Biological Resources Reconnaissance Survey Report

704 Greenfield Road
Napa County, California (APN: 025-380-017)

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EXECUTIVE SUMMARY

This report details the regulatory background, methods, results, and recommendations of a Biological Resources Reconnaissance Survey (BRRS) for the proposed development of a single, 2.47 gross acreage vineyard block (Project Area) located at 704 Greenfield Road in unincorporated Napa County, California. WRA, Inc. performed field surveys on March 31, June 15 and June 21, 2017. The Project Area is comprised of oak woodland and non-native grasslands.

Approximately 1.37 acres, of a total 8.41 acres across the property (16 percent) will be converted to vineyard. Oak woodlands are considered sensitive under Napa County General Plan Conservation Element Policy CON-24. A ratio of 2:1 (2.74 acres) preservation would be applied to this impact. The remainder of the vineyard block is situated in non-native grassland.

The Project Area is intentionally sited to avoid on-site streams and wetlands. A protocol-level rare plant survey resulted in no detections of special-status plants. Therefore, no impacts to streams, wetlands, and/or special-status plants are anticipated result from project implementation.

Several special-status bats and birds, as well as non-status birds with baseline legal protections have the potential to occur in the Project Area. Mitigation measures and best management practices have been developed and provided herein to avoid impacts to these resources.

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DEFINITIONS

Study Area: The area throughout which the assessment and survey effort was performed, inclusive of the entire parcel at 704 Greenfield Road and of the Project Area

Project Area: The area within which the proposed vineyard(s) will be installed; area evaluated for potential impacts to sensitive biological resource

LIST OF ACRONYMS

BCC	USFWS Birds of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
BIOS	Biogeographic Information and Observation System
BRRS	Biological Resources Reconnaissance Survey
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CFP	California Fully Protected Species
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPPA	California Native Plant Protection Act
CNPS	California Native Plant Society
County	County of Napa
Corps	U.S. Army Corps of Engineers
CRLF	California Red-legged Frog
CSRL	California Soils Resources Lab
CTS	California Tiger Salamander
CWA	Clean Water Act
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
ESA	Federal Endangered Species Act
Magnusen-Stevens Act	Magnuson-Stevens Fishery Conservation & Management
MBTA	Migratory Bird Treaty Act
NOAA	National Oceanic and Atmospheric Administration
NMFS	National Marine Fisheries Service
NRCS	Natural Resource Conservation Service
NWI	National Wetland Inventory
NWPL	National Wetland Plant List
OHWM	Ordinary High Water Mark
Rank	California Rare Plant Ranks
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
SWRCB	State Water Resource Control Board
TOB	Top of Bank
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group
WRA	WRA, Inc.

1.0 INTRODUCTION

1.1 Purpose of Assessment

On March 31, June 15 and June 21, 2017, WRA, Inc. (WRA) performed an assessment of biological resources at a private residence located at 704 Greenfield Road, Napa County (APN: 025-380-017; hereafter Study Area) (Figure 1, Appendix A). The purpose of this study was to gather the information necessary to complete a review of biological resources under the California Environmental Quality Act (CEQA) to meet the guidelines outlined by Napa County in *Guidelines for Preparing Biological Resources Reconnaissance Surveys* (Napa County 2016a) and *Guidelines for Preparing Special-status Plant Studies* (Napa County 2016b).

A biological resources reconnaissance survey (BRRS) provides general information on the presence or potential presence, of sensitive species and habitats. These survey(s) contain the results of a focused protocol-level survey for listed plant species previously document in the Study Area; however, protocol-level surveys for wildlife may or may not be included as part of the survey. This survey is not a formal wetland delineation; in instances where such a delineation may be required for project approval by local, state, or federal agencies, results would be reported herein, but may be presented elsewhere in separate reports. This survey is based on information available at the time of the study and on-site conditions that were observed on the date(s) the site was visited.

This report describes the results of the site visit, which assessed the Project Area for (1) the presence of sensitive biological communities, (2) the potential for biological communities on the site to support special-status plant and wildlife species, and (3) the presence of any other sensitive natural resources protected by local, state, or federal laws and regulations. Special-status species observed during the site assessment were documented and their presence is discussed herein. Specific findings on the habitat suitability or presence of special-status species or sensitive habitats may require that protocol-level surveys or other studies be conducted; recommendations for additional studies are provided.

Figures are included in Appendix A. A list of plants and wildlife observed during the site visits is included as Appendix B. An assessment of all of the special-status species documented from the general vicinity and their potential to occur in the Project Areas is included as Appendix C. Representative photographs of the Study Area are included as Appendix D. The qualifications of the biologists who prepared this report are included as Appendix E.

1.2 Project Summary

The proposed project (Project) involves the installation of a single vineyard block totaling approximately 1.71 acres net (2.47 gross acres) in the southern portion of the 6.8-acre property. Associated with the installation of the grape vines will be vineyard avenues, fences, irrigation lines, etc. Site preparation (ripping, installation of erosion control measures, seeding cover crop, and installation of irrigation pipelines and trellis) will occur during the grading window of April 1 through October 15. By October 15, the site will be winterized with placement of straw wattles, seeding of vineyard avenues and planting areas, and straw mulch spread over disturbed areas as required by the Erosion Control Plan (ECP) prepared for the Project.

2.0 REGULATORY BACKGROUND

This report is intended to facilitate conformance of the Project with the standards outlined in the Napa County Code and General Plan. In addition to the requirements of Napa County, the Project may also be subject to several federal and state regulations designed to protect sensitive natural resources. Full analysis of these requirements in the context of the Project is addressed herein.

2.1 Federal and State Regulatory Setting

2.2.1 Sensitive Biological Communities

Herein, biological communities are understood to be those areas of a particular vegetation type, soil or bedrock formation, aquatic features, and/or other distinct phenomenon. Typically, biological communities have distinct boundaries that can be delineated based on changes in plant assemblages, soil types, and/or changes in surface/near-surface hydroperiod. The several regulations defining and protecting sensitive biological communities are discussed below.

Waters of the United States

The United States Army Corps of Engineers (Corps) regulates "Waters of the United States" under Section 404 of the Clean Water Act (CWA). Waters of the United States are defined in the Code of Federal Regulations (CFR) as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the Corps Wetlands Delineation Manual (Environmental Laboratory 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated at a sufficient depth and for a sufficient duration to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as "other waters" and are often characterized by an ordinary high water mark (OHWM). Other waters, for example, generally include lakes, rivers, and streams. The placement of fill material into Waters of the United States generally requires an individual or nationwide permit from the Corps under Section 404 of the CWA.

Waters of the State

The term "Waters of the State" is defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The Regional Water Quality Control Board (RWQCB) protects all waters in its regulatory scope and has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. RWQCB jurisdiction includes "isolated" wetlands and waters that may not be regulated by the Corps under Section 404. Waters of the State are regulated by the RWQCB under the State Water Quality Certification Program which regulates discharges of fill and dredged material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact Waters of the State, are required to comply with the terms of the Water Quality Certification determination. If a project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to Waters of the State, the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements.

Streams, Lakes, and Riparian Habitat

Streams and lakes, as habitat for fish and wildlife species, are subject to jurisdiction by CDFW under Sections 1600-1616 of California Fish and Game Code (CFGC). Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term “stream”, which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life [including] watercourses having a surface or subsurface flow that supports or has supported riparian vegetation” (14 CCR 1.72). In addition, the term “stream” can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFG 1994). “Riparian” is defined as “on, or pertaining to, the banks of a stream.” Riparian vegetation is defined as “vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself” (CDFG 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFW.

Sensitive Natural Communities

Sensitive natural communities not discussed above include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFW. CDFW ranks sensitive communities as "threatened" or "very threatened" (CDFG 2010, CDFW 2018b) and keeps records of their occurrences in its California Natural Diversity Database (CNDDB; CDFW 2018). CNDDB vegetation alliances are ranked 1 through 5 based on NatureServe's (2018) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by the CDFW or U.S. Fish and Wildlife Service (USFWS) must be considered and evaluated under CEQA (CCR Title 14, Div. 6, Chap. 3, Appendix G). The Napa County Baseline Data Report (NCBR) identifies sensitive Napa County natural communities (Napa County 2005).

2.2.2 Special-status Species

Plants

Special-status plants include species/taxa that have been listed as endangered or threatened, or are formal candidates for such listing, under the federal Endangered Species Act (ESA) and/or California Endangered Species Act (CESA). Plant species on the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (Inventory) with California Rare Plant Ranks (Rank) of 1, 2, and 3 are also considered special-status plant species and must be considered under CEQA. Rank 4 species are typically only afforded protection under CEQA when such species are particularly unique to the locale (e.g., range limit, low abundance/low frequency, limited habitat) or are otherwise considered locally rare. A description of the CNPS Ranks is provided below in Table 1. Additionally, any plant species listed as sensitive within the Napa County General Plan or NCBR are likewise considered sensitive.

Table 1. CNPS Ranks and Threat Codes

California Rare Plant Ranks (formerly known as CNPS Lists)	
Rank 1A	Presumed extirpated in California and either rare or extinct elsewhere
Rank 1B	Rare, threatened, or endangered in California and elsewhere
Rank 2A	Presumed extirpated in California, but more common elsewhere
Rank 2B	Rare, threatened, or endangered in California, but more common elsewhere
Rank 3	Plants about which more information is needed - A review list
Rank 4	Plants of limited distribution - A watch list
Threat Ranks	
0.1	Seriously threatened in California
0.2	Moderately threatened in California
0.3	Not very threatened in California

Wildlife

As with plants, special-status wildlife include species/taxa that have been listed or are formal candidates for such under ESA and/or CESA. The federal Bald and Golden Eagle Protection Act provides relatively broad protections to both of North America's eagle species (bald [*Haliaeetus leucocephalus*] and golden eagle [*Aquila chrysaetos*)] that in some regards are similar to those provided by ESA. The CFGC designates some species as Fully Protected (CFP), which indicates that take of that species cannot be authorized through a state permit. Additionally, CDFW Species of Special Concern (species that face extirpation in California if current population and habitat trends continue) and USFWS Birds of Conservation Concern are considered special-status species. Although species in the two latter categories generally have no special legal status, they are typically given special consideration under CEQA. In addition to regulations for special-status species, most native birds in the United States, including non-status species, have baseline legal protections under the Migratory Bird Treaty Act of 1918 and CFGC, i.e., sections 3503, 3503.5 and 3513. Under these laws/codes, intentionally destroying or collecting active nests, eggs, and young is illegal. For bat species, the Western Bat Working Group (WBWG) designates conservation status for species of bats, and those with a high or medium priority are typically given special consideration under CEQA.

Critical Habitat, Essential Fish Habitat, and Wildlife Corridors

Critical habitat is a term defined in the ESA as a specific and formally-designated geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The ESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. In consultation for those species with critical habitat, federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species' recovery. Note that designated critical habitat areas that are

currently unoccupied by the species but which are deemed necessary for the species' recovery are also protected by the prohibition against adverse modification.

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) provides for conservation and management of fishery resources in the U.S. This Act establishes a national program intended to prevent overfishing, rebuild overfished stocks, ensure conservation, and facilitate long-term protection through the establishment of Essential Fish Habitat (EFH). EFH consists of aquatic areas that contain habitat essential to the long-term survival and health of fisheries, which may include the water column, certain bottom types, vegetation (e.g. eelgrass (*Zostera* spp.)), or complex structures such as oyster beds. Any federal agency that authorizes, funds, or undertakes action that may adversely affect EFH is required to consult with NMFS.

Movement and migratory corridors for native wildlife (including aquatic corridors) as well as wildlife nursery sites are given special consideration under CEQA. Additionally, the NCBR (Napa County 2005) outlines important corridor resources within the County and encourages protection of these resources via Policy CON-18 (see section 2.2 below).

2.2 Napa County Regulatory Setting

Napa County General Plan and Napa County Code: Natural resource use in Napa County is regulated by the Napa County General Plan (Napa County 2008). Below are relevant policies from the General Plan pertaining to wetlands and biological resources which may be applicable to the Project.

Napa County Baseline Data Report

Specific sensitive biological communities are identified in the NCBR (Napa County 2005). In addition to those biological communities identified by CDFW, the NCBR also identifies biotic communities of limited distribution that "encompass less than 500 acres of cover within the County and are considered by local biological experts to be worthy of conservation" (Napa County 2005).

Natural Resource Goals and Policies

Policy CON-13: The County shall require that all discretionary residential, commercial, industrial, recreation, agricultural, and water development projects consider and address impacts to wildlife habitat and avoid impacts to fisheries and habitat supporting special-status species to the extent feasible. Where impacts to wildlife and special-status species cannot be avoided, projects shall include effective mitigation measures and management plans including provisions to:

a) Maintain the following essentials for fish and wildlife resources:
    a. Sufficient dissolved oxygen in the water.
    b. Adequate amounts of proper food.
    c. Adequate amounts of feeding, escaping, and nesting habitat.
    d. Proper temperature through maintenance and enhancement of streamside vegetation volume flows, and velocity of water.
b) Employ supplemental planting and maintenance of grasses, shrubs and trees of like quality and quantity to provide adequate vegetation cover to enhance water quality, minimize sedimentation and soil transport, and provide adequate shelter and food for

wildlife and special-status species and maintain the watersheds, especially streams side areas, in good condition.

c) Provide protection for habitat supporting special-status species through buffering or other means.
d) Provide replacement habitat of like quantity and quality on- or off-site for special-status species to mitigate impacts to special-status species.
e) Enhance existing habitat values, particularly for special-status species, through restoration and replanting of native plant species as part of discretionary permit review and approval.
f) Require temporary or permanent buffers of adequate size (based on the requirements of the special-status species) to avoid nest abandonment of birds and raptors associated with construction and site development activities.
g) Demonstrate compliance with applicable provisions and regulations of recovery plans for listed species.

Policy CON-17: Preserve and protect native grasslands, serpentine grasslands, mixed serpentine chaparral, and other sensitive biotic communities and habitats of limited distribution. The County, in its discretion, shall require mitigation that results in the following standards:

a) Prevent removal or disturbance of sensitive natural plant communities that contain special-status plant species or provide critical habitat to special-status animal species.
b) In other areas, avoid disturbances to or removal of sensitive natural plant communities and mitigate potentially significant impacts where avoidance is infeasible.
c) Promote protection from overgrazing and other destructive activities.
d) Encourage scientific study and require monitoring and active management where biotic communities and habitats of limited distribution or sensitive natural plant communities are threatened by the spread of invasive non-native species.
e) Require no net loss of sensitive biotic communities and habitats of limited distribution through avoidance, restoration, or replacement where feasible. Where avoidance, restoration, or replacement is not feasible, preserve like habitat at a 2:1 ratio or greater within Napa County to avoid significant cumulative loss of valuable habitats.

Policy CON-18: To reduce impacts on habitat conservation and connectivity:

a) In sensitive domestic water supply drainages where new development is required to retain between 40 and 60 percent of the existing (as of June 16, 1993) vegetation onsite, the vegetation selected for retention should be in areas designed to maximize habitat value and connectivity.
b) Outside of sensitive domestic water supply drainages, streamlined permitting procedures should be instituted for new vineyard projects that voluntarily retain valuable habitat and connectivity, including generous setbacks from streams and buffers around ecologically sensitive areas.
c) Preservation of habitat and connectivity of adequate size, quality and configuration to support special-status species should be required within the project area. The size of habitat and connectivity to be preserved shall be determined based on the specific needs of the species.

d) The County shall require discretionary projects to retain movement corridors of adequate size and habitat quality to allow for continued wildlife use based on the needs of the species occupying the habitat.
e) The County shall require new vineyard development to be designed to minimize the reduction of wildlife movement to the maximum extent feasible. In the event the County concludes that such development will have a significant impact on wildlife movement, the County may require the applicant to relocate or remove existing perimeter fencing installed on or after February 16, 2007 to offset the impact cause by the new vineyard development.

Policy CON-19: The County shall encourage the preservation of critical habitat areas and habitat connectivity through the use of conservation easements or other methods as well as through continued implementation of the Napa County Conservation Regulations associated with vegetation retention and setbacks from waterways.

Policy CON-24: Maintain and improve oak woodland habitat to provide for slope stabilization, soil protection, species diversity, and wildlife habitat through appropriate measures including one or more of the following:

a) Preserve, to the extent feasible, oak trees and other significant vegetation that occur near the heads of drainages or depressions to maintain diversity of vegetation type and wildlife habitat as part of agriculture projects.
b) Comply with the Oak Woodlands Preservation Act regarding oak woodland preservation to conserve the integrity and diversity of oak woodlands, and retain, to the maximum extent feasible, existing oak woodland and chaparral communities and other significant vegetation as part of the residential, commercial, and industrial approvals.
c) Provide replacement of lost oak woodlands or preservation of like habitat at a 2:1 ratio when retention of existing vegetation is found to be infeasible. Removal of oak species limited in distribution shall be avoided to the maximum extent feasible.
d) Support hardwood cutting criteria that require retention of adequate stands of oak trees sufficient for wildlife, slope stabilization, soil production be left standing.
e) Maintain, the extent feasible, a mixture of oak species which is needed to ensure acorn production. Black, canyon, live, and brewer oaks as well as blue, white, scrub and live oaks are common associations.

