL SURVEYS. NO BULLFROGS OBSERVED AT POND, ALTHOUGH ABUNDANT IN NEARBY ALAMO CREEK.
Owner/Manager:	UNKNOWN

Occurrence No.	239	**Map Index:**	38221	**EO Index:**	33228	**Element Last Seen:**	2004-08-11
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2004-08-11
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2006-04-26

Quad Summary:	Diablo (3712178)
County Summary:	Contra Costa

Lat/Long:	37.79443 / -121.88868	**Accuracy:**	non-specific area
UTM:	Zone-10 N4183588 E597844	**Elevation (ft):**	680
PLSS:	T02S, R01E, Sec. 05, NE (M)	**Acres:**	69.4

Location:	ALAMO CREEK, SOUTH OF TASSAJARA ROAD AND EAST OF LAWRENCE ROAD, 4 MILES EAST OF SAN RAMON.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF A PERENNIAL CREEK WITH NO CANOPY VEGETATION; EMERGENT VEGETATION CONSISTS OF SCIRPUS AND TYPHA. POOLS IN CREEK >6 FEET DEEP. AS OF 2004, CREEK WAS NO LONGER INTERMITTENT. WESTERN POND TURTLE AND TREEFROGS ALSO PRESENT.
General:	3 ADULT FROGS OBSERVED ON 29 APRIL 1992. 8 ADULT FROGS OBSERVED ON 1 MAY 1997. 7 ADULTS OBSERVED ON 11 AUG 2004.
Owner/Manager:	UNKNOWN

Occurrence No.	365	**Map Index:**	42767	**EO Index:**	42767	**Element Last Seen:**	1999-05-11
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1999-05-11
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2003-05-22

Quad Summary: Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.75828 / -121.88750	**Accuracy:**	80 meters
UTM:	Zone-10 N4179579 E597996	**Elevation (ft):**	600
PLSS:	T02S, R01E, Sec. 17 (M)	**Acres:**	0.0

Location: EAST BRANCH OF ALAMO CREEK, IN DOUGHERTY VALLEY, EAST OF SAN RAMON.

Detailed Location: SITE IS WHERE HISTORIC POND WAS AT. SITE HAS SINCE BEEN GRADED (2002) AND DEVELOPED (2004) AND A NEW CATCHMENT BASIN IS JUST SOUTH OF ORIGINAL OCCURRENCE. THIS MAY PROVIDE MARGINAL REFUGE IF ANY SALAMANDERS STILL EXIST IN THE AREA.

Ecological: HABITAT CONSISTS OF A SEASONAL STOCKPOND FORMED BY A BERMED DRAINAGE, IN NON-NATIVE GRASSLAND. CTS LARVAE AND ADULT BULLFORGS ALSO FOUND IN THIS POND.

General: 4 ADULTS OBSERVED ON 11 MAY 1999. SINCE THEN THE SITE HAS BEEN DEVELOPED AND IT IS UNKNOWN IF MARGINAL HABITAT SUPPORTS ANY CRLF; RESEARCH NEEDED. PROBABLY EXTIRPATED.

Owner/Manager: PVT

Occurrence No.	463	**Map Index:**	46005	**EO Index:**	46005	**Element Last Seen:**	2001-09-15
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2001-09-15
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2001-10-01

Quad Summary: Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.82487 / -121.89407	**Accuracy:**	2/5 mile
UTM:	Zone-10 N4186960 E597329	**Elevation (ft):**	975
PLSS:	T01S, R01E, Sec. 20, SW (M)	**Acres:**	0.0

Location: WEST BRANCH OF ALAMO CREEK, NEAR BLACKHAWK MEADOW DRIVE, EAST OF DANVILLE.

Detailed Location: THE CREEK IS ENCLOSED IN A SHOTCRETE CHANNEL, NEAR THE RESIDENCE AT 3130 BLACKHAWK MEADOW DRIVE.

Ecological: HABITAT CONSISTS OF A POOL IN A SECTION OF ALAMO CREEK; SURROUNDED BY OAK RIPARIAN WOODLAND, DOMINATED BY COAST LIVE OAK, WESTERN SYCAMORE, AND CALIFORNIA BAY. THE STREAM LIES IN A HIGHLY-INCISED, SOUTH-FACING CHANNEL.

General: 1 ADULT OBSERVED ON 15 SEP 2001.

Owner/Manager: PVT

Occurrence No.	636	**Map Index:**	51366	**EO Index:**	51366	**Element Last Seen:**	1999-05-11
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1999-05-11
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2003-05-22

Quad Summary:	Diablo (3712178)
County Summary:	Contra Costa

Lat/Long:	37.77693 / -121.88274	**Accuracy:**	80 meters
UTM:	Zone-10 N4181653 E598390	**Elevation (ft):**	800
PLSS:	T02S, R01E, Sec. 08, NE (M)	**Acres:**	0.0

Location:	UPPERMOST STOCKPOND FEEDING INTO THE EAST BRANCH OF ALAMO CREEK, 4.5 MILES EAST OF SAN RAMON VALLEY.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF A BERMED DRAINAGE STOCKPOND, SURROUNDED BY NON-NATIVE GRASSLAND.
General:	11 LARVAE AND 4 ADULTS / SUBADULTS OBSERVED ON 11 MAY 1999.
Owner/Manager:	PVT

Occurrence No.	637	**Map Index:**	51367	**EO Index:**	51367	**Element Last Seen:**	2017-04-27
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-04-27
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2019-08-30

Quad Summary:	Diablo (3712178)
County Summary:	Contra Costa

Lat/Long:	37.76851 / -121.88861	**Accuracy:**	80 meters
UTM:	Zone-10 N4180712 E597884	**Elevation (ft):**	600
PLSS:	T02S, R01E, Sec. 08, SW (M)	**Acres:**	0.0

Location:	POND IN DRAINAGE OF E BRANCH ALAMO CREEK, ABOUT 0.2 MI NNE OF ALBION RD AT SILVA WAY & 4.5 MI ESE OF SAN RAMON VALLEY.
Detailed Location:	MAPPED TO COORDINATES GIVEN FOR POND #10, WINDEMERE RANCH PRESERVE.
Ecological:	1999: BERMED DRAINAGE STOCKPOND, SURROUNDED BY NON-NATIVE GRASSLAND. 2016: LAND HAS BEEN PURCHASED AND PROTECTED; STOCK PONDS WITH TULE, ELEOCHARIS & JUNCUS ON CONSERVATION LAND USED FOR CATTLE GRAZING. SURROUNDED BY RESIDENTIAL DEVELOPMENT
General:	6 LARVAE AND 4 ADULTS OBSERVED ON 11 MAY 1999. ADULTS HEARD CALLING ON 15 FEB; 2 LARVAE OBSERVED ON 26 APR 2016. 2 ADULTS AND 6 LARVAE OBSERVED ON 27 APR 2017.
Owner/Manager:	CITY OF SAN RAMON, CNLM

Occurrence No.	638	**Map Index:**	51369	**EO Index:**	51369	**Element Last Seen:**	2000-04-07
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2000-04-07
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2003-05-22

Quad Summary: Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.78584 / -121.99412	**Accuracy:**	specific area
UTM:	Zone-10 N4182530 E588571	**Elevation (ft):**	800
PLSS:	T02S, R01W, Sec. 05, SE (M)	**Acres:**	15.7

Location: SOUTH SIDE OF LAS TRAMPAS RIDGE, SAN RAMON.

Detailed Location:

Ecological: HABITAT CONSISTS OF A SERIES OF TWO BERMED DRAINAGE STOCKPONDS, SURROUNDED BY NON-NATIVE GRASSLAND.

General: 10+ LARVAE SEINED ON 13 MAY 1999, FROM THE LARGER POND. 4 ADULTS OBSERVED ON 22 FEB 2000; 10 LARVAE SEINED FROM LARGER POND ON 7 APR 2000. 1 ADULT MALE CAPTURED AND AN ADULT OBSERVED ON 7 APR 2000, AT THE SMALLER POND.

Owner/Manager: PVT

Occurrence No.	817	**Map Index:**	61510	**EO Index:**	61546	**Element Last Seen:**	2004-07-20
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2004-07-20
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2005-06-08

Quad Summary: Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.83378 / -121.96158	**Accuracy:**	non-specific area
UTM:	Zone-10 N4187881 E591376	**Elevation (ft):**	500
PLSS:	T01S, R01W, Sec. 22, NW (M)	**Acres:**	14.2

Location: EAST BRANCH GREEN VALLEY CREEK, JUST SOUTH OF DIABLO.

Detailed Location:

Ecological: HABITAT CONSISTS OF A PERENNIAL CREEK WITH DEEP PLUNGE POOLS; NATIVE RIPARIAN CANOPY ALONG CREEK.

General: 4 LARVAE OBSERVED ON 20 JUL 2004.

Owner/Manager: PVT

Occurrence No.	919	**Map Index:**	68028	**EO Index:**	68180	**Element Last Seen:**	2006-08-04
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2006-08-04
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-02-06

Quad Summary: Tassajara (3712177), Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.85034 / -121.87634	**Accuracy:**	80 meters
UTM:	Zone-10 N4189804 E598855	**Elevation (ft):**	1752
PLSS:	T01S, R01E, Sec. 16, NW (M)	**Acres:**	0.0

Location: UNNAMED DRAINAGE 0.2 MILE SOUTH OF WINDY POINT, MOUNT DIABLO STATE PARK.

Detailed Location:

Ecological: HABITAT CONSISTS OF A CONSTRUCTED CATTLE POND ALONG AN UNNAMED DRAINAGE; SURROUNDED BY OAK WOODLAND AND NON-NATIVE GRASSLAND. POND DEPTH 1.5 M.

General: BREEDING SITE; 18 JUVENILE FROGS OBSERVED ON 4 AUG 2006.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No.	920	**Map Index:**	68029	**EO Index:**	68181	**Element Last Seen:**	2006-08-05
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2006-08-05
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-02-06

Quad Summary: Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.87221 / -121.97028	**Accuracy:**	specific area
UTM:	Zone-10 N4192136 E590564	**Elevation (ft):**	636
PLSS:	T01S, R01W, Sec. 04 (M)	**Acres:**	3.0

Location: PINE POND, ALONG PINE CREEK, MOUNT DIABLO STATE PARK.

Detailed Location:

Ecological: HABITAT CONSISTS OF A CONSTRUCTED CATTLE POND ALONG PINE CREEK; SURROUNDED BY OAK WOODLAND AND NON-NATIVE GRASSLAND. POND DEPTH ~1.2 METERS; VEGETATED BY CATTAILS AND WILLOW. WESTERN POND TURTLE OBSERVED IN OPEN WATER.

General: BREEDING SITE; 1 JUVENILE FROG OBSERVED ON 5 AUG 2006.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No.	921	**Map Index:**	68030	**EO Index:**	68182	**Element Last Seen:**	2006-08-05
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2006-08-05
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-02-06

Quad Summary: Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.86776 / -121.98729	**Accuracy:**	80 meters
UTM:	Zone-10 N4191627 E589073	**Elevation (ft):**	825
PLSS:	T01S, R01W, Sec. 04 (M)	**Acres:**	0.0

Location: ALONG AN UNNAMED TRIBUTARY TO SAN RAMON CREEK, MOUNT DIABLO STATE PARK.

Detailed Location:

Ecological: HABITAT CONSISTS OF A CONSTRUCTED CATTLE POND ALONG AN UNNAMED DRAINAGE; SURROUNDED BY OAK WOODLAND AND NON-NATIVE GRASSLAND. POND DEPTH ~1.5 METERS; VEGETATED BY ALGAE AND CATTAILS. GARTER SNAKE OBSERVED WITH A JUVENILE CRLF.

General: BREEDING SITE; 7 JUVENILE FROGS AND 1 LARVA OBSERVED ON 5 AUG 2006.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No.	922	**Map Index:**	68031	**EO Index:**	68183	**Element Last Seen:**	2006-08-05
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2006-08-05
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-02-06

Quad Summary: Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.86204 / -121.91032	**Accuracy:**	80 meters
UTM:	Zone-10 N4191067 E595851	**Elevation (ft):**	1715
PLSS:	T01S, R01E, Sec. 07, NW (M)	**Acres:**	0.0

Location: HIDDEN POND, BETWEEN MANZANITA SPRINGS CREEK AND ALDER CREEK, MOUNT DIABLO STATE PARK.

Detailed Location:

Ecological: HABITAT CONSISTS OF A CONSTRUCTED CATTLE POND; SURROUNDED BY OAK WOODLAND AND NON-NATIVE GRASSLAND. POND DEPTH ~1.5 METERS; VEGETATED BY SPIKEWEED AND COYOTE THISTLE.

General: BREEDING SITE; 4 ADULT FROGS, 19 JUVENILE FROGS, AND 1 LARVA OBSERVED ON 5 AUG 2006.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No.	1357	**Map Index:**	83438	**EO Index:**	84455	**Element Last Seen:**	2011-05-13
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2011-05-13
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2011-08-03

Quad Summary: Diablo (3712178)

County Summary: Contra Costa

Lat/Long:	37.82989 / -121.95324	**Accuracy:**	80 meters
UTM:	Zone-10 N4187457 E592115	**Elevation (ft):**	575
PLSS:	T01S, R01W, Sec. 22, SE (M)	**Acres:**	0.0

Location: ALONG EAST BRANCH GREEN VALLEY CREEK, ABOUT 1/10TH OF A MILE SOUTH OF BLACKHAWK RD AT MT DIABLO SCENIC BLVD, DANVILLE.

Detailed Location: OBSERVED BREEDING IN A KOI POND IN THE BACK YARD OF 10 CREEKLEDGE CT & TRAPPED IN THE SWIMMING POOL SKIMMER AT 9 CREEKLEDGE CT. TRAPPED FROGS WERE RELEASED NEAR E BRANCH GREEN VALLEY CRK ABOUT 50 METERS AWAY. MAPPED TO LOCATION DESCRIPTION.

Ecological: IMMEDIATE HABITAT CONSISTED OF A KOI POND AND SWIMMING POOL, BUT IS ADJACENT TO A NATURAL CREEK WHERE OTHER R. DRAYTONII HAVE BEEN KNOWN TO OCCUR ABOUT 0.5 MI DOWN STREAM (OCC #817, EONDX 61546). ADJ TO RIPARIAN IS GRAZED PASTURE & HOUSES.

General: OVER 9 SEPARATE SITE VISITS FROM 9 MAR-13 MAY 2011 BY P. HASKINS & M. YOUNG, & OWNER C. CHAMBERLAIN DOCUMENTED UP TO 16 EGG MASSES, 100S-1000S OF TADPOLES, & ABOUT 5 FROGS. ACCIDENTALLY TRAPPED FROGS WERE RELEASED NEAR E GREEN VALLEY CREEK.

Owner/Manager: PVT

Occurrence No.	1358	**Map Index:**	83439	**EO Index:**	84460	**Element Last Seen:**	2011-04-22
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2011-04-22
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2011-08-03

Quad Summary:	Diablo (3712178)
County Summary:	Contra Costa

Lat/Long:	37.82798 / -121.94770	**Accuracy:**	80 meters
UTM:	Zone-10 N4187251 E592604	**Elevation (ft):**	615
PLSS:	T01S, R01W, Sec. 23, SW (M)	**Acres:**	0.0

Location:	ALONG EAST BRANCH GREEN VALLEY CREEK, ABOUT 0.4 MILE SE OF BLACKHAWK RD AT MT DIABLO SCENIC BLVD, DANVILLE.
Detailed Location:	FROGS & EGG MASS OBSERVED IN CREEK ADJACENT TO 199 ARENDS DR, AND FROGS FREQUENTLY FOUND & RESCUED FROM SWIMMING POOL AT 199 ARENDS DR. RECENTLY TRAPPED FROGS RELEASED INTO CREEK. MAPPED TO PROVIDED COORDINATES.
Ecological:	FROGS AND EGG MASS OBSERVED IN OR NEARBY A LARGE POOL IN EAST BRANCH GREEN VALLEY CREEK. FROGS FOUND IN ADJACENT SWIMMING POOL; LIKELY DISPERSING TO FIND BREEDING HABITAT OR MATES.
General:	OVER 6 SEPARATE SITE VISITS FROM 9 MAR-22 APR 2011 BY P. HASKINS & M. YOUNG, & PROPERTY OWNERS DOCUMENTED UP TO 4 FROGS AND 1 EGG MASS. ACCIDENTALLY TRAPPED FROGS IN SWIMMING POOL WERE RELEASED NEAR ADJACENT CREEK.
Owner/Manager:	PVT

Occurrence No.	1572	**Map Index:**	B1218	**EO Index:**	113111	**Element Last Seen:**	2017-05-26
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2017-05-26
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2018-10-24

Quad Summary:	Diablo (3712178)
County Summary:	Contra Costa

Lat/Long:	37.78394 / -121.89716	**Accuracy:**	80 meters
UTM:	Zone-10 N4182416 E597111	**Elevation (ft):**	607
PLSS:	T02S, R01E, Sec. 6, SE (M)	**Acres:**	5.0

Location:	ABOUT 0.1 MILES SSE OF LAWRENCE RD AT MEADOW LAKE DR & 1.2 MILES NNE OF BOLLINGER CYN RD AT MONARCH RD, E OF SAN RAMON.
Detailed Location:	MAPPED TO PROVIDED COORDINATES. DETECTED ON UNNAMED DRAINAGE TRIBUTARY TO ALAMO CREEK.
Ecological:	CREEK DOMINATED BY PHALARIS AQUATICA W/ OAK WOODLAND CANOPY. CREEK BED HAD BEEN DRY FOR AT LEAST A MONTH AT TIME OF DETECTION. NEAREST SUITABLE BREEDING HABITAT ABOUT 0.23 MI W & 0.21 MI S OF DETECTION SITE. SURROUNDED BY SMALL RANCHETTES.
General:	1 ADULT OBSERVED ON BANK OF DRY CREEK ON 26 MAY 2017.
Owner/Manager:	PVT

Attachment 4.

USFWS Habitat Assessment Data Form

Appendix D.

California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ (FWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 3/21/24 (mm/dd/yyyy)

Site Assessment Biologists: WARZECHA BERNHARD (Last name) (first name) _____ (Last name) (first name)

_____ (Last name) (first name) _____ (Last name) (first name)

Site Location: SHERBOURNE HILLS, DANVILLE, CONTRA COSTA

(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

Lat/Long: 37.7960° -121.956144°

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: ELWORTHY PROPERTY EAST PROJECT

Brief description of proposed action:

Potential Development

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)

If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: NO POND Maximum depth: _____

Vegetation: emergent, overhanging, dominant species: _____

_____

_____

Substrate: _____

_____

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: Intermittent, anticipated to go dry in spring

Appendix D.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: 20' (+/-20')

Depth at bank full: 0-6"

Stream gradient: AVG 3.8%. (760' − 550' = 210') ~~218'~~

MAX: 18%.

Are there pools (circle one)? (YES) NO 2 pools

If yes,

Size of stream pools: 3'x5' / 30'x5'

Maximum depth of stream pools: 15" / 12"

Characterize non-pool habitat: run, riffle, glide, other: vegetated swale

Vegetation: emergent, overhanging, dominant species: seasonal wetland vegetation, dominated by Poa spp. (non-native)

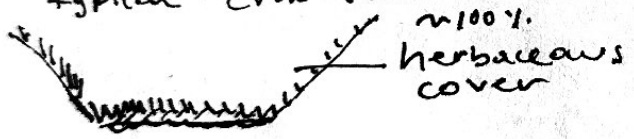
Substrate: _____

Bank description: generally gentle slope, vegetated w/ herbaceous species, mostly non-native annual grass

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: Intermittent, low flow on 3/21/24, expected to dry by (late?) spring

Other aquatic habitat characteristics, species observations, drawings, or comments:

typical cross-section



- 100+ western toads
- 1,000+ chorus frogs
- very few ground squirrels near Golf Club
- water turbid, low quality due to grazing, ammonia concentration high

Necessary Attachments:

1. All field notes and other supporting documents ✓
2. Site photographs ✓
3. Maps with important habitat features and species location ✓

Appendix F:
Aquatic Resources Delineation Report

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FCS
An ADEC Innovation

Aquatic Resources Delineation Report
Martin Hills Ranch Residential Project
Town of Danville, Contra Costa County, California

Prepared for:
Bates Stringer—Martin Hills Ranch LLC
875 Orange Blossom Way
Danville, CA 94526

Contact: Scott Stringer
925.216.1816

Prepared by:
FirstCarbon Solutions
2999 Oak Road, Suite 250
Walnut Creek, CA 94597
888.826.5814

Contact: Jason Brandman, Project Director
Robert Carroll, Senior Biologist

Date: June 26, 2025

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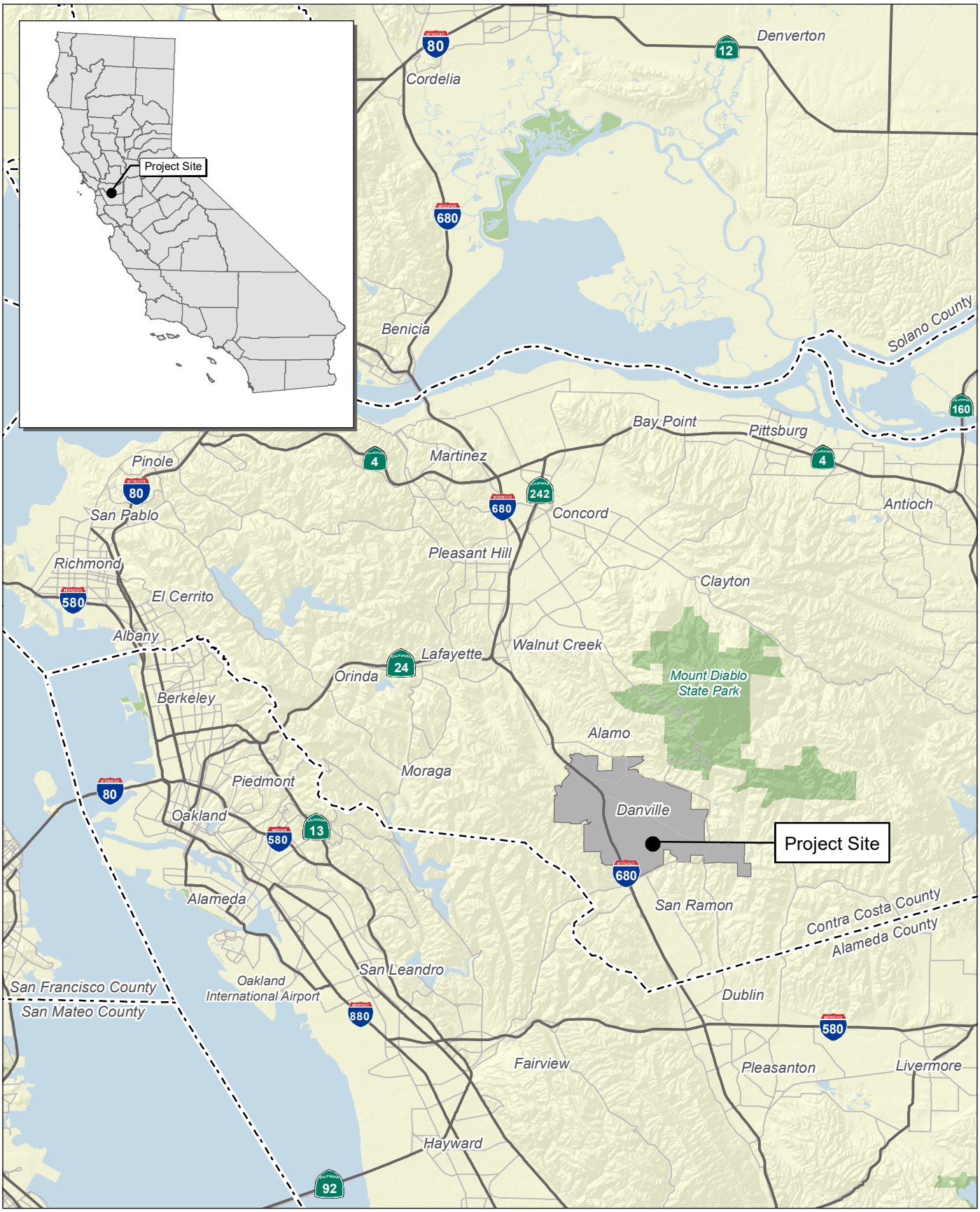
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SECTION 1: INTRODUCTION

At the request of Bates Stringer–Martin Hills Ranch LLC, FirstCarbon Solutions (FCS) completed a delineation of aquatic resources and proposes a jurisdictional determination for the 110.10-acre Elworthy Property East Project Site (project site), as depicted on Exhibit 1, Exhibit 2, Exhibit 3, and Exhibit 4. The purpose of this report is to support jurisdictional determinations by the United States Army Corps of Engineers (USACE) and the Regional Water Quality Control Board (RWQCB); to support California Department of Fish and Wildlife (CDFW) evaluation pursuant to Fish and Game Code Sections 1602, *et seq*. (Streambed Alteration Program); and to support the project applicant's planning and permitting efforts for a proposed development project.

