Appendix E

Biological Resources Assessment

Environmental Assessment

Permanent Fire Station 5 Rebuild Project

General Biological Resources Assessment

Permanent Fire Station 5 Rebuild
Santa Rosa, California

Prepared for:
City of Santa Rosa
Transportation and Public Works Department

Prepared by:

MIG, Inc.
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February 2021

MIG Project Number 10860

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General Biological Resources Assessment
Permanent Fire Station 5 Rebuild
Santa Rosa, California

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LIST OF ABBREVIATED TERMS

AMSL	Above Mean Sea Level
AST	Above-ground Storage Tank
BMP	Best Management Practice
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFP	California Fully Protected Species
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
EPA	United States Environmental Protection Agency
FESA	Federal Endangered Species Act
GBRA	General Biological Resources Assessment
HCP	Habitat Conservation Plan
IPaC	Information for Planning and Consultation
LID	Low Impact Development
LSAA	Lake and Streambed Alteration Agreement
MBPA	Migratory Bird Protection Act
MBTA	Migratory Bird Treaty Act
NCCP	Natural Community Conservation Plan
NOAA	National Oceanic and Atmospheric Administration
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
RWQCB	Regional Water Quality Control Board
SSC	California Species of Special Concern
SWPPP	Stormwater Pollution Prevention Program
SWRCB	State Water Resources Control Board
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VegCAMP	Vegetation Classification and Mapping Program
WDR	Waste Discharge Requirements

1.0 INTRODUCTION

This report presents the results of MIG Inc.'s (MIG) general biological resources assessment (GBRA) for the Permanent Fire Station 5 Rebuild Project (Project) located on Stagecoach Road within the City of Santa Rosa in Sonoma County, California.

The purpose of this assessment is to identify sensitive biological resources that may occur within the project site and vicinity and identify the potential impacts to these resources resulting from construction and operation of the project. This report provides the following:

- A description of the physical characteristics of the project area.
- A list of the federal, state, and local regulations that may pertain to project activities.
- A description of the methodology used to evaluate biological resources in the project area, including literature review and field work.
- A description of the environmental conditions in the project area, including vegetation communities and associated wildlife habitats present.
- A discussion of special-status plant and animal species and sensitive communities that are known to occur or that could potentially occur within the project area.
- An evaluation of the potential impacts to biological resources that may occur as a result of the project. The evaluation of potential project impacts is consistent with the biological resources thresholds of significance in Appendix G of the California Environmental Quality Act (CEQA) Guidelines.
- Recommendations to avoid or minimize the significance of those impacts, as needed, to ensure that the project remains in compliance will all applicable federal, state, and local regulatory requirements and avoids significant unavoidable impacts under CEQA.

The report will be used during project planning, environmental review, and in support of applications for resource agency permits, if required.

2.0 PROJECT LOCATION AND DESCRIPTION

2.1 Project Location and Site Description

The project site is located in a hillside neighborhood and is comprised of approximately two (2) acres of mostly undeveloped land. Access to the site is provided by a gravel paved road that is located approximately 100 feet south of the intersection of Fountaingrove Parkway and Stagecoach Road. The 2017 Tubbs Fire burned several trees within the project site that have since been removed. The project site has an irregular shape and includes a rectangular-shaped area at its western end adjacent to Fountaingrove Parkway and a narrow strip resembling a panhandle that follows parallel to Stagecoach Road. The proposed fire station will be located in the rectangular portion of the project site that includes a large pad area. There is a drainage that begins from a culvert opening from under Fountaingrove Parkway and flows approximately southwest to northeast before going underground at Stagecoach Road.

2.2 Project Description

The project involves designing a new permanent fire station that will meet or exceed the latest design standards including current fire safety standards in the wildland urban interface to provide for maximum resiliency to the future threats of wildland fire. Non-combustible or fire-resistive construction is essential, with defensible space surrounding the facility. The building

will be fully compliant with Accessibility Requirements of the California Building Code, meeting all qualifications for a public access building. It will have three (3) drive through apparatus bays for a minimum one (1) Type-1 structural fire engine, one (1) Type-3 wildland fire engine, and one (1) utility vehicle/ hazardous materials response unit.

The inside living space of the station will include six (6) dorm rooms to allow sleeping area for three (3) firefighters on duty, and the ability to upstaff the station to six (6) firefighters during times of emergency. It will also include a kitchen, dining area, living/day room, gym facility, an office space with three (3) work stations, and a public lobby area with a community meeting room/training room. The training room is to have the capabilities to be used as a forward command post to manage emergencies in the northern area of the city. There will also be a fuel tank and emergency generator housed in a small separate structure. Other features will include an above-ground fuel storage tank for fueling fire apparatus, a hose drying rack, station security fence/gates, and an exhaust removal system.

This report will be utilized to inform final design placement and decisions, and any subsequent required environmental regulatory permits.

3.0 REGULATORY SETTING

3.1 Federal

3.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973, as amended, provides the regulatory framework for the protection of plant and animal species (and their associated critical habitats), which are formally listed, proposed for listing, or candidates for listing as endangered or threatened under FESA. FESA has the following four major components: (1) provisions for listing species, (2) requirements for consultation with the United States Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) Fisheries, (3) prohibitions against “taking” (i.e., harassing, harming, hunting, shooting, wounding, killing, trapping, capturing, or collecting, or attempting to engage in any such conduct) of listed species, and (4) provisions for permits that allow incidental “take”. Recovery plans and the designation of critical habitat for listed species are defined in FESA.

Under Section 7 of FESA, any federal agency that is authorizing, funding, or carrying out an action that may jeopardize the continued existence of federally listed threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species must consult with the federal agency that oversees the protection of that species, typically the USFWS and/or NOAA Fisheries, depending on the species that may be affected. Non-federal agencies and private entities can seek authorization for take of federally listed species under Section 10 of FESA, which requires the preparation of a Habitat Conservation Plan (HCP).

3.1.2 Migratory Bird Treaty Act

The United States Migratory Bird Treaty Act (MBTA; 16 USC §§ 703 et seq., Title 50 Code of Federal Regulations [CFR] Part 10) states it is “unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill; attempt to take, capture or kill; possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export any migratory bird, any part, nest, or egg of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or in part, of any such bird or any part, nest or egg thereof…” In short, under the MBTA it is illegal to disturb a nest that is in active

use, since this could result in killing a bird, destroying a nest, or destroying an egg. The USFWS enforces MBTA. The MBTA does not protect birds that are non-native or human-introduced or that belong to families that are not covered by any of the conventions implemented by MBTA.

In 2017, the USFWS issued a memorandum stating that the MBTA does not prohibit incidental take; therefore, the MBTA is currently limited to purposeful actions, such as directly and knowingly removing a nest to construct a project, hunting, and poaching. However, California Fish and Game Code (CFGC) and the California Migratory Bird Protection Act (MBPA) also protects nesting birds (see Section 3.2, below).

3.1.3 Clean Water Act

The Clean Water Act (CWA) is the primary federal law regulating water quality. The implementation of the CWA is the responsibility of the United States Environmental Protection Agency (EPA). However, the EPA depends on other agencies, such as the individual states and the United States Army Corps of Engineers (USACE), to assist in implementing the CWA. The objective of the CWA is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 404 and 401 of the CWA apply to activities that would impact waters of the U.S. The USACE enforces Section 404 of the CWA and the California State Water Resources Control Board (SWRCB) enforces Section 401, as well as state water laws (see Section 3.2, below).

Section 404

As part of its mandate under Section 404 of the CWA, the EPA regulates the discharge of dredged or fill material into "waters of the U.S.". "Waters of the U.S." include territorial seas, tidal waters, and non-tidal waters in addition to wetlands and drainages that support wetland vegetation, exhibit ponding or scouring, show obvious signs of channeling, or have discernible banks and high-water marks.

Wetlands are defined as those areas "that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3(b)).

The discharge of dredged or fill material into waters of the U.S. is prohibited under the CWA except when it is in compliance with Section 404 of the CWA. Enforcement authority for Section 404 was given to the USACE, which it accomplishes under its regulatory branch. The EPA has veto authority over the USACE's administration of the Section 404 program and may override a USACE decision with respect to permitting.

Projects that minimally affect waters of the U.S. may meet the conditions of one of the existing Nationwide Permits, provided that certain conditions are satisfied. Substantial impacts to waters of the U.S. may require an Individual Permit, which, among other requirements, involves an alternatives analysis to demonstrate why impacts cannot be avoided. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions (see Section 3.2 below).

Section 401

Any applicant for a federal permit to impact waters of the U.S. under Section 404 of the CWA, including Nationwide Permits where pre-construction notification is required, must also provide

to the USACE a certification or waiver from the State of California. The “401 Certification” is provided by the State Water Resources Control Board through the local Regional Water Quality Control Board (RWQCB).

The RWQCB issues and enforces permits for discharge of treated water, landfills, storm-water runoff, filling of any surface waters or wetlands, dredging, agricultural activities and wastewater recycling. The RWQCB recommends the “401 Certification” application be made at the same time that any applications are provided to other agencies, such as the USACE, USFWS, or NOAA Fisheries. The application is not final until completion of environmental review under CEQA. The application to the RWQCB must include:

- a description of the habitat that is being impacted,
- how much habitat is being impacted temporarily and permanently,
- a description of how the impact is proposed to be minimized, and
- mitigation measures with goals, schedules, and performance standards. Mitigation must include a replacement of functions and values, and replacement of wetland at an amount to be determined by RWQCB. The RWQCB looks for mitigation that is on site and in-kind, with functions and values as good as or better than the water-based habitat that is being removed.

3.2 State

3.2.1 California Environmental Quality Act

CEQA (Public Resources Code Sections 21000 et. seq.) requires public agencies to review activities which may affect the quality of the environment so that consideration is given to preventing damage to the environment. When a lead agency issues a permit for development that could affect the environment, it must disclose the potential environmental effects of the project. This is done with an “Initial Study and Negative Declaration” (or Mitigated Negative Declaration) or with an “Environmental Impact Report”. Certain classes of projects are exempt from detailed analysis under CEQA.

The CEQA Guidelines Section 15380 define endangered, threatened, and rare species for purposes of CEQA and clarifies that CEQA review extends to other species that are not formally listed under the state or federal Endangered Species Acts but that meet specified criteria. The state maintains a list of sensitive, or “special-status”, biological resources, including those listed by the state or federal government or the California Native Plant Society (CNPS) as endangered, threatened, rare or of special concern due to declining populations. During CEQA analysis for a proposed project, the California Natural Diversity Data Base (CNDDB) is usually consulted. CNDDB relies on information provided by the California Department of Fish and Wildlife (CDFW), USFWS, and CNPS, among others. Under CEQA, the lists kept by these and any other widely recognized organizations are considered when determining the impact of a project.

3.2.2 California Endangered Species Act

The California Endangered Species Act (CESA; CFGC 2050 et seq.) generally parallels the FESA. It establishes the policy of the State to conserve, protect, restore, and enhance threatened or endangered species and their habitats. Section 2080 of the CFGC prohibits the

take, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or by the regulations. “Take” is defined in Section 86 of the CFGC as to “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” This definition differs from the definition of “take” under FESA. CESA is administered by CDFW. CESA allows for take incidental to otherwise lawful projects but mandates that State lead agencies consult with the CDFW to ensure that a project would not jeopardize the continued existence of threatened or endangered species.

3.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) was created in 1977 with the intent to preserve, protect, and enhance rare and endangered plants in California (CFGC sections 1900 to 1913). The NPPA is administered by CDFW, which has the authority to designate native plants as endangered or rare and to protect them from “take.” CDFW maintains a list of plant species that have been officially classified as endangered, threatened or rare. These special-status plants have special protection under California law and projects that directly impact them may not qualify for a categorical exemption under CEQA guidelines.