General Provisions – Intermittent/perennial streams

Napa County Code 18.108.025 requires stream setbacks for new land clearings for agricultural purposes. “Stream” is defined by Napa County (18.108.030) as: (1) a watercourse designated by a solid line or dash and three dots symbol on the largest scale of the United State Geological Survey (USGS) maps most recently published, or any replacement to that symbol (i.e., USGS “blue-line”); (2) any watercourse which has a well-defined channel with a depth greater than four feet and banks steeper than 3:1 and contains hydrophilic vegetation, riparian vegetation or woody-vegetation including tree species greater than ten feet in height; or (3) those watercourses listed in Resolution No. 94-19. No clearing of land for new agricultural uses as defined by Section 18.08.040 shall take place within the following setbacks from streams:

Table 2. Napa County Stream Setbacks

Slope (Percent)	Required Setback
< 1	35 feet
1--5	45 feet
5--15	55 feet
15--30	65 feet
30--40	85 feet
40--50	105 feet
50--60	125 feet
60--70	150 feet

Vegetation Preservation and Replacement

Napa County Code 18.108.100 requires the following conditions when granting a discretionary permit for activities within an erosion hazard area (slopes greater than 5 percent):

Existing vegetation shall be preserved to the maximum extent consistent with the project. Vegetation shall not be removed if it is identified as being necessary for erosion control in the approved erosion control plan or if necessary for the preservation of threatened or endangered plant or animal habitats as designated by state or federal agencies with jurisdiction and identified on the County's environmental sensitivity maps.

Existing trees six inches in diameter or larger, measured at diameter breast height (DBH), or tree stands of trees six inches DBH or larger located on a site for which either an administrative or discretionary permit is required shall not be removed until the required permits have been approved by the decision-making body and tree removal has been specifically authorized.

- Trees to be retained or designated for retention shall be protected through the use of barricades or other appropriated methods to be placed and maintained at their outboard drip line during the construction phase. Where appropriate, the director may require an applicant to install and maintain construction fencing around the trees to ensure their protection during earthmoving activities. Where removal of vegetation is necessitated or authorized, the director or designee may require the planting of replacement vegetation of an equivalent kind, quality and quantity.

Sensitive Domestic Water Supply Drainages

Napa County Code 18.108.027 regulates vegetation in the following areas designated as "Sensitive Domestic Water Supply Drainage":

- Kimball Reservoir drainage
- Rector Reservoir drainage
- Milliken Reservoir drainage

- Bell Canyon Reservoir drainage
- Lake Hennessey drainage (including Friesen Lakes)
- Lake Curry drainage
- Lake Madigan drainage

A minimum of sixty percent of the tree canopy cover on the parcel existing on June 16, 1993 (aerial photograph) along with any understory vegetation must be preserved, or when vegetation consists of shrub and brush without tree canopy, a minimum of forty percent of the shrub, brush and associated annual and perennial herbaceous vegetation shall be maintained as part of any use involving earth-disturbing activity.

All earth-disturbing activities shall be limited to the period of April 1 through September 1 of each year except earth-disturbing activities that comply with the National Pollutant Discharge Elimination System (NPDES) program administered by the department of public works shall be limited to the period of April 1 through October 1 of each year.

3.0 ENVIRONMENTAL SETTING

The Project Area is set in a single parcel of approximately 22.5 acres, located in northern Napa County, approximately 4.5 miles east of the downtown St. Helena. It is situated in rolling foothills on the eastern edge of the Napa Valley and the Howell Mountains. Detailed descriptions of the local regional setting are below.

3.1 Topography and Soils

The overall topography of the Study Area is gently to steeply sloped with a general southeastern-facing aspect, and elevations ranging from approximately 500 to 650 feet above sea level. The *Soil Survey of Napa County* (USDA 1978) indicates that the Study Area is composed of three mapping units: Haire loam, 2 to 9 percent slopes; Sobrante loam, 5 to 30 percent slopes; and Sobrante loam, 30 to 50 percent slopes. The two soil series that compose these soil mapping units are described below.

Haire Series: This series consists of moderately deep clay loam soils formed in alluvium derived from sedimentary rock situated in upland terraces at elevations ranging from 20 to 2,400 feet (USDA 1978, CSRL 2018). Several mapping units of this series are considered hydric in Napa County, which are moderately well drained, with very slow permeability, and slow to rapid runoff (USDA 1978, CSRL 2018). Native and naturalized vegetation predominantly consists of annual grasses and forbs, and land uses include dry and irrigated pasture grazing (USDA 1978).

Sobrante Series: This series consists of moderately deep to shallow fine loam soils formed from residuum weathered from igneous and metamorphic rock situated on upland hillslopes at elevations ranging from 125 to 3,500 feet (USDA 1978, CSRL 2018). This series is not considered hydric in Napa County, and well drained, with moderate permeability, and low to very high runoff (CSRL 2018, USDA 1978). Native and naturalized vegetation is oak (*Quercus* spp.) savannah and woodland dominated by annual grasses and forbs, and land uses include rangeland, irrigated hay and pasture, and dry land crops (USDA 1978).

3.2 Climate and Hydrology

The Study Area is located outside of the coastal fog belt of the Bay Area, but annual rainfall is substantial in winter through early spring. Average annual precipitation for Pacific Union College in Angwin (CA7643), the closest reporting weather station to the Study Area located approximately five miles north, is 41.18 inches, with the majority falling as rain in the winter months (November through March) (USDA 2018). The mean daily low and high temperatures in degrees Fahrenheit range from 37.8 in December to 86.4 in July, however, temperatures frequently exceed 90 degrees (USDA 2018).

The primary hydrologic sources for the Study Area are precipitation and localized surface runoff from immediately adjacent lands. As the Study Area experiences some large winter/spring rainfall events and small valleys in the topography, evidence of ephemeral directional flow during high rain events are evident in the form of two ephemeral-intermittent streams. No wetlands or other streams are mapped in the Study Area or Project Area in USFWS National Wetlands Inventory (USFWS NWI 2018) or on the St. Helena USGS 7.5-minute topographic quadrangle (USGS 1993). The parcel is located within the Conn Creek-Main Fork Drainage within the Lake Hennessey Planning Watershed (Napa County 2018).

3.3 Biota and Land Use

The Study Area is composed of a mix of hardscape, landscape, oak woodland, and managed (mown) grassland. Detailed plant community descriptions are included in Section 5.1 below and all observed plant species are included in Appendix B.

Historical photos dating back to 1948 indicate very little historic land use within the Study Area (Historical Aerials 2018). A single-family residence was erected between 1948 and 1968, and vineyards installed in 2006. Historically, surrounding land uses consisted of rural residential and agriculture. Currently the Study Area is partially developed, as noted above, while the Project Area and surrounding undeveloped portions of the property are grazed for fire protection. Surrounding parcels are similarly composed of rural residences, vineyards, and undeveloped land (Google Earth 2018).

4.0 ASSESSMENT METHODS

Prior to the site visit, WRA biologists reviewed the following literature and performed database searches to assess the potential for sensitive natural communities (e.g., wetlands) and special-status species (e.g., endangered plants):

- *Soil Survey of Napa County, California* (USDA 1978)
- Saint Helena 7.5-minute quadrangle (USGS 1993)
- Aerial photographs (Google Earth 2018)
- Historical Aerial photographs (Historical Aerials 2018)

- National Wetlands Inventory (USFWS 2018a[1])
- California Natural Diversity Database (CNDDB, CDFW 2018a)
- California Native Plant Society Electronic Inventory (CNPS 2018a)
- Consortium of California Herbaria (CCH 2018)
- California Aquatic Resource Inventory (SFEI 2018)
- USFWS List of Federal Endangered and Threatened Species (USFWS 2018b)
- *eBird* Online Database (eBird 2018)
- CDFW Publication, *California Bird Species of Special Concern in California* (Shuford and Gardali 2008)
- CDFW and University of California Press publication *California Amphibian and Reptile Species of Special Concern* (Thomson et al. 2016)
- *A Field Guide to Western Reptiles and Amphibians* (Stebbins 2003)
- *A Manual of California Vegetation, 2nd Edition* (Sawyer et al. 2009)
- *A Manual of California Vegetation Online* (CNPS 2018b)
- *Preliminary Descriptions of the Terrestrial Natural Communities* (Holland 1986)
- Napa County Land Cover (NCLC) map (Thorne et al. 2004)
- *California Natural Community List* (CDFW 2018b)

Database searches (i.e., CNDDB, CNPS) focused on the Detert Reservoir, Aetna Springs, Walter Springs, Calistoga, Saint Helena, Chiles Valley, Kenwood, Rutherford, and Yountville USGS 7.5-minute quadrangles. Appendix A contains observations of special-status species documented within a five-mile radius of the Project Area.

Following the remote assessment, a botanist with 40-hour Corps wetland delineation and wildlife biologist training traversed the entire Project Area on foot to document: (1) biological communities (e.g., terrestrial communities, aquatic resources), (2) existing conditions and to determine if such provide suitable habitat for any special-status plant or wildlife species, (3) if and what type of aquatic natural communities (e.g., wetlands) are present, and (4) if special-status species are present[2].

4.1 Biological Communities

4.1.1 Terrestrial Biological Communities

The Study Area's terrestrial natural communities were evaluated to determine if such areas have the potential to support special-status plants or wildlife. In most instances, communities are delineated based on distinct shifts in plant assemblage (vegetation), and follow the *California Natural Community List* (CDFW 2018b), *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), and *A Manual of California Vegetation, Online Edition* (CNPS 2018b). In some cases it may be necessary to identify variants of community types or to

[1] All database searches noted herein were conducted in winter 2017 prior to the site visit and searched again before the drafting of this report in August 2018 to detect any new entries to such; citations dates herein reflect this update of August 2018

[2] Due to the timing of the assessment, it may or may not constitute protocol-level species surveys; see Section 4.2 if the site assessment would constitute a formal or protocol-level species survey.

describe non-vegetated areas that are not described in the literature; should an undescribed variant be used, it will be noted in the description.

Vegetation alliances (natural communities) with a CDFW Rank of 1 through 3 (globally critically imperiled (S1/G1), imperiled (S2/G2), or vulnerable (S3/G3), were evaluated as sensitive as part of this evaluation[3] Additionally, any sensitive natural communities as described in the Napa County Baseline Report (Napa County 2005) or General Plan (Napa County 2008) were considered.

4.1.2 Aquatic Natural Resources

Aquatic natural resources include Waters of the U.S., Waters of the State, and Streams Lakes, and Riparian Habitat as defined in the CWA, Porter-Cologne Act, and CFGC, respectively. Napa County mandates setbacks from these aquatic resources, and therefore requires mapping of the outward extent of such features.

This site assessment does not constitute a formal wetland delineation; however, superficial indicators of wetlands such as hydrophytic vegetation (i.e., plant communities dominated by wetland species), evidence of inundation or flowing water, saturated soils and seepage, and topographic depressions/swales were noted. In these areas WRA biologists performed sample points following the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Corps 2008).

When present, streams potentially jurisdictional under the CWA and/or the CFGC were delineated using a mix of surveyed topography data, high resolution aerial photographs, and a sub-meter GPS unit. The ordinary high water mark was used to determine the extent of potential Section 404 jurisdiction, while the top-of-bank was used to determine the extent of CFGC Section 1602 and 401. Streams with associated woody vegetation were assessed to determine if these areas would be considered riparian habitat by the CDFW following *A Field Guide to Lake and Streambed Alteration Agreements, Section 1600-1607, California Fish and Game Code* (CDFG 1994).

4.2 Special-status Species

4.2.1 General Assessment

Potential occurrence of special-status species in the Project Area was evaluated by first determining which special-status species occur in the vicinity of the Project Area through a literature and database review. Database searches for known occurrences of special-status species focused on the 7.5-minute USGS quadrangles mentioned above.

A site visit was made on March 31, June 15 and June 21, 2017 to evaluate the presence of suitable habitat for special-status species. Suitable habitat conditions are based on physical and biological conditions of the site, as well as the professional expertise of the investigating biologists. The potential for each special-status species to occur in the Study Area was then determined according to the following criteria:

[3] Ranking of CDFW List of Vegetation Alliances is based on NatureServe Rankings (NatureServe 2018)

- No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- Unlikely. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- Present. Species is observed on the site or has been recorded (i.e. CNDDB, other reports) on the site in the recent past.

If a more thorough assessment was deemed necessary, a targeted or protocol-level assessment or survey was conducted or recommended as a future study. Methods for the assessments are described below. If a special-status species was observed during the site visit, its presence was recorded and discussed below in Section 5.2.

4.2.2 Special-status Plants

To determine the presence or absence of special-status plant species, protocol-level surveys were conducted within the Study Area on March 31 and June 21, 2017. The surveys correspond to the period sufficient to observe and identify those special-status plants determined to have the potential to occur. The field surveys were conducted by botanists familiar with the flora of Napa and surrounding counties. The surveys were performed in accordance with those outlined by Napa County (2016b), which follow those described by resource experts and agencies (CNPS 2001, CDFW 2018c, USFWS 1996). Plants were identified using *The Jepson Manual, 2nd Edition* (Baldwin et. al. 2012) and Jepson Flora Project (eFlora 2018), to the taxonomic level necessary to determine whether or not they were sensitive. Plant names follow those of Jepson Flora Project (eFlora 2018), unless otherwise noted.

4.2.3 Special-status Wildlife

The general assessment for special-status wildlife determined that a few species have the potential to occur in the Study Area. Targeted assessments (e.g., in-depth evaluation of ponds for aquatic organisms) and protocol-level surveys were deemed inapplicable at the time of the site visit, due to inappropriate timing between such a survey and Project initiation.

4.2.4 Critical Habitat, Essential Fish Habitat, and Wildlife Corridors

Prior to the site visit the USFWS Critical Habitat Mapper (USFWS 2018b) and the NMFS Essential Fish Habitat Mapper (NMFS 2018) were queried to determine if critical habitat for any species or EFH, respectively, occurs within the Study Area.

To account for potential impacts to wildlife movement/migratory corridors, biologists reviewed maps from the California Essential Connectivity Project (CalTrans 2010), habitat connectivity data available through the CDFW Biogeographic Information and Observation System (BIOS) (CDFW

2018a), and the NCBR (Napa County 2005). Additionally, aerial imagery (Google 2018) for the local area was referenced to assess if local core habitat areas were present within, or connected to the Study Area. This assessment was refined based on observations of on-site physical and/or biological conditions.

5.0 ASSESSMENT RESULTS

5.1 Biological Communities

WRA observed seven biological communities within the Study Area: blue oak woodland, riparian blue oak woodland, coast live oak woodland, riparian coast live oak woodland, wild oats grassland (California annual grasslands), seasonal wetland, and developed. Biological communities within the Study Area are shown in Figure 2 (Appendix A). The non-sensitive biological communities in the Study Area and Project Area include wild oats grassland (California annual grassland) and developed area. Sensitive biological communities within the Study Area and Project Area include blue oak woodland, coast live oak woodland, ephemeral streams, and one seasonal wetland.

Table 3. Biological Communities[1] in the Study Area and Environs

Study Area (WRA Observed)			**BRRS[2] Evaluation Area: Conn Creek-Middle Fork**	**NCBR[3] Evaluation Area: Eastern Mountains**	**NCBR[3] County-wide**
MVC Alliance (Common Name) (NCLC Alliance)	**Study Area**	**Project Area**			
Blue Oak Woodland (Blue Oak Alliance)	8.41	1.37	900	2,442	44,104
Coast Live Oak Woodland (Coast Live Oak Alliance)	2.30	0.0	193	5,837	13,139
Wild Oat Grassland (California Annual Grassland)	4.96	1.1	899	7,723	39,174
Seasonal Wetland [Perennial [Italian] Rye-grass field]] (N/A)	0.05	0.0	N/A	N/A	N/A
Developed (No MVC Alliance) (Urban or Built-up)	7.83	0.0	154	1,632	26,461

[1] Area is measured in acres
[2] Biological Resources Reconnaissance Surveys
[3] Napa County Baseline Report
*Includes areas within one-mile of the Study Area and the Napa County Defined Drainage

5.1.1 Terrestrial Biological Communities

Developed Area (Urban/Built-up NCLC type). Rank: None. The property is a single-family residence with approximately 7.83 acres of developed and landscaped areas, none of which is within the Project Area. In addition to the residence and associated hardscaping, there are significantly landscaped areas of non-native ornamentals and common garden weeds, as well as existing vineyards and associated infrastructure. Most of these species have not been included in the observed species list provided in Appendix C.

Non-native Annual Grassland – Wild Oat Grassland (*Avena barbata* Semi-Natural Herbaceous Stands). CDFW Rank: none: The property contains approximately 4.96 acres of non-native grassland, of which approximately 1.1 acres (22 percent of the total community type on the property) are located within the Project Area. These grasslands are dominated by non-native annual species and was mown at the time of the site visit. Identifiable species include wild oat (*Avena barbata*), rough cat's-ear (*Hypochaeris radicata*), wild radish (*Raphanus sativus*), common vetch (*Vicia sativa*), foothill filaree (*Erodium brachycarpum*), English plantain (*Plantago lanceolata*), soft chess (*Bromus hordeaceus*), and sheep sorrel (*Rumex acetosella*).

This community is synonymous with the California Annual Grasslands biotic community in the NCLC (Thorne et al. 2004). Due to the predominance of non-native grasses and subsequent thatch accumulation, location of the property within and adjacent to a larger residential neighborhood, repeated mowing and/or disking, and repeated and consistent human presence, these grasslands offer little potential for special-status species. Likewise, this community is not considered sensitive by Napa County, CDFW, or any other regulatory entity.

Blue Oak Woodland (*Quercus douglasii* Woodland Alliance). CDFW Rank: G4 S4: Blue oak woodlands occur on valley bottoms, foothills, and rocky outcrops in the Klamath Mountains, Coast Range, Sierra Nevada Foothills, and Transverse Range. They are typically situated on low fertility, shallow, moderately to excessively drained soils within the California Floristic Province (Sawyer et al. 2009). The property contains approximately 8.41 acres of blue oak woodland of which approximately 1.37 acres (16 percent of the total community type on the property) are located within the Project Area.