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Source: Census 2000 Data, The California Spatial Information Library (CaSIL).

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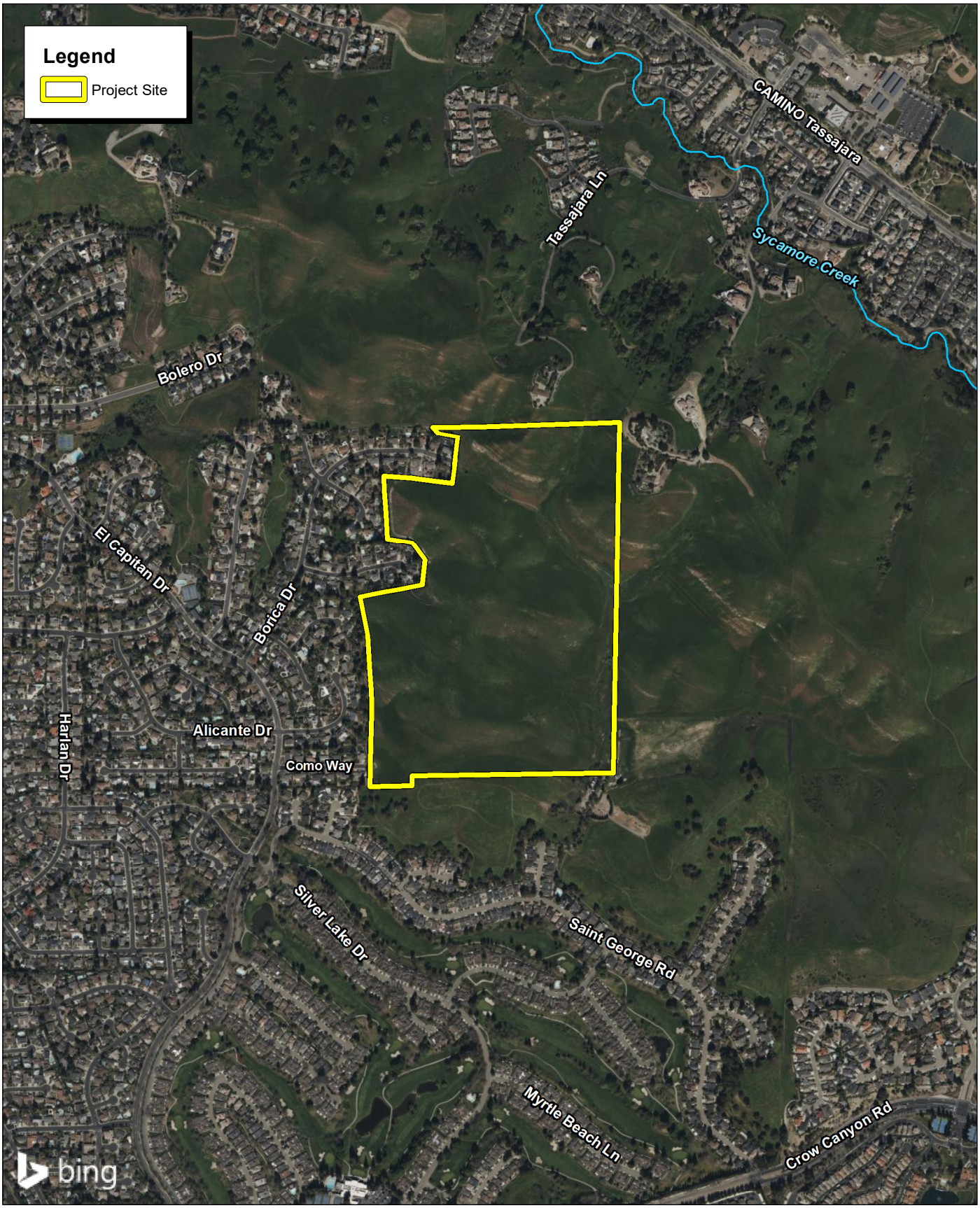
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Exhibit 1
Regional Location Map

59600001 • 07/2024 | 1_regional.mxd

BATES STRINGER MARTIN RANCH, LLC
MARTIN HILLS RANCH RESIDENTIAL PROJECT
AQUATIC RESOURCES DELINEATION REPORT

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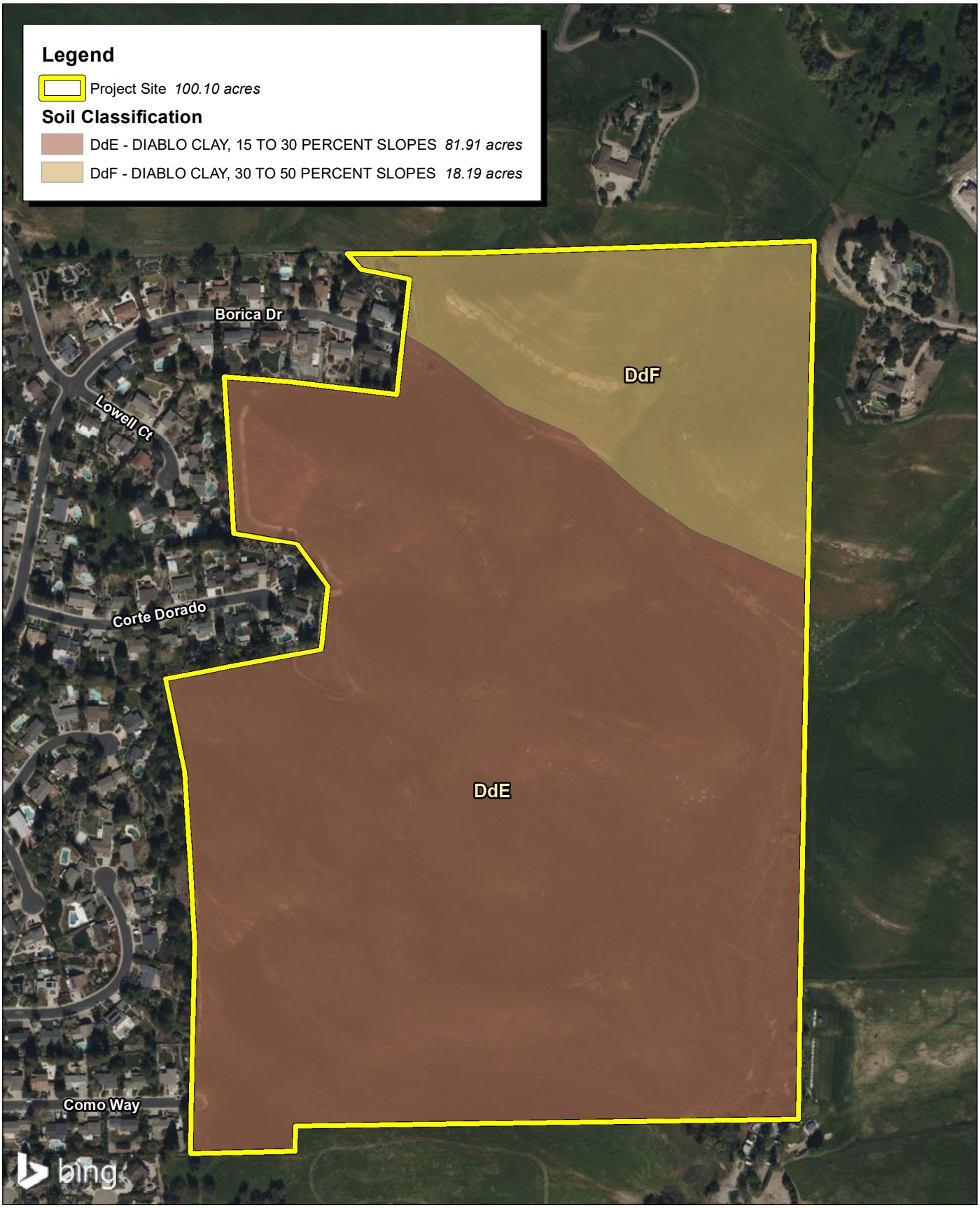
Source: Bing Aerial Imagery. County of Contra Costa.

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1,000 500 0 1,000 Feet

Exhibit 2
Local Vicinity Map

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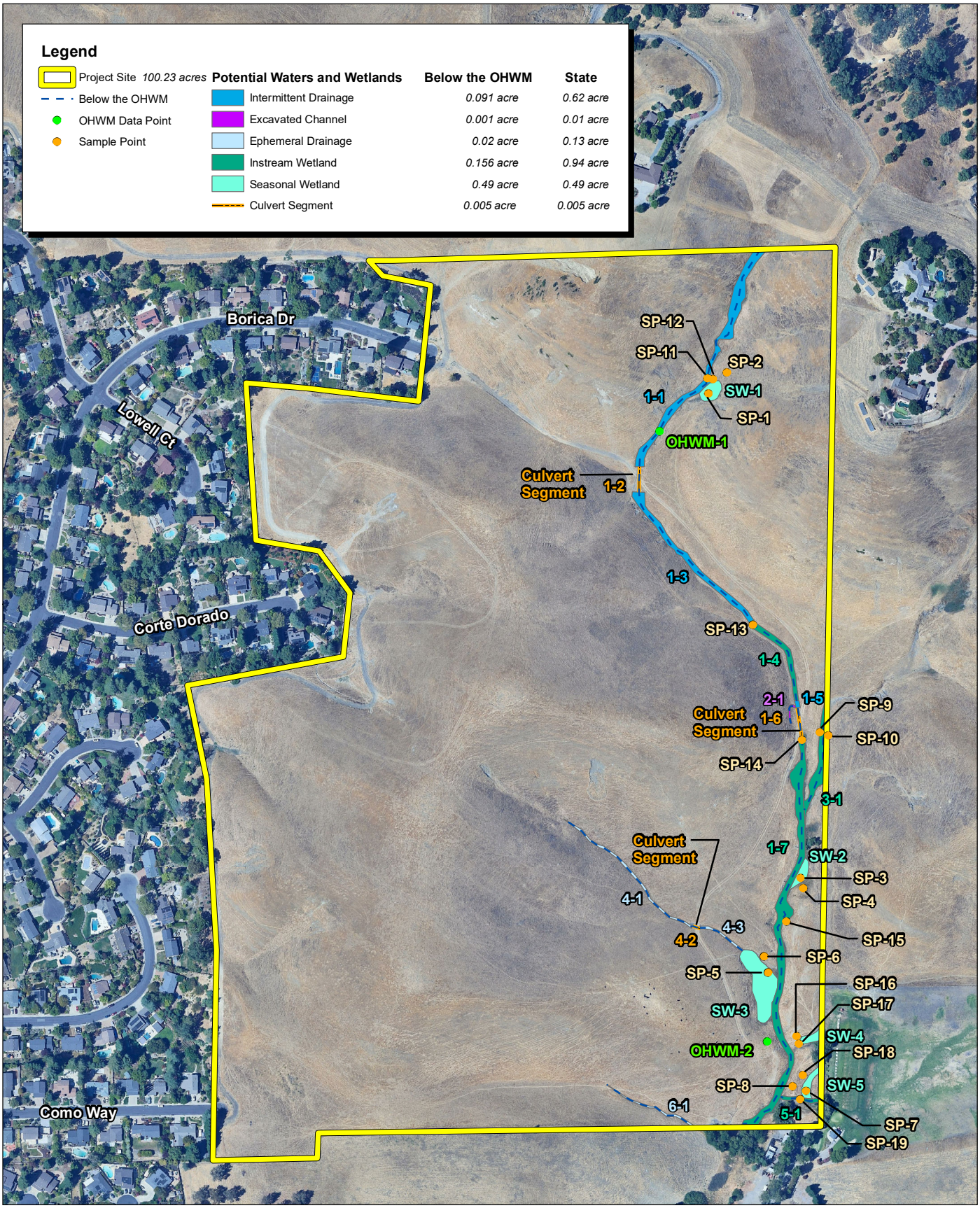
Source: Bing Aerial Imagery. County of Contra Costa. USDA Soils Data Mart, Contra Costa County.

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410 205 0 410 Feet

Exhibit 3
Soils Map

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Source: Google Earth Aerial Imagery. CBG Civil Engineers, January 28, 2025.

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Exhibit 4
Aquatic Resources Delineation Map Overview

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SECTION 2: ENVIRONMENTAL SETTING

2.1 - Location

The 100.23-acre project site is located in southeast Danville, just west of the Crow Canyon Country Club Driving Range. The project site is centered around 37.798069° latitude and -121.958602° longitude. The location of the project site within the Contra Costa Region is shown on Exhibit 1, and the project site boundaries on a recent high-resolution aerial image are shown on Exhibit 2.

2.2 - Vegetation and Land Cover Types

Vegetation within the project site is dominated by non-native annual grasslands. The non-native annual grassland community is composed of Italian rye grass (*Lolium perenne*), with soft brome (*Bromus hordeaceus*), seaside barley (*Hordeum marinum*), slender oat (*Avena barbata*), and wild oat (*Avena fatua*) also present. Common forbs include Mediterranean linseed (*Bellardia trixago*), black mustard (*Brassica nigra*), field bindweed (*Convolvulus arvensis*), bur clover (*Medicago polymorpha*), and rose clover (*Trifolium hirtum*), with Italian thistle (*Carduus pycnocephalus*), artichoke thistle (*Cynara cardunculus*), and cutleaf geranium (*Geranium dissectum*) also present. The non-native annual grassland along the drainage banks also include blow wive (*Achyrachaena mollis*), narrow leaf milkweed (*Asclepias fascicularis*), red stem stork's-bill (*Erodium cicutarium*), bristly ox-tongue (*Helminthotheca echioides*), and knotted hedge parsley (*Torilis nodosa*).

Three intermittent (one main stem and two tributaries) and two ephemeral drainage features, including four reaches of in-steam wetlands, along with five seasonal wetlands are present within the project site. Common wetland and drainage bed vegetation species within the project site included spiny sowthistle (*Sonchus asper*), creeping spike rush (*Eleocharis macrostachya*), seep yellow monkeyflower (*Mimulus guttatus*), Italian rye grass, seaside barley, toad rush (*Juncus bufonius*), hyssop loosestrife (*Lythrum hyssopifolium*), and rabbitsfoot grass (*Polypogon monspeliensis*). Other species found in the drainages include black mustard, soft brome, spreading rush (*Juncus patens*), iris leaved rush (*Juncus xiphioides*), bird's foot trefoil (*Lotus corniculatus*), scarlet pimpernel (*Lysimachia arvensis*), bur clover, small flowered melica (*Melica imperfecta*), sour clover (*Melilotus indicus*), watercress (*Nasturtium officinale*), bulbous canary grass (*Phalaris aquatica*), curly dock (*Rumex crispus*), fiddle dock (*Rumex pulcher*), tule (*Schoenoplectus acutus occidentalis*), milk thistle (*Silybum marianum*), and American speedwell (*Veronica americana*).

Riparian vegetation was present in two areas of the southern portion of the main drainage channel where willow trees (*Salix sp.*) along with Italian rye grass, seaside barley, and watercress was observed.

Vegetation associated with drainage channels is described for each feature in more detail, below.

2.3 - Topography and Hydrogeomorphology

Elevation within the project site ranges from about 165 feet above mean sea level (MSL) in the southeastern corner to 260 feet MSL on the northeastern corner. Elevation on the western boundary

ranges from 170 feet MSL in the southern portion to 210 feet MSL in the northern portion. An intermittent drainage channel labeled on maps as East San Ramon Creek runs through the center of the northern portion of the site and then south along the eastern edge of the project site boundary before moving off-site. Intermittent and ephemeral tributaries in the southeastern portion of the project site help drain direct precipitation to East San Ramon Creek and then to the south before moving off-site. Flows leaving the project site continue as East San Ramon Creek into the Bay Club Crow Canyon. It is assumed that flows move from the Bay Club Crow Canyon and into the Contra Costa County stormwater system. All stormwater systems in Contra Costa County lead water directly to the San Francisco Bay, untreated.

2.4 - Soils

The soils of 100 percent of the project site are mapped by Natural Resources Conservation Service (NRCS) as Diablo clay soil series. This soil type is not classified as a hydric soil.[1]

[1] United States Department of Agriculture (USDA), Natural Resources Conservation Service. 2023. Web Soil Survey 3.3.2. Website: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed May 2024.

SECTION 3: REGULATORY SETTING

3.1 - Federal

3.1.1 - Clean Water Act

Section 404

The agencies are in receipt of the U.S. Supreme Court's May 25, 2023 decision in the case of *Sackett v. Environmental Protection Agency*. In light of this decision, the agencies will interpret the phrase "waters of the United States" consistent with the Supreme Court's decision in the *Sackett* case. In *Sackett*, the Supreme Court adopted the Rapanos plurality's test for adjacent wetlands: only those wetlands with a continuous surface connection to other regulated waters, such that the two are indistinguishable.

The USACE administers Section 404 of the federal Clean Water Act (CWA), which regulates the discharge of dredge and fill material into waters of the United States of the CWA, the USACE regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined in USACE regulations at 33 Code of Federal Regulations Part 328.3(a) as:

1. Waters which are:
   a. Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
   b. The territorial seas; or
   c. Interstate waters;
2. Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;
3. Tributaries of waters identified in paragraphs (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;
4. Wetlands adjacent to the following waters:
   a. Waters identified in paragraph (a)(1) of this section; or
   b. Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;
5. Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

The following are not "waters of the United States":

1. Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;

2. Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;
3. Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;
4. Artificially irrigated areas that would revert to dry land if the irrigation ceased;
5. Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;
6. Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;
7. Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and
8. Swales and erosional features (*e.g.,* gullies, small washes) characterized by low volume, infrequent, or short duration flow.

Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the EPA and/or USACE.

"Wetland" refers to areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and seasonal wetlands. Wetlands are considered jurisdictional if they fall under one of the categories of waters of the United States defined above. The USACE jurisdiction typically extends up to the ordinary high water mark (OHWM).

In general, a USACE permit must be obtained before placing fill in wetlands or other waters of the United States. The type of permit depends on the impacted acreage, the purpose of the proposed fill, and other factors.

Section 401

As stated in Section 401 of the CWA states that "any applicant for a federal permit for activities that involve a discharge to waters of the State, shall provide the federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal Clean Water Act." Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification from the RWQCB.

3.2 - State

3.2.1 - California Porter-Cologne Water Quality Control Act

The RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the State" (Water Code § 13260(a)), pursuant to provisions of the Porter-Cologne Water Quality Act. "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the State" (Water Code § 13050(e)). In 2019, the California State Water Resources Control Board (State Water Board) published the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (Procedures) to guide wetland waters of the State determinations and the permitting process.[2]

3.2.2 - California Fish and Game Code

Sections 1600-1617 of the California Fish and Game Code require that a Notification of Lake or Streambed Alteration be submitted to the CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." The CDFW reviews the proposed actions in the Notification and, if necessary, prepares a Lake or Streambed Agreement that includes measures to protect fish and wildlife resources.

[2] California State Water Resources Control Board (State Water Board). 2019. State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. October 20, 2023.

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SECTION 4: METHODS

FCS Senior Biologist Robert Carroll, assisted by FCS Botanist Juliet Simpson, surveyed the project site on May 16, 2024, May 24, 2024, March 24, 2025, and June 18, 2025, as described in the following section.

4.1 - Wetlands

The presence/absence of wetlands was determined based on the requirements of the *Corps of Engineers Wetlands Delineation Manual* and revised procedures in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*.[3,4] These procedures include standards that define wetlands, including specific saturation and/or ponding regimes, and evaluate hydrophytic vegetation, hydric soils, and wetland hydrology. Wetland indicator status of vegetation follows the 2022 National Wetland Plant List for the Arid West Region.[5]

4.2 - Drainage Channels and Tributaries

Drainage channels were characterized through presence/absence of bed, bank, and OHWM; hydrology; and hydrological connectivity. The OHWM is determined and characterized using definitions and guidance of *A Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States*.[6] A discussion of what constitutes a potentially jurisdictional "tributary" pursuant to *Sackett v. EPA* and which features, such as ditches or ephemeral drainages, may be excluded from the definition of waters of the United States is provided in Section 5, below.

Culverted drainage sections were examined for evidence of concentrated flow, including presence of water stains, mineral or sediment deposits, and biofilm.

4.2.1 - Definitions of Hydrological Regimes

An ephemeral stream is defined as a watercourse that carries only surface runoff and flows during and immediately after periods of precipitation. An intermittent stream is defined as a watercourse that is temporally intermittent or seasonal and that flows during the wet season, continues to flow after the period of precipitation, and ceases surface flow during at least part of the dry season. Intermittent streams are typically shown as a dashed blue line on United States Geological Survey (USGS) quadrangle maps.

A perennial stream is a watercourse that flows throughout the year. Riparian vegetation is defined as vegetation associated with a watercourse and relying on the higher level of water provided by the watercourse. Riparian vegetation can include trees, shrubs, and/or herbaceous plants.

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3 Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1.

4 United States Army Corps of Engineers (USACE). 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-28.

5 The National Wetland Plant List–Arid West Version 3. 2022. United States Army Corps of Engineers.

6 Lichvar, R.W. and S.M. McColley. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States.

4.3 - Additional Background Information Review

Additional relevant information about the project site was reviewed, including current and historical aerial imagery, the Watershed Assessment, Tracking and Environmental Results System (WATERS), the EPA's National Hydrography Data Set Plus (NHDPlus Version 2), the United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI),[7] and the NRCS Web Soil Survey and Climate Analysis for Wetlands (WETS).[8,9,10] Specifically, the standard NRCS WETS analysis includes a weighted comparison of historical rainfall to observed rainfall for the 3-month period before a wetland delineation field survey in order to evaluate if abnormal rainfall patterns may have contributed to observed presence or absence of wetland indicators.[11] The WETS analysis is based on data from the nearest WETS-listed station with a robust data set (e.g., over 30 years of precipitation data) located at Mount Diablo Junction, Contra Costa County. Additionally, the United States Drought Monitor data for Contra Costa County was incorporated into the analysis.