3.2.4 Fully Protected Species and Species of Special Concern

The classification of California fully protected (CFP) species was the CDFW’s initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under CESA and/or FESA. The CFGC sections (§5515 for fish, §5050 for amphibian and reptiles, §3511 for birds, §4700 for mammals) deal with CFP species and state that these species “…may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected species” (CDFW Fish and Game Commission 1998). “Take” of these species may be authorized for necessary scientific research. This language makes the CFP designation the strongest and most restrictive regarding the “take” of these species. In 2003, the code sections dealing with CFP species were amended to allow the CDFW to authorize take resulting from recovery activities for state-listed species.

California species of special concern (SSC) are broadly defined as animals not listed under the FESA or CESA, but which are nonetheless of concern to the CDFW because they are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist. This designation is intended to result in special consideration for these animals by the CDFW, land managers, consulting biologists, and others, and is intended to focus attention on the species to help avert the need for costly listing under FESA and CESA and cumbersome recovery efforts that might ultimately be required. This designation also is intended to stimulate collection of additional information on the biology, distribution, and status of poorly known at-risk species, and focus research and management attention on them. Although these species generally have no special legal status, they are given special consideration under CEQA during project review.

3.2.5 California Fish and Game Code Sections 3503 and 3513

Nesting birds, including raptors, are protected under CFGC Section 3503, which reads, “It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.” In addition, under CFGC Section 3503.5, “it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant

thereto". Passerines and non-passerine land birds are further protected under CFGC 3513. As such, CDFW typically recommends surveys for nesting birds that could potentially be directly (e.g., actual removal of trees/vegetation) or indirectly (e.g., noise disturbance) impacted by project-related activities. Disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by CDFW.

3.2.6 California Migratory Bird Protection Act

The CFGC section 3513 states that Federal authorization of take or possession is no longer lawful under the state CFGC if the Federal rules or regulations are inconsistent with state law. The MBPA was passed in September 2019 to provide a level of protection to migratory birds in California consistent with the MBTA prior to the 2017 rule change limiting protection of migratory birds under the MBTA to purposeful actions (i.e., directly and knowingly removing a nest to construct a project, hunting, and poaching). Thus, under the MBPA protections for migratory birds in California are consistent with rules and regulations adopted by the United States Secretary of the Interior under the MBTA before January 1, 2017, or those adopted subsequent to that date as long as they are consistent with the Fish and Game Code. The MBPA reverts to existing provisions of the MBTA on January 20, 2025.

3.2.7 California Fish and Game Code Sections 4150-4155

Sections 4150-4155 of the CFGC protects non-game mammals, including bats. Section 4150 states "A mammal occurring naturally in California that is not a game mammal, fully protected mammal, or fur-bearing mammal is a nongame mammal. A non-game mammal may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission". The non-game mammals that may be taken or possessed are primarily those that cause crop or property damage. Bats are classified as a non-game mammal and are protected under CFGC.

3.2.8 Sensitive Vegetation Communities

Sensitive vegetation communities are natural communities and habitats that are either unique in constituent components, of relatively limited distribution in the region, or of particularly high wildlife value. These communities may or may not necessarily contain special-status species. Sensitive natural communities are usually identified in local or regional plans, policies or regulations, or by the CDFW (i.e., CNDDB) or the USFWS. The CNDDB identifies a number of natural communities as rare, which are given the highest inventory priority (Holland 1986; CDFW 2016). Impacts to sensitive natural communities and habitats must be considered and evaluated under the CEQA (CCR: Title 14, Div. 6, Chap. 3, Appendix G).

3.2.9 California Oak Woodland Statute

In September 2004, State Bill 1334 was passed and added to the State Public Resources Code as Statute 21083.4, requiring Counties to determine in their CEQA documents whether a project in its jurisdiction may result in a conversion of oak woodlands that will have a significant effect on the environment. In addition, if the County determines that a project may result in a significant impact to oak woodlands, the County shall require one or more of the following mitigation alternatives to mitigate for the impact:

- Conserving oak woodlands through the use of conservation easements.
- Plant an appropriate number of trees, including maintaining the plantings and replacing dead or diseased trees; required maintenance of trees terminates seven years after the trees are planted; this type of mitigation shall not fulfill more than half of the mitigation

requirement for the project; this type of mitigation may also be used to restore former oak woodlands.
- Contribute funds to the Oak Woodlands Conservation Fund.
- Other mitigation measures developed by the County.

The CFGC (Section 1361) defines oak woodland habitat as "an oak stand with a greater than 10 percent canopy cover or that may have historically supported greater than 10 percent canopy cover."

3.2.10 Other Sensitive Plants – California Native Plant Society

The CNPS is a non-profit plant conservation organization that publishes and maintains an Inventory of Rare and Endangered Vascular Plants of California in both hard copy and electronic version (http://www.rareplants.cnps.org/).

The Inventory assigns plants to the following categories:

1A Presumed extinct in California;
1B Rare, threatened, or endangered in California and elsewhere;
2 Rare, threatened, or endangered in California, but more common elsewhere;
3 Plants for which more information is needed – A review list; and
4 Plants of limited distribution – A watch list.

Additional endangerment codes are assigned to each taxon as follows:

1 Seriously endangered in California (over 80% of occurrences threatened/high degree of immediacy of threat).
2 Fairly endangered in California (20-80% occurrences threatened).
3 Not very endangered in California (<20% of occurrences threatened or no current threats known).

Plants that are Rank 1A, 1B, and 2 of the CNPS Inventory consist of plants that may qualify for listing by the CDFW, as well as other state agencies (e.g., California Department of Forestry and Fire Protection). As part of the CEQA process, such species should be fully considered, as they meet the definition of threatened or endangered under the NPPA and Sections 2062 and 2067 of the CFGC. California Rare Plant Rank (CRPR) 3 and 4 species are considered to be plants about which more information is needed or are uncommon enough that their status should be regularly monitored. Such plants may be eligible or may become eligible for state listing, and CNPS and CDFW recommend that these species be evaluated for consideration during the preparation of CEQA documents.

3.2.11 California Fish and Game Code Sections 1600-1607

Sections 1600-1607 of the CFGC require that a Notification of Lake or Streambed Alteration Agreement (LSAA) application be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW reviews the proposed actions in the application and, if necessary, prepares a LSAA that includes measures to protect affected fish and wildlife resources, including mitigation for impacts to bats and bat habitat.

3.2.12 Porter-Cologne Water Quality Act

The intent of the Porter-Cologne Water Quality Control Act (Porter-Cologne) is to protect water quality and the beneficial uses of water, and it applies to both surface and ground water. Under this law, the SWRCB develops statewide water quality plans, and the RWQCBs develop basin plans, which identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of both statewide and basin plans. Waters regulated under Porter-Cologne, referred to as "waters of the State," include isolated waters that are not regulated by the USACE. Projects that require a USACE 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 Program. If a proposed project does not require a federal license or permit, any person discharging, or proposing to discharge, waste (e.g. dirt) to waters of the State must file a Report of Waste Discharge and receive either waste discharge requirements (WDRs) or a waiver to WDRs before beginning the discharge.

3.3 Local

3.3.1 City of Santa Rosa General Plan (and Citywide Creek Master Plan)

State law requires each California city and county to prepare a general plan. A general plan is defined as "a comprehensive, long-term plan for the physical development of the county or city, and any land outside its boundaries which in the planning agency's judgment bears relation to its planning." Within the Open Space and Conservation Element of the Santa Rosa General Plan, the following policies will apply to the project site:

- **OSC-B-2**: Minimize alteration of the topography, drainage patterns and vegetation of land with slopes of ten percent or more. Prohibit alteration of slopes greater than 25 percent.
- **OSC-B-4:** Require that graded areas within new developments be revegetated.
- **OSC-D-1:** Utilize existing regulations and procedures, including Subdivision Guidelines, Zoning, Design Review, and environmental law, to conserve wetlands and rare plants. Comply with the federal policy of no net loss of wetlands using mitigation measures such as:
    - Avoidance of sensitive habitat;
    - Clustered development;
    - Transfer of development rights; and/or
    - Compensatory mitigation, such as restoration or creation.
- **OSC-H-1:** Preserve trees and other vegetation, including wildflowers, both as individual specimens and as parts of larger plant communities.
- **OSC-H-2:** Preserve and regenerate native oak trees.
- **OSC-H-4:** Require incorporation of native plants into landscape plans for new development, where appropriate and feasible, especially in areas adjacent to open space areas or along waterways.
- **OSC-H-5:** Plant trees on public property including park strips, open space and park areas and encourage tree planting on private property to help offset carbon emissions.

3.3.2 City of Santa Rosa Tree Ordinance

Section 17-24.050 of the Santa Rosa City Code outlines requirements for tree alteration, removal, or relocation on properties proposed for development. Heritage trees are defined as follows:

Species/Common Name	Diameter (in inches)	Circumference (in inches)
1. Oak family		
a) *Quercus lobata*—valley oak	6	19
b) *Quercus agrifolia*—live oak	18	57
c) *Quercus kelloggii*—black oak	18	57
d) *Quercus garryana*—Oregon or white oak	18	57
e) *Quercus chrysolepis*—canyon oak	18	57
f) *Quercus douglasii*—blue oak	6	19
g) *Quercus wislizenii*—interior live oak	18	57
2. *Sequoia sempervirens*—redwood	24	75
3. *Umbelluloria californica*—California bay	24	75
4. *Arbutus menziesii*—madrone	12	38
5. *Aesculus californica*—buckeye	6	19
6. *Pseudotsugas menzesii*—Douglas fir	24	75
7. *Alnus oregona*—red alder	18	57
8. *Alnus rhombifolia*—white alder	18	57
9. *Acer macrophyllum*—big leaf maple	24	75

Requirements for alteration, removal, or relocation of heritage trees on property proposed for development are as follows:

A. All development proposals and subdivision applications shall clearly designate all trees and heritage trees on the property by trunk location and an accurate outline of each tree's drip line and shall indicate those trees which are proposed to be altered, removed, or relocated and those trees proposed to be designated protected trees. The reasons for the proposed removal of any tree shall be stated in writing. The development plan or tentative subdivision map shall indicate the genus and species, the shape, the drip line and the trunk circumference of each tree and heritage tree. These tree delineations must also be shown on every page of the development and improvement plans where any work is proposed within the root zone of any tree. The owner of the property and the person in control of the proposed development shall protect and preserve each tree and heritage tree situated within the site of the proposed development during the period the application(s) for the proposed development is being considered by the City. The proposed development shall be designed so that:
    1. The proposed lots and/or improvements preserve and protect any heritage trees to the greatest extent possible.
    2. The road and lot grades protect heritage trees to the greatest extent possible and the existing grade shall be maintained within each such tree's root zone.

B. If the proposed project is approved, the recordation of the final map or issuance of a grading permit or building permit for the project shall constitute a permit to alter, remove, or relocate any trees designated for alteration, removal, or relocation upon the project's approved plans. Any change in the trees to be altered, removed, or relocated as designated on the approved development plan or tentative map shall only be permitted upon the written approval of the Director of the City's Department of Community Development (now the Director of Planning & Economic Development) (Director) or,

when the Director determines that the proposed change may be substantial, by the Planning Commission.

C. **Tree Replacement Program**. A person owning or controlling a development project shall be required to replace trees and heritage trees approved for removal as part of the approval of the project in accordance with subdivision 1; each protected tree removed or damaged shall be replaced in accordance with subdivision 2.
    1. For each six inches or fraction thereof of the diameter of a tree which was approved for removal, two trees of the same genus and species as the removed tree (or another species, if approved by the Director), each of a minimum 15-gallon container size, shall be planted on the project site, provided however, that an increased number of smaller size trees of the same genus and species may be planted if approved by the Director, or a fewer number of such trees of a larger size if approved by the Director.
    2. For each six inches or fraction thereof of the diameter of a tree which was not approved for removal, four trees of the same genus and species as the removed tree (or another species, if approved by the Director), each of a minimum 15-gallon container size, shall be planted on the project site, provided however, that an increased number of smaller size trees of the same genus and species may be planted if approved by the Director, or a fewer number of such trees of a larger size if approved by the Director.
    3. If the development site is inadequate in size to accommodate the replacement trees, the trees shall be planted on public property with the approval of the Director of the City's Recreation and Parks Department. Upon the request of the developer and the approval of the Director, the City may accept an in-lieu payment of $100.00 per 15-gallon replacement tree on condition that all such payments shall be used for tree-related educational projects and/or planting programs of the City.