The dominant tree is blue oak (*Quercus douglasii*), with substantial cover of coast live oak (*Q. agrifolia*), and infrequent valley oaks (*Q. lobata*) and Pacific madrones (*Arbutus menziesii*). The canopy is somewhat open providing sunlight for a dense herbaceous layer and sporadic shrubs. Shrubs include whiteleaf manzanita (*Arctostaphylos manzanita*), poison oak (*Toxicodendron diversilobum*), and coyote brush (*Baccharis pilularis*). The herbaceous layer is overwhelmingly composed of non-native grasses, predominantly dogtail grass (*Cynosurus echinatus*), false brome (*Brachypodium distachyon*), and soft chess (*Bromus hordeaceus*). Of the 8.41 acres of blue oak woodland, approximately 1.23 acres is situated along a stream and is considered riparian habitat due to proximity to the stream. The species composition is similar to that described above with the exception of intermittent California bays (*Umbellularia californica*) in the canopy, and mesophytes in the understory such as snowberry (*Symphoricarpos albus*) and common balm (*Melissa officinalis*). The terrestrial (non-riparian) portions of these woodlands are not considered sensitive.

This community is synonymous with the Blue Oak Alliance biotic community in the NCLC (Thorne et al. 2004). These woodlands provide habitat for numerous common native plants and wildlife, as well as have the potential to support several special-status species associated with woodlands. The upland (non-riparian) portions of this community are not considered sensitive by the CDFW, but the riparian areas would be considered sensitive by the CDFW. Likewise, they are sensitive to Napa County under the General Plan Conservation Element Policy CON-24 (oak woodland retention).

Coast Live Oak Woodland (*Quercus agrifolia* Woodland Alliance). CDFW Rank: G5 S4: Coast live oak woodlands occur in the outer and inner Coast Ranges, Transverse Ranges, and southern coast from northern Mendocino County south to San Diego County, typically situated on terraces, canyon bottoms, slopes, and flats underlain by deep, well-drained sandy or loam substrates with high organic content (Sawyer et al. 2009). The property contains approximately 2.3 acres of coast live oak woodland, none of which is situated in the Project Area.

The dominant tree is coast live oak (*Quercus agrifolia*), with substantial cover of blue oak (*Q. douglasii*), valley oak (*Q. lobata*), and California bay (*Umbellularia californica*). The canopy is dense and nearly closed suppressing sunlight to the understory and limiting species richness and density. Understory species include poison oak (*Toxicodendron diversilobum*), hedge parsley (*Torilis arvensis*), Pacific sanicle (*Sanicula crassicaulis*), dogtail grass (*Cynosurus echinatus*), and Italian thistle (*Carduus pycnocephalus*). Of the 2.3 acres of this habitat on the Study Area, approximately 0.33 acre is situated along a stream and is considered riparian habitat due to proximity to the stream; the species composition is similar to that described above.

This community is synonymous with the Coast Live Oak Alliance biotic community in the NCLC (Thorne et al. 2004). These woodlands provide habitat for numerous common native plants and wildlife, as well as have the potential to support several special-status species associated with woodlands. The upland (non-riparian) portions of this community are not considered sensitive by the CDFW, but the riparian areas would be considered sensitive by the CDFW. Likewise, they are sensitive to Napa County under the General Plan Conservation Element Policy CON-24 (oak woodland retention).

5.1.2 Aquatic Natural Resources

Seasonal Wetland – Perennial Rye Grass Field (*Festuca perennis* Semi-Natural Herbaceous Stand). Rank: None: Seasonal wetlands are known from a variety topographic positions and soil types where surface waters collect and flows are reduced, or subsurface waters approach the soil surface as a rising water table or seep. In the Study Area, one seasonal wetland occupies approximately 0.05 acre as a seep at the head of an ephemeral drainage; it is located more than six hundred feet from the Project Area.

The vegetation is dominated by Italian [Perennial] rye grass (*Festuca perennis*), a facultative (FAC) grass frequently occurring in seasonally saturated areas. Secondary species include tall flat-sedge (*Cyperus eragrostis*), curly dock (*Rumex crispus*), and annual bluegrass (*Poa annua*). Indicators of wetland hydrology include flow patterns, sediment deposition, and algal mats (in micro-depressions). The soils were saturated during the March 31 visit and are assumed hydric given the presence of strong vegetation and wetland hydrology indicators.

Ephemeral Streams (no vegetation alliance). Rank: not applicable. Ephemeral streams are common throughout California in all topographic positions and habitat types. The Study Area contains two ephemeral streams, neither of which are mapped on the 7.5-minute quadrangle. Both drainages contain clear ordinary high water marks (OWHM) and bed-and-bank; therefore, all likely jurisdictional under Section 404 of the CWA and Section 1600 of the CFGC. These drainages are not considered “County-definitional streams” pursuant to Napa County municipal code Section 18.108.030.

Flows within the streams run during and following rain events, but draw down quickly after storms have subsided. These streams are high-gradient, narrowed channel, and contain a channel bed of sorted sediments, dominated by fines (sands, small cobbles) and mud. Due to their high gradient, flashy hydrology, and fine sediment channel beds, these drainages do not have the potential to support salmonids or other special-status fishes.

5.2 Special-status Species

5.2.1 Special-status Plant Species

Based upon a review of the resource databases listed in Section 4.0, 97 special-status plant species have been documented in the vicinity of the Project Area. Twelve of these species have the potential to occur in the Study Area. The remaining species documented from the greater vicinity of the Study Area are unlikely or have no potential to occur for one or more of the following:

- Hydrologic conditions (e.g., tidal, riverine) necessary to support the special-status plant species are not present in the Project Area;
- Edaphic (soil) conditions (e.g., volcanic tuff, serpentine) necessary to support the special-status plant species are not present in the Project Area;
- Topographic conditions (e.g., north-facing slope, montane) necessary to support the special-status plant species are not present in the Project Area;
- Unique pH conditions (e.g., alkali scalds, acidic bogs) necessary to support the special-status plant species are not present in the Project Area;
- Associated natural communities (e.g., interior chaparral, tidal marsh) necessary to support the special-status plant species are not present in the Project Area;
- The Project Area is geographically isolated (e.g. below elevation, coastal environ) from the documented range of the special-status plant species;
- The historical landscape and/or habitat(s) of the Project Area were not suitable habitat prior to land/type conversion (e.g., reclaimed shoreline) to support the special-status plant species;
- Land use history and contemporary management (e.g., grading, intensive grazing) has degraded the localized habitat necessary to support the special-status plant species.

WRA biologists conducted the protocol-level surveys during a period sufficient to identify all twelve special-status plant species with the potential to occur. No special-status plants were observed in the Study Area during protocol-level surveys. Those species with the potential to occur, but not observed are summarized below.

Table 4. Special-status Plants Not Observed During Protocol-level Surveys

Name	Status	Habitat Requirements	Results
Franciscan onion *Allium peninsulare* var. *franciscanum*	Rank 1B	Cismontane woodland, valley and foothill grassland; on clay substrate, often derived from serpentine. Elevation range 170 – 985 feet. Blooms: May – June.	**Not Present.** This species was not observed during protocol-level surveys. No further actions are recommended.
Napa false indigo *Amorpha californica* var. *napensis*	Rank 1B	Openings in broadleaf upland forest, chaparral, cismontane woodland. Elevation range: 395 – 6560 feet. Blooms: April – July.	**Not Present.** This species was not observed during protocol-level surveys. No further actions are recommended.
bent-flowered fiddleneck *Amsinckia lunaris*	Rank 1B	Cismontane woodland, valley and foothill grassland, coastal bluff scrub. Elevation range: 10 – 1625 feet. Blooms: March – June.	**Not Present.** This species was not observed during protocol-level surveys. No further actions are recommended.
narrow-anthered Brodiaea *Brodiaea leptandra*	Rank 1B	Broadleaf upland forest, chaparral, lower montane coniferous forest. Elevation range: 360 – 3000 feet. Blooms: May – July.	**Not Present.** This species was not observed during protocol-level surveys. No further actions are recommended.
fragrant fritillary *Fritillaria liliacea*	Rank 1B	Coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland; located in grassy sites underlain by clay, typically derived from volcanics or serpentine. Elevation range: 10 – 1335 feet. Blooms: February – April.	**Not Present.** This species was not observed during protocol-level surveys. No further actions are recommended.
bristly leptosiphon *Leptosiphon acicularis*	Rank 4	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland; often located on shallow, rocky substrate in foothill positions. Elevation range: 175 – 4875 feet. Blooms: April – July.	**Not Present.** This species was not observed during protocol-level surveys. No further actions are recommended.
Jepson's leptosiphon *Leptosiphon jepsonii*	Rank 1B	Chaparral, cismontane woodland; on open to partially shaded grassy slopes on volcanic or the periphery of serpentine substrate. Elevation range: 330 – 1640 feet. Blooms: April – May.	**Not Present.** This species was not observed during protocol-level surveys. No further actions are recommended.
broad-lobed leptosiphon *Leptosiphon latisectus*	Rank 4	Broadleaf upland forest, cismontane woodland; frequently situated on serpentine substrate. Elevation range: 550 – 4875 feet. Blooms: April – June.	**Not Present.** This species was not observed during protocol-level surveys. No further actions are recommended.
woolly-headed Lessingia *Lessingia hololeuca*	Rank 3	Broadleaf upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland; typically on clay, serpentine substrate. Elevation range: 3 – 2885 feet. Blooms: April – June.	**Not Present.** This species was not observed during protocol-level surveys. No further actions are recommended.
Sebastopol meadowfoam *Limnanthes vinculans*	FE, SE, Rank 1B	Mesic meadows, valley and foothill grassland, vernal pools; located in swales, wet meadows, depressions, and pools in the oak savanna of the Santa Rosa Plain on heavy adobe clay substrate. Elevation range: 3 – 2885 feet. Blooms: April – June.	**Not Present.** This species was not observed during protocol-level surveys. No further actions are recommended.

Name	Status	Habitat Requirements	Results
Napa blue curls *Trichostema ruygtii*	Rank 1B	Cismontane woodland, chaparral, valley and foothill grassland, vernal pools, lower montane coniferous forest; located in open, sunny locations, and dried vernal pools. Elevation range: 95 – 2210 feet. Blooms: June – October.	**Not Present.** This species was not observed during protocol-level surveys. No further actions are recommended.
oval-leaved viburnum *Viburnum ellipticum*	Rank 2B	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation range: 705 – 4595 feet. Blooms: May – June.	**Not Present.** This species was not observed during protocol-level surveys. No further actions are recommended.

5.2.2 Special-status Wildlife Species

A total of 45 special-status wildlife species have been documented within the greater vicinity of the Project Area. Ten of these species have a moderate to high potential to occur in the Study Area and Project Area. The remaining 35 species are unlikely or have no potential to occur due to one or more of the following reasons:

- Aquatic habitats (e.g., rivers, estuaries) necessary to support the special-status wildlife species are not present in the Project Area;
- Vegetation habitats (e.g., coast redwood forest, coastal prairie) that provide nesting and/or foraging resources necessary support the special-status wildlife species are not present in the Project Area;
- Physical structures and vegetation (e.g., mines, old-growth coniferous trees) necessary to provide nesting, cover, and/or foraging habitat to support the special-status wildlife species are not present in the Project Area;
- Host plants (e.g., dog violet, harlequin lotus) necessary to provide larval and nectar resources for the special-status wildlife species are not present in the Project Area;
- The Project Area is outside (e.g., north of, west of) of the special-status wildlife species documented nesting range.

The following special-status wildlife with the potential to occur in the Project Area.

Special-status Wildlife that Occur in the Study Area

No special-status wildlife were observed in the Study Area; however, without targeted assessments or protocol-level surveys, their absence cannot be ruled out. Those with the potential to occur, but their presence is unknown are discussed below.

Special-status Wildlife with the Potential to Occur, but Presence Unknown

Pallid bat (*Antrozous pallidus*). CDFW Species of Special Concern, WBWG High Priority. Moderate Potential. Pallid bats are distributed from southern British Columbia and Montana to central Mexico, and east to Texas, Oklahoma, and Kansas. This species occurs in a number of habitats ranging from rocky arid deserts to grasslands, and into higher elevation coniferous forests. Roosts are typically in rock crevices, tree hollows, mines, caves, and a variety of man-

made structures, including vacant and occupied buildings. Tree roosting has been documented within snags and basal hollows of conifers, and within bole cavities in oak trees. Pallid bats are primarily insectivorous, feeding on large prey that is usually taken on the ground but sometimes in flight. Prey items include arthropods such as scorpions, ground crickets, and cicadas (WBWG 2018). The trees within the Project Area may contain cavities or snags suitable for roosting by this species, and it has a high potential to occur given documented occurrences in the vicinity (CDFW 2018a).

Hoary bat (*Lasiurus cinereus*). WBWG Medium Priority. Moderate Potential. Hoary bats are highly associated with forested habitats in the western United States, particularly in the Pacific Northwest. They are a solitary species and roost primarily in foliage of both coniferous and deciduous trees, near the ends of branches, usually at the edge of a clearing. Roosts are typically 10 to 30 feet above the ground. They have also been documented roosting in caves, beneath rock ledges, in woodpecker holes, in grey squirrel nests, under driftwood, and clinging to the side of buildings, though this behavior is not typical. Hoary bats are thought to be highly migratory, however, wintering sites and migratory routes have not been well documented. This species tolerates a wide range of temperatures and has been captured at air temperatures between 0 and 22 degrees Celsius. Hoary bats probably mate in the fall, with delayed implantation leading to birth in May through July. They usually emerge late in the evening to forage, typically from just over one hour after sunset to after midnight. This species reportedly has a strong preference for moths, but is also known to eat beetles, flies, grasshoppers, termites, dragonflies, and wasps (WBWG 2018). The trees within the Project Area may contain cavities or snags suitable for roosting by this species.

Silver-haired bat (*Lasionycteris noctivagans*). WBWG Medium Priority. Moderate Potential. Silver-haired bats occur in temperate forests (coniferous, deciduous, and mixed) from southern Alaska to northeastern Mexico. Females form maternity roosts almost exclusively inside hollows or under loose bark of large trees and may switch roosts several times (WBWG 2017). Hibernation occurs in trees, rock crevices, leaf litter, in and under buildings, and in caves and mines. Foraging for insects occurs above the tree canopy. Silver-haired bats are known to migrate south in the winter, although overwintering at northern latitudes has also been documented (WBWG 2018). Silver-haired bat is determined to have a moderate potential to occur within the Project Area due to the presence of tree snags and leaf litter that may provide roosting habitat.

Fringed myotis (*Myotis thysanodes*). WBWG High Priority. Moderate Potential. The fringed myotis ranges through much of western North America from southern British Columbia, Canada, south to Chiapas, Mexico and from Santa Cruz Island in California, east to the Black Hills of South Dakota. This species is found in desert scrubland, grassland, sage-grass steppe, old-growth forest, and subalpine coniferous and mixed deciduous forest. Oak and pinyon-juniper woodlands are most commonly used. The fringed myotis roosts in colonies from 10 to 2,000 individuals, although large colonies are rare. Caves, buildings, underground mines, rock crevices in cliff faces, and bridges are used for maternity and night roosts, while hibernation has only been documented in buildings and underground mines. Tree-roosting has also been documented in Oregon, New Mexico, and California (WBWG 2018). The trees within the Project Area may contain cavities or exfoliating bark suitable for roosting for fringed myotis.

Long-legged myotis (*Myotis volans*). WBWG High Priority. Moderate Potential. The long-legged myotis ranges across western North America from southeastern Alaska to Baja California and east to the Great Plains and central Texas. This species is usually found in coniferous forests, but also occurs seasonally in riparian and desert habitats. They use abandoned buildings, cracks in the ground, cliff crevices, exfoliating tree bark and hollows within snags as summer day roosts. Caves and mines are used as hibernation roosts. Long-legged myotis forage in and around the forest canopy and feed on moths and other soft-bodies insects (WBWG 2018). Long-legged myotis is determined to have a moderate potential to occur within the Project Area due to the presence of trees containing snags as well as rock crevices that may provide roosting habitat. The Study Area also contains mixed forests to support foraging for this species. Based on the suitability for the Project Area to support roosting and foraging, it is determined that this species has a moderate potential to occur.

White-tailed kite (*Elanus leucurus*). CDFW Fully Protected Species. Moderate Potential. The white-tailed kite is resident in open to semi-open habitats throughout the lower elevations of California, including grasslands, savannahs, woodlands, agricultural areas and wetlands. Vegetative structure and prey availability seem to be more important habitat elements than associations with specific plants or vegetative communities (Dunk 1995). Nests are constructed mostly of twigs and placed in trees, often at habitat edges. Nest trees are highly variable in size, structure, and immediate surroundings, ranging from shrubs to trees greater than 150 feet tall (Dunk 1995). This species preys upon a variety of small mammals, as well as other vertebrates and invertebrates. This species is determined to have a moderate potential to occur within the Project Area due to the presence of trees suitable for nesting, as well as the vineyard and open grassland habitat to support foraging of this species found in immediately adjacent areas.

Allen's hummingbird (*Selasphorus sasin*). USFWS Bird of Conservation Concern. Present. Allen's hummingbird is a summer resident along the majority of California's coast and a year-round resident in portions of coastal southern California and the Channel Islands. Breeding occurs in association with the coastal fog belt, and typical habitats used include coastal scrub, riparian, woodland and forest edges, and eucalyptus and cypress groves (Mitchell 2000). It feeds on nectar, as well as insects and spiders. The Project Area contains woodlands most commonly associated with this species, to support nesting and foraging. This species has been documented within two miles from the Project Area (eBird 2018).

Nuttall's woodpecker (*Picoides nuttallii*). USFWS Bird of Conservation Concern. High Potential. Nuttall's Woodpecker is a year-round resident throughout most of California west of the Sierra Nevada. Typical habitat is oak or mixed woodland, and riparian areas (Lowther 2000). Nesting occurs in tree cavities, principally those of oaks and larger riparian trees. Nuttall's woodpecker also occurs in older residential settings and orchards where trees provide suitable foraging and nesting habitat. This species forages on a variety of arboreal invertebrates. This species is common throughout much of Napa County, and the Project Area and immediately adjacent areas contain trees to support nesting and foraging.