[7] United States Fish and Wildlife Service (USFWS). National Wetland Inventory. Website: https://www.fws.gov/wetlands/data/mapper.html. Accessed May 2024.
[8] United States Environmental Protection Agency (EPA). Watershed Assessment, Tracking and Environmental Results System (WATERS) Website: https://www.epa.gov/waterdata/waters-watershed-assessment-tracking-environmental-results-system. Accessed May 2024.
[9] United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2020. Web Soil Survey 3.3.2. Website: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed May 2024.
[10] United States Department of Agriculture (USDA), Natural Resources Conservation Service. 1997. Part 650 Engineering Field Handbook - Chapter 19: Hydrology Test for Wetland Determination.
[11] Ibid.

SECTION 5: RESULTS

The following section describes the results of both the background research and analysis and the results of the protocol-level delineation field work. Representative photographs of current site conditions are included in Appendix A.

5.1 - Climatic Conditions

Results of the WETS analysis (Appendix B) indicate that conditions during the delineation survey were normal for the 3-month period prior the delineation (i.e., February through April 2024). The last rain event prior to the delineation occurred in April 2024, with an accumulated precipitation volume of 1.53 inches for the month, based on data of the nearest publicly available weather station located at Mount Diablo Junction. The United States Drought Monitor shows no drought conditions present in Contra Costa County.

5.2 - Aquatic Resources

Aquatic resources are shown in Exhibit 4. Dimensions of all aquatic resources occurring within the project site boundary are presented in Table 1 and described in more detail below.

Table 1: Summary of Aquatic Resources within the Project Site

Type	Segment ID	Length (linear feet)	Width (feet)	Area (square feet)	Area (acre)
Open Intermittent Drainage Channel	1-1	779	3	2,337	0.05
Open Intermittent Drainage Channel	1-3	535	3	1,605	0.04
Open Intermittent Drainage Channel	1-5	21	3	63	0.001
Open Excavated Channel	2-1	69	1	69	0.001
Open Ephemeral Drainage Channel	4-1	509	1	509	0.012
Open Ephemeral Drainage Channel	4-3	147	1	147	0.003
Open Ephemeral Drainage Channel	6-1	299	1	299	0.007
Sum Open Drainage Channels	**–**	**2,359**	**N/A**	**5,029**	**0.11**
In-stream Wetland	1-4	276	3	828	0.02
In-stream Wetland	1-7	1,252	4	5,008	0.11
In-stream Wetland	3-1	329	2	658	0.02
In-stream Wetland	5-1	123	2	246	0.006
Sum Wetlands	**–**	**1,980**	**N/A**	**6,740**	**0.156**
Wetland	1	N/A	N/A	2,892	0.07
Wetland	2	N/A	N/A	2,090	0.05
Wetland	3	N/A	N/A	12,414	0.28
Wetland	4	N/A	N/A	1,870	0.04

Type	Segment ID	Length (linear feet)	Width (feet)	Area (square feet)	Area (acre)
Wetland	5	N/A	N/A	2,220	0.05
Sum Wetlands	**–**	**N/A**	**N/A**	**21,486**	**0.49**
Culvert Segment	1-2	75	1	75	0.002
Culvert Segment	1-6	97	1	97	0.002
Culvert Segment	4-2	25	1	25	0.0006
Sum Culverts	**–**	**197**	**N/A**	**197**	**0.005**
Sum All Potentially Jurisdictional Waters	**–**	**N/A**	**N/A**	**33,452**	**0.761**

5.2.1 - Open Drainage Channels

The following is a description and discussion of all observed open drainage channel segments. Dimensions of each segment are listed in Table 1, and locations are shown on Exhibit 4. A definition of ephemeral and intermittent flow regimes is provided in Section 4.2.1.

Intermittent Drainage Segment 1-1

Intermittent Drainage Segment 1-1 is a naturally occurring headwater drainage identified on maps as East San Ramon Creek. This drainage segment enters the project site in the eastern portion of the northern boundary and conveys flows southwest to Culvert Segment 1-2. This drainage is fed by intermittent flows from the north. This segment generally drains the project site to the south. The channel is characterized by the presence of shallow, densely vegetated banks and a mostly overgrown bed. The OHWM is characterized by scour and sediment deposits. At the time of the survey, standing water was present in some portions of this drainage. Species present within the OHWM of this segment include hyssop loosestrife, rabbitsfoot grass, toad rush, scarlet pimpernel, fiddle dock, and spiny sowthistle. Along the banks of this segment there are blow wives, slender oat, artichoke thistle, willow herb, red stem stork's-bill, cutleaf geranium, bristly ox-tongue, bulbous canary grass, curly dock, Italian thistle, and Italian rye grass. Segment 1-1 conveys intermittent flows from north (off-site) through the northeast portion of the site into Culvert Segment 1-2. One Ordinary High Water Mark Data Form data point (OHWM 1) was taken along this drainage segment. A paired set of Wetland Data Form data points (SP-11 and Upland SP-12) were taken within this drainage segment. There is one adjacent wetland area present along Drainage Segment 1-1 that is further described in Section 5.2.3.

Intermittent Drainage Segment 1-3

Intermittent Drainage Segment 1-3 is a naturally occurring drainage identified on maps as East San Ramon Creek. This drainage segment conveys flows from Culvert Segment 1-2 in the north portion of the site southeast to In-stream Wetland Segment 1-4. This segment generally drains the project site to the southeast. The channel is characterized by the presence of shallow, densely vegetated banks and a mostly overgrown bed. The OHWM is characterized by scour and sediment deposits. At the time of the survey, there was no water present in this drainage segment. Species present within the

OHWM of this segment include sour clover, rabbitsfoot grass, toad rush, scarlet pimpernel, curly dock, and spiny sowthistle. Along the banks of this segment there are blow wives, slender oat, artichoke thistle, willow herb, red stem stork's-bill, cutleaf geranium, bristly ox-tongue, bulbous canary grass, Italian thistle, and Italian rye grass. Segment 1-3 conveys intermittent flows from Culvert Segment 1-2 through the northeast portion of the site to In-stream Wetland Segment 1-4.

Intermittent Drainage Segment 1-5

Intermittent Drainage Segment 1-5 is a naturally occurring drainage identified on maps as East San Ramon Creek. This drainage segment conveys flows from In-stream Wetland Segment 1-4 and Excavated Channel Segment 2-1 in the north portion of the site south to Culvert Segment 1-6. The channel is characterized by the presence of shallow, densely vegetated banks and a mostly overgrown bed. The OHWM is characterized by scour and sediment deposits. At the time of the survey, there was no water present in this drainage segment. Species present within the OHWM of this segment include sour clover, rabbitsfoot grass, toad rush, scarlet pimpernel, curly dock, and spiny sowthistle. Along the banks of this segment there are blow wives, slender oat, artichoke thistle, willow herb, red stem stork's-bill, cutleaf geranium, bristly ox-tongue, bulbous canary grass, Italian thistle, and Italian rye grass. Segment 1-5 conveys intermittent flows from In-stream Wetland Segment 1-4 through the northeast portion of the site to Culvert Segment 1-6.

Excavated Channel Segment 2-1

Excavated Channel Segment 2-1 is a man-made channel recently excavated adjacent to Culvert Segment 1-6 as a flood prevention measure for the dirt access road on site. This channel begins toward the southern terminus of Intermittent Drainage Segment 1-5 and conveys excess flows southwest before terminating abruptly. This channel is fed by excess seasonal flows from Intermittent Drainage Segment 1-5. The channel is characterized by the presence of shallow, densely vegetated upper banks and a bare, freshly excavated bed and lower banks, with a faint OHWM. At the time of the survey, standing water was present in some portions of this channel. Along the banks of this segment there are slender oat, red stem stork's-bill, cutleaf geranium, bristly ox-tongue, and Italian rye grass. Excavated Channel Segment 2-1 holds excess flows from Intermittent Drainage Segment 1-5 during high rain events.

Ephemeral Drainage Segment 4-1

Ephemeral Drainage Segment 4-1 is a naturally occurring first order ephemeral tributary that runs northwest to southeast within the southeastern quarter of the project site. This segment drains most of the western quarter of the project site. This drainage is characterized by the presence of shallow, densely vegetated banks and a mostly overgrown bed. The OHWM is characterized by scour. At the time of the survey, no water was present in this segment. Species present in the OHWM of this segment include Italian rye grass and seaside barley. Along the banks of this tributary there are black mustard and soft brome. Segment 4-1 conveys flows through Culvert Segment 4-2 into Ephemeral Drainage Segment 4-3.

Ephemeral Drainage Segment 4-3

Ephemeral Drainage Segment 4-3 is a continuation of Ephemeral Drainage Segment 4-1 after it passes through Culvert Segment 4-2. This drainage is characterized by the presence of shallow, densely vegetated banks and a mostly overgrown bed. The OHWM is characterized by scour. At the time of the survey, standing water was present in the southeastern portion of this tributary segment where it meets with Seasonal Wetland No. 3, before flowing into In-stream Wetland Segment 1-7. Species present in the OHWM of this segment include creeping spike rush, seep yellow monkeyflower, seaside barley, hyssop loosestrife, small flowered melica, sour clover, watercress, bulbous canary grass, rabbitsfoot grass, tule, spiny sowthistle, American speedwell, and Italian rye grass. Along the banks of this tributary there are black mustard, red brome (*Bromus rubens*), Italian thistle, bird's foot trefoil, and Italian rye grass.

Ephemeral Drainage Segment 6-1

Ephemeral Drainage Segment 6-1 is a naturally occurring first order ephemeral tributary that runs northwest to southeast along the southern edge of the project site. This segment drains a small section of the southwestern portion of the project site off-site to the southeast and into East San Ramon Creek outside the project site boundary. This drainage is characterized by the presence of shallow, densely vegetated banks and a mostly overgrown bed. The OHWM is characterized by scour. At the time of the survey, no standing water or flowing water was present in this tributary segment. Segment 6-1 is overgrown with Italian rye grass and soft brome.

5.2.2 - In-stream Wetlands

In-stream Wetland Segment 1-4

In-stream Wetland Segment 1-4 is an emergent freshwater wetland within the naturally occurring drainage identified on maps as East San Ramon Creek. This in-stream wetland segment is fed by Intermittent Drainage Segment 1-3 in the northeast portion of the site and conveys flows to Intermittent Drainage Segment 1-5. The channel is characterized by the presence of shallow, densely vegetated banks and a mostly overgrown bed. The OHWM is characterized by sediment deposit and the presence of obligate wetland vegetation. At the time of the survey, this In-stream Wetland Segment was inundated with standing and gently flowing water. Soils exhibited a redox dark surface. Standing surface water was not present in this area during the surveys. Species present within the OHWM of this segment include creeping spike rush, toad rush, scarlet pimpernel, hyssop loosestrife, and rabbitsfoot grass. Along the banks of this segment there are blow wives, slender oat, red stem stork's-bill, cutleaf geranium, bristly ox-tongue, and Italian rye grass. In-stream Wetland Segment 1-4 conveys intermittent flows from Intermittent Drainage Segment 1-3 in the northeast portion of the site to Intermittent Drainage Segment 1-5. One Wetland Data Form data point (Wetland SP-13) was taken at the north end of this In-stream Wetland Segment.

In-stream Wetland Segment 1-7

In-stream Wetland Segment 1-7 is an emergent freshwater wetland within the naturally occurring drainage identified on maps as East San Ramon Creek. This in-stream wetland segment is fed by Culvert Segment 1-6 and In-stream Wetland Segment 3-1 and eventually conveys flows south offsite.

The channel is characterized by the presence of shallow, densely vegetated banks and a mostly overgrown bed. The OHWM is characterized by sediment deposit and the presence of obligate wetland vegetation. At the time of the survey, this In-stream Wetland Segment was inundated with standing and flowing water. Soils are loamy gleied with a redox dark surface. Standing and flowing surface water was present in this area during spring season surveys. Species present within the OHWM of this segment include watercress, creeping spike rush, seep yellow monkeyflower, toad rush, iris leaved rush, bird's foot trefoil, rabbitsfoot grass, sour clover, and curly dock. Along the banks of this segment there are scarlet pimpernel, hyssop loosestrife, spiny sowthistle, fiddle dock, Italian rye grass, blow wives, slender oat, artichoke thistle, willow herb, red stem stork's-bill, cutleaf geranium, bristly ox-tongue, bulbous canary grass, milk thistle, spiny sowthistle, knotted hedge parsley, narrow leaf milkweed, Mediterranean linseed, soft brome, cutleaf geranium, rose clover, and Italian rye grass. One Ordinary High Water Mark Data Form data point (OHWM 2) was taken along this drainage segment. Two Wetland Data Form data points (Wetland SP-14 and Wetland SP-15) were taken within this In-stream Wetland Segment. There are two adjacent wetland areas present along In-Stream Wetland Segment 1-7 that are further described in Section 5.2.3.

In-stream Wetland Segment 3-1

In-stream Wetland Segment 3-1 is a freshwater emergent wetland within an intermittent drainage that runs northeast to southwest and terminates where it meets In-stream Wetland Segment 1-7, as shown on Exhibit 4. This segment enters the project site in the center of the eastern boundary where it joins with Segment 1-7. This segment drains the eastern off-site cattle pasture to the west. This channel is characterized by the presence of shallow, densely vegetated banks and a mostly overgrown bed. The OHWM is characterized by sediment deposit and the presence of obligate wetland vegetation. At the time of the survey, this In-stream Wetland Segment was inundated with standing water. Soils were problematic and showed 1 cm muck layer. Soils were inundated to 2 inches below the surface. Species present in the OHWM of this in-stream wetland segment include creeping spike rush, seep yellow monkeyflower, toad rush, iris leaved rush, bird's foot trefoil, scarlet pimpernel, hyssop loosestrife, rabbitsfoot grass, curly dock, spiny sowthistle, and Italian rye grass. Along the banks of this segment there are narrow leaf milkweed, Mediterranean linseed, soft brome, cutleaf geranium, bulbous canary grass, and rose clover. Segment 3-1 conveys intermittent flows from east off-site the project site into In-stream Wetland Segment 1-7. A paired set of Wetland Data Form data points (Wetland SP-9 and Upland SP-10) were taken within this In-Stream Wetland Segment.

In-stream Wetland Segment 5-1

In-stream Wetland Segment 5-1 is a freshwater emergent wetland that runs east to west in the southeastern corner of the project site. The hydrology is likely influenced due to the adjacent driving range where this segment originates. This segment is characterized by the presence of shallow, densely vegetated banks and an inundated bed mostly overgrown with obligate wetland species. The OHWM is characterized by sediment deposit and the presence of obligate wetland vegetation. Soils exhibited a redox dark surface with a moderate hydrogen sulfide odor that was present when the pit was excavated. Standing surface water was present in this area resulting in an inundated soil pit, obscuring portions of the soil horizons. Species present in the OHWM of this segment include tule, seep yellow monkeyflower, watercress, and Italian rye grass. Along the banks of this tributary

segment was black mustard, seaside barley, bulbous canary grass, and Italian rye grass. Segment 5-1 conveys flows from the east to the west into In-stream Wetland Segment 1-7. A paired set of Wetland Data Form data points (Upland SP-8 and Wetland SP-19) were taken within this In-Stream Wetland Segment.

5.2.3 - Wetlands

Wetland 1

Wetland 1 is a 0.7-acre seasonal wetland that occurs along the east side of Intermittent Drainage Segment 1-1 within the northern portion of the project site. Vegetation at this point met both the Dominance Test and Prevalence Index for hydrophytic vegetation. Obligate wetland species present include seep yellow monkeyflower, watercress, and hyssop loosestrife. Facultative wetland species present include toad rush and rabbitsfoot grass. Italian rye grass, a facultative species, and seep yellow monkeyflower were dominant in this area. Soils are black histic clay with a moderate hydrogen sulfide odor was present when the pit was excavated. Standing surface water was present in this area resulting in an inundated soil pit, obscuring portions of the soil horizons. Wetland 1 likely contains a direct hydrological connection to the adjacent Intermittent Drainage Segment 1-1. A paired set of Wetland Data Form data points (Wetland SP-1 and Upland SP-2) were collected to characterize and map this seasonal wetland.

Wetland 2

Wetland 2 is a 0.05-acre seasonal wetland that occurs along the east side of Segment 1-7 near the eastern edge of the project site. Vegetation in this area met both the Dominance Test and Prevalence Index for hydrophytic vegetation. There were no obligate wetland species found in this area. Facultative wetland species present include rabbitsfoot grass. Facultative species present include Italian rye grass, bird's foot trefoil, and seaside barley. Italian rye grass and bird's foot trefoil were dominant in this area. Soils are black histic clay with dark muck present. Standing surface water was present in this area and filled the bottom 1 inch of the soil pit, indicating a high water table. Wetland 2 likely contains a direct hydrological connection to the adjacent Segment 1-7. A paired set of Wetland Data Form data points (Wetland SP-3 and Upland SP-4) were collected to characterize and map this seasonal wetland.

Wetland 3

Wetland 3 is a 0.28-acre seasonal wetland that occurs at the junction of Ephemeral Drainage Segment 4-3 and Segment 1-7 in the southeast section of the project site. Vegetation in this area met both the Dominance Test and Prevalence Index for hydrophytic vegetation. Obligate wetland species present include creeping spike rush, hyssop loosestrife, seep yellow monkeyflower, watercress, tule, and American speedwell. Facultative wetland species present include rabbitsfoot grass. Italian rye grass, a facultative species, tule, and rabbitsfoot grass are dominant in this area. Soils are gleyed clay, depleted below the surface with a hydrogen sulfide odor present. Standing surface water was present which inundated the first 12 inches of the soil pit. Wetland 3 was observed to contain a direct hydrological connection to Segment 1-7 and Ephemeral Drainage Segment 4-3. A paired set of Wetland Data Form data points (Wetland SP-5 and Upland SP-6) were collected to characterize and map this seasonal wetland.

Wetland 4

Wetland 4 is a 0.04-acre linear seasonal wetland that occurs along the southeast border of the project site. Obligate wetland species present include seep yellow monkeyflower. Facultative wetland species present include rabbitsfoot grass. Facultative species present include Italian rye grass, bird's foot trefoil, and seaside barley. Wetland 4 likely maintains a hydrological connection to Segment 1-7 during high flow events. A paired set of Wetland Data Form data points (Wetland SP-17 and Upland SP-16) were collected to characterize and map this seasonal wetland.

Wetland 5

Wetland 5 is a 0.05-acre seasonal wetland that occurs along the north side of Segment 5-1 near the southeastern corner of the project site. Vegetation in this area met both the Dominance Test and Prevalence Index for hydrophytic vegetation. Obligate wetland species present include tule, seep yellow monkeyflower, and watercress. Facultative species present include Italian rye grass and seaside barley. Tule and Italian rye grass were dominant in this area. Soils are gleyed clay, with a strong hydrogen sulfide odor present. Standing surface water was present in this area which inundated the soil pit to 1-2 inches below the surface. Wetland 5 likely maintains a direct hydrological connection to Segment 5-1. A paired set of Wetland Data Form data points (Wetland SP-7 and Upland SP-18) were collected to characterize and map this seasonal wetland.

5.2.4 - Culverts

Culvert Segment 1-2

Culvert Segment 1-2 is a corrugated single-wall slotted culvert pipe that transports flows under an on-site access road from Intermittent Drainage Segment 1-1 to Intermittent Drainage Segment 1-3. This segment runs northeast to southwest in the northern portion of the project site.

Culvert Segment 1-6

Culvert Segment 1-6 is a corrugated single-wall slotted culvert pipe that transports flows under an on-site access road from Intermittent Drainage Segment 1-5 to In-stream Wetland Segment 1-7. This segment runs northeast to southwest in the eastern edge of the project site.

Culvert Segment 4-2

Culvert Segment 4-2 is a corrugated single-wall slotted culvert pipe that transports flows under an on-site access road from Ephemeral Drainage Segment 4-1 to Ephemeral Drainage Segment 4-3. This segment runs northwest to southeast in the southeastern quarter of the project site.

5.3 - United States Fish and Wildlife Service National Wetland Inventory

The USFWS NWI depicted Freshwater Emergent Wetland within Intermittent Drainage Segments 1-1, 1-3, and 1-5, and In-stream Wetland Segments 1-4, 1-7, 3-1, and 5-1.[12] However, per the NWI, determinations are only made based on high altitude imagery, and according to the NWI Data

[12] United States Fish and Wildlife Service (USFWS). National Wetland Inventory (NWI). Website: https://www.fws.gov/wetlands/data/mapper.html. Accessed May 2024.

Limitations information, "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." Additionally, the USFWS clarifies that NWI mapping is not adequate to be used to establish regulatory boundaries or jurisdiction. FCS established ten wetland sample points along the NWI-mapped wetland across the site (Appendix C; SP-1, SP-3, SP-5, SP-7, SP-9, SP-13, SP-14, SP-15, SP-17, and SP-19). The results demonstrate that these areas meet the USACE or RWQCB definitions of a wetland. Specifically, the area contains all required characteristics of sufficient hydrophytic vegetation, hydric soil indicators, and wetland hydrology. The wetland indicators were not caused by abnormally wet conditions because the delineation was conducted following a period of normal aggregate rainfall, as demonstrated by the WETS analysis (see Section 5.1 and Appendix B).

5.4 - Proposed Jurisdictional Determination

5.4.1 - Proposed United States Army Corps of Engineers Jurisdiction

As of the preparation of this report on July 1, 2024, the final "Revised Definition of Waters of the United States" rule was published in the Federal Register on January 18, 2023, and became effective March 20, 2023. On May 25, 2023, the U.S. Supreme Court issued a decision in the case of *Sackett v. Environmental Protection Agency* (*Sackett*). This decision determined that areas of federal jurisdiction under Section 404 of the CWA must have a "continuous surface connection" with navigable waters of the United States or relatively permanent tributaries to navigable waters. This report proposes preliminary conclusions regarding the jurisdictional status of non-wetland waters, based on the *Sackett* decision.

On August 29, 2023, the USACE and the EPA issued a release noting that a revised definition of waters of the United States would be issued in conformance with *Sackett*. On September 8, 2023, the USACE and EPA issued the final rule updating the definition of waters of the United States in conformance with *Sackett* in the Federal Register. The final rule is not currently operative in certain states and for certain parties due to litigation. California is excluded from this litigation and is currently operating under the guidance issued in the Federal Register on September 8, 2023.

Per the guidance outlined above, all drainage segments and culvert segments drainages (Segments 1-1, 1-2, 1-3, 1-5, 1-6, 2-1, 4-1, 4-2, 4-3, and 6-1), four in-stream wetland segments (Segments 1-4, 1-7, 3-1, and 5-1) and five wetlands (Wetlands 1 through 5) maintain relatively a relatively permanent surface connection with a navigable water of the United States. As noted in Section 2.3 and 5.2.1 above, these drainage segments and wetlands are likely to drain into the Contra Costa County stormwater system which drains untreated into San Francisco Bay, a traditionally navigable water. For these reasons, all aquatic features depicted on Exhibit 4 would likely be classified as waters of the United States under the jurisdiction of the USACE. Note that a final jurisdictional determination can only be made by the USACE following verification.