D. **Protected Trees.** The following requirements shall apply to every person who develops any property upon which a protected tree is located:
    1. Before the start of any clearing, excavation, construction or other work on the site, every protected tree shall be securely fenced off at the "protected perimeter," which shall be either the root zone or other limit as may be established by the City. Such fences shall remain continuously in place for the duration of all work undertaken in connection with the development. The area so fenced off shall not be used as a storage area or altered or disturbed except as may be permitted under this subsection.
    2. If the proposed development, including any site work for the development, will encroach upon the protected perimeter of a protected tree, special measures shall be utilized, as approved by the Director or the Planning Commission, to allow the roots to obtain oxygen, water, and nutrients as needed. Any excavation, cutting, filling, or compaction of the existing ground surface within the protected perimeter, if authorized at all by the Director, shall be minimized and subject to such conditions as may be imposed by the Director. No significant change in existing ground level shall be made within the drip line of a protected tree. No burning or use of equipment with an open flame shall occur near or within the protected perimeter. All brush, earth and other debris shall be removed in a manner which prevents injury to the protected tree.
    3. No oil, gas, chemicals or other substances that may be harmful to trees shall be stored or dumped within the protected perimeter of any protected tree, or at any other location on the site from which such substances might enter the perimeter

of a protected tree. No construction materials shall be stored within the protected perimeter of a protected tree.

4. Underground trenching for utilities shall avoid major support and absorbing tree roots of protected trees. If avoidance is impractical, tunnels shall be made below the roots. Trenches shall be consolidated to service as many units as possible. Trenching within the drip line of protected trees shall be avoided to the greatest extent possible and shall only be done under the at-site directions of a certified arborist.
5. No concrete or asphalt paving shall be placed over the root zones of protected trees. No artificial irrigation shall occur within the root zone of oaks.
6. No compaction of the soil within the root zone of protected trees shall occur.
7. If the trees proposed to be removed can be economically relocated, the developer shall move the trees to a suitable location on the site shown on the approved plans.

4.0 METHODS

This assessment of biological resources within the project site involved a review of available background information pertaining to sensitive species and habitats on the site and in the nearby vicinity and a field survey. The methods of the background review and field survey are summarized below.

4.1 Database and Literature Review

The following databases were queried to gather background date regarding biological resources on the project site prior to the site visit:

- CDFW CNDDB record search of the United States Geological Survey (USGS) 7.5-Minute quadrangle containing the project site and the eight (8) surrounding quadrangles (Santa Rosa, Mark West Springs, Calistoga, Kenwood, Glen Ellen, Cotati, Two Rock, Sebastopol, and Healdsburg) (CDFW 2020a; Appendix A);
- CNPS Rare Plant Program *Inventory of Rare and Endangered Plants of California* record search of the USGS 7.5-Minute quadrangle containing the project site and the eight (8) surrounding quadrangles (Santa Rosa, Mark West Springs, Calistoga, Kenwood, Glen Ellen, Cotati, Two Rock, Sebastopol, and Healdsburg) (CNPS 2020; Appendix A);
- USFWS Information for Planning and Consultation (IPaC) (USFWS 2020a; Appendix A);

4.2 Field Survey

MIG biologists Melinda Mohamed and Tay Peterson conducted a reconnaissance-level survey of the project site on November 11, 2020. Biologists traversed the project site on foot, examining habitat within the project boundary and within line-of-sight up to approximately 100 feet. Plant and wildlife species observed were recorded and identified to the lowest taxonomic level possible.

4.3 Plant Communities and Wildlife Habitats

Vegetative communities are assemblages of plant species that occur together in the same area, which are defined by species composition and relative abundance. Where appropriate, the plant communities in the project area were classified using the Vegetation Classification and Mapping Program (VegCAMP; CDFW 2020b). However, in some cases it is necessary to identify variants

of plant community types or to describe non-vegetated areas that are not described in the literature.

4.4 Special-Status Species Habitat Assessment

The potential occurrence of special-status plant and wildlife species in the project site was initially evaluated by conducting a 9-quadrangle database records search of CNDDB, CNPS Electronic Inventory, and the USFWS IPaC database to ensure a complete list of species was generated for the habitat assessment. Results of these database searches are provided in Appendix A. Following the records search, a refined list of special-status species was developed based on the general suitability of habitat types. Appendix B presents this list of special-status plants and wildlife that have the potential to occur the project site, their habitat requirements, and a ranking of their potential for occurrence.

The potential for occurrence of special-status species was evaluated based on the habitat requirements of each species relative to the conditions observed during the field survey conducted by the MIG biologist. Each species was evaluated for its potential to occur on or in the immediate vicinity of the project site according to the following criteria:

> *Not Expected:* CNDDB or other documents do not record the occurrence of the species within or reasonably near the project area and within the last 10 years, and/or no components of suitable habitat are present within or adjacent to the project area.
>
> *Low Potential:* The CNDDB or other documents may or may not record the occurrence of the species within a 5-mile radius of the project area. However, few components of suitable habitat are present within or adjacent to the project area.
>
> *Moderate Potential*. Species does not meet all terms of High or Low category. For example: CNDDB or other reputable documents may record the occurrence of the species near but beyond a 5-mile radius of the project area, or some of the components representing suitable habitat are present within or adjacent to the project area, but the habitat is substantially degraded or fragmented.
>
> *High Potential:* The CNDDB or other reputable documents record the occurrence of the species off-site, but within a 5-mile radius of the project area and within the last 10 years. All or most of the components representing suitable habitat are present within the project area.
>
> *Present or Assumed Present*. Species was observed on the project area, or recent species records (within five years) from literature are known within the project area.

The list of special-status animals and plants that have the potential to occur in or near the project area, their habitat requirements, and a ranking of potential for occurrence in the project area is included in Appendix B.

5.0 EXISTING CONDITIONS

5.1 Physical Characteristics

The project site is gently sloped and is approximately 500 feet above mean sea level (AMSL). There is a depression approximately 1-2 feet in depth following the intermittent drainage from southwest to northeast and the land begins to generally slope upward immediately south of the drainage outside of the project site boundary.

The United States Department of Agricultural Natural Resources Conservation Service (USDA NRCS) Web Soil Survey (USDA 2020) has mapped the following soil within the boundary of the project site as shown on Appendix C and described in detail below.

Goulding Cobbly Clay Loam, 15-30 percent slopes
Goulding soils are on hills and mountains. Slopes are 5 to 75 percent. These soils formed from metavolcanic rocks, mostly greenstone, or metasedimentary rocks. Elevation typically ranges from 1,500 to 5,000 feet (although the project site is approximately 500 feet AMSL). At elevations below 3,500 feet, these soils are on north or sheltered aspects or have semi-dense or dense vegetative cover.

Spreckels Loam, 15-30 percent slopes
Spreckels soils occur on sloping to hilly uplands of tuffaceous sediments. They occur at elevations of 100 to 800 feet.

5.2 Plant Communities and Habitats

Plant communities are assemblages of plant species that occur together in the same area and are defined by species composition and relative abundance. As described in Section 4 (Methods), vegetation communities within the project site were mapped in the field onto Google Earth satellite imagery (Figure 1) and were evaluated to determine if they are considered sensitive under federal, state, or local regulations or policies. A list of plant and wildlife species observed on the site during the November 11, 2020 survey is presented in Appendix D. Nomenclature for wildlife follows CDFW's Complete List of Amphibian, Reptile, Bird, and Mammal Species in California (CDFW 2016) and any changes made to species nomenclature as published in scientific journals since the publication of CDFW's list were updated accordingly. Representative photographs of each vegetation community or land cover type are provided in Appendix E. A description of the plant communities is provided below.

Developed/Mediterranean Scrub and Grassland Formation (1.87 acres)

Developed land includes commercial and industrial land uses and paved and dirt parking lots, driveways, and access roads. These areas are generally devoid of vegetation or are very sparsely vegetated. A representative photograph of developed portions of the project site is provided in Appendix E.

Interspersed with developed areas, including access roads and driveways, is Mediterranean scrub and grassland formation as defined by the Classification of the Vegetation Alliances and Associations of Sonoma County, California (CDFW et al 2015). The majority of the project site is Mediterranean Scrub and Grassland Formation, which typically includes species belonging to the genuses: *Adenostoma*, *Arctostaphylos*, *Ceanothus*, *Quercus*, *Artemisia*, *Eriodictyon*, *Heterotheca*, *Baccharis*, *Gaultheria*, *Toxicodendron*, *Eschscholzia*, *Lasthenia*, *Plagiobothrys*, *Elymus*, *Nassella*, *Avena*, *Brassica*, *Centaurea*, *Cynosurus*, among many others.

Source: Sonoma County 2018, ESRI 2020, MIG 2020

Legend

- Project Boundary

Vegetation Communities

- Developed/Mediterranean Scrub & Grassland Formation (1.87 ac)
- California Bay Forest and Woodland (0.15 ac)
- Coast Live Oak (7 individual trees, 0.06 ac)
- Valley Oak (1 tree, 0.02 ac)

Potential Jurisdictional Areas

- Streambed / Wetland (Within OHWM, 0.04 ac, 394.92 lf)
- Top Bank (0.05ac, 407.33 lf)

0 0.01 0.02 0.04 Miles

MIG

Vegetation Map

General Biological Resources Assessment

Santa Rosa Fire Station 5

NatureServe Explorer describes, “Mediterranean scrub and grassland includes sclerophyllous scrub and herbaceous vegetation, which develops in Mediterranean climates (moderately dry, warm-temperate, maritime climates with little or no summer rain)…Sclerophyll-leaved growth forms prevail, but facultatively drought-deciduous "soft chaparral" forms may also occur. Mixed annual and perennial grasslands and non-grass "forblands" may also occur, with only scattered scrub. Shrub growth forms range from low, open subshrubs (<1 m) to arborescent (2 to 5 m tall) shrubs with a closed canopy, in response to moisture, fire and other factors. Dominant plants are affected by frequent fires…Sclerophyll woodlands and forest are excluded from this classification of Mediterranean Scrub & Grassland. Grasslands are a mix of annual and perennial growth forms” (2020).

California Bay Forest and Woodland (0.15 acres)

Coast live oak (*Quercus agrifolia*) alliance stands in Sonoma County cover the range from mesic woodlands (in which coast live oak mixes with *Umbellularia* and *Arbutus*), to relatively dry, open woodlands with grassy understories. The alliance typically occurs in alluvial benches, streamsides, valley bottoms, coastal bluffs, inland ridges, steep north-facing slopes, and rocky outcrops and in soils that are shallow to deep, sandy to clay loams (CNPS 2020b).

5.3 Hydrology and Aquatic Features

The majority of the City of Santa Rosa is located within the Santa Rosa Creek watershed, which originates from Hood Mountain in the Mayacamas Mountains to the east and discharges to Laguna de Santa Rosa, a large wetland complex downstream of the Santa Rosa urban area. Tributary basins to Santa Rosa Creek that lie primarily in the city are Brush Creek, Matanzas Creek, Paulin Creek, and Piner/Peterson Creek. All of these tributaries ultimately drain to the Laguna de Santa Rosa which drains into the Russian River and on out to the Pacific Ocean (ESA 2009).

The potentially jurisdictional perennial drainage on the project site is a tributary to the West Fork of Paulin Creek. Paulin Creek (with its tributary Poppy Creek) forms the main tributary to Piner Creek. Starting in the fir covered hillsides of Hidden Valley, the Paulin Creek drops 680 feet in elevation to Mendocino Avenue in the first half of its journey and, after disappearing under Highway 101, loses only an additional 60 feet in elevation before entering Piner Creek west of Marlow Road (City of Santa Rosa et al 2013). Piner Creek flows into Santa Rosa Creek downstream of its confluence with Paulin Creek.