Oak titmouse (*Baeolophus inornatus*). USFWS Bird of Conservation Concern. High Potential. This relatively common species is year-round resident throughout much of California including most of the coastal slope, the Central Valley and the western Sierra Nevada foothills. In addition, the species may also occur in residential settings where landscaping provides foraging and nesting habitat. Its primary habitat is woodland dominated by oaks. Local populations have

adapted to woodlands of pines and/or junipers in some areas (Cicero 2000). The oak titmouse nests in tree cavities, usually natural cavities or those excavated by woodpeckers, though they may partially excavate their own (Cicero 2000). Seeds and arboreal invertebrates make up the birds' diet. This species is common in much of Napa County, and oak woodland within the Study Area provides suitable year-round habitat, including for nesting.

Lawrence's goldfinch (*Spinus lawrencei*). USFWS Bird of Conservation Concern. Moderate Potential. This generally uncommon species is endemic as a breeder to arid woodland habitats in the Central Valley and coastal foothills of California, as well as northern Baja California. Annual distribution within the breeding range can be highly erratic. Wintering occurs in the greater southwest region, including southern California. Suitable woodland habitat is frequently dominated by oaks, and annual native plants are an important food resource (Davis 1999). Oak woodland and grassland within the Project Area provide suitable nesting habitat, and this species is known from central-western Napa County (Smith 2003).

5.2.3 Critical Habitat, Essential Fish Habitat, and Wildlife Corridors

The Study Area does not contain any designated critical habitat (USFWS 2018b) or Essential Fish Habitat (NMFS 2018).

The Study Area is not within a designated wildlife corridor (CDFW 2018, Napa County 2005). The site is located within a much larger tract of agricultural/viticultural and lightly-developed land within a rural portion of Napa County. While common wildlife species presumably utilize the site to some degree for movement at a local scale, the Study Area itself does not provide corridor functions beyond connecting similar agricultural/viticultural land parcels in surrounding areas. Within this context, agricultural expansion within the Study Area is in and of itself unlikely to result in any significant impacts to local wildlife movement. Ephemeral streams (even when dry) and associated vegetation within the Study Area presumably provide very localized movement and shelter habitat for common wildlife species. As such, avoidance of impacts to these stream courses to the fullest extent feasible is recommended.

6.0 PROJECT ANALYSIS AND RECOMMENDATIONS

6.1 Biological Communities

No sensitive biotic communities as defined in the Napa County Baseline Report (Napa County 2005) occur within the Study Area. While the oak woodlands are not considered sensitive by CDFW, the Napa County General Plan Conservation Element Policy CON-24 requires that oak woodland be maintained and/or improved to the extent feasible to provide for oak woodland and wildlife habitat, slope stabilization, soil protection, and species diversity. Policy CON-24c specifically calls for the preservation of oak woodland (on an acreage basis) at a 2:1 ratio. The Project Area contain 1.37 acres of oak woodland. It is recommended that individual oak trees within the Project Area be avoided, or 2.74 acres of oak woodland outside of the Project Area within the Study Area be permanently retained.

The ephemeral streams and seasonal wetland will be avoided as part of the vineyard design. Although the drainage near the Project Area does not meet the County definition of a stream and therefore does not require setbacks pursuant to Napa County Code 18.108.025, the Project Area has been set back approximately 50 feet or greater from this drainage.

As the Study Area is already partially developed and is located within the Lake Hennessy drainage, which is designated as a sensitive domestic water supply drainage by the County, vegetation clearing restrictions are imposed by the County per Napa County Code 18.108.027. The Project has been designed to retain at least 60 percent of the tree canopy and 40 percent of the brush/shrub/open canopy that existed in 1993. Additionally, earth-disturbing activities shall be limited to the period of April 1 through September 15.

6.2 Special-status Species

The Project Area does not support special-status plants; therefore, the Project will result in no impacts to such.

The Project Area has the potential to support ten special-status animals protected under the MBTA and/or CFGC. Therefore the following actions are recommended for these species.

Bat Species: Removal and trimming of trees during the bat maternity season (generally, April through August) could impact bat breeding and potentially result in the take of bats. WRA recommends that any tree removal be performed from September through March, outside of the general bat maternity season. If tree removal during this period is not feasible, it is recommended that a bat habitat assessment and survey effort (the latter if needed) be performed by a qualified biologist no more than 14 days prior to tree removal to determine if bats are present in the trees. If no suitable roosting habitat for bats is found, then no further study is warranted. If special-status bat species or bat maternity roosts are detected, then roost trees should avoided until the end of the maternity roosting season. If this avoidance is not feasible, appropriate species- and roost-specific mitigation measures should be developed in consultation with CDFW. Irrespective of time of year, all felled trees should remain on the ground for at least 24 hours prior to chipping, off-site removal, or other processing to allow any bats present within the felled trees to escape.

All Bird Species (including non-special-status): A variety of native bird species with baseline protections under the MBTA and CFGC may use vegetation within the Project Areas for nesting. Therefore, it is recommended that tree and vegetation removal occurs from September 1 to January 31, outside of the general bird nesting season. If tree/vegetation removal during this time is not feasible, a pre-construction nesting bird survey conducted by a qualified biologist no more than 14 days prior to the initiation of tree removal or ground disturbance is recommended. If active bird nests are found during the survey, an appropriate no-disturbance buffer should be established by the qualified biologist. Once it is determined that the young have fledged (let the nest) or the nest otherwise becomes inactive (e.g., due to predation), the buffer may be lifted and work may be initiated within the buffer.

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Appendix A

Figures

Figure 1. Subject Parcel Location Map

N
W E
S

Three Twins
Napa County, California

0 1,000 2,000 4,000
Feet

wra
ENVIRONMENTAL CONSULTANTS

Map Prepared Date: 8/9/2017
Map Prepared By: smortensen
Base Source: Esri Streaming - National Geographic
Data Source(s): WRA

Path: L:\Acad 2000 Files\27000\27103\GIS\ArcMap\Figure 1 Location Map.mxd

wra
ENVIRONMENTAL CONSULTANTS

Three Twins BRA
Napa County, California

Figure 2. Biological Communtiies Located Within the Subject Parcel

Subject Parcel

Ephemeral Stream (.22 mi. | 1151.2 lin. ft.)

Top of Bank

Biological Communities:

Blue Oak Riparian (1.23 ac.)

Blue Oak Woodland (7.18 ac.)

Coast Live Oak Riparian 0.33 ac.)

Coast Live Oak Woodland (1.97 ac.)

Developed (7.83 ac.)

California Annual Grassland (4.96 ac.)

Seasonal Wetland (0.05 ac.)

N
W E
S

0 100 200
Feet

Map Prepared Date: 7/26/2017
Map Prepared By: SMORTENSEN
Base Source: Esri Streaming - NAIP 2016
Data Source(s): WRA

Path: L:\Acad 2000 Files\27000\27103\GIS\ArcMap\Biocomms.mxd

ENVIRONMENTAL CONSULTANTS

Three Twins BRA
Napa County, California

5-Mile Buffer of Subject Parcel

Subject Parcel

1, Calistoga ceanothus

2, Clara Hunt's milk-vetch

3, Cobb Mountain lupine

4, Colusa layia

5, green jewelflower

6, Greene's narrow-leaved daisy

7, holly-leaved ceanothus

8, Jepson's leptosiphon

9, marsh checkerbloom

10, Napa bluecurls

11, Napa false indigo

12, narrow-anthered brodiaea

13, Sharsmith's western flax

14, Sonoma beardtongue

N
W E
S

0 1 2
Miles

Figure 3. Special-Status Plant Species documented in CNDDB within 5-miles of the Subject Parcel

Map Prepared Date: 8/9/2017
Map Prepared By: smortensen
Base Source: Esri Streaming - NAIP 2016
Data Source(s): WRA, CNDDB July 2017

Path: L:\Acad 2000 Files\27000\27103\GIS\ArcMap\CNDDB Plants.mxd

ENVIRONMENTAL CONSULTANTS

Three Twins BRA
Napa County, California

5-Mile Buffer of Subject Parcel

Subject Parcel

1, bald eagle

2, California giant salamander

3, foothill yellow-legged frog

4, great blue heron

5, great egret

6, long-eared myotis

7, pallid bat

8, purple martin

9, Swainson's hawk

10, Townsend's big-eared bat

11, western pond turtle

Sensitive Species:
-Foothill Yellow-legged Frog
(Occ. #: 415)

This map may contain data from publicly available sources including, but not limited to, parcel boundaries. These data sources may be inaccurate. They are intended for reference purposes only and do not represent legal boundaries or absolute locations.

N
W E
S

0 1 2
Miles

Figure 4. Special-Status Wildlife Species Documented in CNDDB within 5-miles of the Subject Parcel

Map Prepared Date: 8/9/2017
Map Prepared By: smortensen
Base Source: Esri Streaming - NAIP 2016
Data Source(s): WRA, CNDDB July 2017

Path: L:\Acad 2000 Files\27000\27103\GIS\ArcMap\CNDDB Animals.mxd

Appendix B

Species Observed in the Study Area

Appendix B. Plant species observed in the Subject Parcel, March 31, June 15, and June 21, 2017

Family	Scientific name	Common name	Life form	Origin	Rare Status[1]	Invasive Status[2]	Wetland indicator[3]
Agavaceae	*Chlorogalum pomeridianum* var. *pomeridianum*	common soap plant	perennial forb	native	-	-	NL
Anacardiaceae	*Toxicodendron diversilobum*	poison oak	deciduous shrub	native	-	-	NL
Apiaceae	*Sanicula crassicaulis*	Pacific sanicle	perennial forb	native	-	-	NL
Apiaceae	*Torilis arvensis*	hedge parsley	annual forb	non-native	-	moderate	NL
Asteraceae	*Achillea millefolium*	common yarrow	perennial forb	native	-	-	FACU
Asteraceae	*Agoseris grandiflora*	large flowered agoseris	perennial forb	native	-	-	NL
Asteraceae	*Baccharis pilularis*	coyote brush	evergreen shrub	native	-	-	NL
Asteraceae	*Carduus pycnocephalus*	Italian thistle	annual forb	non-native	-	moderate	NL
Asteraceae	*Cynara cardunculus*	artichoke	perennial forb	non-native	-	moderate	NL
Asteraceae	*Helminthotheca echioides*	bristly ox-tongue	perennial forb	non-native	-	limited	FAC
Asteraceae	*Hypochaeris glabra*	smooth catsear	annual forb	non-native	-	limited	NL
Asteraceae	*Hypochaeris radicata*	hairy catsear	perennial forb	non-native	-	moderate	FACU
Asteraceae	*Lactuca serriola*	prickly lettuce	annual forb	non-native	-	assessed	FACU
Asteraceae	*Leontodon saxatilis* ssp. *longirostris*	hawkbit	annual forb	non-native	-	-	FACU
Asteraceae	*Rhagadiolus stellatus*	endive daisy	annual forb	non-native	-	-	NL
Asteraceae	*Sonchus asper* ssp. *asper*	prickly sow thistle	annual forb	non-native	-	assessed	FACU
Brassicaceae	*Raphanus sativus*	wild radish	perennial forb	non-native	-	limited	NL
Caprifoliaceae	*Symphoricarpos albus*	upright snowberry	deciduous shrub	native	-	-	FACU
Cyperaceae	*Cyperus eragrostis*	tall flat-sedge	perennial graminoid	native	-	-	FACW
Ericaceae	*Arbutus menziesii*	Pacific madrone	evergreen tree	native	-	-	NL
Ericaceae	*Arctostaphylos manzanita* ssp. *manzanita*	whiteleaf manzanita	evergreen shrub	native	-	-	NL
Fabaceae	*Acmispon americanus*	American lotus	annual forb	native	-	-	NL
Fabaceae	*Lathyrus hirsutus*	rough pea	annual forb	non-native	-	-	FAC
Fabaceae	*Lathyrus vestitus* var. *vestitus*	Pacific pea	perennial forb	native	-	-	NL
Fabaceae	*Medicago polymorpha*	bur medic	annual forb	non-native	-	limited	FACU
Fabaceae	*Trifolium hirtum*	rose clover	annual forb	non-native	-	moderate	NL

Family	Scientific name	Common name	Life form	Origin	Rare Status[1]	Invasive Status[2]	Wetland indicator[3]
Fabaceae	*Trifolium repens*	white clover	perennial forb	non-native	-	-	FAC
Fabaceae	*Vicia villosa*	winter vetch	annual forb	non-native	-	assessed	NL
Fagaceae	*Quercus agrifolia* var. *agrifolia*	coast live oak	evergreen tree	native	-	-	NL
Fagaceae	*Quercus douglasii*	blue oak	deciduous tree	native	-	-	NL
Fagaceae	*Quercus kelloggii*	California black oak	deciduous tree	native	-	-	NL
Fagaceae	*Quercus lobata*	valley oak	deciduous tree	native	-	-	FACU
Fagaceae	*Quercus wislizeni* var. *wislizeni*	interior live oak	evergreen tree	native	-	-	NL
Geraniaceae	*Erodium botrys*	longbeak stork's bill	annual forb	non-native	-	assessed	FACU
Geraniaceae	*Erodium brachycarpum*	foothill filaree	annual forb	non-native	-	limited	NL
Geraniaceae	*Geranium dissectum*	cutleaf geranium	annual forb	non-native	-	moderate	NL
Geraniaceae	*Geranium robertianum*	Robert's geranium	annual forb	non-native	-	assessed	NL
Iridaceae	*Iris macrosiphon*	long-tube iris	perennial forb	native	-	-	NL
Iridaceae	*Sisyrinchium bellum*	blue-eyed grass	perennial forb	native	-	-	FACW
Lamiaceae	*Melissa officinalis*	common balm	perennial forb	non-native	-	-	FACU
Lamiaceae	*Stachys rigida* var. *quercetorum*	rough hedgenettle	perennial forb	native	-	-	FACW
Lauraceae	*Umbellularia californica*	California bay	evergreen tree	native	-	-	FAC
Liliaceae	*Calochortus luteus*	yellow mariposa lily	perennial forb	native	-	-	NL
Malvaceae	*Malva nicaeensis*	bull mallow	annual forb	non-native	-	-	NL
Moraceae	*Ficus carica*	common fig	deciduous tree	non-native	-	moderate	FACU
Myrsinaceae	*Lysimachia arvensis*	scarlet pimpernel	annual forb	non-native	-	-	NL
Oleaceae	*Olea europaea*	olive	evergreen tree	non-native	-	limited	NL
Onagraceae	*Epilobium brachycarpum*	annual willowherb	annual forb	native	-	-	NL
Papaveraceae	*Eschscholzia californica*	California poppy	perennial forb	native	-	-	NL
Pinaceae	*Pseudotsuga menziesii*	Douglas fir	evergreen tree	native	-	-	FACU
Plantaginaceae	*Kickxia elatine*	sharpleaf cancerwort	perennial forb	non-native	-	-	FAC
Plantaginaceae	*Plantago lanceolata*	English plantain	perennial forb	non-native	-	limited	FACU
Poaceae	*Avena barbata*	slender oat	annual graminoid	non-native	-	moderate	NL
Poaceae	*Brachypodium distachyon*	false brome	perennial graminoid	non-native	-	moderate	NL

Family	Scientific name	Common name	Life form	Origin	Rare Status[1]	Invasive Status[2]	Wetland indicator[3]
Poaceae	*Briza maxima*	big quakinggrass	annual graminoid	non-native	-	limited	NL
Poaceae	*Briza minor*	little quakinggrass	annual graminoid	non-native	-	-	FAC
Poaceae	*Bromus diandrus*	ripgut brome	annual graminoid	non-native	-	moderate	NL
Poaceae	*Bromus hordeaceus*	soft chess	annual graminoid	non-native	-	limited	FACU
Poaceae	*Cortaderia jubata*	Pampas grass	perennial graminoid	non-native	-	high	FACU
Poaceae	*Cynodon dactylon*	Bermuda grass	perennial graminoid	non-native	-	moderate	FACU
Poaceae	*Elymus glaucus*	blue wildrye	perennial graminoid	native	-	-	FACU
Poaceae	*Festuca arundinacea*	tall fescue	perennial graminoid	non-native	-	moderate	FAC
Poaceae	*Festuca bromoides*	brome fescue	perennial graminoid	non-native	-	-	FACU
Poaceae	*Festuca perennis*	Italian rye grass	annual graminoid	non-native	-	moderate	FAC
Poaceae	*Hordeum murinum* ssp. *leporinum*	mouse barley	annual graminoid	non-native	-	moderate	FACU
Poaceae	*Melica imperfecta*	small flower onion grass	perennial graminoid	native	-	-	NL
Poaceae	*Poa annua*	annual bluegrass	annual graminoid	non-native	-	-	FAC
Poaceae	*Stipa pulchra*	purple needlegrass	perennial graminoid	native	-	-	NL
Poaceae	*Triticum aestivum*	bread wheat	annual graminoid	non-native	-	-	NL
Polygonaceae	*Rumex crispus*	curly dock	perennial forb	non-native	-	limited	FAC
Polygonaceae	*Rumex pulcher*	fiddle dock	perennial forb	non-native	-	-	FAC
Pteridaceae	*Adiantum jordanii*	maidenhair fern	perennial fern	native	-	-	FAC
Ranunculaceae	*Ranunculus californicus*	California buttercup	perennial forb	native	-	-	FAC
Rosaceae	*Heteromeles arbutifolia*	toyon	evergreen shrub	native	-	-	NL
Rosaceae	*Prunus cerasifera*	cherry plum	deciduous tree	non-native	-	limited	NL
Rubiaceae	*Galium aparine*	common bedstraw	annual forb	native	-	-	FACU
Rubiaceae	*Galium californicum*	California bedstraw	perennial forb	native	-	-	NL
Scrophulariaceae	*Scrophularia californica*	California figwort	perennial forb	native	-	-	FAC
Themidaceae	*Brodiaea elegans* ssp. *elegans*	harvest brodiaea	perennial forb	native	-	-	FACU
Themidaceae	*Dichelostemma capitatum*	bluedicks	perennial forb	native	-	-	FACU
Themidaceae	*Triteleia laxa*	Ithuriel's spear	perennial forb	native	-	-	NL
Vitaceae	*Vitis vinifera*	wine grape	deciduous vine	non-native	-	-	NL

All species identified using the *Jepson Manual, 2nd Edition* (Baldwin et al. 2012) and *A Flora of Sonoma County* (Best et al. 1996); nomenclature follows *The Jepson Flora Project* (eFlora 2016) unless otherwise noted

[1]Rare Status: The CNPS Inventory of Rare and Endangered Plants (CNPS 2016)

FE:	Federal Endangered
FT:	Federal Threatened
SE:	State Endangered
ST:	State Threatened
SR:	State Rare
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 more common elsewhere
Rank 2B:	Plants 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

[2]Invasive Status: California Invasive Plant Inventory (Cal-IPC 2006)

High:	Severe ecological impacts; high rates of dispersal and establishment; most are widely distributed ecologically.
Moderate:	Substantial and apparent ecological impacts; moderate-high rates of dispersal, establishment dependent on disturbance; limited- moderate distribution ecologically
Limited:	Minor or not well documented ecological impacts; low-moderate rate of invasiveness; limited distribution ecologically
Assessed:	Assessed by Cal-IPC and determined to not be an existing current threat

[3]Wetland Status: National List of Plant Species that Occur in Wetlands, Arid West Region (Lichvar 2016)

OBL:	Almost always a hydrophyte, rarely in uplands
FACW:	Usually a hydrophyte, but occasionally found in uplands
FAC:	Commonly either a hydrophyte or non-hydrophyte
FACU:	Occasionally a hydrophyte, but usually found in uplands
UPL:	Rarely a hydrophyte, almost always in uplands
NL:	Rarely a hydrophyte, almost always in uplands
NI:	No information; not factored during wetland delineation

Appendix C

Special-status Species Potential Table

Appendix C. Potential for Special-status Species to Occur in the Subject Parcel and Project Areas. List compiled from the California Department of Fish and Wildlife Natural Diversity Database (CNDDB 2017), U.S. Fish and Wildlife Service Information for Planning and Conservation Database (iPaC 2017), U.S. Fish and Wildlife Service Threatened and Endangered Species Lists , and California Native Plant Society Electronic Inventory of Rare and Endangered Plants (CNPS 2017) for the Chiles Valley, Yountville, Rutherford, Kenwood, Calistoga, Detert Reservoir, Aetna Springs, and Walter Springs USGS 7.5' quadrangles, a review of historical and current satellite imagery via Google Earth (2017).