5.4.2 - Features Proposed to be Exempt from United States Army Corps of Engineers Jurisdiction

No aquatic features delineated within the project site are proposed to be exempt from USACE jurisdiction. Note that a final jurisdictional determination can only be made by the USACE following verification.

5.4.3 - Proposed Regional Water Quality Control Board Jurisdiction

Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the State" (Water Code § 13050(e)) and are under the jurisdiction of the RWQCB. Therefore, FCS proposes that all drainages and wetlands within the project site boundary as shown on Exhibit 4 would fall under the jurisdiction of the RWQCB. This proposed jurisdictional determination is preliminary until confirmed by the RWQCB.

5.4.4 - California Department of Fish and Wildlife Streambed Alteration Program Considerations

Because of the presence of drainage beds and banks, it is expected that the CDFW will assert regulatory oversight over potential impacts on all drainage channels and associated vegetation pursuant to California Fish and Game Code Section 1602, *et seq*. (Streambed Alteration Program). It is expected that the CDFW will classify all vegetation in the drainages and trees with canopies overhanging the drainages as "riparian vegetation" and that the CDFW will require a Notification of Streambed Alteration and subsequent Streambed Alteration Agreement for any work that could adversely affect the drainages on-site and associated riparian vegetation.

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SECTION 6: CONCLUSION

The project site includes seven open and vegetated ephemeral and intermittent drainage channels connected by three culvert segments (1-1, 1-3, 1-5, 2-1, 4-1, 4-3, 6-3; 1-2, 1-6, and 4-2) and four in-stream wetland features (1-4, 1-7, 3-1, and 5-1), for a total length of 4,536 feet, covering an aggregate area of approximately 10,986 square feet (0.252 acres), as shown on Exhibit 4. Additionally, there were five wetlands observed within the project site, covering an aggregate area of approximately 21,486 square feet (0.49 acre), as shown on Exhibit 4.

The project site includes include a total length of 4,536 feet, 33,452 square feet (0.761 acre) of potential waters of the United States and a total length of 4,536 feet, 95,614 square feet (2.195 acres) of potential waters of the State. Additionally, any impacts on drainage channels and associated riparian vegetation are expected to be regulated by the CDFW pursuant to the Streambed Alteration Program, California Fish and Game Code Section 1602, *et seq*. The findings and conclusions presented in this report, including the location and extent of waters subject to regulatory jurisdiction, represent the professional opinion of FCS. These findings and conclusions should be considered preliminary until confirmed by the USACE, RWQCB, and CDFW.

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Appendix A:
Site Photographs

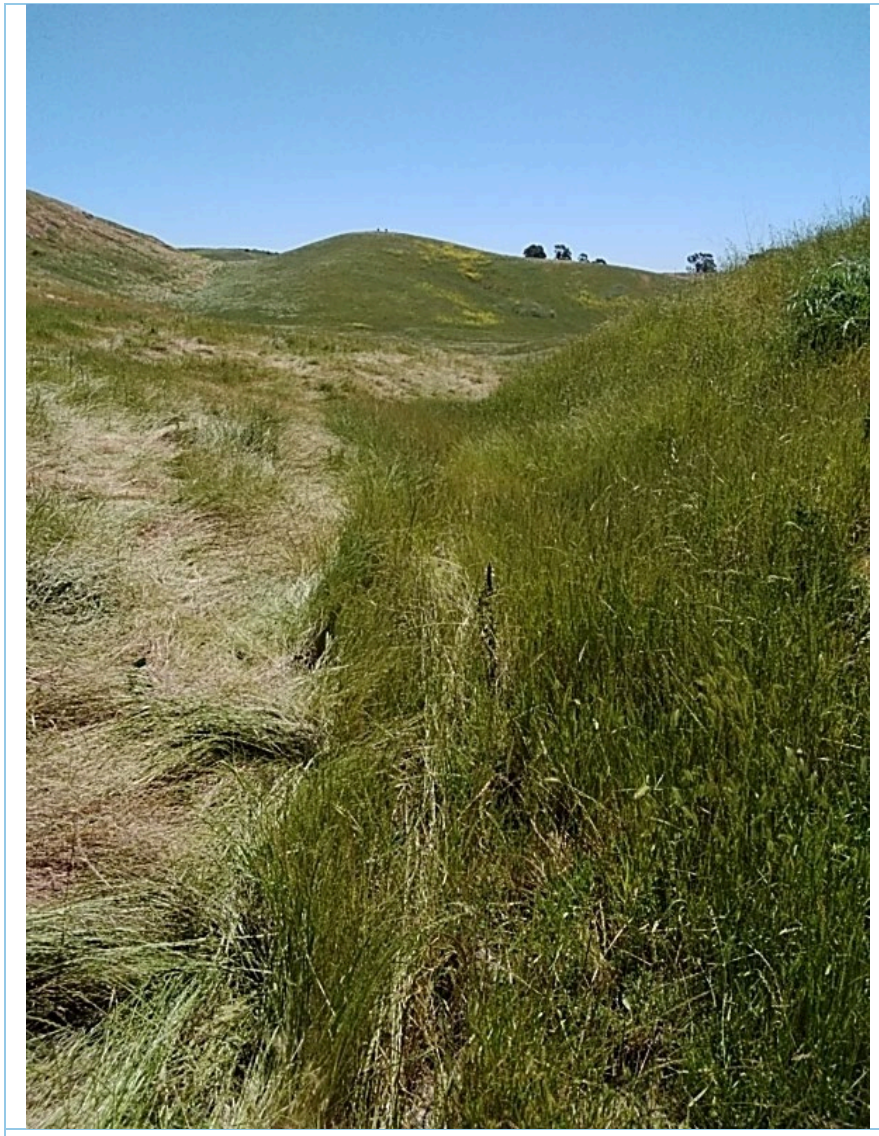
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Photograph 1: Drainage Segment 1-1. North section of drainage facing northeast.



Photograph 2: Drainage Segment 1-1. North section of drainage facing southwest.



Photograph 3: Drainage Segment 1-1. North central section of drainage facing north.



Photograph 4: Drainage Segment 1-1. South central section of drainage facing north.



Photograph 5: Drainage Segment 1-1. South central section of drainage facing south.



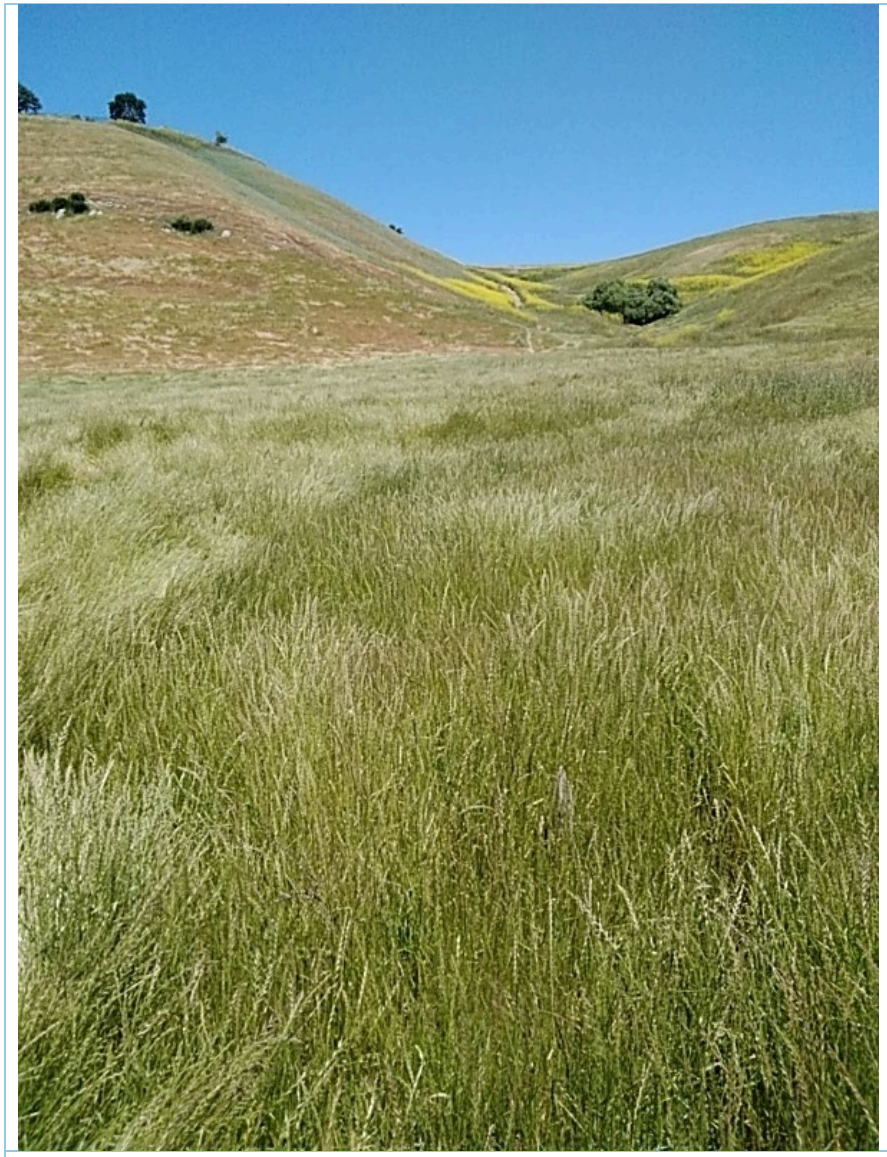
Photograph 6: Drainage Segment 1-1. South section of drainage facing north.



Photograph 7: Drainage Segment 1-1. South section of drainage facing south.



Photograph 8: Drainage Segment 2-1. North section of drainage facing northeast, showing offsite cattle area.



Photograph 9: Drainage Segment 2-1. North section of drainage facing south.



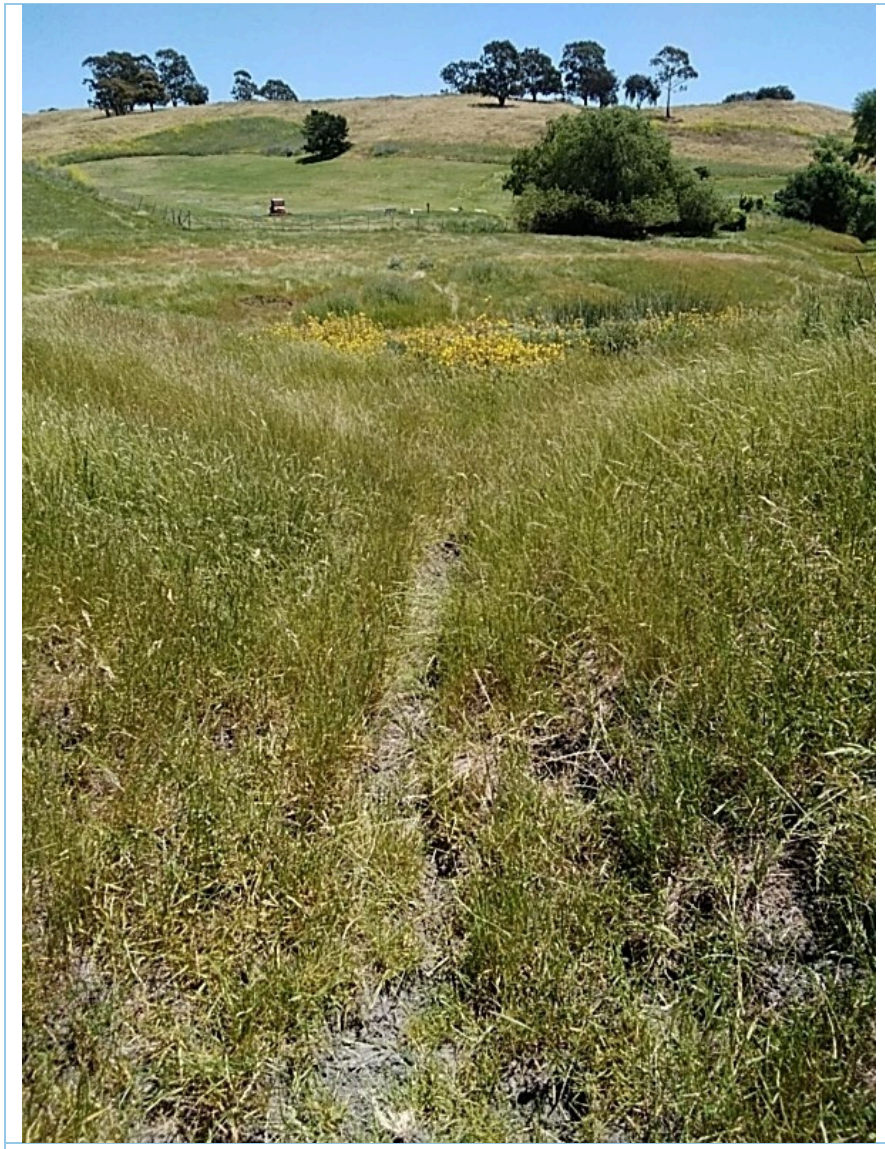
Photograph 10: Drainage Segment 3-1. West section of drainage facing west.



Photograph 11: Culvert Segment 3-2. West end inflow culvert.



Photograph 12: Culvert Segment 3-2. East end outflow culvert.



Photograph 13: Drainage Segment 3-3. West section of drainage facing east.



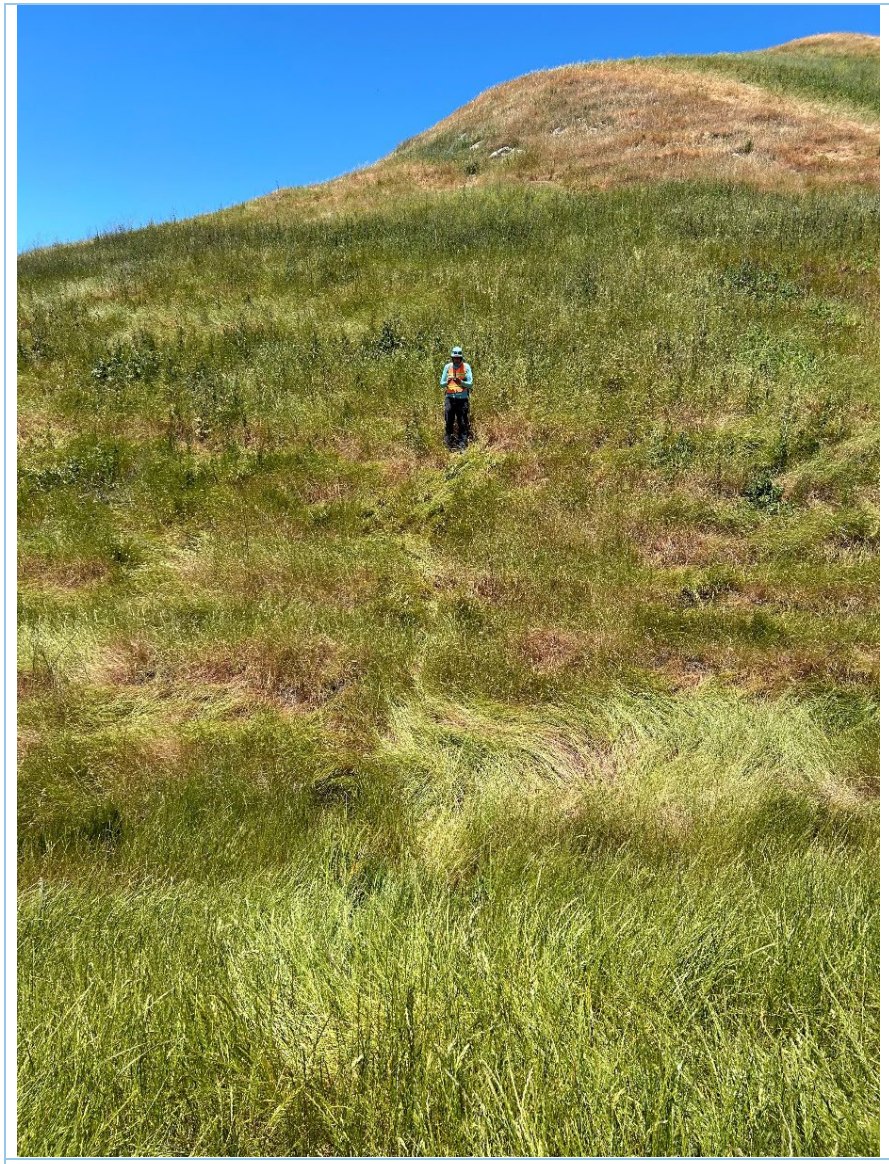
Photograph 14: Drainage Segment 4-1. Central section of drainage facing south, showing offsite area.



Photograph 15: Drainage Segment 5-1. Central section of drainage facing northwest.



Photograph 16: Drainage Segment 5-1. Central section of drainage facing southeast, showing offsite area.



Photograph 17: Drainage Segment 1-1. Ordinary High Water Mark Data Point 1.



Photograph 18: Drainage Segment 1-1. Ordinary High Water Mark Data Point 2.



Photograph 19: Wetland Sample Point 1.



Photograph 20: Wetland Sample Point 1.



Photograph 21: Wetland Sample Point 1.



Photograph 22: Wetland Sample Point 3.



Photograph 23: Wetland Sample Point 3.



Photograph 24: Wetland Sample Point 3.



Photograph 25: Wetland Sample Point 5.



Photograph 26: Wetland Sample Point 5.



Photograph 27: Wetland 4. East side facing west.



Photograph 28: Wetland 4. East side facing east, showing offsite area.



Photograph 29: Wetland Sample Point 7.



Photograph 30: Wetland Sample Point 7.

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Appendix B:
WETS Analysis

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WETS Analysis for Martin Hills Ranch Project JD, Danville, CA
based on 30 year averages of Mount Diablo Junction WETS Station

Month	30% Chance Precipitation ≤ (in)	Average	30% Chance Precipitation > (in)	Observed Rainfall (in)	Conditions (dry, wet, normal)	Condition Value*	Weighting Factor	Product
February	1.60	4.56	5.49	5.36	normal	2	3	6
March	1.49	3.42	4.17	3.85	normal	2	2	4
April	0.86	1.91	2.33	1.53	normal	2	1	2
							Sum=**	**12**

*Condition Values:
Dry = 1
Normal = 2
Wet = 3

**Sum Values:		
6-9	=	prior period has been dryer than normal
10-14	=	prior period has been normal
15-18	=	prior period has been wetter than normal

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Appendix C:
Wetland Delineation Data Forms

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Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Ellworthy Property East
Project Number: 5960.0001
Stream: East San Ramon Creek/Drainage 1-1
Investigator(s): Robert Carroll, Juliet Simpson

Date: 5/16/2024
Town: Danville
Photo begin file#:

Time: 12:30 pm
State: CA
Photo end file#:

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

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
NE area of project site, upper part of drainage

Projection: **Datum:**
Coordinates: 37.800538°N, 121.957354°W

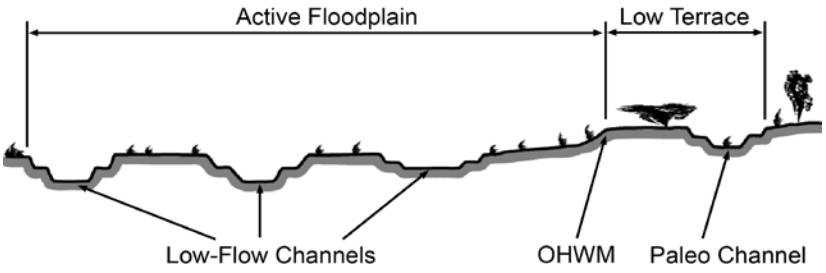
Potential anthropogenic influences on the channel system:
Residential developments present uphill from drainage channel, north east of project site.

Brief site description:
Undulating hills covered in non-native annual grassland. Drainages and wetlands present across site.

Checklist of resources (if available):

- ☒ Aerial photography
  Dates:
- ☒ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☒ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

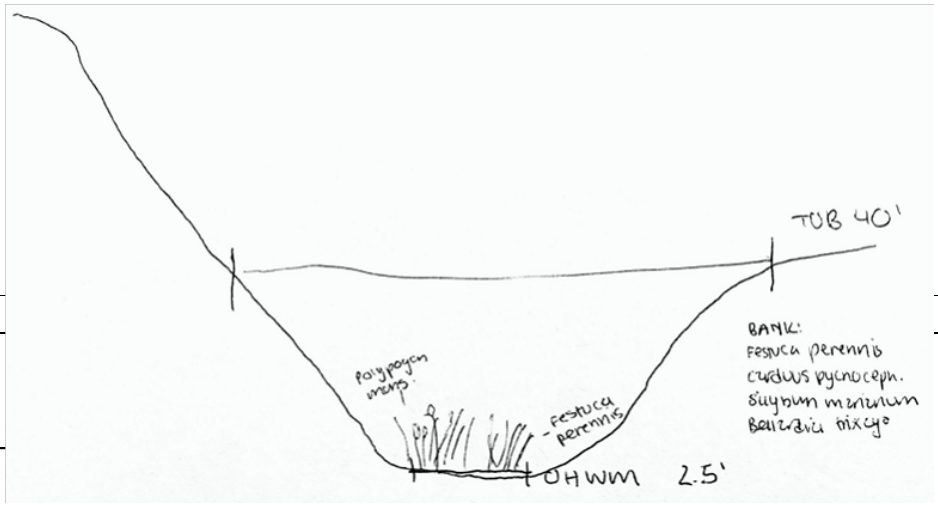


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☒ GPS
   - ☐ Other:

Project ID: 5960.0001 **Cross section ID:** OHWM #1 **Date:** 5/16/2024 **Time:** 12:30 pm

Cross section drawing:



OHWM

GPS point: OHWM data point 1

Indicators:

- ☒ Change in average sediment texture
- ☒ Change in vegetation species
- ☐ Change in vegetation cover
- ☒ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

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

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

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

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Ellworthy Property East
Project Number: 5960.0001
Stream: East San Ramon Creek/Drainage 1-1
Investigator(s): Robert Carroll, Juliet Simpson

Date: 5/16/2024
Town: Danville
Photo begin file#:

Time: 2:15 pm
State: CA
Photo end file#:

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

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
SE area of project site, lower part of drainage

Projection: **Datum:**
Coordinates: 37.795607°N, 121.956034°W

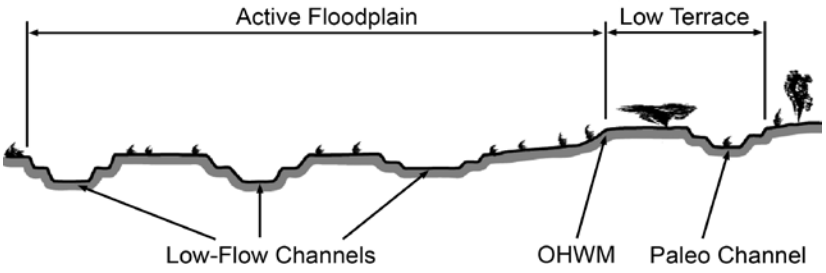
Potential anthropogenic influences on the channel system:
Residential developments present uphill from drainage channel, north east of project site. Cattle present in field adjacent to project site may impact Drainage Segment 2-1 in offsite area.

Brief site description:
Undulating hills covered in non-native annual grassland. Drainages and wetlands present across site.