A hill occupies much of the project site and slopes downward from the southern border of the site to Stagecoach Road (northern border), ranging from 528 to 454 feet. The only relatively level portion of the site is the northwest corner where the new fire station is proposed. The unnamed drainage flows downward from the western side of the site at 502 feet east to Stagecoach Road at 454 feet.

The potentially jurisdictional perennial drainage on the project site is unnamed and is not shown on the National Wetland Inventory (USFWS 2020b) or on creek maps in the Santa Rosa Citywide Creek Master Plan (City of Santa Rosa 2013). The unnamed drainage flows from south to north across the northwest corner of the project site before flowing into a culvert under Stagecoach Road and connecting to the West Fork of Paulin Creek downstream of the site. The unnamed drainage is approximately two feet wide and one to two feet deep. It appears to be perennial, based on a flowing condition observed in November and December 2020 after months with little rain and no recent rainstorms. The potentially jurisdictional perennial drainage and other mapped wetland (culvert area to the east of the project site [Figure 1]) is 0.05 acre (measured from the top of bank) and 407.33 linear feet.

There are three wetlands associated with the potentially jurisdictional perennial drainage, located adjacent to where the drainage flows under the existing chain link fence to the southern side of the fence, and adjacent to the culvert on each side of the existing access road. Wetlands were identified in a preliminary delineation of jurisdictional features based on hydrophytic vegetation, hydric soils, and hydrology. The dominant plant species associated with the wetlands is tall flatsedge (*Cyperus eragrostis*). The potentially jurisdictional areas, including the mapped, isolated culvert area on the east portion of the site in Figure 1, total 0.05 acre.

5.4 Sensitive Habitats

Approximately 0.15 acre of oak woodland within the project site meet the definition of California Bay Forest and Woodland, a plant community that has been designated as “sensitive” by CDFW in the CNDDB. Potentially jurisdictional areas, including the perennial drainage and culvert area described above, area also considered “sensitive” by CDFW. Impacts to sensitive natural communities and habitats must be considered and evaluated under CEQA guidelines for impacts to biological resources.

5.5 Wildlife Corridors and Movement

A wildlife corridor is a linear landscape element that serves as a linkage between historically connected habitats or landscapes that are otherwise separated (McEuen 1993) and is meant to provide avenues along which wildlife can travel, migrate, and meet mates; plants can propagate; genetic interchange can occur; and populations can move in response to environmental changes and natural disasters (Beir and Loe 1992).

Land uses surrounding the project site include the Fountaingrove Parkway to the west, Stagecoach Road to the north and east, and, and Keysight Technologies to the south. Residential and commercial development are all prevalent outside the borders of the project site. Creek corridors (including Paulin Creek to the south) and mature tree stands within the vicinity of the project site provide some migration opportunity for common wildlife species. However, the heavily trafficked road immediately adjacent and the small, fragmented characteristic of the habitat on the project site create sub-optimal corridor conditions for many common and special-status terrestrial wildlife species. The project site is expected to be mostly utilized for common wildlife species (skunks, raccoons, squirrels, etc.) and rarely utilized by wildlife for foraging and very rarely for breeding. The project site is not considered a formal wildlife corridor, although habitat surrounding the project site may provide wildlife movement opportunity.

5.6 Special-Status Species

5.6.1 Special-Status Plants

To determine the potential presence of special-status plant species, a habitat assessment of the project site was conducted November 11, 2020. Special-status plants are defined here to include: (1) plants that are federal- or state-listed as rare, threatened or endangered, (2) federal and state candidates for listing, (3) plants assigned a Rank of 1 through 4 by the CNPS Inventory, and (4) plants that qualify under the definition of "rare" in CEQA, section 15380.

According to the CNPS Inventory and CDFW’s CNDDB, a total of 89 special-status plant species have been documented within the project site vicinity (Santa Rosa USGS 7.5 center quadrangle and eight surrounding). A table of special-status plant species with the potential to occur on the project site is provided in Appendix B1. The project site was determined to have no to low potential to support all 89 special-status plant species that were evaluated for their potential presence. Most of these plants occur in specialized habitats such as chaparral, vernal

pools, freshwater marshes, coastal prairie and scrub, and coniferous forest habitats which do not occur on or near the project site. Special-status plants that could occur in grassland habitat are not expected to occur within the project site due to ongoing land management (landscaping, pesticide use, etc.), including that observed during an MIG wetland delineation on December 9, 2020. These activities within the project site have resulted in a high cover and frequency of non-native and invasive plant species that have outcompeted native grasses and forbs, resulting in reduced species richness and disturbed habitat conditions

5.6.2 Special-Status Wildlife

Special-status wildlife species include those species listed as endangered or threatened under the FESA or CESA; candidates for listing by the USFWS or CDFW; species of special concern to the CDFW, and CDFW fully protected species. A list of all special-status wildlife species with the potential to occur in the project site is provided in Appendix B2.

A total of 34 special-status wildlife species were reported to have potential to occur within vicinity of the project site (Santa Rosa USGS 7.5 center quadrangle and eight surrounding), based on a search of the CNDDB and IPaC databases. 33 species are not expected to occur within the project site. Four (4) species were determined to have low potential to occur within the project site:

- western pond turtle (*Emys marmorata*; California Species of Special Concern)
- Cooper's hawk (*Accipiter cooperii*; CDFW Watch List)
- sharp-shinned hawk (*Accipiter striatus*; CDFW Watch List)
- white-tailed kite (*Elanus leucurus*; California Fully-Protected Species)

These determinations were based on the lack of suitable habitat, including freshwater stream and other aquatic features (i.e. permanently-inundated riparian corridors and/or vernal pools), poor or no nesting habitat, and/or the lack of interconnectivity to areas of occupied habitat due to development within and surrounding the site.

5.6.2 Nesting Birds

Despite the current level of site disturbance from adjacent traffic and access roads, vegetation communities within the project site could provide suitable nesting and foraging habitat for common species that may occur within project site. In addition, there is potential for special-status bird species to utilize adjacent and/or nearby habitat for foraging or nesting. Birds nesting and foraging outside, but near the project site have potential to be indirectly impacted by any construction activities. Most actively nesting birds are protected under the CFGC, MBTA, and MBPA. Construction activities including vegetation clearing, and noise and vibration have a potential to result in direct (i.e., loss of viable eggs and death or injury of young) and indirect (i.e., nest abandonment) impacts to nesting songbirds and raptors. The loss of an active nest of common or special-status bird species would be considered a violation of CFGC section 3503, 3503.5, 3513.

5.6.3 Bats

Roosting bats are protected by CFGC. Bat species may very rarely utilize the oak trees within the project site for roosting and may utilize the project site for foraging. However, the small number of trees do not provide the thermal protection from extreme hot or cold temperatures required by bat species while roosting. In addition, the close proximity of Fountaingrove Parkway and Stagecoach Road create extensive disturbance to any potential roosting habitat, likely deterring any longer term use of the habitat.

6.0 BIOLOGICAL IMPACT ASSESSMENT

This section describes potential impacts to sensitive biological resources, including special-status plants, animals, and aquatic resources within and/or adjacent to the project site. Each impact discussion includes avoidance and minimization measures that would be implemented during the project to avoid, minimize, and/or compensate for direct and indirect impacts to each resource. Direct impacts are considered to be those that involve the loss, modification or disturbance of plant communities, which in turn, directly affect the species that occupy those habitats. Direct impacts also include the destruction of individual plants or wildlife, which may also directly affect regional population numbers of a species or result in the physical isolation of populations thereby reducing genetic diversity and population stability. Indirect impacts involve impaired water quality of nearby wetland and water resources, the effects of increased ambient levels of noise or light, and increased human disturbance. Indirect impacts may be associated with the subsequent day-to-day activities associated with commercial use of the area following project implementation.

Potential significant adverse impacts, either directly or through habitat modifications, to any special-status plant, animal, or habitat that could occur as a result of project construction, are discussed below. With the implementation of all mitigation measures, impacts to biological resources are anticipated to be reduced to less than significant pursuant to CEQA guidelines.

6.1 Significance Criteria

Potential impacts to biological resources should be determined in accordance with Appendix G of the CEQA Guidelines, which includes the following:

Impacts would be considered potentially significant if the proposed project will:

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

6.2 Sensitive Species

All special-status plant and wildlife species were determined to have low potential or are not expected within the project site. However, common nesting bird species and bat species protected by the CFGC and MBTA may utilized habitat on the project site for nesting and/or roosting, respectively.

Most actively nesting birds are protected under the CFGC, MBTA, and MBPA. Construction activities including vegetation clearing, and noise and vibration have a potential to result in direct (i.e., loss of viable eggs and death or injury of young) and indirect (i.e., nest abandonment) impacts to nesting songbirds and raptors.

Impacts to nesting bird species may be avoided with the implementation of measures outlined in Section 7.

6.3 Sensitive Natural Vegetation Communities

Approximately 0.15 acre of oak woodland within the project site meet the definition of California Bay Forest and Woodland, a plant community that has been designated as "sensitive" by CDFW in the CNDDB. Final project design will either avoid this habitat, or consult with CDFW to determine mitigation measures for any impacts to the habitat. With the avoidance of habitat and/or mitigation of any negative impacts according to guidance from CDFW, significant impacts will be avoided and/or mitigated.

The project site also includes 0.05 acre of freshwater wetland vegetation dominated by tall flatsedge. Areas dominated by wetland plants are also considered sensitive natural communities by CDFW.

6.4 Jurisdictional Waters

The proposed project would not impact the perennial drainage or associated potentially jurisdictional areas (Figure 1) on the site. In accordance with the City of Santa Rosa General Plan OSC-D-1 and the federal policy of no net loss of wetlands, the project will avoid all potentially jurisdictional areas (Figure 1). With the appropriate setback and/or mitigation, the project will not have a significant impact on jurisdictional waters and no permits will be required.

Indirect impacts to potentially jurisdictional waters will be avoided by best management practices (BMPs) to protect water quality and prevent erosion and sedimentation during and following construction. A stormwater pollution prevention plan (SWPPP) will be required to be prepared for the project and implemented during construction, and the project design utilizes low impact development (LID) strategies to ensure there is no net increase in stormwater runoff from the site after project construction, and stormwater from the new impervious surface area is treated and retained onsite. Above-ground storage tanks (ASTs) will be utilized in the project and associated fueling stations pose a high risk to potentially jurisdictional waters. Therefore, preventative measures such as secondary containment, will be provided for the ASTs and fueling locations.

6.5 Wildlife Corridors and Movement

The heavily trafficked road immediately adjacent and the small, fragmented characteristic of the habitat on the project site create sub-optimal corridor conditions for common and special-status terrestrial wildlife species. The project site is expected to be primarily utilized by common wildlife and urban/suburban-adapted wildlife species, and rarely utilized by special-status wildlife for foraging and very rarely for nesting birds. The project site is not considered a formal wildlife corridor, although habitat surrounding the project site may provide corridor habitat. The project site is in an urban area and the new fire station would not include new public roads or fences that would create a barrier to wildlife movement. No significant impacts to wildlife movement and corridors are anticipated from the proposed project.

6.6 Conflict with Local Policies

The project will comply with all local policies and regulations outlined in Section 3.3.

6.7 Conflict with Conservation Plan

The project site is not within any HCP, Natural Community Conservation Plan (NCCP), or other approved local, regional, or state HCP (CDFW 2020a).

7.0 CONCLUSIONS AND RECOMMENDATIONS

The project site provides little to no habitat for special-status wildlife and plant species. However, the 0.15 acre of California Bay Forest and Woodland and the potentially jurisdictional areas within the perennial drainage and culvert area on the eastern portion of the site require special consideration by regulatory agencies. Following the creation of final design, if any impacts are anticipated to either the California Bay Forest and Woodland or jurisdictional waters, CDFW, USACE, and the RWQCB will need to be consulted to determine specific avoidance and/or mitigation measures, or compensatory mitigation required for impacts to these habitat features.