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Mammals				
pallid bat *Antrozous pallidus*	SSC, WBWG	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, forages along river channels. Roost sites include crevices in rocky outcrops and cliffs, caves, mines, trees and various manmade structures such as bridges, barns, and buildings (including occupied buildings). Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Moderate Potential.** Trees within the Project Area are suitable for roosting.	Tree removal outside of maternity roosting season, or conduct pre-construction roost habitat assessment.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Townsend's big-eared bat *Corynorhinus townsendii*	SSC, WBWG	This species is associated with a wide variety of habitats from deserts to mid-elevation mixed coniferous-deciduous forest. Females form maternity colonies in buildings, caves and mines and males roost singly or in small groups. Foraging occurs in open forest habitats where they glean moths from vegetation.	**Unlikely.** Buildings within the Project Area are relatively new, maintained and occupied. No caves or mine-like substrates are present.	No further actions are recommended.
western red bat *Lasiurus blossevillii*	SSC, WBWG	This species is typically solitary, roosting primarily in the foliage of trees or shrubs. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores).	**Unlikely.** While portions of it are wooded, the Project Area does not contain favored broad-leafed trees to support roosting.	No further actions are recommended.
hoary bat *Lasiurus cinereus*	WBWG	Prefers open forested habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths.	**Moderate Potential.** The Project Area provides medium to large sized trees suitable for roosting by this species.	Tree removal outside of maternity roosting season, or conduct pre-construction roost habitat assessment.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
silver-haired bat *Lasionycteris noctivagans*.	WBWG	Primarily a forest dweller, feeding over streams, ponds, and open brushy areas. Summer habitats include a variety of forest and woodland types, both coastal and montane. Roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark.	**Moderate Potential.** The Project Area provides woodland habitat suitable for roosting and foraging by this species.	Tree removal outside of maternity roosting season, or conduct pre-construction roost habitat assessment.
long-eared myotis *Myotis evotis*	WBWG	Occurs in semiarid shrublands, sage, chaparral, and agricultural areas, but is usually associated with coniferous forests from sea level to 9000 feet. Individuals roost under exfoliating tree bark, and in hollow trees, caves, mines, cliff crevices, and rocky outcrops on the ground.	**Unlikely.** The Project Area does not contain coniferous forest.	No further actions are recommended.
fringed myotis *Myotis thysanodes*	WBWG	Associated with a wide variety of habitats including dry woodlands, desert scrub, mesic coniferous forest, grassland, and sage-grass steppes. Buildings, mines and large trees and snags are important day and night roosts.	**Moderate Potential.** Oak woodland within the Project Area provides trees suitable for roosting.	Tree removal outside of maternity roosting season, or conduct pre-construction roost habitat assessment.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
long-legged myotis *Myotis Volans*	WBWG	Primarily found in coniferous forests, but also occurs seasonally in riparian and desert habitats. Large hollow trees, rock crevices and buildings are important day roosts. Other roosts include caves, mines and buildings.	**Moderate Potential.** The Project Area and adjacent areas provide suitable open foraging habitat for this species, and trees on site may be suitable for roosting.	Tree removal outside of roosting season or conduct pre-construction surveys.
American badger *Taxidea taxus*	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Requires open, uncultivated ground. Preys primarily on burrowing mammals.	**Unlikely.** While the Project Area contains some undeveloped grassland, existing vineyard development reduces habitat quality. No large burrows were seen within the Project Area during the site visit.	No further actions are recommended.
ringtail *Bassariscus astutus*	CFP	Widely distributed throughout most of California, absent from some portions of the Central Valley and northeastern California. Found in a variety of habitats including riparian areas, semi-arid country, deserts, chaparral, oak woodlands, pinyon pine woodlands, juniper woodlands and montane conifer forests usually under 4,600 ft. in elevation. Typically uses cliffs or large trees for shelter.	**Moderate Potential.** The Project Area contains suitable woodland and chaparral habitat to support foraging and denning of this species.	Tree removal outside of denning season or conduct pre-construction surveys.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Birds				
golden eagle *Aquila chrysaetos*	CFP, BCC	Occurs year-round in rolling foothills, mountain areas, sage-juniper flats, and deserts. Cliff-walled canyons provide nesting habitat in most parts of range; also nests in large trees, usually within otherwise open areas.	**Unlikely.** As per Smith (2003), the current nesting and general occupancy range by this species is restricted to the eastern portion of Napa County. May occasionally forage in the vicinity of the Project Area.	No further actions are recommended.
bald eagle *Haliaeetus leucocephalus*	SE, CFP, BCC	Occurs year-round in California, but primarily a winter visitor. Nests in large trees in the vicinity of larger lakes, reservoirs and rivers. Wintering habitat somewhat more variable but usually features large concentrations of waterfowl or fish.	**Unlikely.** Although wintering bald eagles have been observed near Lake Hennessey (CDFW 2017a), oak woodland within the Project Area does not provide any typical nesting habitat. The nearest documented nesting occurrences are in association with Lake Berryessa (CDFW 2017a).	No further actions are recommended.
northern harrier *Circus cyaneus*	SSC	Year-round resident and winter visitor. Found in open habitats including grasslands, prairies, marshes and agricultural areas. Nests on the ground in dense vegetation, typically near water or otherwise moist areas. Preys on small vertebrates.	**Unlikely.** The Project Area does not provide undisturbed, mesic (moist) areas that are suitable for nesting.	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
white-tailed kite *Elanus leucurus*	CFP	Year-round resident in coastal and valley lowlands with scattered trees and large shrubs, including grasslands, marshes and agricultural areas. Nests in trees, of which the type and setting are highly variable. Preys on small mammals and other vertebrates.	**Moderate Potential.** The Project Area provides open areas with trees that are suitable for nesting.	Tree removal should occur outside of nesting season, or conduct pre-construction surveys and avoid any active nests found.
American peregrine falcon *Falco peregrinus anatum*	CFP, BCC	Year-round resident and winter visitor. Occurs in a wide variety of habitats, though often associated with coasts, bays, marshes and other bodies of water. Nests on protected cliffs and also on man-made structures including buildings and bridges. Preys on birds, especially waterbirds. Forages widely.	**Unlikely.** The Project Area does not contain waterbodies (typical foraging habitat) or cliffs or tall manmade structures for nesting. May occasionally pass through or forage aerially in the area.	No further actions are recommended.
prairie falcon *Falco mexicanus*	BCC	Year-round resident and winter visitor. Inhabits dry, open terrains, including foothills and valleys. Breeding sites located on steep cliffs. Forages widely.	**Unlikely.** The Project Area does not contain steep cliffs or canyons to support breeding by this species.	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Swainson's hawk *Buteo swainsoni*	ST, BCC	Summer resident in California's Central Valley and limited portions of the southern California interior. Nests in tree groves and isolated trees in riparian and agricultural areas, including near buildings. Forages in grasslands and scrub habitats as well as agricultural fields, especially alfalfa. Preys on arthropods year-round as well as smaller vertebrates during the breeding season.	**No Potential.** The Project Area does not provide the open, low-elevation habitat strongly favored by this species. The Napa County breeding population is very small and restricted, with the nearest documented nesting located approximately 4.1 miles southwest of the Project Area, on the Napa Valley floor (CDFW 2017a).	No further actions are recommended.
northern spotted owl *Strix occidentalis caurina*	FT, ST, SSC	Year-round resident in dense, structurally complex forests, primarily those with old-growth conifers. Nests on platform-like substrates in the forest canopy, including in tree cavities. Preys on mammals.	**Unlikely.** The Project Area is unforested, with tree cover restricted to oak woodland. The nearest documented nesting territory/activity center is located approximately 3.6 miles to the northwest (CDFW 2017b).	No further actions are recommended.
burrowing owl *Athene cunicularia*	SSC, BCC	Year-round resident and winter visitor. Occurs in open, dry grasslands and scrub habitats with low-growing vegetation, perches and abundant mammal burrows. Preys upon insects and small vertebrates. Nests and roosts in old mammal burrows, most commonly those of ground squirrels.	**Unlikely.** The Project Area contains some open areas, but the presence of bands of oaks and existing vineyard development reduces habitat quality. The nearest documented occurrences potentially involving nesting are in the immediate vicinity of Lake Berryessa (Smith 2003, CDFW 2017a).	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
short-eared owl *Asio flammeus*	SSC	Occurs year-round, but primarily as a winter visitor; breeding very restricted in most of California. Found in open, treeless areas (e.g., marshes, grasslands) with elevated sites for foraging perches and dense herbaceous vegetation for roosting and nesting. Preys mostly on small mammals, particularly voles.	**No Potential.** The Project Area does not provide undisturbed areas that are suitable for nesting or foraging. As per Smith (2003), potential nesting areas in Napa County are restricted to baylands.	No further actions are recommended.
long-eared owl *Asio otus*	SSC	Occurs year-round in California. Nests in trees in a variety of woodland habitats, including oak and riparian, as well as tree groves. Requires adjacent open land with rodents for foraging, and the presence of old nests of larger birds (hawks, crows, magpies) for breeding.	**Unlikely.** As per Smith (2003), documented nesting is restricted to the vicinity of Lake Berryessa.	No further actions are recommended.
great blue heron *Ardea herodias*	none (breeding sites protected by CDFW)	Year-round resident. Nests colonially or semi-colonially in tall trees and on cliffs, also sequestered terrestrial substrates. Breeding sites usually in close proximity to foraging areas: marshes, lake margins, tidal flats, and rivers. Forages primarily on fishes and other aquatic prey, also smaller terrestrial vertebrates.	**Unlikely.** The Project Area is not within close proximity to water to support a breeding colony. The nearest documented nesting colony site in CNDDB is located approximately 2.0 miles to the southeast, in association with Lake Hennessey (CDFW 2017a).	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
great egret *Ardea alba*	none (breeding sites protected by CDFW)	Year-round resident. Nests colonially or semi-colonially, usually in trees, occasionally on the ground or elevated platforms. Breeding sites usually in close proximity to foraging areas: marshes, lake margins, tidal flats, and rivers. Forages primarily on fishes and other aquatic prey, also smaller terrestrial vertebrates.	**Unlikely.** The Project Area is not within close proximity to water to support a breeding colony. The nearest documented nesting colony site in CNDDB is located approximately 2.0 miles to the southeast, in association with Lake Hennessey (CDFW 2017a).	No further actions are recommended.
Allen's hummingbird *Selasphorus sasin*	BCC	Summer resident along the California coast, breeding in a variety of woodland and forest habitats, including parks and gardens with abundant nectar sources. Nest in shrubs and trees with dense vegetation.	**Moderate Potential.** The Project Area contains vegetation to support nesting of this species. This species has been documented within 1 mile of the Project Area (eBird 2017).	Tree removal outside of nesting season or conduct pre-construction surveys.
olive-sided flycatcher *Contopus cooperi*	SSC, BCC	Summer resident. Typical breeding habitat is montane coniferous forests. At lower elevations, also occurs in wooded canyons and mixed forests and woodlands. Often associated with forest edges. Arboreal nest sites located well off the ground.	**Unlikely.** Oaks within the Project Area do not provide the typical elevated nesting sites and foraging perches favored by this species.	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
purple martin *Progne subis*	SSC	Inhabits woodlands and low elevation coniferous forests. Nests in old woodpecker cavities and manmade structures. Nest is often located in tall, isolated tree or snag.	**Unlikely.** Oaks within the Project Area do not provide elevated snags and cavities of the type favored by this species. The nearest documented nesting occurrence in CNDDB is located approximately 2.8 miles to the west, in a forested area (CDFW 2017a).	No further actions are recommended.
bank swallow *Riparia riparia*	ST	Summer resident in riparian and other lowland habitats near rivers, lakes and the ocean in northern California. Nests colonially in excavated burrows on vertical cliffs and bank cuts (natural and manmade) with fine-textured soils. Historical nesting range in southern and central areas of California has been eliminated by habitat loss. Currently known to breed in Siskiyou, Shasta, and Lassen Cos., portions of the north coast, and along Sacramento River from Shasta Co. south to Yolo Co.	**No Potential.** The Project Area does not contain cliffs or cuts with fine-textured soils or any other potentially suitable nesting substrate. Not known to nest in Napa County as per Smith (2003).	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
black swift *Cypseloides niger*	SSC, BCC	Summer resident with a fragmented breeding distribution; most occupied areas in California either montane or coastal. Breeds in small colonies on cliffs behind or adjacent to waterfalls, in deep canyons, and sea-bluffs above surf. Forages aerially over wide areas.	**No Potential.** The Project Area does not contain cliffs or cuts with fine-textured soils or any other potentially suitable nesting substrate. Not known to nest in Napa County as per Smith (2003).	No further actions are recommended.
Nuttall's woodpecker *Picoides nuttallii*	BCC	Year-round resident in lowland woodlands throughout much of California west of the Sierra Nevada. Typical habitat is dominated by oaks; also occurs in riparian woodland. Nests in tree cavities.	**High Potential.** Oaks within the Project Area provide suitable year-round habitat for this species.	Tree removal should occur outside of nesting season, or conduct pre-construction surveys and avoid any active nests found.
loggerhead shrike *Lanius ludovicianus*	BCC, SSC	Year-round resident in open woodland, grassland, savannah and scrub. Prefers areas with sparse shrubs, trees, posts, and other suitable perches for foraging. Preys upon large insects and small vertebrates. Nests are well-concealed in densely-foliaged shrubs or trees.	**Unlikely.** The Project Area provides open grassland areas of moderate quality. However, there are no recent known occurrences of this species in the vicinity (Smith 2003, eBird 2017).	No further actions are recommended.
oak titmouse *Baeolophus inornatus*	BCC	Occurs year-round in woodland and savannah habitats where oaks are present, as well as riparian areas. Nests in tree cavities.	**High Potential.** Oaks within the Project Area provide suitable year-round habitat for this species.	Tree removal should occur outside of nesting season, or conduct pre-construction surveys and avoid any active nests found.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
yellow warbler *Setophaga (Dendroica) petechia brewsteri*	SSC, BCC	Summer resident throughout much of California. Breeds in riparian vegetation close to water, including streams and wet meadows. Microhabitat used for nesting variable, but dense willow growth is typical. Occurs widely on migration.	**Unlikely.** The Project Area does not contain perennial streams or the dense riparian vegetation typically favored by this species.	No further actions are recommended.
yellow-breasted chat *Icteria virens*	SSC	Summer resident, occurring in riparian areas with an open canopy, very dense understory, and trees for song perches. Nests in thickets of willow, blackberry, and wild grape.	**Unlikely.** Riparian habitat within the Project Area is not extensive enough to support nesting by this species.	No further actions are recommended.
Bell's sage sparrow *Amphispiza belli belli*	BCC	Year-round resident, though shows seasonal movements. Prefers dense chaparral and scrub habitats for breeding; strongly associated with chamise. Also occurs in more open habitats during winter.	**Unlikely.** The Project Area does not contain chaparral or scrub vegetation of the type strongly favored by this species.	No further actions are recommended.
black-chinned sparrow *Spizella atrogularis*	BCC	Summer resident. Typically occurs on arid, rocky slopes with brushy vegetation, e.g. mixed chaparral and sagebrush.	**Unlikely.** Not known to nest in Napa County (Smith 2003); no recent observations in the vicinity of the Project Area.	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Lawrence's goldfinch *Spinus lawrencei*	BCC	Summer resident, primarily in southern California; generally uncommon and local. Typically found in arid open woodlands, including oak savannah. Breeding distribution is erratic from year to year.	**Moderate Potential.** Oak woodland within the Project Area provides suitable nesting habitat for this species, which has been documented in this portion of Napa County (Smith 2003).	Tree removal should occur outside of nesting season, or conduct pre-construction surveys and avoid any active nests found.
tricolored blackbird *Agelaius tricolor*	SSC, BCC	Nearly endemic to California, where it is most numerous in the Central Valley and vicinity. Highly colonial, nesting in dense aggregations over or near freshwater in emergent growth or riparian thickets. Also uses flooded agricultural fields. Abundant insect prey near breeding areas essential.	**Unlikely.** The Project Area does not provide vegetated ponds or emergent marsh suitable for nesting.	No further actions are recommended.
Reptiles and Amphibians				
California red-legged frog *Rana draytonii*	FT, SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11 to 20 weeks of permanent water for larval development. Associated with quiet perennial to intermittent ponds, stream pools and wetlands. Prefers shorelines with extensive vegetation. Disperses through upland habitats after rains.	**Unlikely.** The Project Area does not contain ponds, and the ephemeral stream lacks sufficient hydrology (duration, depth, etc.) to support breeding by this species. The nearest documented occurrence in CNDDB is located approximately 7.1 miles to the north (CDFW 2017a).	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
foothill yellow-legged frog *Rana boylii*	SC, SSC	Found in or near rocky streams in a variety of habitats. Prefers partly-shaded, shallow streams and riffles with a rocky substrate; requires at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Feeds on both aquatic and terrestrial invertebrates.	**Unlikely.** The Project Area's ephemeral stream lacks sufficient hydrology (duration, depth, etc.) to support breeding by this species. The nearest documented occurrence in CNDDB is located approximately 4.3 miles to the north (CDFW 2017a).	No further actions are recommended.
California giant salamander *Dicamptodon ensatus*	SSC	Occurs in the north-central Coast Ranges. Moist coniferous and mixed forests are typical habitat; also uses woodland and chaparral. Adults are terrestrial and fossorial, breeding in cold, permanent or semi-permanent streams. Larvae usually remain aquatic for over a year.	**Unlikely.** The Project Area's ephemeral stream lacks sufficient hydrology (duration, depth, etc.) to support breeding by this species. The nearest documented occurrence in CNDDB is located approximately 3.8 miles to the north (CDFW 2017a).	No further actions are recommended.
red-bellied newt *Taricha rivularis*	SSC	Inhabits coastal forests from southern Sonoma County northward, with an isolated population in Santa Clara County. Redwood forest provides typical habitat; though other forest types are used. Adults are terrestrial and fossorial. Breeding occurs in streams, usually with relatively strong flow.	**No Potential.** The Project Area's ephemeral stream lacks sufficient hydrology (duration, depth, etc.) to support breeding by this species. The nearest documented occurrences in CNDDB are located a minimum distance of approximately 11.1 miles to the west (CDFW 2017a).	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
western pond turtle *Actinemys marmorata*	SSC	Thoroughly aquatic, inhabiting ponds, marshes, streams, and irrigation ditches with aquatic vegetation. Requires basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying.	**Unlikely.** The Project Area does not contain ponds, perennial streams or other suitable aquatic features. The nearest documented occurrence is approximately 3.1 miles northeast of the Project Area (CDFW 2017a).	No further actions are recommended.
Fishes				
Delta smelt *Hypomesus transpacificus*	FT, SE	Lives in the Sacramento-San Joaquin estuary in areas where salt and freshwater systems meet. Occurs seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities > 10 ppt; most often at salinities < 2 ppt.	**No Potential.** This species is found exclusively in estuarine habitats in the Sacramento Delta.	No further actions are recommended.
steelhead - central CA coast DPS *Oncorhynchus mykiss irideus*	FT, NMFS	Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	**No Potential.** The Project Area does not contain anadromous streams.	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Invertebrates				
California freshwater shrimp *Syncaris pacifica*	FE, SE	Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy. Shallow pools away from main stream flow. Winter: undercut banks with exposed roots. Summer: leafy branches touching water.	**No Potential.** The Project Area does not contain perennial stream habitat.	No further actions are recommended.
Plants				
Franciscan onion *Allium peninsulare var. franciscanum*	Rank 1B.2	Cismontane woodland, valley and foothill grassland/clay, volcanic, often serpentine. Elevation ranges from 170 to 980 feet (52 to 300 meters). Blooms (Apr), May-Jun.	**Moderate Potential.** This species is known to occur on dry hillsides in clay, volcanic, and often on serpentine soil throughout central California, primarily in San Mateo county.	**Not Observed**. This species was not observed during the March and June surveys. No further recommendations for this species.
Sonoma alopecurus *Alopecurus aequalis var. sonomensis*	FE, Rank 1B.1	Marshes and swamps (freshwater), riparian scrub. Elevation ranges from 20 to 1200 feet (5 to 365 meters). Blooms May-Jul.	**Unlikely.** This species is known to occur in wet areas, marshes and riparian banks with other wetland species, only in Sonoma and Marin counties.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Napa false indigo *Amorpha californica var. napensis*	Rank 1B.2	Broadleafed upland forest (openings), chaparral, cismontane woodland. Elevation ranges from 390 to 6560 feet (120 to 2000 meters). Blooms Apr-Jul.	**Moderate Potential.** This species is known to occur in openings in forest, woodland or chaparral habitats on many soil types, including those within the Project Area.	**Not Observed**. This species was not observed during the March and June surveys. No further recommendations for this species.