Checklist of resources (if available):

- ☒ Aerial photography
  Dates:
- ☒ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☒ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

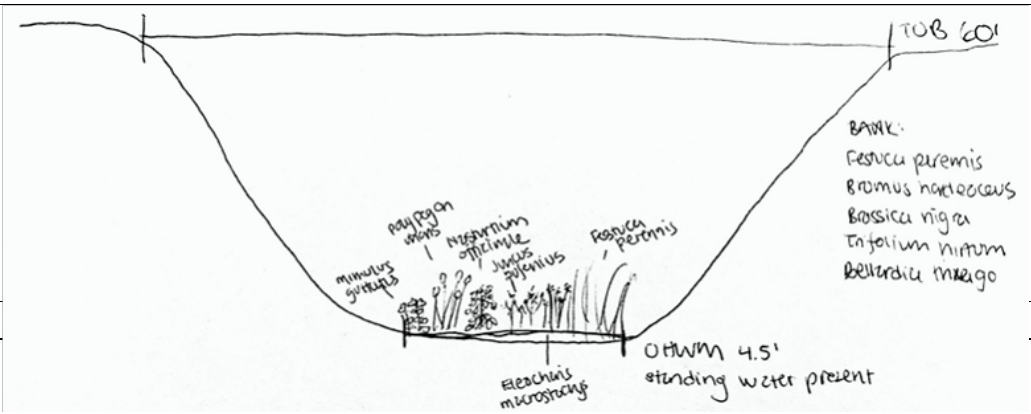


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☒ GPS
   - ☐ Other:

Project ID: 5960.0001 **Cross section ID:** OHWM #2 **Date:** 5/16/2024 **Time:** 2:15 pm

Cross section drawing:



OHWM

GPS point: OHWM data point 2

Indicators:

- ☒ Change in average sediment texture
- ☒ Change in vegetation species
- ☐ Change in vegetation cover
- ☒ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

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

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

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

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Elworthy Property East Project City/County: Danville/Contra Costa Sampling Date: 5/16/2024

Applicant/Owner: Bates Stringer – Martin Hill Ranch LLC State: CA Sampling Point: 1

Investigator(s): Robert Carroll, Juliet Simpson Section, Township, Range:

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

Subregion (LRR): Lat: 37.800853°N Long: -121.956855°W Datum:

Soil Map Unit Name: Diablo clay, 30-50% slopes, MLRA 15 NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Lolium perenne	70%	Y	FAC
2. Lythrum hyssopifolia	T	N	OBL
3. Mimulus guttatus	20%	Y	OBL
4. Polypogon monspeliensis	T	N	FACW
5. Juncus bufonius	T	N	FACW
6. Nasturtium officinale	T	N	OBL
7. Bromus hordeaceus	10%	N	FACU
8.			
Total Cover:	100%		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1 =	3
FACW species	2	x 2 =	4
FAC species	1	x 3 =	3
FACU species	1	x 4 =	4
UPL species		x 5 =	
Column Totals:	7 (A)		14 (B)

Prevalence Index = B/A = 2

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16"	10 YR 2/1	100%	N/A				clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- X Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

Strong sulfur odor released after ground breaking, meeting A4. Layer of muck 8"+ thick that starts within first 6" of surface, meeting A3.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No ____ Depth (inches): 0"

Water Table Present? Yes X No ____ Depth (inches): 0"

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): 0"

Wetland Hydrology Present? Yes X No ____

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

Remarks:

Surface water present. Soil pit inundated to surface. Water source likely underground seep/high water table. Drains upslope terraces, likely connected to adjacent drainage.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Elworthy Property East Project City/County: Danville/Contra Costa Sampling Date: 5/16/2024

Applicant/Owner: Bates Stringer – Martin Hill Ranch LLC State: CA Sampling Point: 2

Investigator(s): Robert Carroll, Juliet Simpson Section, Township, Range:

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

Subregion (LRR): Lat: 37.801028°N Long: -121.956672°W Datum:

Soil Map Unit Name: Diablo clay, 30-50% slopes, MLRA 15 NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes No X	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Lolium perenne	50%	Y	FAC
2. Brassica nigra	40%	Y	N/A
3. Carduus pycnocephalus	10%	N	N/A
4. Sonchus asper	T	N	FAC
5. Bromus hordeaceus	T	N	FACU
6. Avena fatua	T	N	N/A
7. Silybum marianum	T	N	N/A
8.			
Total Cover: 100%			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species 2	x 3 =	6
FACU species 1	x 4 =	4
UPL species	x 5 =	
Column Totals: 3 (A)		10 (B)

Prevalence Index = B/A = 3.33

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12"	10 YR 3/2	100%	N/A				clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

Dark soils present, but no muck, peat, or mucky peat. Chroma over line redox features.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

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

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

Wetland Hydrology Present? **Yes** _____ **No** X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Elworthy Property East Project City/County: Danville/Contra Costa Sampling Date: 5/16/2024

Applicant/Owner: Bates Stringer – Martin Hill Ranch LLC State: CA Sampling Point: 3

Investigator(s): Robert Carroll, Juliet Simpson Section, Township, Range:

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

Subregion (LRR): Lat: 37.796829°N Long: -121.955796°W Datum:

Soil Map Unit Name: Diablo clay, 15-30% slopes, MLRA 15 NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Lolium perenne	55%	Y	FAC
2. Polypogon monspeliensis	15%	N	FACW
3. Lotus corniculatus	30%	Y	FAC
4. Hordeum marinum	T	N	FAC
5.			
6.			
7.			
8.			
Total Cover: 100%			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species 1	x 2 =	2
FAC species 3	x 3 =	9
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: 4 (A)		11 (B)

Prevalence Index = B/A = 2.75

Hydrophytic Vegetation Indicators:

- X Dominance Test is >50%
- X Prevalence Index is ≤3.0[1]
- __ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- __ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: 3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16"	10 YR 3/1	100%	N/A				clay	dark muck present throughout

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- X 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

Layer of muck 8"+ thick that starts within first 6" of surface, meeting A3. layer of muck with a value of 3 or less and a chroma of 1 or less starting within 6" of soil surface, meeting A9.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- X Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): _____

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

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

Wetland Hydrology Present? **Yes** X **No** _____

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

Remarks:

Minor water intrusion - bottom 1" ~16" below surface. Likely connected to adjacent drainage.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Elworthy Property East Project City/County: Danville/Contra Costa Sampling Date: 5/16/2024

Applicant/Owner: Bates Stringer – Martin Hill Ranch LLC State: CA Sampling Point: 4

Investigator(s): Robert Carroll, Juliet Simpson Section, Township, Range:

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

Subregion (LRR): Lat: 37.796576°N Long: -121.955735°W Datum:

Soil Map Unit Name: Diablo clay, 15-30% slopes, MLRA 15 NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes No X	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Lolium perenne	75%	Y	FAC
2. Brassica nigra	10%	N	N/A
3. Bromus hordeaceus	15%	N	FACU
4.			
5.			
6.			
7.			
8.			
Total Cover: 100%			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species 1	x 3 = 3
FACU species 1	x 4 = 4
UPL species	x 5 =
Column Totals: 2 (A)	7 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16"	10 YR 2/1	100%	N/A				clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

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

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

Wetland Hydrology Present? **Yes** _____ **No** X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Elworthy Property East Project City/County: Danville/Contra Costa Sampling Date: 5/16/2024

Applicant/Owner: Bates Stringer – Martin Hill Ranch LLC State: CA Sampling Point: 5

Investigator(s): Robert Carroll, Juliet Simpson Section, Township, Range:

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

Subregion (LRR): Lat: 37.796128°N Long: -121.956151°W Datum:

Soil Map Unit Name: Diablo clay, 15-30% slopes, MLRA 15 NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Lolium perenne	50%	Y	FAC
2. Polypogon monspeliensis	30%	Y	FACW
3. Mimulus guttatus	10%	N	OBL
4. Bromus hordeaceus	10%	N	FACU
5. Lotus corniculatus	T	N	FAC
6. Nasturtium officinale	T	N	OBL
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	2	x 1 =	2
FACW species	1	x 2 =	2
FAC species	2	x 3 =	6
FACU species	1	x 4 =	4
UPL species		x 5 =	
Column Totals:	6 (A)		14 (B)

Prevalence Index = B/A = 2.33

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: 5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16"	Gley 6/N	100%	N/A				clay	soils are gley

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- X 1 cm Muck (A9) (**LRR D**)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

Hydrogen sulfide odor present, meeting A4. Soils are gley starting within 12" of soil surface, meeting A11.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): _____

Water Table Present? Yes X No _____ Depth (inches): 14"

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

Wetland Hydrology Present? **Yes** X **No** _____

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

Remarks:

Surface water present. Soil pit inundated to 14" below soil surface. Direct hydrologic connection to adjacent drainage.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Elworthy Property East Project City/County: Danville/Contra Costa Sampling Date: 5/16/2024

Applicant/Owner: Bates Stringer – Martin Hill Ranch LLC State: CA Sampling Point: 6

Investigator(s): Robert Carroll, Juliet Simpson Section, Township, Range:

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

Subregion (LRR): Lat: 37.796260°N Long: -121.956196°W Datum:

Soil Map Unit Name: Diablo clay, 15-30% slopes, MLRA 15 NWI classification: Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes No X	
Wetland Hydrology Present?	Yes No X	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Lolium perenne	50%	Y	FAC
2. Bromus hordeaceus	50%	Y	FACU
3. Trifolium hirtum	T	N	N/A
4. Phalaris aquatica	T	N	FACU
5. Hordeum marinum	T	N	FAC
6.			
7.			
8.			
Total Cover: 100%			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species 2	x 3 = 6
FACU species 2	x 4 = 4
UPL species	x 5 =
Column Totals: 4 (A)	10 (B)

Prevalence Index = B/A = 2.5

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50%
- X Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: 6

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12"	10 YR 3/2	100%	N/A				clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

Dark soils present, but no muck, peat, or mucky peat - not meeting A3. No redox features observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

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

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

Wetland Hydrology Present? **Yes** _____ **No** X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Elworthy Property East Project City/County: Danville/Contra Costa Sampling Date: 5/24/2024

Applicant/Owner: Bates Stringer – Martin Hill Ranch LLC State: CA Sampling Point: 7

Investigator(s): Robert Carroll Section, Township, Range:

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

Subregion (LRR): Lat: 37.795163°N Long: -121.955822°W Datum:

Soil Map Unit Name: Diablo clay, 15-30% slopes, MLRA 15 NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Lolium perenne	40%	Y	FAC
2. Schoenoplectus acutus	50%	Y	OBL
3. Hordeum marinum	10%	N	FAC
4.			
5.			
6.			
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	1	x 1 =	3
FACW species		x 2 =	
FAC species	2	x 3 =	6
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	3 (A)		9 (B)

Prevalence Index = B/A = 3

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: 7

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16"	Gley 7/10Y	100%	N/A				clay	soils are gley

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- X Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- X 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

Heavy odor of hydrogen sulfide. Muck present to 16" - mucky clayey soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No ____ Depth (inches): 1-2"

Water Table Present? Yes ____ No X Depth (inches): ____

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

Wetland Hydrology Present? Yes X No ____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Elworthy Property East Project City/County: Danville/Contra Costa Sampling Date: 5/24/2024

Applicant/Owner: Bates Stringer – Martin Hill Ranch LLC State: CA Sampling Point: 8

Investigator(s): Robert Carroll, Juliet Simpson Section, Township, Range:

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

Subregion (LRR): Lat: 37.795202°N Long: -121.955879°W Datum:

Soil Map Unit Name: Diablo clay, 15-30% slopes, MLRA 15 NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Lolium perenne	25%	Y	FAC
2. Hordeum murinum	50%	Y	FACU
3. Brassica nigra	25%	Y	N/A
4.			
5.			
6.			
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species 1	x 3 = 3
FACU species 1	x 4 = 4
UPL species ____	x 5 = ____
Column Totals: 2 (A)	7 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: 8

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12"	10 YR 4/2	100%	N/A				clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

No redox features observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

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

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

Wetland Hydrology Present? **Yes** _____ **No** X

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-08-28; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Elworthy Property East Project City/County: Danville/Contra Costa Sampling Date: 3/25/2025

Applicant/Owner: Bates Stringer – Martin Hill Ranch LLC State: CA Sampling Point: 9

Investigator(s): C. Frentzen & S. Wilson Section, Township, Range:

Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 15

Subregion (LRR): Lat: 37.7981 Long: -121.9557 Datum:

Soil Map Unit Name: Diablo clay, 30-50% slopes, MLRA 15 NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil X , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes** X **No**

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size:)			
1. Lolium perenne	50	Y	FAC
2. Geranium dissectum	2	N	N/A
3. Lotus corniculatus	7	N	FAC
4. Hordeum marinum	2	N	FAC
5. Carduus pycnocephalus	2	N	N/A
6. Polypogon monspeliensis	5	N	FACW
7. Juncus bufonius	10	N	FACW
8. Juncus sp.	20	Y	FACW
	98	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	=Total Cover		

% Bare Ground in Herb Stratum 7 % Cover of Biotic Crust T

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
Prevalence Index is ≤3.0[1]
Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks:

Bare ground mostly from cow hoof-print holes, which are filled with water. some biotic was visible on the bare ground, still green.

SOIL

Sampling Point: Corps 1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 16	10 YR 3/1	100	N/A				clay	thin layer of surface muck

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- X 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

hydrophytic vegetation and wetland hydrology indicators were met. aquatic resource is in a swale-like feature with inconsistent OHWM indicators and retrains water despite no rain in the last five+ days. Soils were saturated and redox might have appeared when soils dried out.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 2		
Water Table Present?	Yes ___	No X	Depth (inches): ___		
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): ___	**Wetland Hydrology Present?**	Yes X No ___

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

Remarks:

cow hoofprints some parts of in the aquatic feature were holding water

VEGETATION Continued – Use scientific names of plants. Sampling Point: _____

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	=Total Cover		
Sapling/Shrub Stratum			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
	=Total Cover		
Herb Stratum			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
	=Total Cover		
Woody Vine Stratum			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants less than 3 in. DBH, regardless of height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size.

Woody Vine – All woody vines, regardless of height.

Remarks:

AGENCY DISCLOSURE NOTIFICATION

The public reporting burden for this collection of information, OMB Control Number 0710-0024, is estimated to average 30 minutes per response, including the timefor reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services,at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. **PLEASE DO NOT RETURN YOUR REQUEST TO THE ABOVE EMAIL.**

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned. System of Record Notice (SORN). The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website: http://dpcld.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Elworthy Property East Project City/County: Danville/Contra Costa Sampling Date: 3/24/2025

Applicant/Owner: Bates Stringer – Martin Hill Ranch LLC State: CA Sampling Point: 10

Investigator(s): Robert Carroll, Juliet Simpson Section, Township, Range:

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

Subregion (LRR): Lat: 37.798093°N Long: -121.955524°W Datum:

Soil Map Unit Name: Diablo clay, 15-30% slopes, MLRA 15 NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes No X	
Wetland Hydrology Present?	Yes No X	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Festuca perennis	75%	Y	FAC
2. Hirschfeldia incana	10%	N	N/A
3. Bromus hordeaceus	5%	N	FACU
4. Hordeum murinum	10%	N	FACU
5.			
6.			
7.			
8.			
Total Cover: 100%			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species 1	x 3 =	3
FACU species 2	x 4 =	8
UPL species	x 5 =	
Column Totals: 3 (A)		11 (B)

Prevalence Index = B/A = 3.67

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16"	10 YR 2/1	100%	N/A				clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

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

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

Wetland Hydrology Present? **Yes** _____ **No** X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Elworthy Property East Project City/County: Danville/Contra Costa Sampling Date: 4/10/2025

Applicant/Owner: Bates Stringer – Martin Hill Ranch LLC State: CA Sampling Point: 11

Investigator(s): Robert Carroll, Juliet Simpson Section, Township, Range:

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

Subregion (LRR): Lat: 37.800975°N Long: -121.956871°W Datum:

Soil Map Unit Name: Diablo clay, 15-30% slopes, MLRA 15 NWI classification: Freshwater Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

Cattle present on site, hoof prints throughout site. Soil present throughout site is Diable Clay, a naturally dark, water-retaining soil.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Festuca perennis	100	Y	FAC
2. Vicia sativa	T	N	FACU
3. Geranium dissectum	T	N	N/A
4. Cirsium vulgare	T	N	FACU
5. Eleocharis microstachya	T	N	N/A (OBL)
6. Pleuropogon californicus	T	N	OBL
7. Rumex crispus	T	N	FAC
8.			
Total Cover: 100%			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	2	x 1 =	2
FACW species		x 2 =	
FAC species	2	x 3 =	6
FACU species	2	x 4 =	8
UPL species		x 5 =	
Column Totals:	6 (A)		16 (B)

Prevalence Index = B/A = 2.67

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Festuca perennis dominant throughout upland areas of site as well - vegetation consistent with upland points

SOIL

Sampling Point: 11

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6"	10 YR 3/1	98	7.5 YR 4/6	2	C	M	clay	
6-16"	10 YR 3/1	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

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

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

Wetland Hydrology Present? **Yes** _____ **No** X

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

Remarks:

Soils slightly moist, not saturated and no extra water

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Elworthy Property East Project City/County: Danville/Contra Costa Sampling Date: 4/10/2025

Applicant/Owner: Bates Stringer – Martin Hill Ranch LLC State: CA Sampling Point: 12

Investigator(s): Robert Carroll, Juliet Simpson Section, Township, Range:

Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): convex Slope (%): 15%

Subregion (LRR): Lat: 37.800969°N Long: -121.956811°W Datum:

Soil Map Unit Name: Diablo clay, 15-30% slopes, MLRA 15 NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil X, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

Cattle present on site, hoof prints throughout site. Soil present throughout site is Diable Clay, a naturally dark, water-retaining soil.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Festuca perennis	72	Y	FAC
2. Vicia sativa	T	N	FACU
3. Geranium dissectum	2	N	N/A
4. Cirsium vulgare	10	N	FACU
5. Elymus caput-medusae	1	N	N/A
6. Brasica nigra	15	N	N/A (UPL)
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species 1	x 3 = 3
FACU species 2	x 4 = 8
UPL species 1	x 5 = 5
Column Totals: 4 (A)	16 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Festuca perennis is local dominant weed in upland areas

SOIL

Sampling Point: 12

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10 YR 2/1	80	7.5 YR 5/6	20	C	M	clay	
6-16"	10 YR 2/1	95	7.5 YR 5/6	5	C	M	clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Diablo clay soils naturall dark

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

Soils dry and hard

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Elworthy Property East Project City/County: Danville/Contra Costa Sampling Date: 4/10/2025

Applicant/Owner: Bates Stringer – Martin Hill Ranch LLC State: CA Sampling Point: 13

Investigator(s): Robert Carroll, Juliet Simpson Section, Township, Range:

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

Subregion (LRR): Lat: 37.798965°N Long: -121.956419°W Datum:

Soil Map Unit Name: Diablo clay, 15-30% slopes, MLRA 15 NWI classification: Freshwater Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

Cattle present on site, hoof prints throughout site. Soil present throughout site is Diable Clay, a naturally dark, water-retaining soil.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Festuca perennis	60	Y	FAC
2. Vicia sativa	1	N	FACU
3. Geranium dissectum	T	N	N/A
4. Eleocharis microstachya	37	Y	N/A (OBL)
5. Rumex crispus	2	N	FAC
6.			
7.			
8.			
Total Cover: 100%			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	1	x 1 =	1
FACW species		x 2 =	
FAC species	2	x 3 =	6
FACU species	1	x 4 =	4
UPL species		x 5 =	
Column Totals:	4 (A)		11 (B)

Prevalence Index = B/A = 2.75

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Dominance of Eleocharis is characteristic of emergent wetlands in this site

SOIL

Sampling Point: 13

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2"	10 YR 3/1	95	7.5 YR 6/8	5	C	M	clay	
2-16"	10 YR 3/1	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

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

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

Wetland Hydrology Present? **Yes** X **No** _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Elworthy Property East Project City/County: Danville/Contra Costa Sampling Date: 4/10/2025

Applicant/Owner: Bates Stringer – Martin Hill Ranch LLC State: CA Sampling Point: 14

Investigator(s): Robert Carroll, Juliet Simpson Section, Township, Range:

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

Subregion (LRR): Lat: 37.798040°N Long: -121.955800°W Datum:

Soil Map Unit Name: Diablo clay, 15-30% slopes, MLRA 15 NWI classification: Freshwater Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

Cattle present on site, hoof prints throughout site. Soil present throughout site is Diable Clay, a naturally dark, water-retaining soil.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Festuca perennis	46	Y	FAC
2. Vicia sativa	T	N	FACU
3. Juncus xiphioides	3	N	OBL
4. Eleocharis microstachya	50	Y	N/A (OBL)
5. Medicago polymorpha	1	N	FACU
6. Sonchus asper	T	N	FAC
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	2	x 1 =	2
FACW species		x 2 =	
FAC species	2	x 3 =	6
FACU species	2	x 4 =	8
UPL species		x 5 =	
Column Totals:	6 (A)		16 (B)

Prevalence Index = B/A = 2.67

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Dominance of Eleocharis is characteristic of emergent wetlands on this site.

SOIL

Sampling Point: 14

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2"	10 YR 3/1	95	7.5 YR 6/8	5	C	M	clay	
2-8"	10 YR 3/1	100						
8-16"	GLEY 1 3/5G-/1	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- X Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

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

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

Wetland Hydrology Present? **Yes** X **No** _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Elworthy Property East Project City/County: Danville/Contra Costa Sampling Date: 4/10/2025

Applicant/Owner: Bates Stringer – Martin Hill Ranch LLC State: CA Sampling Point: 15

Investigator(s): Robert Carroll, Juliet Simpson Section, Township, Range:

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

Subregion (LRR): Lat: 37.796547°N Long: -121.955967°W Datum:

Soil Map Unit Name: Diablo clay, 15-30% slopes, MLRA 15 NWI classification: Freshwater Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

Cattle present on site, hoof prints throughout site. Soil present throughout site is Diable Clay, a naturally dark, water-retaining soil.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Juncus xiphioides	37	Y	OBL
2. Lotus corniculatus	20	Y	FAC
3. Erythranthe guttata	15	N	OBL
4. Elecharis microstachya	15	N	N/A (OBL)
5. Nasturtium officinale	5	N	OBL
6. Xanthium spinosum	5	N	FACU
7. Geranium dissectum	2	N	N/A
8. Sonchus asper	1	N	FAC
Total Cover:	100%		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	4	x 1 =	4
FACW species		x 2 =	
FAC species	2	x 3 =	6
FACU species	1	x 4 =	4
UPL species		x 5 =	
Column Totals:	7 (A)		14 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Dominance of Eleocharis is characteristic of emergent wetlands on this site.