Avoidance and minimization measures to prevent or avoid negative impacts to sensitive habitat and/or special-status species (i.e. nesting birds) during project implementation are described below.

7.1 Avoidance and Minimization Measures

7.1.1 Sensitive Habitat

1. Travel and parking of vehicles and equipment will be limited to pavement, existing roads, and previously disturbed areas. Ground disturbance and vegetation removal will not exceed the minimum amount necessary to complete work at the site.
2. Temporary work areas will be restored with respect to pre-existing contours and conditions upon completion of work. Restoration work including re-vegetation and soil stabilization will be evaluated upon completion of work and performed as needed.
3. The potential for adverse effects to water quality in aquatic habitat within the project site will be avoided by implementing Best Management Practices (BMPs). These BMPs will be used to minimize any erosion or other sources of water pollution. The following BMPs are suggested:
    a) Store, handle, and dispose of construction materials and wastes properly to prevent their contact with stormwater.
    b) Control and prevent the discharge of all potential pollutants, including solid wastes, paints, concrete, petroleum products, chemicals, wash water or sediment and non-stormwater discharges to storm drains and water courses.
    c) Avoid cleaning, fueling, or maintaining vehicles on site, except in a designated area in which run-off is contained and treated. If designated areas for these activities are allowed on site, spill kits must be immediately accessible on site.
    d) Perform clearing and earth moving activities during dry weather to the maximum extent practical.
    e) Delineate clearing limits, easements, setbacks, sensitive or critical areas, buffer zones, trees, and discharge course with field markers.
    f) Remove spoils promptly and avoid stockpiling fill materials when rain is forecast. If rain threatens stockpiles soils and other materials shall be covered with a tarp or other waterproof material.
    g) Limit construction access routes and stabilize designated access points.
    h) Deposit trash and construction related solid wastes into a covered receptacle to prevent contamination and dispersal by wind.

i) Maintain sanitary facilities on the project site at all times.

j) Take measures to collect or clean any accumulation or deposit of dirt, mud, sand, rocks, gravel, or debris on the surface of any street, alley, or public place or in public storm drain systems. The removal of aforesaid shall be done by street sweeping or hand sweeping. Water shall not be used to wash sediments into public or private drainage facilities.

k) Cease all grading work immediately in the event of rain.

l) Prepare and implement an erosion control plan during the wet season (September 15 through April 15). The following measures are suggested to be included in the plan:

- During the rainy season, all paved areas shall be kept clear of earth material and debris. The project site shall be maintained to minimize sediment-laden run-off to any storm drainage system, including existing drainage swales and water courses.
- Down slope drainage courses, streams, and storm drains will be protected with rock filled gravel bags, temporary swales, silt fences, and earth berms in conjunction with all landscaping.
- Inlet protection shall be installed and maintained at open inlets to prevent sediment from entering the storm drain system.
- Fiber rolls shall be placed at the toe of slopes and along the down slope perimeter of the project site.

4. Develop a hazardous spill plan prior to construction. The plan will describe what actions will be taken in the event of a spill. The plan will also incorporate preventative measures to be implemented, such as vehicle and equipment staging, cleaning, maintenance, and refueling; and contaminant (including fuel) management and storage. In the event of a contaminant spill, work at the site will immediately cease until the contractor has contained and mitigated the spill. The contractor will immediately prevent further contamination and notify appropriate authorities and mitigate damage as appropriate. Adequate spill containment materials, such as oil diapers and hydrocarbon cleanup kits, shall be available on site at all times. Containers for storage, transportation, and disposal of contaminated absorbent materials will be provided in the project site.
5. A SWPPP that complies with the statewide General Permit administered by the SWRCB the National Pollutant Discharge Elimination System will be developed and implemented to protect the water quality of aquatic resources that lie in or adjacent to the proposed project area. Appropriate erosion and sediment control and non-sediment pollution control (i.e., sources of pollution generated by construction equipment and material) BMPs will be prescribed in the SWPPP, and erosion and sediment control material included in the SWPPP will be certified as weed-free.
6. After construction is completed, a final cleanup will include removal of all stakes, temporary fencing, flagging, and other refuse generated by construction.

7.1.2 Special-Status Species

1. Employee Education Program. An employee education program shall be conducted, consisting of a brief presentation to explain biological resources concerns to contractors, their employees, and any other personnel involved in construction of the project. The program will include the following: a description of relevant special-status species and

nesting birds along with their habitat needs as they pertain to the project; a report of the occurrence of these species in the vicinity of the project site, as applicable; an explanation of the status of these species and their protection under the federal and state regulations; a list of measures being taken to reduce potential impacts to natural resources, including environmentally sensitive habitats, during project construction and implementation; and instructions if a special-status species is found onsite. A fact sheet conveying this information will be prepared for distribution to the above-mentioned people and anyone else who may enter the project site. Upon completion of training, employees will sign a form stating that they attended the training and agree to the conservation and protection measures.

2. Pre-construction Survey for Nesting Birds. To avoid impacts to nesting birds and violation of state and federal laws pertaining to birds, all construction-related activities (including but not limited to mobilization and staging, clearing, grubbing, vegetation removal, fence installation, demolition, and grading) should occur outside the avian nesting season (that is, prior to February 1 or after September 15). If construction and construction noise occurs within the avian nesting season (from February 1 to September 15), all suitable habitats located within the project's area of disturbance including staging and storage areas plus a 250-foot (passerines) and 1,000-foot (raptor nests) buffer around these areas shall be thoroughly surveyed, as feasible, for the presence of active nests by a qualified biologist no more than five days before commencement of any site disturbance activities and equipment mobilization. If project activities are delayed by more than five days, an additional nesting bird survey shall be performed. Active nesting is present if a bird is building a nest, sitting in a nest, a nest has eggs or chicks in it, or adults are observed carrying food to the nest. The results of the surveys shall be documented.

   If pre-construction nesting bird surveys result in the location of active nests, no site disturbance and mobilization of heavy equipment (including but not limited to equipment staging, fence installation, clearing, grubbing, vegetation removal, fence installation, demolition, and grading), shall take place within 250 feet of non-raptor nests and 1,000 feet of raptor nests, or as determined by a qualified biologist in consultation with the CDFW, as appropriate, until the chicks have fledged. Monitoring shall be required to insure compliance with relevant California Fish and Game Code requirements. Monitoring dates and findings shall be documented.

3. Nighttime Construction. To the extent possible, nighttime construction will be minimized.

4. Designation of Work Area. Prior to project activities, a qualified biologist will clearly delineate the work area Disturbance to sensitive vegetation communities shall be minimized to the greatest extent practicable.

5. Construction Site Sanitation. Food items may attract wildlife onto the construction site, which will expose them to construction-related hazards. The construction site shall be maintained in a clean condition. All trash (e.g., food scraps, cans, bottles, containers, wrappers, and other discarded items) will be placed in closed containers and properly disposed of.

6. Wildlife Entrapment. The contractor shall avoid the use of monofilament netting, including its use in temporary and permanent erosion control materials. All holes greater than one-foot deep must be sealed overnight to prevent the entrapment of wildlife. Where holes or trenches cannot be sealed, escape ramps that are no greater than 30 percent slope will be positioned such that entrapped wildlife will be able to escape. The

escape ramps should be at least one-foot wide and covered/fitted with a material that provides traction.

7. Species Discovery. If an animal is found at the work site and is believed to be a protected species, work must halt and the project biologist shall be contacted for guidance. Care must be taken not to harm or harass the species. No wildlife species shall be handled and/or removed from the project site by anyone except a qualified biologist.

8.0 REFERENCES

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Appendix A

Special-Status Plant and Wildlife Species Database Results

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Santa Rosa (3812246) OR Mark West Springs (3812256) OR Calistoga (3812255) OR Kenwood (3812245) OR Glen Ellen (3812235) OR Cotati (3812236) OR Two Rock (3812237) OR Sebastopol (3812247) OR Healdsburg (3812257))
 AND Taxonomic Group IS (Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)
 AND CNPS List IS (1A OR 1B OR 1B.1 OR 1B.2 OR 1B.3 OR 2A OR 2B OR 2B.1 OR 2B.2 OR 2B.3 OR 3 OR 3.1 OR 3.2 OR 3.3 OR 4 OR 4.1 OR 4.2 OR 4.3)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Baker's goldfields *Lasthenia californica ssp. bakeri*	PDAST5L0C4	None	None	G3T1	S1	1B.2
Baker's navarretia *Navarretia leucocephala ssp. bakeri*	PDPLM0C0E1	None	None	G4T2	S2	1B.1
bent-flowered fiddleneck *Amsinckia lunaris*	PDBOR01070	None	None	G3	S3	1B.2
big-scale balsamroot *Balsamorhiza macrolepis*	PDAST11061	None	None	G2	S2	1B.2
Boggs Lake hedge-hyssop *Gratiola heterosepala*	PDSCR0R060	None	Endangered	G2	S2	1B.2
brownish beaked-rush *Rhynchospora capitellata*	PMCYP0N080	None	None	G5	S1	2B.2
Burke's goldfields *Lasthenia burkei*	PDAST5L010	Endangered	Endangered	G1	S1	1B.1
California alkali grass *Puccinellia simplex*	PMPOA53110	None	None	G3	S2	1B.2
California beaked-rush *Rhynchospora californica*	PMCYP0N060	None	None	G1	S1	1B.1
Calistoga ceanothus *Ceanothus divergens*	PDRHA04240	None	None	G2	S2	1B.2
Calistoga popcornflower *Plagiobothrys strictus*	PDBOR0V120	Endangered	Threatened	G1	S1	1B.1
Clara Hunt's milk-vetch *Astragalus claranus*	PDFAB0F240	Endangered	Threatened	G1	S1	1B.1
coastal triquetrella *Triquetrella californica*	NBMUS7S010	None	None	G2	S2	1B.2
Cobb Mountain lupine *Lupinus sericatus*	PDFAB2B3J0	None	None	G2?	S2?	1B.2
Colusa layia *Layia septentrionalis*	PDAST5N0F0	None	None	G2	S2	1B.2
congested-headed hayfield tarplant *Hemizonia congesta ssp. congesta*	PDAST4R065	None	None	G5T2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Cunningham Marsh cinquefoil *Potentilla uliginosa*	PDROS1B4A0	None	None	GX	SX	1A
dwarf downingia *Downingia pusilla*	PDCAM060C0	None	None	GU	S2	2B.2
fragrant fritillary *Fritillaria liliacea*	PMLIL0V0C0	None	None	G2	S2	1B.2
Franciscan onion *Allium peninsulare var. franciscanum*	PMLIL021R1	None	None	G5T2	S2	1B.2
golden larkspur *Delphinium luteum*	PDRAN0B0Z0	Endangered	Rare	G1	S1	1B.1
holly-leaved ceanothus *Ceanothus purpureus*	PDRHA04160	None	None	G2	S2	1B.2
Jepson's leptosiphon *Leptosiphon jepsonii*	PDPLM09140	None	None	G2G3	S2S3	1B.2
Kenwood Marsh checkerbloom *Sidalcea oregana ssp. valida*	PDMAL110K5	Endangered	Endangered	G5T1	S1	1B.1
legenere *Legenere limosa*	PDCAM0C010	None	None	G2	S2	1B.1
Loch Lomond button-celery *Eryngium constancei*	PDAPI0Z0W0	Endangered	Endangered	G1	S1	1B.1
long-styled sand-spurrey *Spergularia macrotheca var. longistyla*	PDCAR0W062	None	None	G5T2	S2	1B.2
many-flowered navarretia *Navarretia leucocephala ssp. plieantha*	PDPLM0C0E5	Endangered	Endangered	G4T1	S1	1B.2
marsh microseris *Microseris paludosa*	PDAST6E0D0	None	None	G2	S2	1B.2
Mt. Saint Helena morning-glory *Calystegia collina ssp. oxyphylla*	PDCON04032	None	None	G4T3	S3	4.2
Napa blue grass *Poa napensis*	PMPOA4Z1R0	Endangered	Endangered	G1	S1	1B.1
Napa checkerbloom *Sidalcea hickmanii ssp. napensis*	PDMAL110A6	None	None	G3T1	S1	1B.1
Napa false indigo *Amorpha californica var. napensis*	PDFAB08012	None	None	G4T2	S2	1B.2
narrow-anthered brodiaea *Brodiaea leptandra*	PMLIL0C022	None	None	G3?	S3?	1B.2
North Coast semaphore grass *Pleuropogon hooverianus*	PMPOA4Y070	None	Threatened	G2	S2	1B.1
oval-leaved viburnum *Viburnum ellipticum*	PDCPR07080	None	None	G4G5	S3?	2B.3
pappose tarplant *Centromadia parryi ssp. parryi*	PDAST4R0P2	None	None	G3T2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Peruvian dodder *Cuscuta obtusiflora var. glandulosa*	PDCUS01111	None	None	G5T4?	SH	2B.2
Pitkin Marsh lily *Lilium pardalinum ssp. pitkinense*	PMLIL1A0H3	Endangered	Endangered	G5T1	S1	1B.1
Pitkin Marsh paintbrush *Castilleja uliginosa*	PDSCR0D380	None	Endangered	GXQ	SX	1A
Rincon Ridge ceanothus *Ceanothus confusus*	PDRHA04220	None	None	G1	S1	1B.1
Rincon Ridge manzanita *Arctostaphylos stanfordiana ssp. decumbens*	PDERI041G4	None	None	G3T1	S1	1B.1
round-headed beaked-rush *Rhynchospora globularis*	PMCYP0N0W0	None	None	G4	S1	2B.1
saline clover *Trifolium hydrophilum*	PDFAB400R5	None	None	G2	S2	1B.2
Santa Cruz clover *Trifolium buckwestiorum*	PDFAB402W0	None	None	G2	S2	1B.1
Sebastopol meadowfoam *Limnanthes vinculans*	PDLIM02090	Endangered	Endangered	G1	S1	1B.1
slender silver moss *Anomobryum julaceum*	NBMUS80010	None	None	G5?	S2	4.2
Sonoma alopecurus *Alopecurus aequalis var. sonomensis*	PMPOA07012	Endangered	None	G5T1	S1	1B.1
Sonoma beardtongue *Penstemon newberryi var. sonomensis*	PDSCR1L483	None	None	G4T3	S3	1B.3
Sonoma ceanothus *Ceanothus sonomensis*	PDRHA04420	None	None	G2	S2	1B.2
Sonoma spineflower *Chorizanthe valida*	PDPGN040V0	Endangered	Endangered	G1	S1	1B.1
Sonoma sunshine *Blennosperma bakeri*	PDAST1A010	Endangered	Endangered	G1	S1	1B.1
swamp harebell *Campanula californica*	PDCAM02060	None	None	G3	S3	1B.2
thin-lobed horkelia *Horkelia tenuiloba*	PDROS0W0E0	None	None	G2	S2	1B.2
Thurber's reed grass *Calamagrostis crassiglumis*	PMPOA17070	None	None	G3Q	S2	2B.1
two-fork clover *Trifolium amoenum*	PDFAB40040	Endangered	None	G1	S1	1B.1
Vine Hill ceanothus *Ceanothus foliosus var. vineatus*	PDRHA040D6	None	None	G3T1	S1	1B.1
Vine Hill clarkia *Clarkia imbricata*	PDONA050K0	Endangered	Endangered	G1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Vine Hill manzanita	PDERI040C0	None	Endangered	G1	S1	1B.1
Arctostaphylos densiflora						
white beaked-rush	PMCYP0N010	None	None	G5	S2	2B.2
Rhynchospora alba						