bent-flowered fiddleneck *Amsinckia lunaris*	Rank 1B.2	Coastal bluff scrub, cismontane woodland, valley and foothill grassland. Elevation ranges from 10 to 1640 feet (3 to 500 meters). Blooms Mar-Jun.	**Moderate Potential**. This species is known to occur on several soil types in a broad range of habitats within the inner and outer coast range.	**Not Observed**. This species was not observed during the March and June surveys. No further recommendations for this species.
twig-like snapdragon *Antirrhinum virga*	Rank 4.3	Chaparral, lower montane coniferous forest/rocky, openings, often serpentine. Elevation ranges from 330 to 6610 feet (100 to 2015 meters). Blooms Jun-Jul.	**No Potential.** This species is known to have a strong affinity to serpentine soils, which are absent within the Project Area.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Konocti manzanita *Arctostaphylos manzanita ssp. elegans*	Rank 1B.3	Chaparral, cismontane woodland, lower montane coniferous forest/volcanic. Elevation ranges from 1300 to 5300 feet (395 to 1615 meters). Blooms Jan-May (Jul).	**Unlikely.** This species in known to occur on volcanic soils in cismontane woodland and lower montane coniferous forests, associated with species which do not occur in the Project Area.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Rincon Ridge manzanita *Arctostaphylos stanfordiana ssp. decumbens*	Rank 1B.1	Chaparral (rhyolitic), cismontane woodland. Elevation ranges from 250 to 1210 feet (75 to 370 meters). Blooms Feb-Apr (May).	**Unlikely.** This species is highly restricted to red rhyolitic soils in Sonoma County, and several occurrences located west of Highway 29 within Napa County. Additionally, no known associated species, primarily manzanitas, ceanothus, and chamise, are present within the Project Area.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
serpentine milkweed *Asclepias solanoana*	Rank 4.2	Chaparral, cismontane woodland, lower montane coniferous forest/serpentine. Elevation ranges from 750 to 6100 feet (230 to 1860 meters). Blooms May-Jul (Aug).	**Unlikely.** This species is known to be a strict endemic to serpentine soils, which are absent within the Project Area.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Brewer's milk-vetch *Astragalus breweri*	Rank 4.2	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland (open, often gravelly)/often serpentine, volcanic. Elevation ranges from 300 to 2400 feet (90 to 730 meters). Blooms Apr-Jun.	**Unlikely.** This species is known to occur on grassy flats, moist meadows and open slopes on or near volcanic soils. Additionally, the species also has a strong affinity for serpentine soils.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Clara Hunt's milk-vetch *Astragalus claranus*	FE, ST, Rank 1B.1	Chaparral (openings), cismontane woodland, valley and foothill grassland/serpentine or volcanic, rocky, clay. Elevation ranges from 250 to 900 feet (75 to 275 meters). Blooms Mar-May.	**Unlikely**. This species is known to occur on open, grassy slopes on exposed shoulders on thin, volcanic clay soil which is vernally moist within chaparral, cismontane woodland, and grassland habitats. Additionally, the species also has a strong affinity for serpentine soils.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Cleveland's milk-vetch *Astragalus clevelandii*	Rank 4.3	Chaparral, cismontane woodland, riparian forest/serpentine seeps. Elevation ranges from 660 to 4920 feet (200 to 1500 meters). Blooms Jun-Sep.	**Unlikely.** This species is known to be associated with seeps and creeks on serpentine soils, or sandy stream banks, gravel bars of streams. The Project Area does not contain serpentine soils or sandy/gravelly streambanks.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Jepson's milk-vetch *Astragalus rattanii var. jepsonianus*	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland/often serpentine. Elevation ranges from 970 to 2300 feet (295 to 700 meters). Blooms Mar-Jun.	**Unlikely.** This species is commonly found on serpentine soils in grasslands, cismontane woodland or chaparral openings within the northern inner coast ranges. The Project Area does not contain serpentine soils.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
narrow-anthered brodiaea *Brodiaea leptandra*	Rank 1B.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland/volcanic. Elevation ranges from 360 to 3000 feet (110 to 915 meters). Blooms May-Jul.	**Moderate Potential.** This species is known to occur on volcanic substrates in the southern portion of the Maycamas in lower montane coniferous forest, cismontane woodland, and grassland habitats. Additionally, this species is known to occur in disturbed areas within non-native grassland and coast live oak woodland.	**Not Observed**. This species was not observed during the March and June surveys. No further recommendations for this species.
serpentine reed grass *Calamagrostis ophitidis*	Rank 4.3	Chaparral (open, often north-facing slopes), lower montane coniferous forest, meadows and seeps, valley and foothill grassland/serpentine, rocky. Elevation ranges from 300 to 3490 feet (90 to 1065 meters). Blooms Apr-Jul.	**Unlikely.** This species is known to occur on rocky sites in serpentine and is a strict serpentine endemic. The Project Area does not contain serpentine soils.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Brewer's calandrinia *Calandrinia breweri*	Rank 4.2	Chaparral, coastal scrub/sandy or loamy, disturbed sites and burns. Elevation ranges from 30 to 4000 feet (10 to 1220 meters). Blooms (Jan), Mar-Jun.	**Unlikely.** This species is widespread, known from sandy or loamy soils in disturbed or burned sites within chaparral or scrub habitats. The Project Area does not contain chaparral or scrub habitat.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
pink star-tulip *Calochortus uniflorus*	Rank 4.2	Coastal prairie, coastal scrub, meadows and seeps, north coast coniferous forest. Elevation ranges from 30 to 3510 feet (10 to 1070 meters). Blooms Apr-Jun.	**Unlikely.** This species is known from seasonally moist meadows, usually at low elevations on the coast, in coastal habitats. Closest known occurrences in Lake, Napa, and Sonoma Counties are primarily located on valley floors.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
small-flowered calycadenia *Calycadenia micrantha*	Rank 1B.2	Chaparral, meadows and seeps (volcanic), valley and foothill grassland/roadsides, rocky, talus, scree, sometimes serpentine, sparsely vegetated areas. Elevation ranges from 20 to 4920 feet (5 to 1500 meters). Blooms Jun-Sep.	**Unlikely.** This diminutive species is known to occur on rocky talus, scree or sparsely vegetated areas in chaparral, cismontane woodland, and grassland habitats throughout the coast ranges.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
four-petaled pussypaws *Calyptridium quadripetalum*	Rank 4.3	Chaparral, lower montane coniferous forest/sandy or gravelly, usually serpentine. Elevation ranges from 1030 to 6690 feet (315 to 2040 meters). Blooms Apr-Jun.	**No Potential.** This species is a known to occur in sandy or gravelly areas within chaparral, or coniferous forest throughout the inner northern coast ranges and Sierra Nevada foothills. It is also a broad serpentine endemic.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Mt. Saint Helena morning-glory *Calystegia collina ssp. oxyphylla*	Rank 4.2	Chaparral, lower montane coniferous forest, valley and foothill grassland/serpentine. Elevation ranges from 920 to 3310 feet (279 to 1010 meters). Blooms Apr-Jun.	**No Potential.** This species is known to occur on barrens, slopes and hillsides on serpentine soils in the southern Maycamas and nearby coast range. Additionally, this species is a strict serpentine endemic. While the Project Area contains lower montane coniferous forest, serpentine soils are absent.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
South Coast Range morning-glory *Calystegia collina ssp. venusta*	Rank 4.3	Chaparral, cismontane woodland, valley and foothill grassland/serpentine or sedimentary. Elevation ranges from 1390 to 4890 feet (425 to 1490 meters). Blooms Apr-Jun.	**Unlikely.** This species is most common in open, rocky areas on serpentine soils in chaparral, woodland or grassland habitat, but is also known to occur on sedimentary rock derived soils. The Project Area does not contain rocky areas within the grassland habitat. Additionally, the known distribution of the species is south of the bay area.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
johnny-nip *Castilleja ambigua var. ambigua*	Rank 4.2	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal poolsmargins. Elevation ranges from 0 to 1430 feet (0 to 435 meters). Blooms Mar-Aug.	**Unlikely.** This species is known to occur primarily in coastal habitats or vernally moist habitats in inland locations within the fog belt. The Project Area is not very near the coast nor contains marshes or vernal pools.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Mead's owl's-clover *Castilleja ambigua var. meadii*	Rank 1B.1	Meadows and seeps, vernal pools/gravelly, volcanic, clay. Elevation ranges from 1480 to 1560 feet (450 to 475 meters). Blooms Apr-May.	**Unlikely.** This species is known to occur in moist habitats on soils of volcanic origin which tend to have high clay content. The Project Area does not contain vernal pools or seeps.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Rincon Ridge ceanothus *Ceanothus confusus*	Rank 1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland/volcanic or serpentine. Elevation ranges from 250 to 3490 feet (75 to 1065 meters). Blooms Feb-Jun.	**Unlikely.** This species is known to occur in dry, shrubby slopes on volcanic or serpentine soils in conifer forest, chaparral or woodlands. While the Project Area contains cismontane woodland, shrubby slopes within the woodland are associated with the streams and do not provide suitable habitat for this species.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Calistoga ceanothus *Ceanothus divergens*	Rank 1B.2	Chaparral (serpentine or volcanic, rocky). Elevation ranges from 560 to 3120 feet (170 to 950 meters). Blooms Feb-Apr.	**Unlikely.** This species is known to occur in rocky areas on serpentine or volcanic sites in chaparral. The Project Area does not contain chaparral on volcanic soils.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
glory brush *Ceanothus gloriosus var. exaltatus*	Rank 4.3	Chaparral. Elevation ranges from 100 to 2000 feet (30 to 610 meters). Blooms Mar-Jun (Aug).	**Unlikely.** This species is known to occur in chaparral in the outer northern coast ranges, generally within the fog belt.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
holly-leaved ceanothus *Ceanothus purpureus*	Rank 1B.2	Chaparral, cismontane woodland/volcanic, rocky. Elevation ranges from 390 to 2100 feet (120 to 640 meters). Blooms Feb-Jun.	**Unlikely.** This species is known to occur on rocky slopes on volcanic soils in chaparral and woodland habitats. While the Project Areas contains cismontane woodland on volcanic soils, the extent is very limited and not rocky.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Sonoma ceanothus *Ceanothus sonomensis*	Rank 1B.2	Chaparral (sandy, serpentine or volcanic). Elevation ranges from 710 to 2620 feet (215 to 800 meters). Blooms Feb-Apr.	**Unlikely.** This species is known to occur in sandy serpentine or volcanic soils in chaparral habitat only in southern Lake, western Napa, and eastern Sonoma Counties. The Project Areas does not contain chaparral with volcanic soils within the known limited distribution of the species.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
pappose tarplant *Centromadia parryi ssp. parryi*	Rank 1B.2	Chaparral, coastal prairie, meadows and seeps, marshes and swamps (coastal salt), valley and foothill grassland (vernally mesic)/often alkaline. Elevation ranges from 0 to 1380 feet (0 to 420 meters). Blooms May-Nov.	**Unlikely.** This species is known to occur in vernally mesic sites, often with alkaline soils in chaparral and grassland habitats. The Project Area does not contain chaparral and or alkaline soils.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Brewer's clarkia *Clarkia breweri*	Rank 4.2	Chaparral, cismontane woodland, coastal scrub/often serpentine. Elevation ranges from 710 to 3660 feet (215 to 1115 meters). Blooms Apr-Jun.	**Unlikely.** This species is known to occur on serpentine soils in chaparral and woodland habitats, primarily in counties further south. While the Project Area contains woodland, there is no serpentine soil. Additionally, the only known Napa County occurrence is in northern Napa County from 1872 in alluvial soils.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Tracy's clarkia *Clarkia gracilis ssp. tracyi*	Rank 4.2	Chaparral (openings, usually serpentine). Elevation ranges from 210 to 2130 feet (65 to 650 meters). Blooms Apr-Jul.	**Unlikely.** This species is known to occur in openings, usually on serpentine soils in chaparral habitats, primarily in Lake, Colusa, and Napa Counties. The Project Areas do not contain chaparral and no serpentine soil is present. Additionally, this species is known to be a broad endemic to serpentine soil.	**Not Present.** Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
serpentine collomia *Collomia diversifolia*	Rank 4.3	Chaparral, cismontane woodland/serpentine, rocky or gravelly. Elevation ranges from 980 to 1970 feet (300 to 600 meters). Blooms May-Jun.	**Unlikely.** This species is a strict serpentine endemic known to occur on rocky or gravelly sites on serpentine soils in chaparral and woodland habitat. The Project Area does not contain serpentine soils.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
serpentine bird's-beak *Cordylanthus tenuis ssp. brunneus*	Rank 4.3	Closed-cone coniferous forest, chaparral, cismontane woodland/usually serpentine. Elevation ranges from 1560 to 3000 feet (475 to 915 meters). Blooms Jul-Aug.	**Unlikely.** This species is known to occur in barren, rocky niches on serpentine soils in chaparral and woodland habitat, primarily in Lake, Sonoma, and Napa counties. The Project Areas do not contain closed-cone coniferous forest or chaparral. Additionally, no serpentine soils are present.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
serpentine cryptantha *Cryptantha dissita*	Rank 1B.2	Chaparral (serpentine). Elevation ranges from 1300 to 1900 feet (395 to 580 meters). Blooms Apr-Jun.	**No Potential.** This species is known to occur on serpentine soils in chaparral. The Project Areas do not contain serpentine soils.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
mountain lady's-slipper *Cypripedium montanum*	Rank 4.2	Broadleafed upland forest, cismontane woodland, lower montane coniferous forest, north coast coniferous forest. Elevation ranges from 610 to 7300 feet (185 to 2225 meters). Blooms Mar-Aug.	**Unlikely.** This species is known to occur on dry, undisturbed slopes in broadleaf, and coniferous forests in the Cascade Range, northern Coast Ranges and Sierra Nevada Range. While the Project Area contains cismontane woodland, this species occurs in niches where non-native species are not dominant in the understory. The Project Area understory habitat is dominated by non-native grasses and forbs. Additionally, there are no known occurrences in Napa County.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
swamp larkspur *Delphinium uliginosum*	Rank 4.2	Chaparral, valley and foothill grassland/serpentine seeps. Elevation ranges from 1120 to 2000 feet (340 to 610 meters). Blooms May-Jun.	**No Potential.** This strict serpentine endemic species is known to occur in moist drainages, meadows, and creek beds on serpentine soils in chaparral and grassland habitats, primarily in Lake and Napa Counties. The Project Area does not contain serpentine soils.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
dwarf downingia *Downingia pusilla*	Rank 2B.2	Valley and foothill grassland (mesic), vernal pools. Elevation ranges from 0 to 1460 feet (1 to 445 meters). Blooms Mar-May.	**No Potential.** This species is known to occur on vernal lake and pool margins throughout northern California. The Project Area does not contain pond or pool habitat.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
streamside daisy *Erigeron biolettii*	Rank 3	Broadleafed upland forest, cismontane woodland, north coast coniferous forest/rocky, mesic. Elevation ranges from 100 to 3610 feet (30 to 1100 meters). Blooms Jun-Oct.	**Unlikely**. This species is known to occur on dry slopes, rocks, ledges along rivers in broadleaf and coniferous forest and cismontane woodland in the northern Coast Range. The Project Area does not contain rocky and mesic sites within suitable habitat**.**	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Greene's narrow-leaved daisy *Erigeron greenei*	Rank 1B.2	Chaparral (serpentine or volcanic). Elevation ranges from 260 to 3300 feet (80 to 1005 meters). Blooms May-Sep.	**No Potential.** This species is known to occur in serpentine and volcanic substrates in shrubby vegetation within the northern Coast Ranges. The Project Area does not contain chaparral on volcanic soils.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
bay buckwheat *Eriogonum umbellatum var. bahiiforme*	Rank 4.2	Cismontane woodland, lower montane coniferous forest/rocky, often serpentine. Elevation ranges from 2300 to 7220 feet (700 to 2200 meters). Blooms Jul-Sep.	**Unlikely.** This species is known to occur on rocky sites, often on serpentine soils, within woodland and conifer forests at higher elevations throughout California. The Project Area does not contain serpentine soils and is located in elevation lower than the species has been observed.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Loch Lomond button-celery *Eryngium constancei*	FE, SE, Rank 1B.1	Vernal pools. Elevation ranges from 1510 to 2810 feet (460 to 855 meters). Blooms Apr-Jun.	**No Potential.** This species is known to occur in vernal pools underlain by soils of volcanic ash at higher elevations. The Project Area does not contain vernal pools.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Jepson's coyote thistle *Eryngium jepsonii*	Rank 1B.2	Valley and foothill grasslands, vernal pools/clay. Elevations ranges from 9 to 900 feet (3 to 300 meters). Blooms Apr-Aug	**No Potential.** This widespread vernal pool species is known to occur in vernal pools and grasslands on clay soil throughout northern and central California. The Project Area does not contain vernal pool habitat nor mesic swales in grasslands.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
St. Helena fawn lily *Erythronium helenae*	Rank 4.2	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland/volcanic or serpentine. Elevation ranges from 1150 to 4000 feet (350 to 1220 meters). Blooms Mar-May.	**Unlikely**. This broad serpentine endemic species is known to occur on serpentine and volcanic soils, growing in open, inter-shrub spaces in chaparral, woodland, grassland and coniferous forest habitat in Napa and Lake Counties at higher elevations. The Project Area does not contain shrub habitat within cismontane woodland.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
fragrant fritillary *Fritillaria liliacea*	Rank 1B.2	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland/often serpentine. Elevation ranges from 10 to 1350 feet (3 to 410 meters). Blooms Feb-Apr.	**Moderate Potential.** This species is known to occur on various soil types, primarily in grasslands within counties around San Francisco Bay,however there are no known occurrences within Napa County.	**Not Observed**. This species was not observed during the March and June surveys. No further recommendations for this species.
adobe-lily *Fritillaria pluriflora*	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland/often adobe. Elevation ranges from 200 to 2310 feet (60 to 705 meters). Blooms Feb-Apr.	**Unlikely.** This species is known to occur on shrink/swell clays and sometimes serpentine within chaparral, cismontane woodland and grassland habitat within the inner north Coast Range and Sierra Nevada foothills. The Project Areas do not contain shrink/swell clays and no known occurrences occur west of Lake Barryessa.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Purdy's fritillary *Fritillaria purdyi*	Rank 4.3	Chaparral, cismontane woodland, lower montane coniferous forest/usually serpentine. Elevation ranges from 570 to 7400 feet (175 to 2255 meters). Blooms Mar-Jun.	**Unlikely.** This species is known to occur on serpentine soils in chaparral, woodland and coniferous forest habitat in the northern Coast Ranges. Majority of Napa County occurrences are within the Palisades, just east of Hwy 29, on volcanic soils with same geology as the Project Areas. Additionally, the Project Areas contain woodland habitat. However, no known occurrences have been observed south of Calistoga in Napa County**.**	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Hall's harmonia *Harmonia hallii*	Rank 1B.2	Chaparral (serpentine). Elevation ranges from 1640 to 3200 feet (500 to 975 meters). Blooms Apr-Jun.	**No Potential.** This strict serpentine endemic species is known to occur in open, rocky areas within chaparral in Lake and Napa Counties at higher elevations. The Project Area does not contain serpentine soils**.**	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
nodding harmonia *Harmonia nutans*	Rank 4.3	Chaparral, cismontane woodland/rocky or gravelly, volcanic. Elevation ranges from 250 to 3200 feet (75 to 975 meters). Blooms Mar-May.	**Unlikely.** This species is known to occur in rocky sites on volcanic substrates within chaparral and cismontane woodland, primarily in northern Napa and Sonoma Counties. The Project Areas does not contain chaparral and has no cismontane woodland with rocky areas.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
serpentine sunflower *Helianthus exilis*	Rank 4.2	Chaparral, cismontane woodland/serpentine seeps. Elevation ranges from 490 to 5000 feet (150 to 1525 meters). Blooms Jun-Nov.	**No Potential.** This strict serpentine endemic species is known to occur in seeps within chaparral and woodland throughout northern California inland areas. While the Project Area contains limited woodland habitats, no serpentine soil is present.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
two-carpellate western flax *Hesperolinon bicarpellatum*	Rank 1B.2	Chaparral (serpentine). Elevation ranges from 200 to 3300 feet (60 to 1005 meters). Blooms May-Jul.	**No Potential.** This strict serpentine endemic is known to occur at serpentine barrens at the edge of chaparral in the outer north coast ranges, primarily in Lake and Napa counties. The Project Area does not contains chaparral and no serpentine soil is present.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Sharsmith's western flax *Hesperolinon sharsmithiae*	Rank 1B.2	Chaparral/serpentine. Elevation ranges from 890 to 980 feet (270 to 300 meters). Blooms May-Jul.	**No Potential.** Known occurrences of this species are only located on serpentine substrates in chaparral habitat in the outer north coast ranges, primarily in Napa County. The Project Area does not contain chaparral and no serpentine soil is present.	**Not Present.** Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