SOIL

Sampling Point: 15

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1"	10 YR 2/1	100	7.5 YR 6/8	T	C	RC	clay	
2-16"	10 YR 2/1	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): _____

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

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

Wetland Hydrology Present? **Yes** X **No** _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Elworthy Property East Project City/County: Danville/Contra Costa Sampling Date: 4/10/2025

Applicant/Owner: Bates Stringer – Martin Hill Ranch LLC State: CA Sampling Point: 16

Investigator(s): Robert Carroll, Juliet Simpson Section, Township, Range:

Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): convex Slope (%): 20%

Subregion (LRR): Lat: 37.795612°N Long: -121.955845°W Datum:

Soil Map Unit Name: Diablo clay, 15-30% slopes, MLRA 15 NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil X, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

Cattle present on site, hoof prints throughout site. Soil present throughout site is Diable Clay, a naturally dark, water-retaining soil.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Elymus caput-medusae	93	Y	N/A (UPL)
2. Festuca perennis	2	N	FAC
3. Bromus hordeaceus	5	N	FACU
4.			
5.			
6.			
7.			
8.			
Total Cover: 100%			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species 1	x 3 =	3
FACU species 1	x 4 =	4
UPL species 1	x 5 =	5
Column Totals: 3 (A)		12 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: 16

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12"	10 YR 2/1	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

Diablo clay soils naturally dark

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

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

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

Wetland Hydrology Present? **Yes** _____ **No** X

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

Remarks:

Soils dry and hard

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Elworthy Property East Project City/County: Danville/Contra Costa Sampling Date: 4/10/2025

Applicant/Owner: Bates Stringer – Martin Hill Ranch LLC State: CA Sampling Point: 17

Investigator(s): Robert Carroll, Juliet Simpson Section, Township, Range:

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

Subregion (LRR): Lat: 37.795552°N Long: -121.955821°W Datum:

Soil Map Unit Name: Diablo clay, 15-30% slopes, MLRA 15 NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil X, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

Cattle present on site, hoof prints throughout site. Soil present throughout site is Diable Clay, a naturally dark, water-retaining soil.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Festuca perennis	78	Y	FAC
2. Hordeum murinum	5	N	FAC
3. Medicago polymorpha	2	N	FACU
4. Eleocharis microstachya	15	N	N/A (OBL)
5. Juncus xiphioides	T	N	OBL
6. Geranium dissectum	T	N	N/A
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	2	x 1 =	2
FACW species		x 2 =	
FAC species	2	x 3 =	6
FACU species	1	x 4 =	4
UPL species		x 5 =	
Column Totals:	5 (A)		12 (B)

Prevalence Index = B/A = 2.4

Hydrophytic Vegetation Indicators:

- X Dominance Test is >50%
- X Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Dominance of Eleocharis is characteristic of emergent wetlands on this site.

SOIL

Sampling Point: 17

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2"	10 YR 2/1	98	7.5 YR 4/6	2	C	M	clay	
2-16"	10 YR 2/1	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

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

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

Wetland Hydrology Present? **Yes** X **No** _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Elworthy Property East Project City/County: Danville/Contra Costa Sampling Date: 4/10/2025

Applicant/Owner: Bates Stringer – Martin Hill Ranch LLC State: CA Sampling Point: 18

Investigator(s): Robert Carroll, Juliet Simpson Section, Township, Range:

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

Subregion (LRR): Lat: 37.795296°N Long: -121.955776°W Datum:

Soil Map Unit Name: Diablo clay, 15-30% slopes, MLRA 15 NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil X, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

Cattle present on site, hoof prints throughout site. Soil present throughout site is Diable Clay, a naturally dark, water-retaining soil.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Festuca perennis	50	Y	FAC
2. Lysimachia arvensis	T	N	FAC
3. Medicago polymorpha	30	Y	FACU
4. Eleocharis microstachya	20	Y	N/A (OBL)
5. Geranium dissectum	T	N	N/A
6.			
7.			
8.			
Total Cover: 100%			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	1	x 1 =	1
FACW species		x 2 =	
FAC species	2	x 3 =	6
FACU species	1	x 4 =	4
UPL species		x 5 =	
Column Totals:	5 (A)		12 (B)

Prevalence Index = B/A = 2.4

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Dominance of Eleocharis is characteristic of emergent wetlands on this site.

SOIL

Sampling Point: 18

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16"	10 YR 3/2	100					clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): _____

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

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

Wetland Hydrology Present? **Yes** X **No** _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Elworthy Property East Project City/County: Danville/Contra Costa Sampling Date: 4/10/2025

Applicant/Owner: Bates Stringer – Martin Hill Ranch LLC State: CA Sampling Point: 19

Investigator(s): Robert Carroll, Juliet Simpson Section, Township, Range:

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

Subregion (LRR): Lat: 37.795096°N Long: -121.955800°W Datum:

Soil Map Unit Name: Diablo clay, 15-30% slopes, MLRA 15 NWI classification: Freshwater Emergent Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

Cattle present on site, hoof prints throughout site. Soil present throughout site is Diable Clay, a naturally dark, water-retaining soil.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Nasturtium officinale	75	Y	OBL
2. Erythranthe guttata	5	N	OBL
3. Festuca perennis	13	N	FAC
4. Hordeum marinum	2	N	FAC
5. Rumex crispus	5	N	FAC
6. Lotus corniculatus	T	N	FAC
7.			
8.			
Total Cover: 100%			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	2	x 1 =	2
FACW species		x 2 =	
FAC species	4	x 3 =	12
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	6 (A)		14 (B)

Prevalence Index = B/A = 2.3

Hydrophytic Vegetation Indicators:

- X Dominance Test is >50%
- X Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Dominance of Eleocharis is characteristic of emergent wetlands on this site.

SOIL

Sampling Point: 19

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-4"	GLEY 1 4/10Y	100	7.5 YR 3/4	T	C	RC	clay	
4-16"	GLEY 1 4/10Y	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- X Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): _____

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

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 10"

Wetland Hydrology Present? **Yes** X **No** _____

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

Remarks:

Appendix G:
Breeding Season Burrowing Owl Report

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FCS
An ADEC Innovation

Breeding Season Burrowing Owl Survey Report for the 2025 Season
Martin Hills Ranch Residential Project
Town of Danville, Contra Costa County, California

Project Applicant:
Bates Stringer Martin Hills Ranch, LLC
875 Orange Blossom Way
Danville, CA, 94526

Contact: Scott Stringer
925.216.1816

Lead Agency:
Town of Danville
Planning Division
500 La Gonda Way
Danville, CA 94526

Contact: David Crompton, Chief of Planning
925.314.3349

Prepared by:
FirstCarbon Solutions
2999 Oak Road, Suite 250
Walnut Creek, CA 94597

Contact: Mary Bean, Project Director and Senior Vice President
Robert Carroll, Senior Biologist

Date: July 11, 2025

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SECTION 1: INTRODUCTION

FirstCarbon Solutions (FCS) prepared this Breeding Season Burrowing Owl Survey Report in support of the proposed Martin Hills Ranch Residential Project (proposed project) in the Town of Danville, in Contra Costa County, California. This report summarizes the findings of protocol habitat assessment, burrow survey, and breeding season burrowing owl surveys conducted by FCS between March 5, 2025, and June 18, 2025. This report also includes summaries of previous surveys conducted at the site, methods for conducting the breeding season surveys and survey results, and recommended measures to avoid or minimize potential project impacts.

1.1 - Project Site Location

The 100.23-acre project site is located in the Town of Danville (Town), in Contra Costa County (County), California (Exhibit 1). The Town is located in the eastern San Francisco Bay Area of Northern California. The Town is bordered to the north by the unincorporated community of Alamo, to the east by the unincorporated communities of Blackhawk and Diablo, to the south by the City of San Ramon, and to the west by the Las Trampas Regional Wilderness Park and unincorporated Contra Costa County. Located in southwestern Contra Costa County, the Town covers approximately 18 square miles and has historically been a suburban community serving major employment centers to the west (e.g., the City of San Francisco) and to the south (e.g., the City of San José). Regional access to the Town is provided by Interstate 680 (I-680) and State Route (SR) 24 to the west and I-580 to the south.

More specifically, the project site is located in the southern portion of the Town and is located off Borica Drive and Como Way and is generally bound to the south and west by residential developments, to the south/southeast by residential developments and the Crow Canyon Country Club Driving Range, and to the north/northeast by open space (Exhibit 2). The project site consists of five Assessor's Parcel Numbers (APNs): 218-010-008, 218-010-009, 218-010-010, 218-010-011, and 218-010-012. The site is located within the *Diablo, California* United States Geological Survey (USGS) 7.5-minute Topographic Quadrangle Map.

1.2 - Project Description

The project applicant proposes to construct 20 single-family homes, with approximately 25 percent (five homes) being designed with accessory dwelling units (ADUs). The residential lots would be clustered in the southeastern portion of the approximately 100.23-acre project site. The proposed project is expected to generate approximately 70 residents.

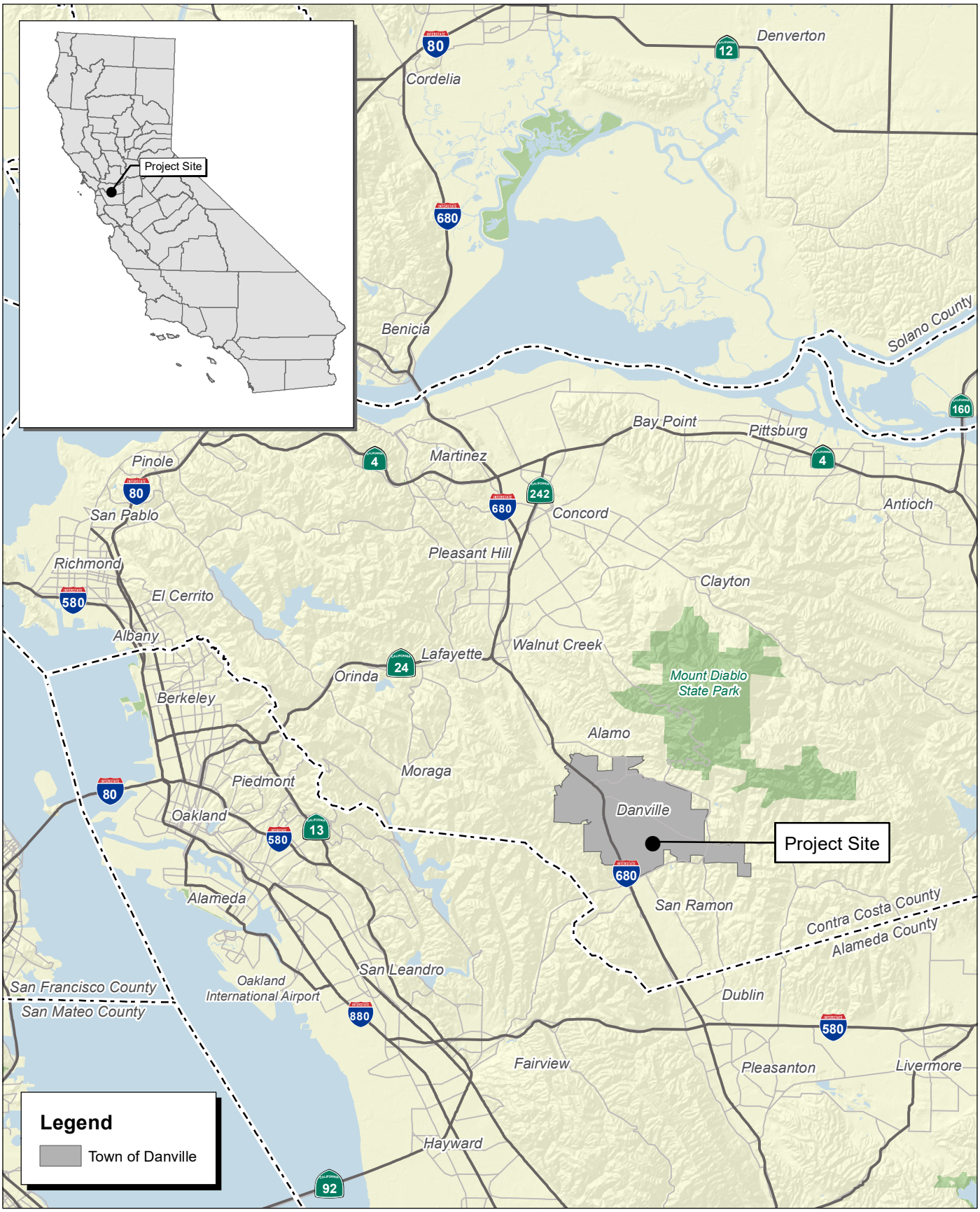
The 20 residential lots would range between 14,553 square feet and 25,387 square feet, and the proposed project would also include several agricultural lots located north and west of the residences. Furthermore, the proposed project would construct project access off Como Way and internal streets to provide internal circulation within the project site (Exhibit 3).

1.3 - Previous Surveys

FCS Biologists conducted a general wildlife, habitat, vegetation community, and aquatic resource survey on July 12, 2024. The objective of the field survey was to ascertain general site conditions and wildlife use and to identify whether existing vegetation communities provide suitable habitat for special-status plant or wildlife species. No burrowing owls or sign of burrowing owls were observed on or adjacent to the site during the general biological survey.

Additional surveys conducted on-site, including floristic plant surveys conducted by a qualified Botanist from Pinecrest Environmental Consulting (Pinecrest) on April 5, May 2, and July 10, 2024. A preliminary California Red-legged Frog (CRLF) Habitat Assessment was conducted by a qualified Biologist from WRA on March 21, 2024; and to support a presence/absence determination of CRLF, an additional eight surveys were conducted by WRA Biologists between March 21, 2024, and July 2, 2024

. A preliminary Aquatic Resources Delineation conducted by FCS Biologists on September 12, 2024. No burrowing owls or sign of burrowing owls were observed on or adjacent to the site during the floristic, CRLF, or delineation surveys.



Source: Census 2000 Data, The California Spatial Information Library (CaSIL).

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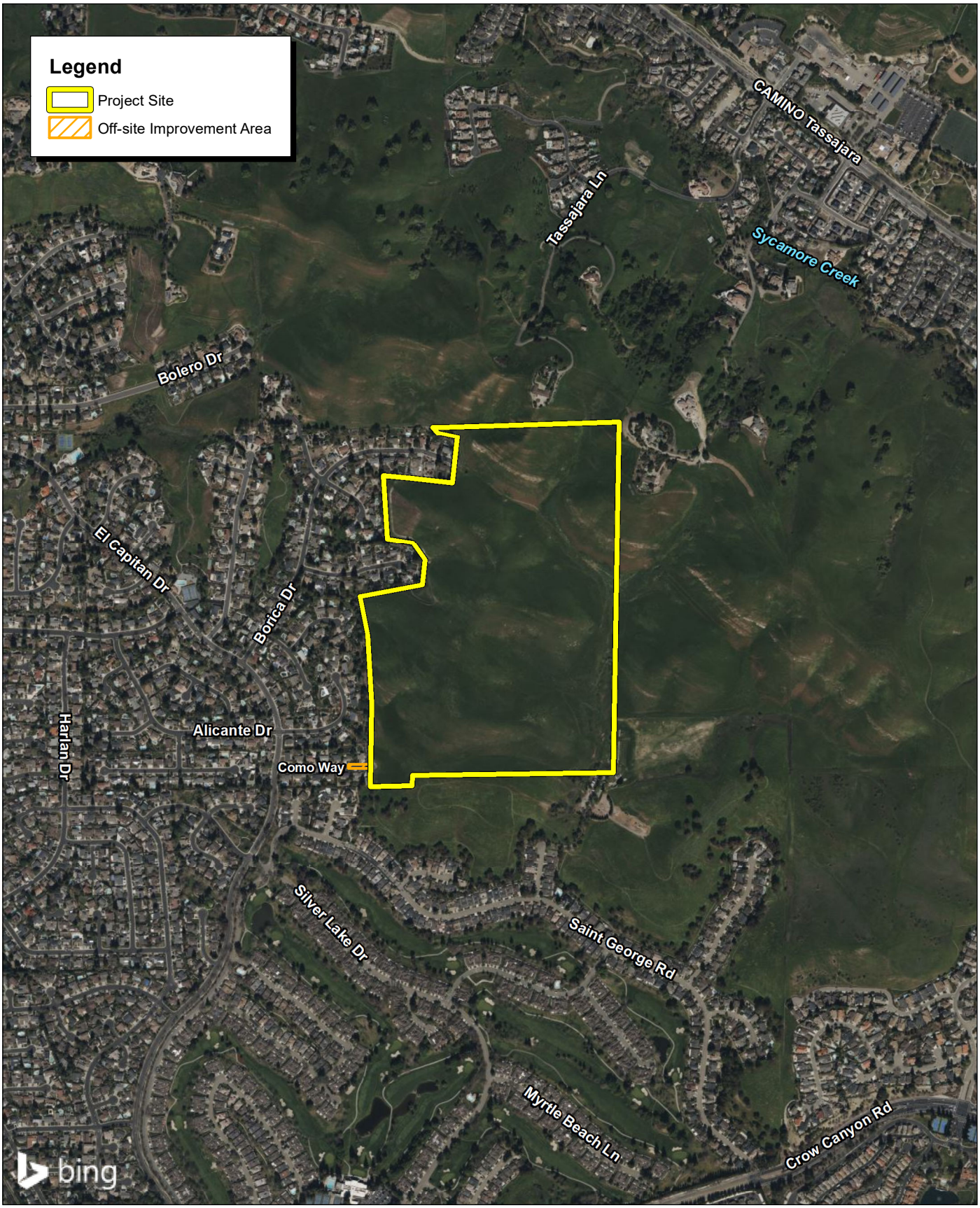
5 2.5 0 5 Miles

Exhibit 1
Regional Location Map

59600001 • 06/2025 | 1_regional.mxd

BATES STRINGER MARTIN RANCH, LLC
MARTIN HILLS RANCH RESIDENTIAL PROJECT
BREEDING SEASON BURROWING OWL SURVEY REPORT FOR THE 2025 SEASON

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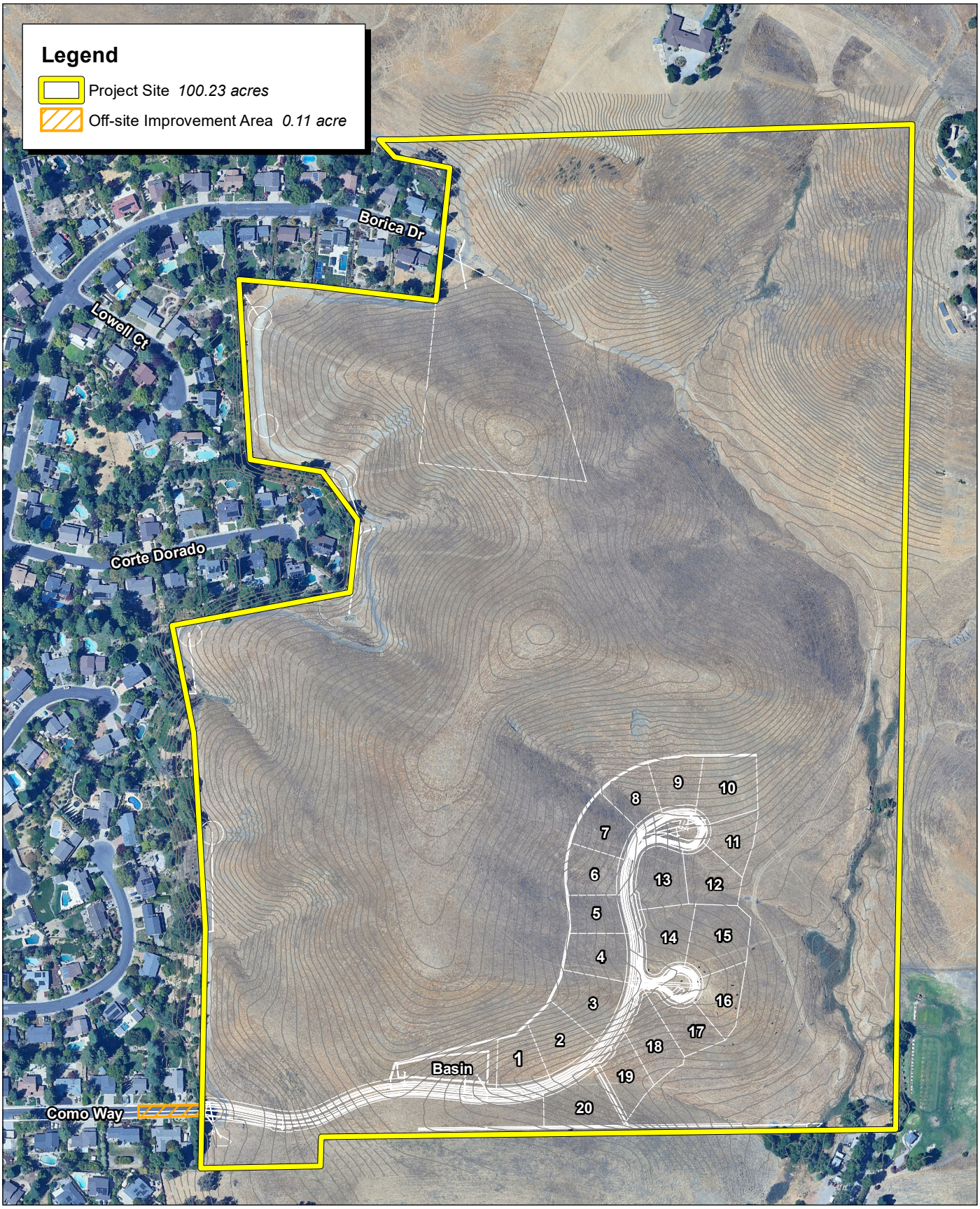
Source: Bing Aerial Imagery. CBG Civil Engineers, January 28, 2025.

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1,000 500 0 1,000 Feet

Exhibit 2
Local Vicinity Map

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Source: Google Earth Aerial Imagery. CBG Civil Engineers, January 28, 2025.

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350 175 0 350
Feet

Exhibit 3
Site Plan

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SECTION 2: BACKGROUND

2.1 - Burrowing Owl Biology and Conservation Status

The burrowing owl (*Athene cunicularia*) is an owl in the family Strigidae. The historic range for the species includes the Central Valley from Redding south to the Grapevine, east through the Mojave Desert, and west to San José; the San Francisco Bay Area; the outer coastal foothills area that extend from Monterey south to San Diego; and the Sonoran Desert.[1,2] Burrowing owls are yearlong residents in suitable habitats throughout California. Preferred habitats include grasslands and sparse shrublands or other low-growing or sparse vegetation. In the Imperial Valley, they are often associated with agricultural fields. They can make localized movements but normally have moderate to high site fidelity to general breeding areas, to ground squirrel colonies, and even to particular nest burrows, depending on successful past breeding.[3,4] Non-migratory burrowing owls use and maintain burrows year-round.[5] Burrowing owls nest and roost in burrows excavated by California ground squirrels (*Otospermophilus beecheyi*), canids like coyote (*Canis latrans*), kit foxes (*Vulpes macrotis*), American badgers (*Taxidea taxus*), and other small- and medium-sized mammals. They can also occupy man-made structures, such as culverts, concrete and asphalt piles, standpipes, and clay irrigation pipes. Burrowing owls are primarily crepuscular (dawn and dusk) and nocturnal feeders, although they can be seen at any time.

Burrowing owl populations are threatened by habitat loss, pesticide use, and ground squirrel eradication programs, which limit suitable burrowing habitat. Formerly common in Central and Southern California coastal habitats, smaller interior valleys, and in the Central Valley, urbanization and agriculture have resulted in reductions in burrowing owl distribution.[6,7] In Northern California, remnant populations persist in the agricultural and in the rural areas of Santa Clara County, Alameda County, Contra Costa County, Solano County, Yolo County, and Sacramento County. Agricultural areas of the Imperial Valley appear to support the highest numbers of this species.[8]

---

1 Grinnell, J., and A.H. Miller. 1944. The Distribution of Birds of California. Pacific Coast Avifauua 27:1-617.

2 Gervais, J.A., D.K. Rosenberg, and L.A. Comrack. 2008. Burrowing Owl (*Athene cunicularia*). California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. W.D. Shuford and T. Gardali, eds. Camarillo, CA: Western Field Ornithologists and Sacramento, CA: California Department of Fish and Wildlife.