Record Count: 60

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Santa Rosa (3812246) OR Mark West Springs (3812256) OR Calistoga (3812255) OR Kenwood (3812245) OR Glen Ellen (3812235) OR Cotati (3812236) OR Two Rock (3812237) OR Sebastopol (3812247) OR Healdsburg (3812257))
 AND Taxonomic Group IS (Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects)
 AND (Federal Listing Status IS (Endangered OR Threatened OR Proposed Endangered OR Proposed Threatened OR Candidate OR All CNDDB element occurrences OR Delisted) OR State Listing Status IS (Endangered OR Threatened OR Rare OR All CNDDB element occurrences OR Delisted OR Candidate Endangered OR Candidate Threatened))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
American peregrine falcon *Falco peregrinus anatum*	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
bank swallow *Riparia riparia*	ABPAU08010	None	Threatened	G5	S2	
Blennosperma vernal pool andrenid bee *Andrena blennospermatis*	IIHYM35030	None	None	G2	S2	
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S3	SSC
California freshwater shrimp *Syncaris pacifica*	ICMAL27010	Endangered	Endangered	G2	S2	
California giant salamander *Dicamptodon ensatus*	AAAAH01020	None	None	G3	S2S3	SSC
California horned lark *Eremophila alpestris actia*	ABPAT02011	None	None	G5T4Q	S4	WL
California linderiella *Linderiella occidentalis*	ICBRA06010	None	None	G2G3	S2S3	
California red-legged frog *Rana draytonii*	AAABH01022	Threatened	None	G2G3	S2S3	SSC
California tiger salamander *Ambystoma californiense*	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
coho salmon - central California coast ESU *Oncorhynchus kisutch pop. 4*	AFCHA02034	Endangered	Endangered	G4	S2	
Cooper's hawk *Accipiter cooperii*	ABNKC12040	None	None	G5	S4	WL
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
ferruginous hawk *Buteo regalis*	ABNKC19120	None	None	G4	S3S4	WL

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
foothill yellow-legged frog *Rana boylii*	AAABH01050	None	Endangered	G3	S3	SSC
fringed myotis *Myotis thysanodes*	AMACC01090	None	None	G4	S3	
golden eagle *Aquila chrysaetos*	ABNKC22010	None	None	G5	S3	FP
grasshopper sparrow *Ammodramus savannarum*	ABPBXA0020	None	None	G5	S3	SSC
great blue heron *Ardea herodias*	ABNGA04010	None	None	G5	S4	
hoary bat *Lasiurus cinereus*	AMACC05030	None	None	G5	S4	
Leech's skyline diving beetle *Hydroporus leechi*	IICOL55040	None	None	G1?	S1?	
long-legged myotis *Myotis volans*	AMACC01110	None	None	G5	S3	
Navarro roach *Lavinia symmetricus navarroensis*	AFCJB19023	None	None	G4T1T2	S2S3	SSC
North American porcupine *Erethizon dorsatum*	AMAFJ01010	None	None	G5	S3	
obscure bumble bee *Bombus caliginosus*	IIHYM24380	None	None	G4?	S1S2	
osprey *Pandion haliaetus*	ABNKC01010	None	None	G5	S4	WL
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G5	S3	SSC
red-bellied newt *Taricha rivularis*	AAAAF02020	None	None	G4	S2	SSC
Ricksecker's water scavenger beetle *Hydrochara rickseckeri*	IICOL5V010	None	None	G2?	S2?	
Russian River tule perch *Hysterocarpus traskii pomo*	AFCQK02011	None	None	G5T4	S4	SSC
sharp-shinned hawk *Accipiter striatus*	ABNKC12020	None	None	G5	S4	WL
steelhead - central California coast DPS *Oncorhynchus mykiss irideus pop. 8*	AFCHA0209G	Threatened	None	G5T2T3Q	S2S3	
Tomales isopod *Caecidotea tomalensis*	ICMAL01220	None	None	G2	S2S3	
Townsend's big-eared bat *Corynorhinus townsendii*	AMACC08010	None	None	G3G4	S2	SSC
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
western bumble bee *Bombus occidentalis*	IIHYM24250	None	Candidate Endangered	G2G3	S1	
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western red bat *Lasiurus blossevillii*	AMACC05060	None	None	G5	S3	SSC
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
white-tailed kite *Elanus leucurus*	ABNKC06010	None	None	G5	S3S4	FP
yellow rail *Coturnicops noveboracensis*	ABNME01010	None	None	G4	S1S2	SSC
Yuma myotis *Myotis yumanensis*	AMACC01020	None	None	G5	S4	

Record Count: 43

CNPS California Native Plant Society

Inventory of Rare and Endangered Plants

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

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

Search Criteria

California Rare Plant Rank is one of [1A, 1B, 2A, 2B, 3, 4], Found in Quads 3812257, 3812256, 3812255, 3812247, 3812246, 3812245, 3812237 3812236 and 3812235;

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

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Allium peninsulare var. franciscanum	Franciscan onion	Alliaceae	perennial bulbiferous herb	(Apr)May-Jun	1B.2	S2	G5T2
Alopecurus aequalis var. sonomensis	Sonoma alopecurus	Poaceae	perennial herb	May-Jul	1B.1	S1	G5T1
Amorpha californica var. napensis	Napa false indigo	Fabaceae	perennial deciduous shrub	Apr-Jul	1B.2	S2	G4T2
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	1B.2	S3	G3
Anomobryum julaceum	slender silver moss	Bryaceae	moss		4.2	S2	G5?
Arctostaphylos densiflora	Vine Hill manzanita	Ericaceae	perennial evergreen shrub	Feb-Apr	1B.1	S1	G1
Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	Ericaceae	perennial evergreen shrub	Feb-Apr(May)	1B.1	S1	G3T1
Astragalus breweri	Brewer's milk-vetch	Fabaceae	annual herb	Apr-Jun	4.2	S3	G3
Astragalus claranus	Clara Hunt's milk-vetch	Fabaceae	annual herb	Mar-May	1B.1	S1	G1
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Blennosperma bakeri	Sonoma sunshine	Asteraceae	annual herb	Mar-May	1B.1	S1	G1
Brodiaea leptandra	narrow-anthered brodiaea	Themidaceae	perennial bulbiferous herb	May-Jul	1B.2	S3?	G3?
Calamagrostis bolanderi	Bolander's reed grass	Poaceae	perennial rhizomatous herb	May-Aug	4.2	S4	G4
Calamagrostis crassiglumis	Thurber's reed grass	Poaceae	perennial rhizomatous herb	May-Aug	2B.1	S2	G3Q
Calamagrostis ophitidis	serpentine reed grass	Poaceae	perennial herb	Apr-Jul	4.3	S3	G3
Calandrinia breweri	Brewer's calandrinia	Montiaceae	annual herb	(Jan)Mar-Jun	4.2	S4	G4
Calochortus uniflorus	pink star-tulip	Liliaceae	perennial bulbiferous herb	Apr-Jun	4.2	S4	G4
Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jun	4.2	S3	G4T3
Campanula californica	swamp harebell	Campanulaceae	perennial rhizomatous herb	Jun-Oct	1B.2	S3	G3
Castilleja ambigua var. ambigua	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	4.2	S3S4	G4T4