coast iris *Iris longipetala*	Rank 4.2	Coastal prairie, lower montane coniferous forest, meadows and seeps/mesic. Elevation ranges from 0 to 1970 feet (0 to 600 meters). Blooms Mar-May.	**Unlikely.** This species is known to occur in mesic sites in heavy soils within coastal prairie, coniferous forest and meadows/seeps in the north coast ranges, primarily in San Mateo and San Francisco counties. The Project Area lacks lower montane coniferous forest and seeps, and the soil is loam and not heavy. Additionally, there are no known Napa County occurrences.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Santa Lucia dwarf rush *Juncus luciensis*	Rank 1B.2	Chaparral, great basin scrub, lower montane coniferous forest, meadows and seeps, vernal pools. Elevation ranges from 980 to 6690 feet (300 to 2040 meters). Blooms Apr-Jul.	**Unlikely.** This species is known to occur at vernal pools, ephemeral drainages, wet meadows and streamside's in chaparral, scrub, and coniferous forests, primarily in the eastern Sierra's and south coast range. Many known occurrences are in rocky mesic areas, including the one known occurrence is in Napa County. The Project Area does not contain mesic niches.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Burke's goldfields *Lasthenia burkei*	FE, SE, Rank 1B.1	Meadows and seeps (mesic), vernal pools. Elevation ranges from 50 to 1970 feet (15 to 600 meters). Blooms Apr-Jun.	**Unlikely.** This species is known to occur in vernal pools and swales in meadows in the north coast ranges, primarily in Sonoma County on the Santa Rosa Plain. The Project Area does not contains vernally mesic seeps and the soil is loamy. Additionally, no vernal pools are present.	**Not Present.** Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Contra Costa goldfields *Lasthenia conjugens*	FE, Rank 1B.1	Cismontane woodland, playas (alkaline), valley and foothill grassland, vernal pools/mesic. Elevation ranges from 0 to 1540 feet (0 to 470 meters). Blooms Mar-Jun.	**Unlikely.** This species is known to occur in vernal pools, swales and mesic low depressions in woodlands and grasslands, primarily in Solano and Contra Costa Counties. The Project Area does not contain vernal pools, swales or suitable mesic depressions.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Colusa layia *Layia septentrionalis*	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland/sandy, serpentine. Elevation ranges from 330 to 3590 feet (100 to 1095 meters). Blooms Apr-May.	**Unlikely.** This species is known to occur in sandy or serpentine soil in grassy fields and slopes in chaparral, woodland or grassland habitats, primarily in Lake and Colusa Counties. This species has a strong affinity to serpentine, however many Napa County occurrences are on rhyolitic (volcanic) soils. While the Project Area contains woodland and grassland habitat on volcanic, the soils are loamy.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
bristly leptosiphon *Leptosiphon acicularis*	Rank 4.2	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation ranges from 180 to 4920 feet (55 to 1500 meters). Blooms Apr-Jul.	**High Potential.** This species is known to occur in grassy areas of woodland, chaparral and prairie habitats in the north coast ranges, primarily in Lake, Mendocino and Marin Counties. This is a widespread species which occurs on several soil types.	**Not Observed**. This species was not observed during the March and June surveys. No further recommendations for this species.
Jepson's leptosiphon *Leptosiphon jepsonii*	Rank 1B.2	Chaparral, cismontane woodland/usually volcanic. Elevation ranges from 330 to 1640 feet (100 to 500 meters). Blooms Mar-May.	**Moderate Potential.** This species is known to occur in open to partially shaded grassy slopes on volcanic soils or the periphery of serpentine soils within chaparral and woodland habitats in the north coast ranges, primarily in Sonoma and Napa Counties. The Project Area contains woodland habitat on volcanic soils dominated by known associated species. Additionally, several recent known occurrences are in the vicinity of the Project Area.	**Not Observed**. This species was not observed during the March and June surveys. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
broad-lobed leptosiphon *Leptosiphon latisectus*	Rank 4.3	Broadleafed upland forest, cismontane woodland. Elevation ranges from 560 to 4920 feet (170 to 1500 meters). Blooms Apr-Jun.	**Moderate Potential.** This species is known to occur in forest and woodland habitats throughout western California in a variety of soil types. In Napa County, it is known to occur on serpentine and volcanic soils. The Project Area contains woodland and forest habitat on volcanic soils.	**Not Observed**. This species was not observed during the March and June surveys. No further recommendations for this species.
woolly-headed lessingia *Lessingia hololeuca*	Rank 3	Broadleafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland/clay, serpentine. Elevation ranges from 50 to 1000 feet (15 to 305 meters). Blooms Jun-Oct.	**Moderate Potential.** This species is known to occur on clay or serpentine soils in disturbed areas within forest, grassland and scrub habitat in the north coast ranges, primarily in Marin and San Mateo Counties. This species has a strong affinity for serpentine soils, however many known Napa County occurrences are located on alluvial soils. The Project Area does contain grassland on soils derived from metamorphic and alluvial bedrock.	**Not Observed**. This species was not observed during the March and June surveys. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Bolander's lily *Lilium bolanderi*	Rank 4.2	Chaparral, lower montane coniferous forest/serpentine. Elevation ranges from 100 to 5250 feet (30 to 1600 meters). Blooms Jun-Jul.	**No Potential.** This species is known to occur on dry, clayey, ultramafic (serpentine) soils in open, stoney ground within chaparral and coniferous forests. The Project Area does not contain stoney openings on ultramafic soils.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
woolly meadowfoam *Limnanthes floccosa ssp. floccosa*	Rank 4.2	Chaparral, cismontane woodland, valley and foothill grassland, vernal pools/vernally mesic. Elevation ranges from 200 to 4380 feet (60 to 1335 meters). Blooms Mar-May (Jun).	**Unlikely.** This species is known to occur in vernally wet areas such as ditches, ponds and vernal pools in chaparral, woodland and grassland habitats throughout northern California, primarily in Shasta and Tehama Counties. There are 5 known occurrences in Napa County, each of which is on rhyolitic (volcanic) soil in the northern portion. The Project Area does not contain suitable mesic sites within chaparral, woodland or grassland habitat.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Sebastopol meadowfoam *Limnanthes vinculans*	FE, SE, Rank 1B.1	Meadows and seeps, valley and foothill grassland, vernal pools/vernally mesic. Elevation ranges from 50 to 1000 feet (15 to 305 meters). Blooms Apr-May.	**Moderate Potential.** This species is known to occur in swales, wet meadows and marshy areas in valley oak savannah or grasslands on poorly drained clay or sandy loam soils, primarily in Sonoma County on the Santa Rosa Plain. There are two known occurrences in Napa county, occurring on alluvial soils in the Napa Valley. The Project Area does contain alluvial clay loam soils and a vernally mesic area within known associated species.	**Not Observed.** This species was not observed during the March and June surveys. No further recommendations for this species.
Napa lomatium *Lomatium repostum*	Rank 4.3	Chaparral, cismontane woodland/serpentine. Elevation ranges from 300 to 2720 feet (90 to 830 meters). Blooms Mar-Jun.	**Unlikely.** This species is known to occur in rocky areas on volcanic and serpentine soils within chaparral and black oak woodlands in the north coast ranges, primarily in Napa and Sonoma Counties. This species is a strong indicator for serpentine soils, however many known Napa County occurrences are located on volcanic soils. The Project Area does not contain chaparral and has no rocky areas in woodland habitat.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Cobb Mountain lupine *Lupinus sericatus*	Rank 1B.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 900 to 5000 feet (275 to 1525 meters). Blooms Mar-Jun.	**Unlikely.** This species is known to occur in stands of knobcone pine-oak woodland, on open wooded slopes and chaparral in gravelly, sometimes serpentine, soils, including volcanic soils. While the Project Area contains openings in woodland habitat, soils are not gravelly and cover of non-native vegetation is dense**.**	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Mt. Diablo cottonweed *Micropus amphibolus*	Rank 3.2	Broadleafed upland forest, chaparral, cismontane woodland, valley and foothill grassland/rocky. Elevation ranges from 150 to 2710 feet (45 to 825 meters). Blooms Mar-May.	**Unlikely.** This diminutive, widespread species is known to occur on bare or grassy rocky slopes in forest, chaparral, woodland or grassland habitat in the coast ranges, primarily in Santa Cruz, Marin, and Alameda Counties. There are 5 documented occurrences in Napa County. While the Project Area contains grassland and woodland habitat, soils are not rocky and the understory is dominated by dense, non-native grasses.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
green monardella *Monardella viridis*	Rank 4.3	Broadleafed upland forest, chaparral, cismontane woodland. Elevation ranges from 330 to 3310 feet (100 to 1010 meters). Blooms Jun-Sep.	**Unlikely.** This species is known to occur on shallow, rocky soil within forest, chaparral, and woodland habitat in the north coast range, primarily in Napa County. While the Project Area contains cismontane woodland, soils are deep and not rocky.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
cotula navarretia *Navarretia cotulifolia*	Rank 4.2	Chaparral, cismontane woodland, valley and foothill grassland/adobe. Elevation ranges from 10 to 6000 feet (4 to 1830 meters). Blooms May-Jun.	**Unlikely.** This species is known to occur on vernally mesic adobe soils in chaparral, woodland and grassland habitats throughout northern California. The Project Area contains woodland habitat however no mesic adobe soils are present.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Tehama navarretia *Navarretia heterandra*	Rank 4.3	Valley and foothill grassland (mesic), vernal pools. Elevation ranges from 100 to 3310 feet (30 to 1010 meters). Blooms Apr-Jun.	**Unlikely.** This species is known to occur in open, mesic sites in vernal pools or grassland habitats throughout northern California, primarily in Butte and Tehama counties. There are 3 known occurrences in Napa County. While the Project Area contains a small seasonal wetland dominated by grasses, the cover of vegetation is dense and likely precludes this annual herb	**Not Present.** Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Jepson's navarretia *Navarretia jepsonii*	Rank 4.3	Chaparral, cismontane woodland, valley and foothill grassland/serpentine. Elevation ranges from 570 to 2810 feet (175 to 855 meters). Blooms Apr-Jun.	**Unlikely.** This serpentine endemic species is known to occur on shallow soils in open areas within drying flats and edges of chaparral, woodland or grassland habitats on serpentine soils within the outer north coast ranges, primarily in Lake county. While the Project Area contains cismontane woodland habitat type, open areas with shallow soils and low vegetation cover are absent.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Baker's navarretia *Navarretia leucocephala ssp. bakeri*	Rank 1B.1	Cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, vernal pools/mesic. Elevation ranges from 20 to 5710 feet (5 to 1740 meters). Blooms Apr-Jul.	**Unlikely.** This species is known to occur in open areas on adobe or alkaline soils in vernal pools or swales in woodland, coniferous forest, and grassland habitats throughout northern California, primarily in Solano and Sonoma counties. There are 3 known occurrences in Napa county. While the Project Area contains woodland and mesic grassland habitats, there are no vernally mesic swales with little vegetation cover. Additionally, no adobe or alkaline soils are present.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
few-flowered navarretia *Navarretia leucocephala ssp. pauciflora*	FE, ST, Rank 1B.1	Vernal pools (volcanic ash flow). Elevation ranges from 1310 to 2810 feet (400 to 855 meters). Blooms May-Jun.	**Unlikely.** This species is known to occur in vernal pools located on volcanic ash flow and volcanic substrate in the northern coast ranges, primarily in Lake county. Napa county has 4 known occurrences. While the Project Area is underlain by volcanic soils, no vernal pools are present.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
many-flowered navarretia *Navarretia leucocephala ssp. plieantha*	FE, SE, Rank 1B.2	Vernal pools (volcanic ash flow). Elevation ranges from 100 to 3120 feet (30 to 950 meters). Blooms May-Jun.	**Unlikely.** This species is known to occur in vernal pool habitat on volcanic ash derived soils, primarily in Lake County. Napa county has no known occurrences. The Project Area does not contain vernal pool habitat.	**Not Present.** Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
small pincushion navarretia *Navarretia myersii ssp. deminuta*	Rank 1B.1	Vernal pools (clay loam). Elevation ranges from 1160 to 1160 feet (355 to 355 meters). Blooms Apr-May.	**Unlikely.** This species is known from only one site in Lake County in vernal pool and roadside depression habitat on clay-loam soil. The Project Area does not contain vernal pool habitat.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Porter's navarretia *Navarretia paradoxinota*	Rank 1B.3	#N/A	**Unlikely.** This species is known to occur in vernally mesic openings in meadows and seeps and drainages on serpentine soils only in Lake, Colusa, and Napa counties. The Project Area does not contain vernally mesic meadows or drainages on serpentine soils.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Marin County navarretia *Navarretia rosulata*	Rank 1B.2	Closed-cone coniferous forest, chaparral/serpentine, rocky. Elevation ranges from 660 to 2080 feet (200 to 635 meters). Blooms May-Jul.	**No Potential.** This serpentine endemic species is known to occur in dry, open, rocky niches within closed-cone forests and chaparral habitats, only in Marin and Napa counties. Napa county has 4 known occurrences. The Project Area does not contain chaparral on serpentine soils.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Sonoma beardtongue *Penstemon newberryi var. sonomensis*	Rank 1B.3	Chaparral (rocky). Elevation ranges from 2300 to 4490 feet (700 to 1370 meters). Blooms Apr-Aug.	**Unlikely.** This species is known to occur in crevices in rock outcrops and talus slopes in chaparral habitat in northern California, primarily in Sonoma county. Napa county has 14 known occurrences. The Project Area does not contain rocky outcrops in chaparral habitat.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Calistoga popcornflower *Plagiobothrys strictus*	FE, ST, Rank 1B.1	Meadows and seeps, valley and foothill grassland, vernal pools/alkaline areas near thermal springs. Elevation ranges from 300 to 520 feet (90 to 160 meters). Blooms Mar-Jun.	**No Potential.** This species is known to occur in alkaline sites near thermal springs and margins of vernal pools in dark, heavy, adobe soils, primarily in Napa county. The Project Area does not contain thermal springs or vernal pools.	**Not Present.** Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Napa blue grass *Poa napensis*	FE, SE, Rank 1B.1	Meadows and seeps, valley and foothill grassland/alkaline, near thermal springs. Elevation ranges from 330 to 660 feet (100 to 200 meters). Blooms May-Aug.	**No Potential.** This species is known to occur in moist, alkaline meadows fed by runoff of nearby hot springs, only in Napa county. The Project Area does not contain hot springs.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
California alkali grass *Puccinellia simplex*	Rank 1B.2	Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools/alkaline, vernally mesic; sinks, flats, and lake margins. Elevation ranges from 10 to 3050 feet (2 to 930 meters). Blooms Mar-May.	**Unlikely.** This widespread species is known to occur in vernally mesic, alkaline sinks and flats or lake margins in grassland or scrub habitats in the outer coast ranges, great valley and southern mountain ranges. There are 3 known occurrences in Napa county. The Project Area does not contain alkaline, vernally mesic sinks or flats.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Lobb's aquatic buttercup *Ranunculus lobbii*	Rank 4.2	Cismontane woodland, north coast coniferous forest, valley and foothill grassland, vernal pools/mesic. Elevation ranges from 50 to 1540 feet (15 to 470 meters). Blooms Feb-May.	**Unlikely.** This species is known to occur in mesic sites within woodland, coniferous forest, grassland and vernal pool habitats within the coast ranges, primarily in Sonoma and Marin counties. Napa county has 17 known occurrences. While the Project Area contains woodland habitat, there are no mesic swales or pools in the habitats.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Cleveland's ragwort *Senecio clevelandii var. clevelandii*	Rank 4.3	Chaparral (serpentine seeps). Elevation ranges from 1200 to 2950 feet (365 to 900 meters). Blooms Jun-Jul.	**No Potential.** This species is known to occur along creeks and moist seeps on serpentine within chaparral in the outer north coast ranges, primarily in Napa county. The Project Area does not contain chaparral on serpentine.	**Not Present.** Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Napa checkerbloom *Sidalcea hickmanii ssp. napensis*	Rank 1B.1	Chaparral/rhyolitic. Elevation ranges from 1360 to 2000 feet (415 to 610 meters). Blooms Apr-Jun.	**Unlikely.** This species is known to occur in chaparral on rhyolite substrates only in Napa county. The Project Area does not contain chaparral nor rhyolite soils.	**Not Present.** Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
marsh checkerbloom *Sidalcea oregana ssp. hydrophila*	Rank 1B.2	Meadows and seeps, riparian forest/mesic. Elevation ranges from 3610 to 7550 feet (1100 to 2300 meters). Blooms (Jun), Jul-Aug.	**Unlikely.** This species is known to occur on wet soil of streambanks and meadows in riparian niches. The Project Area does not contain perennial streams or wet meadows.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Kenwood Marsh checkerbloom *Sidalcea oregana ssp. valida*	FE, SE, Rank 1B.1	Marshes and swamps (freshwater). Elevation ranges from 380 to 490 feet (115 to 150 meters). Blooms Jun-Sep.	**Unlikely.** This species is known to occur at the edge of freshwater marshes only in Sonoma county. The Project Area does not contain marsh habitat.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Tamalpais jewelflower *Streptanthus batrachopus*	Rank 1B.3	Closed-cone coniferous forest, chaparral/serpentine. Elevation ranges from 1000 to 2130 feet (305 to 650 meters). Blooms Apr-Jul.	**No Potential.** This strict serpentine endemic species is known to occur on talus serpentine outcrops in closed-cone coniferous forest and chaparral, primarily in Marin county. Napa county has no known occurrences. The Project Area does not contain serpentine soils.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
Socrates Mine jewelflower *Streptanthus brachiatus ssp. brachiatus*	Rank 1B.2	Closed-cone coniferous forest, chaparral/usually serpentine. Elevation ranges from 1790 to 3280 feet (545 to 1000 meters). Blooms May-Jun.	**No Potential.** This strict serpentine endemic species is known to occur on serpentine in chaparral and closed-cone coniferous forest only in Sonoma and Lake counties. The Project Area does not contain serpentine soils.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
green jewelflower *Streptanthus hesperidis*	Rank 1B.2	Chaparral (openings), cismontane woodland/serpentine, rocky. Elevation ranges from 430 to 2490 feet (130 to 760 meters). Blooms May-Jul.	**No Potential.** This strict serpentine endemic species is known to occur in rocky openings of chaparral or woodland habitat on serpentine soils primarily in Lake and Napa counties. The Project Area does not contains serpentine soils.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Three Peaks jewelflower *Streptanthus morrisonii ssp. elatus*	Rank 1B.2	Chaparral (serpentine). Elevation ranges from 300 to 2670 feet (90 to 815 meters). Blooms Jun-Sep.	**No Potential.** This strict serpentine endemic species is known to occur on barrens, outcrops and talus in chaparral on serpentine soil, primarily in Lake, Sonoma, and Napa counties. While the Project Area contains chaparral, there is no serpentine soil.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
early jewelflower *Streptanthus vernalis*	Rank 1B.2	Closed-cone coniferous forest, chaparral/serpentine. Elevation ranges from 2000 to 2000 feet (610 to 610 meters). Blooms Mar-May.	**No Potential.** This species is known from one location in Lake county, occurring in closed-cone coniferous forest and chaparral on serpentine soils. The Project Area does not contain serpentine soils.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
marsh zigadenus *Toxicoscordion fontanum*	Rank 4.2	Chaparral, cismontane woodland, lower montane coniferous forest, meadows and seeps, marshes and swamps/vernally mesic, often serpentine. Elevation ranges from 50 to 3280 feet (15 to 1000 meters). Blooms Apr-Jul.	**Unlikely.** This species is known to occur in vernally moist or marshy areas in chaparral, woodland, coniferous forest often on serpentine soils throughout the coast ranges, primarily in Marin county. Napa county has 18 known occurrences. The Project Area does not contain marshy areas within woodland habitat.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
Napa bluecurls *Trichostema ruygtii*	Rank 1B.2	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland, vernal pools. Elevation ranges from 100 to 2230 feet (30 to 680 meters). Blooms Jun-Oct.	**Moderate Potential.** This species is known to occur in open sunny areas and in vernal pools within chaparral, woodland, coniferous forest and grassland habitats only in Napa county. The Project Area contains woodland and grassland habitats dominated by known associated species.	**Not Observed**. This species was not observed during the March and June surveys. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
two-fork clover *Trifolium amoenum*	FE, Rank 1B.1	Coastal bluff scrub, valley and foothill grassland (sometimes serpentine). Elevation ranges from 20 to 1360 feet (5 to 415 meters). Blooms Apr-Jun.	**Unlikely.** This species is known to occur in mesic, open, sunny sites and swales in scrub, roadside, and grassland habitats in most bay area counties, primarily in Sonoma and Marin. While the Project Area contains a seasonal wetland dominated by grasses, vegetation cover is dense and likely precludes this annual herb.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.
saline clover *Trifolium hydrophilum*	Rank 1B.2	Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools. Elevation ranges from 0 to 980 feet (0 to 300 meters). Blooms Apr-Jun.	**Unlikely.** This species is known to occur in mesic, alkaline sites within marshes, grasslands and vernal pools. While the Project Area contains a small seasonal wetland, dominated by grasses, cover is dense and likely precludes this annual species.	**Not Present**. Suitable habitat for this species was not observed within the Project Area, nor was the species observed during the March and June site visits. No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREAS	RECOMMENDATIONS
oval-leaved viburnum *Viburnum ellipticum*	Rank 2B.3	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 710 to 4590 feet (215 to 1400 meters). Blooms May-Jun.	**Moderate Potential.** This widespread species is known to occur in shady areas within chaparral, woodland and conifer forest throughout northern and central California mountains. Napa county has 5 known occurrences, all in Skyline Park. The Project Area contains shady, shrubby areas along the streams which provide suitable habitat.	**Not Observed**. This species was not observed during the March and June surveys. No further recommendations for this species.