3 Bates, C. 2006. Burrowing Owl (*Athene cunicularia*). In The Draft Desert Bird Conservation Plan: A strategy for reversing the decline of desert-associated birds in California. California Partners in Flight.

4 Klute, D. S., L. W. Ayers, M. T. Green, W. H. Howe, S. L. Jones, J. A. Shaffer, S. R. Sheffield, and T. S. Zimmerman. 2003. Status Assessment and Conservation Plan for the Western Burrowing Owl in the United States. FWS/BTP-R6001-2003. Washington, DC: U.S. Department of Interior, Fish and Wildlife Service.

5 Haug, E.A., B.A. Millsap, and M.S. Martell. 1993. Burrowing Owl (*Speotyto cunicularia*). The Birds of North America, No. 61. A. Poole and F. Gill, eds. Philadelphia, PA: The American Ornithologists' Union and Washington, DC: The Academy of Natural Sciences.

6 Zarn, M. 1974. Burrowing Owl, Report No. 11. Habitat Management Series for Unique or Endangered Species. Denver, CO: U.S. Department of the Interior, Bureau of Land Management.

7 Gervais, J.A., D.K. Rosenberg, and L.A. Comrack. 2008. Burrowing Owl (*Athene cunicularia*). California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. W.D. Shuford and T. Gardali, eds. Camarillo, CA: Western Field Ornithologists and Sacramento, CA: California Department of Fish and Wildlife.

8 Gervais, J.A., D.K. Rosenberg, and L.A. Comrack. 2008. Burrowing Owl (*Athene cunicularia*). California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. W.D. Shuford and T. Gardali, eds. Camarillo, CA: Western Field Ornithologists and Sacramento, CA: California Department of Fish and Wildlife.

In October of 2024, the California Fish and Game Commission voted unanimously that listing the burrowing owl under the California Endangered Species Act (CESA) was warranted and the species was advanced to candidate status. The burrowing owl is also considered a Special Species of Concern by the California Department of Fish and Wildlife (CDFW) and a Bird of Conservation Concern by the United States Fish and Wildlife Service (USFWS). Nesting burrows are protected by the Migratory Bird Treaty Act (MBTA). Take of individual burrowing owls and their nests is prohibited by Sections 3503, 3503.5, and 3513 of the California Fish and Game Code. Take is defined in Fish and Game Code Section 86 as to "hunt, pursue, catch, capture or kill, or attempt to hunt, pursue, catch, capture or kill."

SECTION 3: ENVIRONMENTAL SETTING

The project site is situated in southeast Danville, positioned just north/northwest of the Crow Canyon Country Club Driving Range. Its central coordinates are approximately 37.798069° latitude and -121.958602° longitude. The site currently contains undeveloped non-native annual grassland, intermittent and ephemeral drainages, and seasonal wetlands.

3.1 - Topography and Hydrology

The elevation within the project site varies, ranging from approximately 165 feet above mean sea level (AMSL) in the southeastern corner to 260 feet AMSL in the northeastern corner. Along the western boundary, elevations extend from 170 feet AMSL in the southern section to 210 feet AMSL in the northern section. The main stem intermittent drainage channel traverses the northern portion of the site, flowing southward along the eastern project boundary before continuing off-site. The southeastern section contains intermittent and ephemeral tributaries that funnel direct precipitation into the main stem drainage, which then moves southward and exits the project area. Water leaving the site remains part of main stem drainage as it progresses into the Bay Club Crow Canyon. From there, it is presumed that the flow enters the Contra Costa County stormwater system. All stormwater systems within Contra Costa County transport water directly to the San Francisco Bay without treatment.

3.2 - Soils

The Natural Resource Conservation Service (NRCS) Web Soil Survey (WSS) mapped two soil types on the project site: 81.89 acres of Diablo clay (DdE), 15 to 10 percent slopes; and 18.34 acres of Diablo clay (DdF), 30 to 50 percent slope. The Diablo series consists of well drained soils with a restrictive paralithic bedrock layer at 40–59 inches. This soil formed from residuum weathered from calcareous shale. These soils extend into the 500-foot buffer around the project site. They are well-drained and friable and provide a suitable base for burrowing wildlife. However, due to the actions of other ground mammal activity, such as ground squirrels, burrows are regularly occluded with soils.

3.3 - Vegetation Communities and Land Cover

FCS Biologists recorded the following vegetation community types on-site during a visit to the project site on July 12, 2024, and verified them during a subsequent survey of the site in 2024. A map of the vegetation communities is presented in Exhibit 4. Representative photographs of vegetation communities and on-site conditions are presented in Appendix A.

Wild Oats and Annual Brome Grassland

Non-native annual grassland is the dominant vegetation community on the project site. This community generally corresponds to 42.027.00 *Avena* spp.–*Bromus* spp. herbaceous semi-natural alliance, specifically the 42.040.03 *Brachypodium distachyon* association, which is not ranked as sensitive on the California Natural Community List. The dominant species in this community are ripgut brome (*Bromus diandrus*), soft brome (*Bromus hordeaceus*), false brome (*Brachypodium*

distachyon), and Italian ryegrass (*Festuca perennis)*, with other non-native grasses also abundant including wild oat (*Avena fatua*), slender oat (A*vena barbata*), seaside barley (*Hordeum marinum*), and foxtail barley (*Hordeum murinum*). There are many non-native forbs present in this community as well, including black mustard (*Brassica nigra*), yellow star thistle (*Centaurea solstitialis*), artichoke (*Cynara cardunculus ssp. cardunculus*), prickly lettuce (*Lactuca serriola*), bur medic (*Medicago polymorpha*), and rose clover (*Trifolium hirtum*). Scattered native forbs are also present in this community, including small-flowered fiddleneck (*Amsinckia menziesii*), Jepson's pea (*Lathyrus jepsonii*), shining peppergrass (*Lepidium nitidum*), and blue-eyed grass (*Sisyrinchium bellum*).

Rock Outcrop Habitat

There are scattered occurrences of rocky outcrops in the northeastern portion of the site. These outcrops are outside the proposed impact area and host some species not found in the surrounding non-native grassland habitat, including naked-stemmed buckwheat (*Eriogonum nudum*) and poison oak (*Toxicodendron diversilobum*); however, many of the surrounding non-native species are also present.

Intermittent Drainages

There are three intermittent drainages on the project site. The main stem drainage that traverses the site is a naturally occurring headwater drainage. This drainage enters the project site in the eastern portion of the northern boundary and moves toward the center of the northern half of the site before turning back to eastern boundary and then moving south off-site. This drainage is fed by intermittent flows from the north, adjacent intermittent and ephemeral drainages, and seasonal wetlands on-site. This segment generally drains the project site to the south. Species present within this drainage segment include common spikerush (*Eleocharis macrostachya*), seep monkeyflower (*Erythranthe guttata*), toad rush (*Juncus bufonius*), iris leaved rush (*Juncus xiphioides*), hyssop loosestrife (*Lythrum hyssopifolia*), watercress (*Nasturtium officinale)*, rabbitsfoot grass (*Polypogon monspeliensis*), curly dock (*Rumex crispus)*, and Italian rye grass.

The second intermittent drainage is a naturally occurring first order tributary that runs northeast to southwest, where it terminates as it meets the drainage segment identified above. This drainage enters the project site in the center of the eastern boundary, where it joins with the drainage segment identified above. This segment drains the eastern off-site cattle pasture to the west. Species present within this drainage segment include common spikerush, seep monkeyflower, toad rush, iris leaved rush, bird’s foot trefoil (*Lotus carniculatus)*, scarlet pimpernel (*Lysimachia arvensis)*, hyssop loosestrife, rabbitsfoot grass, curly dock, spiny sowthistle (*Sonchus asper*), and Italian rye grass.

The third intermittent drainage appears to be a naturally occurring first order tributary that runs east to west in the southeastern corner of the project site. However, hydrology is likely influenced due to the adjacent driving range where this segment originates. Species present within this drainage segment include chairmaker’s bulrush (*Schoenoplectus americanus*), seep monkeyflower, watercress, and Italian rye grass.

Ephemeral Drainages

There are two ephemeral drainages on the project site. Both are naturally occurring and drain precipitation that falls on the western half of the project site. The northern ephemeral drainage starts at the center of the project site and flows to the southeast, emptying flows into the main stem intermittent drainage on-site. The southern ephemeral drainage starts in the southeast portion of the site just north of the project site boundary and flows to the southeast off-site. This drainage likely empties into an off-site portion of the main intermittent drainage that flows through this site. The ephemeral drainages are filled with non-native upland vegetation that dominates the surrounding annual grassland community, including Italian ryegrass, soft brome, and bur medic.

Seasonal Wetland

There are seasonal emergent wetlands within the project site. These occur along and appear to be hydrologically connected to the intermittent drainages on-site. Obligate wetland species are dominant in these areas, including tule (*Schoenoplectus acutus* var. *occidentalis*), common cattail (*Typha latifolia*), American speedwell (*Veronica americana*), seep monkeyflower, and watercress. Facultative wetland species are also abundant in these areas, including wire rush (*Juncus balticus*), toad rush, rabbitsfoot grass. These areas all showed evidence of hydrology and hydric soils, including surface water, high water table, redoximorphic soil features, and evidence of hydrogen sulfide.

Riparian Vegetation

Riparian vegetation is present in two areas of the southern portion of the main stem drainage channel within the southeastern portion of the site. One red willow tree (*Salix laevigata*) and one pacific willow (*Salix lasiandra)* were observed and constitute the entirety of the woody riparian vegetation. Understory species included with seep monkey flower, watercress, curly dock, annual bluegrass (*Poa annua*), Italian ryegrass, iris leaved rush, American speedwell, Italian ryegrass, seaside barley, and tall flatsedge (*Cyperus eragrostis*).

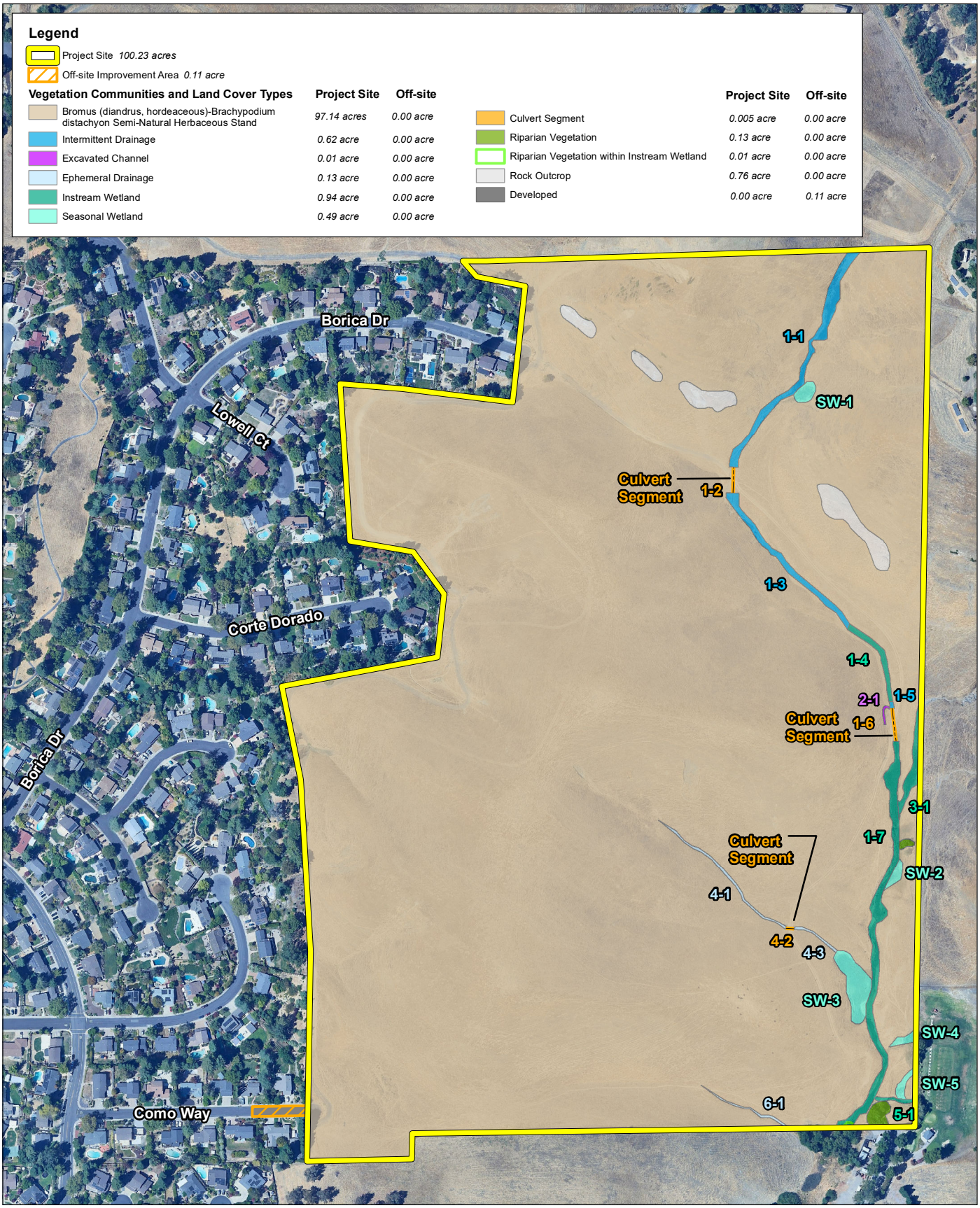
Developed

The project site does not contain any development within the project site boundaries but does contain development within the off-site improvement area. This area is located outside of the southwest portion of the site and contains a portion of Como Way. Como Way is a concrete paved road that will be extended as the entrance road to the development. No vegetation outside of ornamental vegetation is located along Como Way.

3.4 - Conservation Areas

The project site is located approximately 950 feet west of the western boundary of the Willow Hole Conservation Area. This conservation area contains habitat for several species covered by the Multiple Species Habitat Conservation Plan (MSHCP), including Coachella Valley milk-vetch, Little San Bernardino Mountains linanthus, Coachella Valley fringe-toed lizard (*Uma inornata*), burrowing owl (*Athene cunicularia*), Le Conte's thrasher (*Toxostoma lecontei*), Palm Springs pocket mouse (*Perognathus longimembris bangsi*), and Palm Springs round-tailed ground squirrel (*Xerospermophilus tereticaudus chlorus*).

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Source: Google Earth Aerial Imagery. CBG Civil Engineers, January 28, 2025.

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Exhibit 4
Vegetation Communities and Land Cover Types

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SECTION 4: METHODS

4.1 - Desktop Review

4.1.1 - Database Searches

An FCS Biologist compiled information about the occurrence of burrowing owls previously recorded in the project vicinity. FCS accessed the CDFW California Natural Diversity Database (CNDDB) and the USFWS Information for Planning and Consultation (IPaC) online planning tool.[9,10] The CNDDB Biogeographic Information and Observation System (BIOS 6) database was used to determine the distance between known recorded occurrences of burrowing owls and the project site.[11]

4.1.2 - Review of Topographic Maps and Aerial Photographs

An FCS Biologist reviewed aerial photographs to assess existing conditions in the project vicinity and the potential for burrowing owl habitat. FCS Biologists accessed Google Earth aerial photographs to provide a perspective of the most current site conditions relative to on-site and off-site land use and vegetation communities in the vicinity of the project site.

4.2 - Field Surveys

4.2.1 - Burrow Survey

FCS Biologists conducted a survey for burrows, concurrent with the first breeding season burrowing owl survey, on March 5, 2025, March 6, 2025, and March 10, 2025, within mapped burrowing owl habitat on the project site and within its 500-foot buffer. During the survey the Biologists walked parallel transects spaced at 15 meters and searched for existing burrows greater than 4 inches in diameter, including those excavated by California ground squirrels, coyotes, and other burrowing wildlife. Burrows suitable for burrowing owl occupancy were recorded in ArcGIS Field Maps. The FCS Biologists also recorded any sign of burrowing owls (e.g., pellets, whitewash, tracks) detected at the burrows. No burrowing owl, nor sign of burrowing owl, were detected on-site during the March 2025 Burrow Surveys.

4.2.2 - 2025 Breeding Season Burrowing Owl Surveys

Following the mapping of burrows, FCS Biologists conducted a series of breeding season burrowing owl surveys on March 5, 2025, March 6, 2025, and March 10, 2025; April 16, 2025; May 14, 2025; and June 18, 2025, within suitable habitats on the project site and within its 500-foot buffer. The surveys were conducted by Biologists experienced with burrowing owl identification, per guidance provided in the CDFW (2012) Staff Report. The surveys were conducted based on CDFW breeding season protocol per the 2012 report: Conduct four survey visits: (1) at least one site visit between

[9] United States Fish and Wildlife Service (USFWS). 2025. Information for Planning and Consultation. Website: https://ecos.fws.gov/ipac/. Accessed June 6, 2025.
[10] California Department of Fish and Wildlife (CDFW). 2025. CNDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://apps.wildlife.ca.gov/rarefind/view/RareFind.aspx. Accessed June 6, 2025.
[11] California Department of Fish and Wildlife (CDFW). 2025. Biogeographic Information and Observation System (BIOS 6). Website: https://wildlife.ca.gov/Data/BIOS. Accessed June 6, 2025.

February 15 and April 15, and (2) a minimum of three survey visits, at least three weeks apart, between April 15 and July 15, with at least one visit after June 15. The surveys were conducted at times and during conditions that would allow for optimal viewing of burrowing owls, including when weather conditions were suitable for burrowing owl activity. The Biologists targeted the burrows during the surveys, generally walking from one burrow or burrow complex to the next. The Biologists also walked transects through suitable habitat on the project site spaced at 15 meters. The Biologists surveyed adjacent lands when available and scanned habitats in the 500-foot buffer of the project site with binoculars when necessary. During the surveys, the Biologists walked slowly and used binoculars to augment the search area, searching for burrowing owls that could be flushed as the Biologists approached. The Biologists also noted the condition of the burrows and recorded any sign of burrowing owl, if present. All birds observed or detected by vocalization were recorded during the surveys. No burrowing owl, nor sign of burrowing owl, were detected on-site during the four 2025 Breeding Season Burrowing Owl Surveys.

SECTION 5: RESULTS

5.1 - Desktop Review

According to the CNDDB, there are seven historical occurrences for burrowing owl within 5 miles of the project site; 16 historical occurrences of burrowing owl between 5 and 10 miles from the project site; and 22 historical occurrences of burrowing owl over 10 miles from the project site (Exhibit 5).[12,13] The USFWS IPaC report did not identify burrowing owl as an endangered species or migratory bird of concern in the project vicinity.[14] A review of aerial photos determined that undeveloped lands that could support appropriate conditions for burrowing owl occurrence are located on the project site and within the adjacent 500-foot buffer area. These undeveloped lands within the adjacent 500-foot buffer area are separated from the project site with barbed-wire fencing.

5.2 - Field Surveys

FCS Biologists Hannah Carney and Juliet Simpson and FCS GIS Specialist Sebastian Macias conducted burrow surveys and focused owl surveys on March 5, 2025; March 6, 2025; and March 10, 2025. FCS Biologists Hannah Carney and Kayla Belanger performed additional burrowing owl searches on April 16, 2025; May 14, 2025; and June 18, 2025 (Table 1). A list of avian species observed during the burrowing owl surveys is presented in Appendix B.

Table 1: 2025 Breeding Season Burrowing Owl Survey Dates, Surveyors, and Survey Conditions

Date	Survey Type	Surveyor(s)	Time	Weather Conditions
March 5, 2025	Burrow survey Burrowing owl survey	H. Carney J. Simpson S. Macias	0800–1400	53–59°F, winds 0–12 mph, cloud cover 100%
March 6, 2025	Burrow survey Burrowing owl survey	H. Carney J. Simpson S. Macias	0800–1400	67–71°F, winds 0 mph, cloud cover 0–6%
March 10, 2025	Burrow survey Burrowing owl survey	J. Simpson	0830–1630	44–69°F, winds 0 mph, cloud cover 65–95%
April 16, 2025	Burrowing owl survey	H. Carney K. Belanger	0800–1100	51–56°F, winds 8–10 mph, cloud cover 80-90%
May 14, 2025	Burrowing owl survey	H. Carney	0800–1100	57–67°F, winds 2–3 mph, cloud cover 0%
June 18, 2025	Burrowing owl survey	H. Carney	0700–1000	57–71°F, winds 3–4 mph, cloud cover 0%

[12] California Department of Fish and Wildlife (CDFW). 2025. CNDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://apps.wildlife.ca.gov/rarefind/view/RareFind.aspx. Accessed June 6, 2025.
[13] California Department of Fish and Wildlife (CDFW). 2025. Biogeographic Information and Observation System (BIOS 6). Website: https://wildlife.ca.gov/Data/BIOS. Accessed June 6, 2025.
[14] United States Fish and Wildlife Service (USFWS). 2025. Information for Planning and Consultation. Website: https://ecos.fws.gov/ipac/. Accessed June 6, 2025.

Date	Survey Type	Surveyor(s)	Time	Weather Conditions
Notes: °F = degrees Fahrenheit mph = miles per hour				

5.2.1 - Habitat Assessment

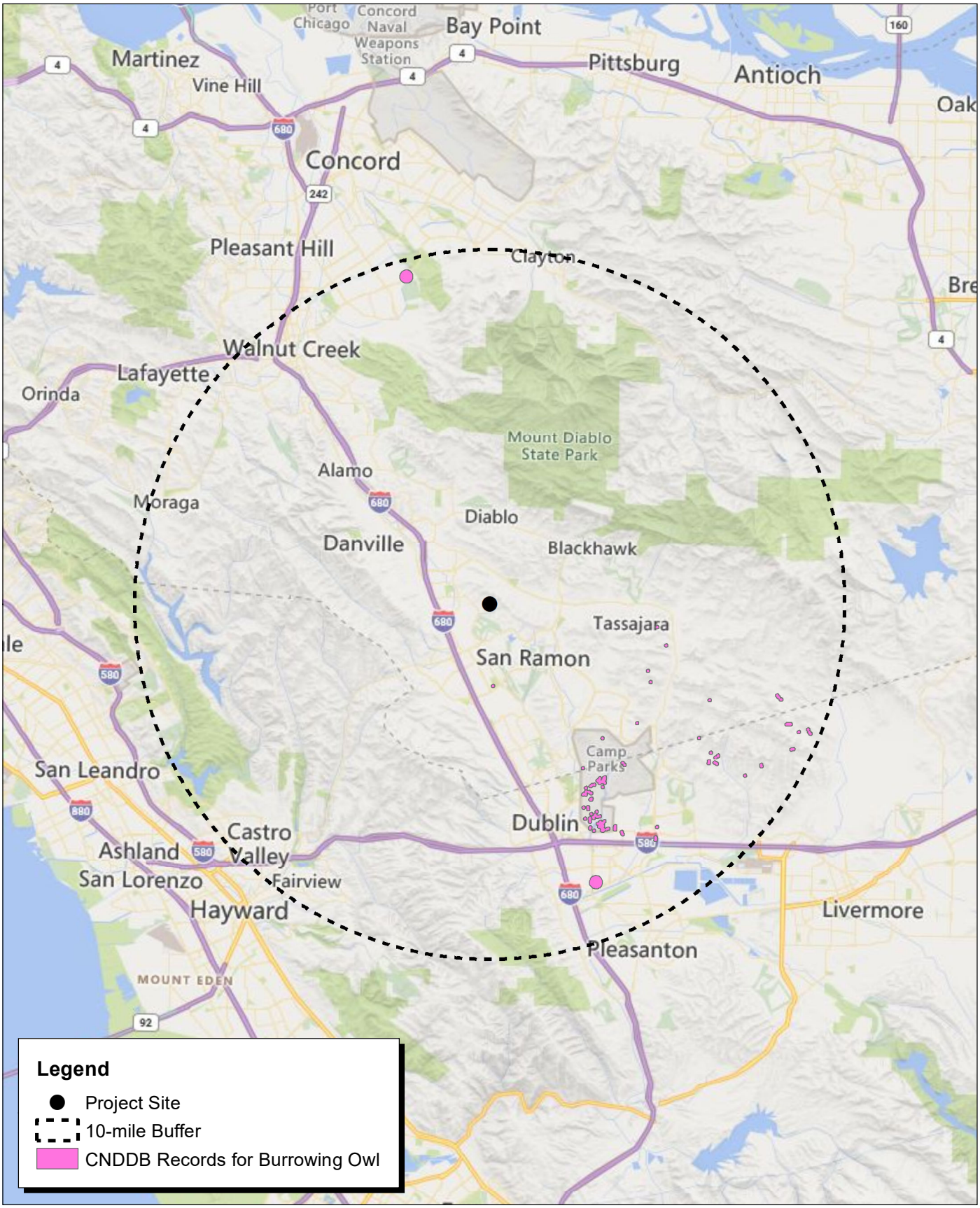
Burrowing owl habitat had previously been mapped on the project site, including the adjacent 500-foot buffer, on July 12, 2024. During this effort, FCS Senior Biologist Robert Carroll mapped existing vegetation communities that may provide suitable habitat for special-status plant or wildlife species, including burrowing owl habitat, over the entire project site and surrounding area.