Castilleja uliginosa	Pitkin Marsh paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Jun-Jul	1A	SX	GXQ
Ceanothus confusus	Rincon Ridge ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Jun	1B.1	S1	G1
Ceanothus divergens	Calistoga ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Apr	1B.2	S2	G2
Ceanothus foliosus var. vineatus	Vine Hill ceanothus	Rhamnaceae	perennial evergreen shrub	Mar-May	1B.1	S1	G3T1
Ceanothus gloriosus var. exaltatus	glory brush	Rhamnaceae	perennial evergreen shrub	Mar-Jun(Aug)	4.3	S4	G4T4
Ceanothus purpureus	holly-leaved ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Jun	1B.2	S2	G2
Ceanothus sonomensis	Sonoma ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Apr	1B.2	S2	G2
Centromadia parryi ssp. parryi	pappose tarplant	Asteraceae	annual herb	May-Nov	1B.2	S2	G3T2
Chorizanthe valida	Sonoma spineflower	Polygonaceae	annual herb	Jun-Aug	1B.1	S1	G1
Clarkia breweri	Brewer's clarkia	Onagraceae	annual herb	Apr-Jun	4.2	S4	G4
Clarkia imbricata	Vine Hill clarkia	Onagraceae	annual herb	Jun-Aug	1B.1	S1	G1
Cordylanthus tenuis ssp. brunneus	serpentine bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jul-Aug	4.3	S3	G4G5T3
Cordylanthus tenuis ssp. capillaris	Pennell's bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Sep	1B.2	S1	G4G5T1
Cuscuta obtusiflora var. glandulosa	Peruvian dodder	Convolvulaceae	annual vine (parasitic)	Jul-Oct	2B.2	SH	G5T4?
Cypripedium montanum	mountain lady's-slipper	Orchidaceae	perennial rhizomatous herb	Mar-Aug	4.2	S4	G4
Delphinium luteum	golden larkspur	Ranunculaceae	perennial herb	Mar-May	1B.1	S1	G1
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU
Erigeron biolettii	streamside daisy	Asteraceae	perennial herb	Jun-Oct	3	S3?	G3?
Erigeron serpentinus	serpentine daisy	Asteraceae	perennial herb	May-Aug	1B.3	S2	G2
Eriophorum gracile	slender cottongrass	Cyperaceae	perennial rhizomatous herb (emergent)	May-Sep	4.3	S4	G5
Eryngium constancei	Loch Lomond button-celery	Apiaceae	annual / perennial herb	Apr-Jun	1B.1	S1	G1
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2	G2
Gilia capitata ssp. tomentosa	woolly-headed gilia	Polemoniaceae	annual herb	May-Jul	1B.1	S1	G5T1
Gratiola heterosepala	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	Apr-Aug	1B.2	S2	G2
Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	Asteraceae	annual herb	Apr-Nov	1B.2	S2	G5T2
Hesperevax caulescens	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	4.2	S3	G3
Horkelia tenuiloba	thin-lobed horkelia	Rosaceae	perennial herb	May-Jul(Aug)	1B.2	S2	G2
Hosackia gracilis	harlequin lotus	Fabaceae	perennial rhizomatous herb	Mar-Jul	4.2	S3	G3G4
Iris longipetala	coast iris	Iridaceae	perennial rhizomatous herb	Mar-May	4.2	S3	G3
Lasthenia burkei	Burke's goldfields	Asteraceae	annual herb	Apr-Jun	1B.1	S1	G1
Lasthenia californica ssp. bakeri	Baker's goldfields	Asteraceae	perennial herb	Apr-Oct	1B.2	S1	G3T1
Lasthenia conjugens	Contra Costa goldfields	Asteraceae	annual herb	Mar-Jun	1B.1	S1	G1
Layia septentrionalis	Colusa layia	Asteraceae	annual herb	Apr-May	1B.2	S2	G2
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun	1B.1	S2	G2

Leptosiphon acicularis	bristly leptosiphon	Polemoniaceae	annual herb	Apr-Jul	4.2	S4?	G4?
Leptosiphon jepsonii	Jepson's leptosiphon	Polemoniaceae	annual herb	Mar-May	1B.2	S2S3	G2G3
Lessingia hololeuca	woolly-headed lessingia	Asteraceae	annual herb	Jun-Oct	3	S2S3	G3?
Lilium pardalinum ssp. pitkinense	Pitkin Marsh lily	Liliaceae	perennial bulbiferous herb	Jun-Jul	1B.1	S1	G5T1
Lilium rubescens	redwood lily	Liliaceae	perennial bulbiferous herb	Apr-Aug(Sep)	4.2	S3	G3
Limnanthes vinculans	Sebastopol meadowfoam	Limnanthaceae	annual herb	Apr-May	1B.1	S1	G1
Lomatium repostum	Napa lomatium	Apiaceae	perennial herb	Mar-Jun	4.3	S3	G3
Lupinus sericatus	Cobb Mountain lupine	Fabaceae	perennial herb	Mar-Jun	1B.2	S2?	G2?
Micropus amphibolus	Mt. Diablo cottonweed	Asteraceae	annual herb	Mar-May	3.2	S3S4	G3G4
Microseris paludosa	marsh microseris	Asteraceae	perennial herb	Apr-Jun(Jul)	1B.2	S2	G2
Monardella viridis	green monardella	Lamiaceae	perennial rhizomatous herb	Jun-Sep	4.3	S3	G3
Navarretia cotulifolia	cotula navarretia	Polemoniaceae	annual herb	May-Jun	4.2	S4	G4
Navarretia heterandra	Tehama navarretia	Polemoniaceae	annual herb	Apr-Jun	4.3	S4	G4
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G4T2
Navarretia leucocephala ssp. plieantha	many-flowered navarretia	Polemoniaceae	annual herb	May-Jun	1B.2	S1	G4T1
Penstemon newberryi var. sonomensis	Sonoma beardtongue	Plantaginaceae	perennial herb	Apr-Aug	1B.3	S2	G4T2
Perideridia gairdneri ssp. gairdneri	Gairdner's yampah	Apiaceae	perennial herb	Jun-Oct	4.2	S3S4	G5T3T4
Plagiobothrys strictus	Calistoga popcornflower	Boraginaceae	annual herb	Mar-Jun	1B.1	S1	G1
Pleuropogon hooverianus	North Coast semaphore grass	Poaceae	perennial rhizomatous herb	Apr-Jun	1B.1	S2	G2
Pleuropogon refractus	nodding semaphore grass	Poaceae	perennial rhizomatous herb	(Mar)Apr-Aug	4.2	S4	G4
Poa napensis	Napa blue grass	Poaceae	perennial herb	May-Aug	1B.1	S1	G1
Potentilla uliginosa	Cunningham Marsh cinquefoil	Rosaceae	perennial herb	May-Aug	1A	SH	GH
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	1B.2	S2	G3
Ranunculus lobbii	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	4.2	S3	G4
Rhynchospora alba	white beaked-rush	Cyperaceae	perennial rhizomatous herb	Jun-Aug	2B.2	S2	G5
Rhynchospora californica	California beaked-rush	Cyperaceae	perennial rhizomatous herb	May-Jul	1B.1	S1	G1
Rhynchospora capitellata	brownish beaked-rush	Cyperaceae	perennial herb	Jul-Aug	2B.2	S1	G5
Rhynchospora globularis	round-headed beaked-rush	Cyperaceae	perennial rhizomatous herb	Jul-Aug	2B.1	S1	G4
Sidalcea hickmanii ssp. napensis	Napa checkerbloom	Malvaceae	perennial herb	Apr-Jun	1B.1	S1	G3T1
Sidalcea oregana ssp. valida	Kenwood Marsh checkerbloom	Malvaceae	perennial rhizomatous herb	Jun-Sep	1B.1	S1	G5T1
Spergularia macrotheca var. longistyla	long-styled sand-spurrey	Caryophyllaceae	perennial herb	Feb-May(Jun)	1B.2	S2	G5T2
Trifolium amoenum	two-fork clover	Fabaceae	annual herb	Apr-Jun	1B.1	S1	G1
Trifolium buckwestiorum	Santa Cruz clover	Fabaceae	annual herb	Apr-Oct	1B.1	S2	G2
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2
Triquetrella californica	coastal triquetrella	Pottiaceae	moss		1B.2	S2	G2

Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	2B.3	S3?	G4G5

Suggested Citation

California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 12 December 2020].

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The Jepson Flora Project
The Consortium of California Herbaria
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Questions and Comments
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IPaC **U.S. Fish & Wildlife Service**

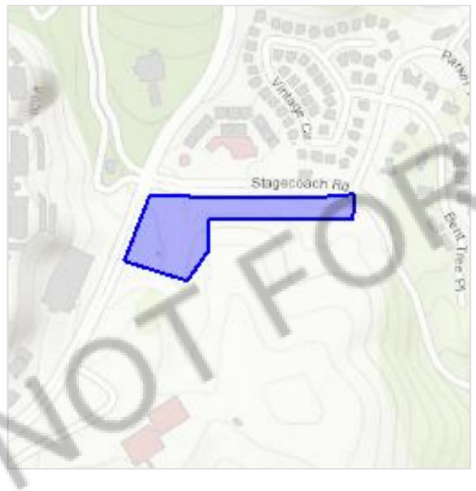
IPaC resource list

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

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

Location

Sonoma County, California



Local office

Sacramento Fish And Wildlife Office

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

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

Endangered species

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

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

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

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

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

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

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

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

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

Birds

NAME	STATUS

Northern Spotted Owl Strix occidentalis caurina — Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/1123

Reptiles

NAME	STATUS
Green Sea Turtle Chelonia mydas No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6199	Threatened

Amphibians

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

Insects

NAME	STATUS
San Bruno Elfin Butterfly Callophrys mossii bayensis There is **proposed** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/3394	Endangered

Crustaceans

NAME	STATUS
California Freshwater Shrimp Syncaris pacifica No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7903	Endangered

Flowering Plants

NAME	STATUS
Burke's Goldfields Lasthenia burkei No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4338	Endangered

Clara Hunt's Milk-vetch Astragalus clarianus — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/3300

Sebastopol Meadowfoam Limnanthes vinculans — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/404

Showy Indian Clover Trifolium amoenum — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/6459

Sonoma Sunshine Blennosperma bakeri — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/1260

White Sedge Carex albida — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/3063

Critical habitats

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

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

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

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

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

Additional information can be found using the following links:

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

- Nationwide conservation measures for birds
  http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

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

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

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Burrowing Owl Athene cunicularia This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9737	Breeds Mar 15 to Aug 31

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

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

Song Sparrow Melospiza melodia — Breeds Feb 20 to Sep 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee Pipilo maculatus clementae — Breeds Apr 15 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/4243

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

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

Probability of Presence (■)

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

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

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

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

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

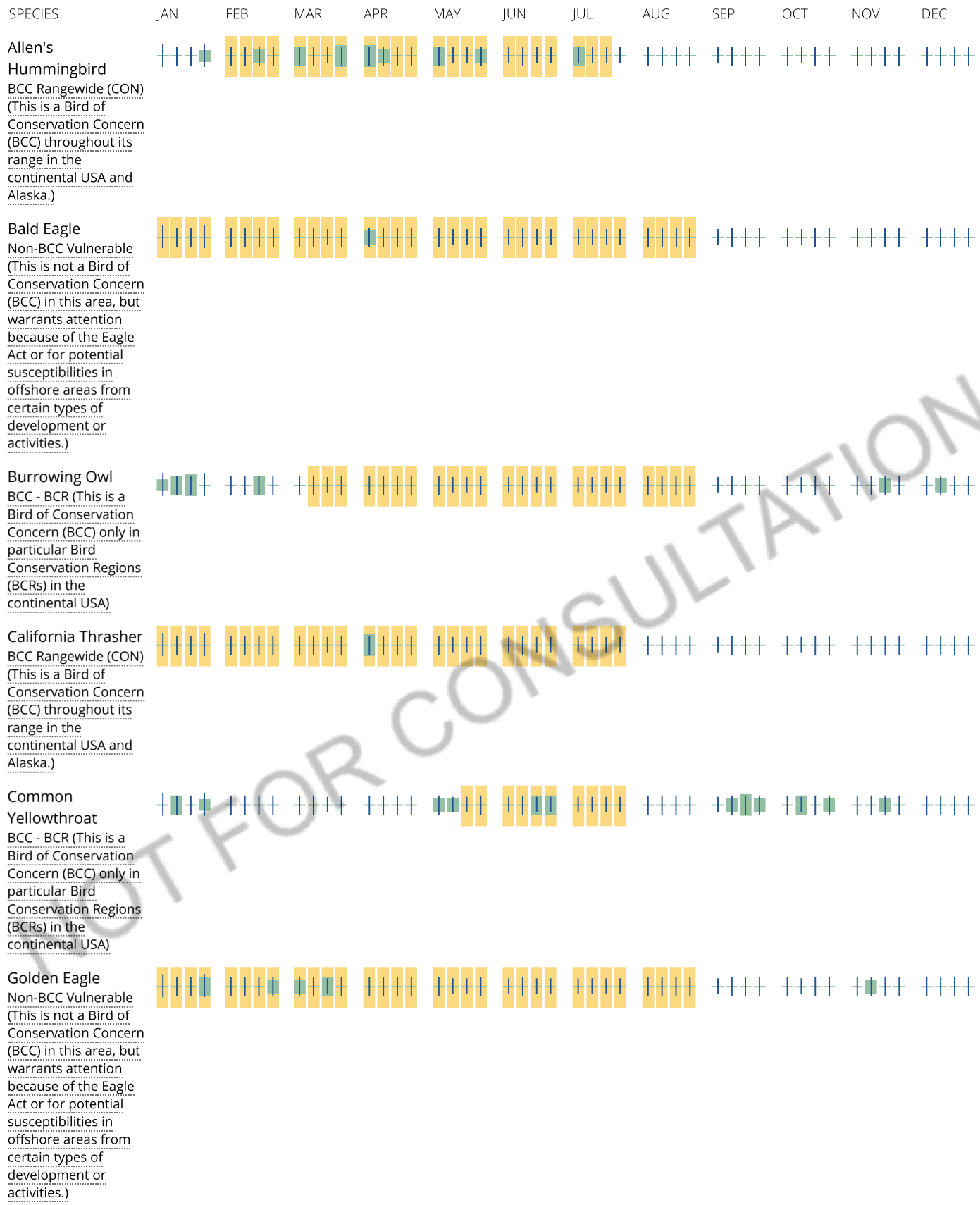
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