FE	Federal Endangered
FT	Federal Threatened
FC	Federal Candidate
BCC	USFWS Birds of Conservation Concern
SE	State Endangered
ST	State Threatened
SSC	CDFW Species of Special Concern
CFP	CDFW Fully Protected Animal
WBWG	Western Bat Working Group High or Medium Priority species
Rank 1A	CRPR Rank 1A: Presumed extirpated in California and either rare or extinct elsewhere
Rank 1B	CRPR Rank 1B: Plants rare, threatened or endangered in California and elsewhere
Rank 2B	CRPR Rank 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3	CRPR Rank 3: Plants about which CNPS needs more information (a review list)

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

Results and Recommendations:
Present. Species was observed on the site or has been recorded (i.e. CNDDB, other reports) on the site recently.
Not Present. Species is assumed to not be present due to a lack of key habitat components.
Not Observed. Species was not observed during surveys.

Appendix D

Representative Photographs

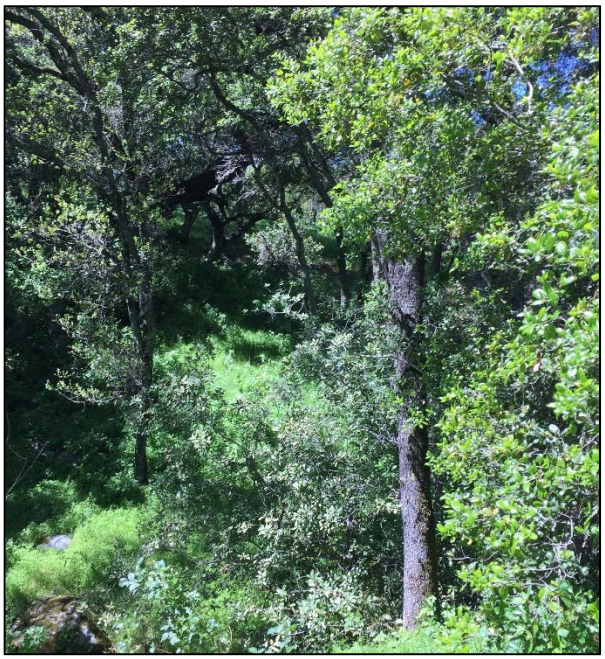

Photo 1. Riparian blue oak woodland within the Subject Parcel. Taken: March 31, 2017.

Photo 2. The easternmost stream within the blue oak woodland. Taken: March 31, 2017.

Photo 3. Wild oat grasslands within the Subject Parcel. Taken: March 31, 2017.

Photo 4. Seasonal wetland in the eastern portion of the Subject Parcel. Taken: June 15, 2017.

Appendix E

Statement of Qualifications

Appendix E. Statement of Qualifications

WRA is an environmental consulting firm with over 30 years of experience conducting biological resources assessments, wetland delineations, protocol-level rare plant surveys, special-status wildlife assessments and species-specific surveys, as well as preparing applications with state and federal natural resource agencies for avoiding, minimizing, and mitigating impacts to sensitive natural resources. Other services and products with which WRA has expertise include preparation of CEQA/NEPA documents, habitat mitigation and monitoring plans, natural resource management plans, mitigation and conservation bank enabling instruments, grazing management plans, and wetland and other natural resources restoration plans.

Matt Richmond, BS, Principal with WRA, has seventeen years performing botanical assessments, rare plant surveys, environmentally sensitive habitat area surveys, wetland delineations, and vegetation mapping. He also has experience performing protocol-level surveys for California red-legged frog, Ridgeway's rail, marbled murrelet, northern spotted owl, Point Arena mountain beaver, and Behren's silverspot butterfly. His project focus is in conservation and mitigation banking, coastal development projects, vineyard development, and timber resources. Mr. Richmond regularly manages large-scale mitigation banking projects, as well as coastal development permits, coastal restoration projects, vineyard grading permits with a focus in Mendocino, Napa, Lake, and Sonoma counties. Mr. Richmond's technical training includes the flora of Northern California, plant ecology, and forest ecology. Additionally, he has completed the 40-hour Corps wetland delineation training. Mr. Richmond received his Bachelor of Science in Biology from Humboldt State University.

Aaron Arthur, MS, Associate Plant Biologist with WRA, has twelve years performing vegetation & habitat mapping, rare plant surveys, botanical assessments, vegetation change analysis, and wetland delineations. His project focus is in vineyard development, timber resources, coastal development permits, habitat mitigation and monitoring plans, conservation and mitigation banking, and long-term management plans in Sonoma, Marin, Napa, and Mendocino counties. Mr. Arthur's technical training includes the flora of Northern California, the flora of the Pacific Northwest, agrostology, aquatic botany, plant ecology, forest ecology, and soil science. Additionally he has completed the 40-hour Corps wetland delineation course, holds 2081(a) Plant Voucher Permit, and is Certified California Consulting Botanist #0016 from the California Native Plant Society. Mr. Arthur received his Bachelor of Arts in Geography and received his Master of Science in Physical Geography from Oregon State University, where his research focused on forest floristics and vegetation change.

Jason Yakich, MS, Associate Wildlife Biologist with WRA, has nearly fifteen years of experience performing wildlife habitat assessments, biological monitoring for special-status wildlife species, breeding bird and other avian surveys, and protocol-level surveys for several special-status wildlife species. He prepares and oversees a variety of biological assessments and technical reports, and assures permit compliance for a wide array of public and private projects. Mr. Yakich has respective permit authorizations from the USFWS and CDFW to conduct active (call-playback) surveys for California clapper rail and California black rail. Mr. Yakich received his Bachelor of Arts in Biology from U.C. Santa Cruz, and received his Master of Science in Biology from San Francisco State University with a focus in marine biology.