5.2.2 - Burrow Survey

FCS Biologists Hannah Carney and Juliet Simpson and FCS GIS Specialist Sebastian Macias conducted the burrow survey, concurrent with the first breeding season burrowing owl survey, on March 5, 2025, March 6, 2025, and March 10, 2025, within the project site and 500-foot buffer area. A total of 200 suitable burrows were recorded on the project site (Exhibit 5). During the burrow and breeding season surveys, suitable burrows were recorded in the northwestern, western, eastern, and southeastern portion of the project site. No burrowing owls or sign of burrowing owls were detected at any of the suitable burrows on-site or adjacent to the site.

5.2.3 - 2025 Breeding Season Surveys

FCS Biologists performed breeding season surveys for burrowing owls on March 5, 2025, March 6, 2025, and March 10, 2025, during the burrow surveys, as well as during follow-up surveys between April 2025 and June 2025. FCS Biologists Hannah Carney and Kayla Belanger performed additional burrowing owl searches on April 16, 2025; May 14, 2025; and June 18, 2024. Weather conditions were suitable for observing owls during each visit. Small burrows of less than 4 inches in diameter were observed on-site which were determined to be unsuitable for occupancy by burrowing owls. Some potential burrows of sufficient size for burrowing owls were observed on-site but were partially occluded with dirt. No burrowing owls or sign of burrowing owls were detected at any of the suitable burrows on-site or adjacent to the site.



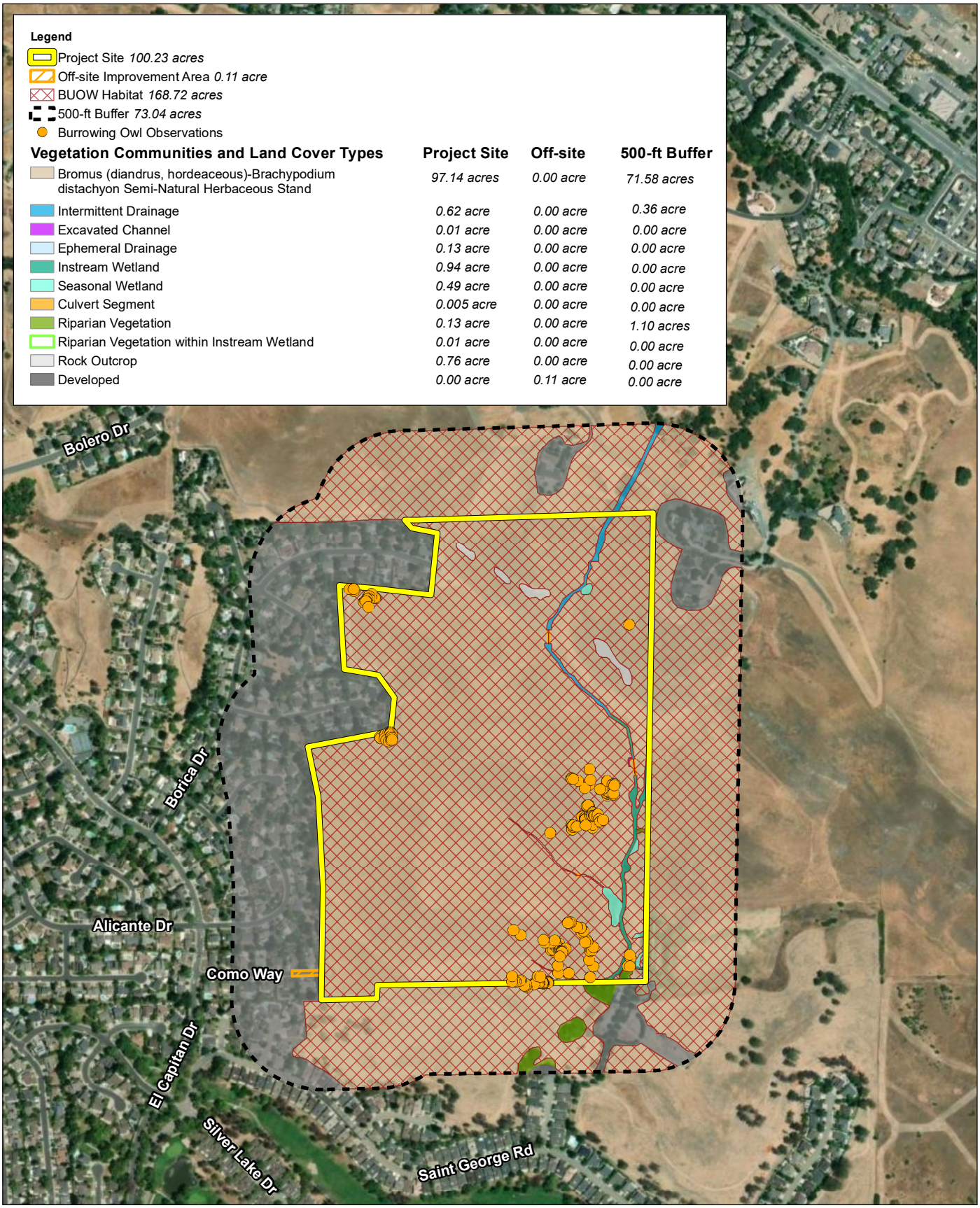
Source: Bing Aerial Imagery. California Natural Diversity Database (CNDDB), June 2025.

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Exhibit 5
Previously Recorded Occurrences of Burrowing Owls in the Project Vicinity

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Source: ESRI Aerial Imagery. CBG Civil Engineers, January 28, 2025.

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Exhibit 6
Results of the 2025 Breeding Season Burrowing Owl Survey

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SECTION 6: CONCLUSIONS AND RECOMMENDATIONS

The project site supports marginal habitat for burrowing owls. The project site is surrounded by urbanization to the west and south, with open space to the north and east of the project site. Most of the burrows observed during the breeding season surveys were located on open space clearings on hillsides and adjacent to dry drainages with associated erosion control features. Burrows present in the southeastern corner, adjacent to the main stem drainage, contain soils that are saturated and would not be suitable for burrowing owl. Although the project site contains suitable burrows and foraging habitat, no burrowing owls or sign of burrowing owls (i.e. feathers, whitewash, pellets, etc.) were detected during the breeding season surveys. The potential for occurrence of burrowing owls on and directly adjacent to the project site was assessed as being low. Though the occurrence potential for this species is considered low, it may be possible that the site could be inhabited temporarily by dispersing or transient burrowing owls and, thus, presence of this species cannot be ruled out. Therefore, pre-construction surveys are recommended to ensure that burrowing owl do not occupy the site between the breeding season surveys and ground disturbing activities.

6.1 - Recommendations to Avoid Project Impacts

To avoid potential project impacts on burrowing owls that may occupy the project site, the following Mitigation Measures are recommended. Note that MM BIO-1a is satisfied with the production of this report:

MM BIO-1a Burrowing Owl Breeding Season Surveys

Breeding season surveys shall be implemented by a qualified Biologist. Four breeding season survey visits shall be conducted, including: (1) at least one site visit between February 15 and April 15, and (2) a minimum of three survey visits, at least 3 weeks apart, between April 15 and July 15, with at least one visit after June 15. Each of the survey efforts will be conducted according to protocol defined by the California Department of Fish and Wildlife (CDFW) 2012 Staff Report on Burrowing Owl Mitigation. The results of the breeding season surveys shall be reported to the CDFW.

MM BIO-1b Burrowing Owl Pre-construction Survey and Agency Consultation

The project applicant shall retain a qualified Biologist to perform a pre-construction burrowing owl survey to determine whether burrowing owl are present on-site within 30 days prior to construction activities, according to the California Department of Fish and Wildlife (CDFW) guidelines. If construction is delayed or suspended for more than 30 days after the survey, the area shall be resurveyed. The pre-construction survey shall be completed on the project site and areas within 500 feet from the project boundary (where possible and appropriate based on habitat). All occupied burrows shall be mapped on an aerial photo. The applicant shall provide a burrowing owl survey report and mapping to the Town of Danville prior to

the expected start of any project-related ground disturbance activities or restart of activities. If the survey is positive for burrowing owls, the project applicant shall implement MM BIO-1b and MM BIO-1c. If no burrowing owls are detected during the pre-construction survey, no further action is necessary.

If the pre-construction survey determined that burrowing owl occupy the site, the project applicant shall consult with the California Department of Fish and Wildlife (CDFW) to determine appropriate mitigation for the loss of burrowing owl habitat due to project implementation. The outcome of the consultation shall determine the need for implementing a burrowing owl management and monitoring program, including the need for closing burrows, passively relocating owls, and/or constructing artificial burrows. The outcome of the consultation shall be included in a Burrowing Owl Mitigation Plan that shall be prepared by a qualified Biologist retained by the project applicant (see MM BIO-1c).

MM BIO-1c Burrowing Owl Mitigation Plan

If the pre-construction survey is positive for burrowing owl, the project proponent shall retain a qualified Biologist to develop and implement a Burrowing Owl Mitigation Plan. The Burrowing Owl Mitigation Plan shall contain the following elements (as outlined in the California Department of Fish and Wildlife [CDFW] 2012 guidelines) at a minimum:

- Avoidance of burrowing owl during construction, including establishment of a 160-foot radius around occupied burrows during the nonbreeding season (September 1 through February 14) or a 200- to 500-meter radius around occupied burrows during the breeding season (February 15 through August 31), within which construction activities may not occur until a qualified Biologist has determined that (1) nonbreeding season owls have dispersed from the area; or (2) breeding season owls have fledged their juveniles from the occupied burrows and the juveniles are foraging independently and are capable of independent survival or have dispersed from the area.
- A plan for implementing a passive relocation program for nonbreeding owls, should it be needed. The passive relocation techniques should be consistent with CDFW guidelines, including installation of artificial burrows at an off-site location and use of one-way exclusion doors to ensure owls have left the burrow(s).

SECTION 7: CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this Breeding Season Burrowing Owl Survey Report and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: July 11, 2025 Signed:



Robert Carroll, Senior Biologist
FirstCarbon Solutions
2999 Oak Road, Suite 250
Walnut Creek, CA 94597

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Appendix A:
Site Photographs

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Site Photographs



Photograph 1: Northern portion of project site, facing south. Existing non-native grassland and drainage present on-site.



Photograph 2: Central portion of the project site, facing south. Drainage and willow tree present on-site.



Photograph 3: Southern portion of project site, facing south. Drainage from golf course present on-site.



Photograph 4: Southern portion of the site, facing west. Non-native annual grassland and mustard present on-site.



Photograph 5: Southern portion of the site, facing north. Suitable burrow present on-site. No signs of burrowing owl (i.e. white-wash, feathers, or pellets).



Photograph 6: Western portion of the project site, facing east. Suitable nesting opportunities in existing erosion control feature on-site. No signs of burrowing owl (i.e. white-wash, feathers, or pellets).



Photograph 7: Western portion of the project site, facing east. Suitable nesting opportunities in existing erosion control feature on-site. No signs of burrowing owl (i.e. white-wash, feathers, or pellets).



Photograph 8: Southern portion of the project site, facing north. Existing drainage and non-native annual grassland present on-site.

Appendix B:
List of Avian Species Detected

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Table 1: Avian and Burrowing Mammal Species Observed

Common Name	*Scientific Name*	Native or Exotic?
Birds		
American kestrel	*Falco sparverius*	Native
American pipit	*Anthus rubescens*	Native
American robin	*Turdus migratorius*	Native
Common raven	*Corvus corax*	Native
California scrub jay	*Aphelocoma californica*	Native
Black phoebe	*Sayornis nigricans*	Native
Bewick's wren	*Thryomanes bewickii*	Native
Mourning dove	*Zenaida macroura*	Native
American crow	*Corvus brachyrhynchos*	Native
Red-tailed hawk	*Buteo jamaicensis*	Native
Anna's hummingbird	*Calypte anna*	Native
Canada goose	*Branta canadensis*	Exotic
Say's phoebe	*Sayornis saya*	Native
House finch	*Haemorhous mexicanus*	Native
Lesser goldfinch	*Spinus psaltria*	Native
Killdeer	*Charadrius vociferus*	Native
Northern harrier	*Circus cyaneus*	Native
Song sparrow	*Melospiza melodia*	Native
Northern flicker	*Colaptes auratus*	Native
Nuttall's woodpecker	*Picoides nuttallii*	Native
Ruby crowned kinglet	*Regulus calendula*	Native
Savannah sparrow	*Passerculus sandwichensis*	Native
Spotted towhee	*Pipilo maculatus*	Native
Turkey vulture	*Cathartes aura*	Native
Western bluebird	*Sialia mexicana*	Native
Western meadowlark	*Sturnella neglecta*	Native
White crowned sparrow	*Zonotrichia leucophrys*	Native
Wild turkey	*Meleagris gallopavo*	Native
Wilson's snipe	*Gallinago delicata*	Native
Yellow rumped warbler	*Setophaga coronata*	Native
Oak titmouse	*Baeolophus inornatus*	Native
California quail	*Callipepla californica*	Native

Common Name	*Scientific Name*	Native or Exotic?
brown-headed cowbird	*Molothrus ater*	Native
Golden crowned sparrow	*Zonotrichia atricapilla*	Native
Lincoln's sparrow	*Melospiza lincolnii*	Native
Mallard	*Anas platyrhynchos*	Native
Red-winged blackbird	*Agelaius phoeniceus*	Native
Northern mockingbird	*Mimus polyglottos*	Native
Nuttall's woodpecker	*Picoides nuttallii*	Native
American pipit	*Anthus rubescens*	Native
Chestnut backed chickadee	*Poecile rufescens*	Native
Rock pigeon	*Columba livia*	Exotic
Bushtit	*Psaltriparus minimus*	Native
Wilson's snipe	*Gallinago delicata*	Native
Burrowing Mammals		
California ground squirrel	*Otospermophilus beecheyi*	Native

Appendix H:
Species Compendium

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Species Compendium

Scientific Name	Common Name	Status
Invertebrates		
Bombus sp.	bumble bee	native
Bombus vosnesenskii	yellow-faced bumblebee	native
Amphibians		
Anaxyrus boreas	western toad	native
Aneides lugubris	arboreal salamander	native
Pseudacris sierra	Sierran treefrog	native
Mammals		
Bos taurus	cattle	non-native
Lepus californicus	black-tailed jackrabbit	native
Otospermophilus beecheyi	California ground squirrel	native
Birds		
Agelaius phoeniceus	red-winged blackbird	native
Anas platyrhynchos	mallard	native
Anthus rubescens	American pipit	native
Aphelocoma californica	California scrub jay	native
Branta canadensis	Canada goose	native
Buteo jamaicensis	red-tailed hawk	native
Calypte anna	Anna's hummingbird	native
Cathartes aura	turkey vulture	native
Charadrius vociferus	killdeer	native
Circus hudsonius	northern harrier	native
Colaptes auratus	northern flicker	native
Columba livia	rock pigeon	non-native
Corthylio calendula	ruby-crowned kinglet	native
Corvus brachyrhynchos	American crow	native
Corvus corax	common raven	native
Dryobates nuttallii	Nuttall’s woodpecker	native
Falco sparverius	American kestrel	native
Gallinago delicata	Wilson's snipe	native
Haemorhous mexicanus	house finch	native
Meleagris gallopavo	wild turkey	native
Melospiza lincolnii	Lincoln's sparrow	native

Scientific Name	Common Name	Status
Melospiza melodia	song sparrow	native
Mimus polyglottos	northern mockingbird	native
Passerculus sandwichensis	savannah sparrow	native
Pipilo maculatus	spotted towhee	native
Poecile rufescens	chestnut-backed chickadee	native
Psaltriparus minimus	bushtit	native
Sayornis nigricans	black phoebe	native
Sayornis saya	Say's phoebe	native
Setophaga coronata	yellow-rumped warbler	native
Sialia mexicana	western bluebird	native
Spinus psaltria	lesser goldfinch	native
Sturnella neglecta	western meadowlark	native
Thryomanes bewickii	Bewick's wren	native
Turdus migratorius	American robin	native
Tyto furcata	American barn owl	native
Zenaida macroura	mourning dove	native
Zonotrichia atricapilla	golden-crowned sparrow	native
Zonotrichia leucophrys	white-crowned sparrow	native
Plants		
Acacia melanoxylon	blackwood acacia	Cal-IPC: L
Achyrachaena mollis	blow-wives	native
Amsinckia menziesii	small-flowered fiddleneck	native
Asclepias fascicularis	narrow leaf milkweed	native
Avena barbata	slender oat	Cal-IPC: M
Avena fatua	wild oat	Cal-IPC: M
Bellardia trixago	Mediterranean lineseed	Cal-IPC: L
Brachypodium distachyon	false brome	Cal-IPC: M
Brassica nigra	black mustard	Cal-IPC: M
Bromus diandrus	ripgut brome	Cal-IPC: M
Bromus hordeaceus	soft brome	Cal-IPC: L
Bromus madritensis	red brome	non-native
Calandrinia menziesii	red maids	native
Calystegia sepium	western hedge bindweed	native
Capsella bursa-pastoris	shepherd’s purse	non-native

Scientific Name	Common Name	Status
Carduus pycnocephalus	Italian thistle	Cal-IPC: M
Castilleja attenuata	narrow leaved owl's clover	native
Centaurea solstitialis	yellow star thistle	Cal-IPC: H
Cerastium glomeratum	sticky chickweed	non-native
Chlorogalum pomeridianum	soap plant	native
Cirsium vulgare	bull thistle	Cal-IPC: M
Claytonia perfoliata	miner's lettuce	native
Convolvulus arvensis	field bindweed	non-native
Cynara cardunculus ssp. cardunculus	wild artichoke	Cal-IPC: M
Cyperus eragrostis	tall flatsedge	native
Dipterostemon capitatus	blue dicks	native
Eleocharis macrostachya	common spikerush	native
Elymus caput-medusae	Medusa head	Cal-IPC: H
Epilobium canum	California fuchsia	native
Epilobium ciliatum	slender willow herb	native
Eriogonum nudum	naked buckwheat	native
Erodium botrys	big heron bill	non-native
Erodium cicutarium	coastal heron’s bill	Cal-IPC: L
Erythranthe guttata	seep monkeyflower	native
Eschscholzia californica	California poppy	native
Festuca myuros	rattail sixweeks grass	Cal-IPC: M
Festuca perennis	Italian rye grass	Cal-IPC: M
Foeniculum vulgare	sweet fennel	Cal-IPC: M
Geranium dissectum	cut leaved geranium	Cal-IPC: L
Grindelia hirsutula	hairy gumweed	native
Helminthotheca echioides	bristly ox-tongue	Cal-IPC: L
Heterotheca sessiliflora	golden aster	native
Hirschfeldia incana	shortpod mustard	Cal-IPC: M
Hordeum marinum	seaside barley	Cal-IPC: M
Hordeum murinum	foxtail barley	Cal-IPC: M
Juncus balticus	wire rush	native
Juncus bufonius	common toad rush	native
Juncus patens	common rush	native
Juncus xiphioides	iris leaved rush	native

Scientific Name	Common Name	Status
Lactuca serriola	prickly lettuce	non-native
Lamium amplexicaule	henbit deadnettle	non-native
Lathyrus jepsonii	Jepson's pea	native
Lepidium nitidum	shining peppergrass	native
Lotus corniculatus	bird's foot trefoil	non-native
Lupinus bicolor	bicolored lupine	native
Lupinus formosus var. formosus	western lupine	native
Lysimachia arvensis	scarlet pimpernel	non-native
Lythrum hyssopifolia	hyssop loosestrife	Cal-IPC: M
Madia gracilis	slender tarweed	native
Malva parviflora	cheeseweed	non-native
Marah fabacea	California man-root	native
Medicago polymorpha	bur medic	Cal-IPC: L
Melica imperfecta	small-flowered melic grass	native
Melilotus indicus	sour clover	non-native
Microseris douglasii	Douglas' silverpuffs	native
Monardella villosa	coyote mint	native
Nasturtium officinale	Watercress	native
Phalaris aquatica	bulbous canary grass	Cal-IPC: M
Plantago erecta	California plantain	native
Plantago lanceolata	English plantain	Cal-IPC: L
Pleuropogon californicus	semaphore grass	native
Poa annua	annual blue grass	non-native
Polypogon monspeliensis	rabbitsfoot grass	Cal-IPC: L
Ranunculus californicus	California buttercup	native
Ranunculus occidentalis var. occidentalis	western buttercup	native
Rumex crispus	curly dock	Cal-IPC: L
Rumex pulcher	fiddle dock	non-native
Salix laevigata	red willow	native
Salix lasiandra	Pacific willow	native
Schoenoplectus acutus var. occidentalis	tule	native
Schoenoplectus americanus	chairmaker's bulrush	native
Sherardia arvensis	blue field madder	non-native
Silybum marianum	milk thistle	Cal-IPC: L

Scientific Name	Common Name	Status
Sisyrinchium bellum	blue-eyed grass	native
Sonchus asper	spiny sowthistle	non-native
Sonchus oleraceus	common sow thistle	non-native
Torilis nodosa	knotted hedge parsley	non-native
Toxicodendron diversilobum	poison oak	native
Trifolium campestre	field clover	non-native
Trifolium hirtum	rose clover	Cal-IPC: L
Triteleia laxa	Ithuriel's spear	native
Typha latifolia	common cattail	native
Uropappus lindleyi	silver puffs	native
Veronica americana	American speedwell	native
Veronica persica	bird's eye speedwell	non-native
Vicia sativa	spring vetch	non-native
Wyethia helenioides	gray mule ears	native
Xanthium spinosum	spiny cocklebur	non-native

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