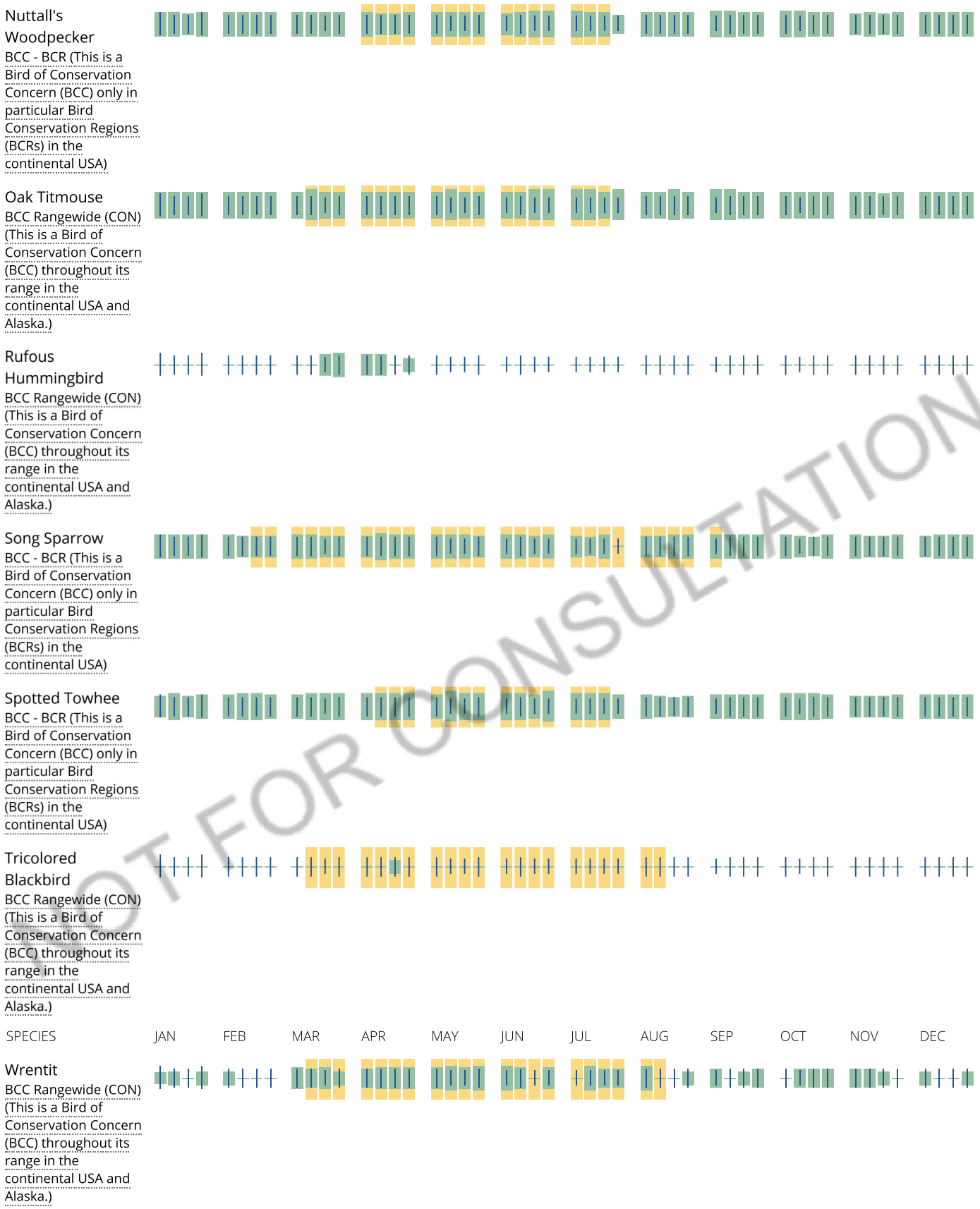
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

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

■ probability of presence ■ breeding season | survey effort – no data





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

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be

breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

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

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

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

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

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

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

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

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

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

What are the levels of concern for migratory birds?

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

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

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

Details about birds that are potentially affected by offshore projects

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

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

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

Facilities

National Wildlife Refuge lands

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

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

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

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

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

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

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

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

Data exclusions

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

Data precautions

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

Appendix B

Special-Status Plant and Wildlife Species Evaluated for Potential to Occur in the Project Area

Appendix A: Special-Status Plant Species with Potential to Occur on the Project Site.

Species	Status	Geographic Distribution[1]	Habitat Requirements[2]	Life Form; Blooming Period[2]	Potential Occurrence in the Project Area[3]
NON-VASCULAR SPECIES					
slender silver moss *Anomobryum julaceum*	CRPR 1B.2	Occurs throughout California in suitable habitat.	Moss which grows on damp rocks and soil; acidic substrates. Usually seen on roadcuts; 100-1000 m.	Moss; no blooming period	**Not Expected.** The project site does not contain the frequently-damp habitat suitable for this species. The nearest documented occurrence of this species is approximately 3.5 miles northeast of the project site.
coastal triquetrella *Triquetrella californica*	CRPR 1B.2	Occurs throughout northern California along coastal counties.	Grows in coastal bluff scrub and coastal scrub; 10-100 m.	Moss; no blooming period	**Not Expected.** The project site is too high in elevation and is far from coastal habitat for this species. In addition, the nearest documented occurrence of this species is over 4 miles southeast of the project site.
ANGIOSPERM: MONOCOTS					
Angiosperms: Monocots					
Franciscan onion *Allium peninsulare* var. *franciscanum*	CRPR 1B.2	Occurs within San Francisco Bay Area counties.	Cismontane woodland and valley and foothill grassland in clay, volcanic, and often in serpentinite soils; 52-305 m.	Perennial bulbiferous herb; Blooms May to June	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Sonoma alopecurus *Alopecurus aequalis* var. *sonomensis*	FE; CRPR 1B.1	Occurs within northern San Francisco Bay Area counties (Marin, Sonoma, and Napa).	Freshwater marshes and swamps and riparian scrub; 5-365 m.	Perennial herb; Blooms May to July	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.

Appendix A: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status	Geographic Distribution[1]	Habitat Requirements[2]	Life Form; Blooming Period[2]	Potential Occurrence in the Project Area[3]
narrow-anthered brodiaea *Brodiaea leptandra*	CRPR 1B.2	Limited to Napa and Sonoma Counties.	Broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland in volcanic soils; 110-915 m.	Perennial bulbiferous herb; Blooms May to July	**Not Expected.** There is only a small amount of woodland habitat and the majority of the project site is recently graded, paved, and disturbed. The nearest documented occurrence of this species is 1 mile east of the project site.
Bolander's reed grass *Calamagrostis bolanderi*	CRPR 4.2	Occurs throughout northern California along coastal counties. One documented occurrence in eastern Placer County.	Bogs and fens, broadleaved upland forest, closed-cone coniferous forest, coastal scrub, meadows and seeps in mesic soils, freshwater marshes and swamps, and North Coast coniferous forest in mesic soils; 0-455 m.	Perennial rhizomatous herb; Blooms May to August	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Thurber's reed grass *Calamagrostis crassiglumis*	CRPR 2B.1	Occurs throughout northern California along coastal counties.	Coastal scrub in mesic soils, freshwater marshes and swamps; 10-60 m.	Perennial rhizomatous herb; Blooms May to August	**Not Expected.** The project site is too high in elevation and does not contain coastal habitat for this species. In addition, there are no documented occurrences within 5 miles of the project site.
serpentine reed grass *Calamagrostis ophitidis*	CRPR 4.3	Occurs throughout northern California along coastal counties	Chaparral (open, often north-facing slopes), lower montane coniferous forest, meadows and seeps, and valley and foothill grassland in serpentinite and rocky soils; 90-1065 m.	Perennial herb; Blooms April to July	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
pink star-tulip *Calochortus uniflorus*	CRPR 4.2	Occurs throughout California, primarily along coastal counties with scattered occurrences in northeast California.	Coastal prairie, coastal scrub, meadows and seeps, and North Coast coniferous forest; 10-1070 m.	Perennial bulbiferous herb; Blooms April to June	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.

Appendix A: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status	Geographic Distribution[1]	Habitat Requirements[2]	Life Form; Blooming Period[2]	Potential Occurrence in the Project Area[3]
white sedge *Carex albida*	SE, FE	Occurs primarily throughout eastern California along the Sierra Nevada, with scattered occurrences in other portions of the state.	Occurs in freshwater marshes, bogs, and fens; 0-90 m.	Perennial rhizomatous herb; Blooms May to July	**Not Expected.** The project site is too high in elevation and there is no marsh, bog, or fen habitat for this species. There are no documented occurrences within 5 miles of the project site.
mountain lady's-slipper *Cypripedium montanum*	CRPR 4.2	Occurs widely throughout northern California.	Broadleaved upland forest, cismontane woodland, lower montane coniferous forest, and North Coast coniferous forest; 185-2225 m.	Perennial rhizomatous herb; Blooms March to August	**Not Expected.** The project site is too low in elevation for this species. In addition, there are no documented occurrences within 5 miles of the project site.
slender cottongrass *Eriophorum gracile*	CRPR 4.3	Occurs primarily throughout northeastern California along the Sierra Nevada, with scattered occurrences in northern California.	Bogs and fens, meadows and seeps, and upper montane coniferous forest in acidic soils; 1280-2900 m.	Perennial rhizomatous herb; Blooms May to September	**Not Expected.** The project site is too low in elevation and does not contain any bog, fen, meadow, seep, or coniferous habitat for this species. There are no documented occurrences within 5 miles of the project site.
Fragrant fritillary *Fritillaria liliacea*	CRPR 1B.2	Found throughout northern and central California wherever there is suitable habitat.	Cismontane woodland and coastal scrub and prairie, in valley and foothill grasslands (often serpentine bunchgrass grassland); 3-410 m.	Perennial bulbiferous herb; Blooms February to April	**Not Expected.** The project site does not contain the habitat typical for this species. The only documented occurrence within 5 miles is approximately 4.9 miles southeast of the project site and is listed as "possibly extirpated."
coast iris *Iris longipetala*		Occurs throughout the central Californian coast.	Coastal prairie, lower montane coniferous forest, meadows and seeps, often in mesic soils; 0-600 m.	Perennial rhizomatous herb; Blooms August to December	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.

Appendix A: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status	Geographic Distribution[1]	Habitat Requirements[2]	Life Form; Blooming Period[2]	Potential Occurrence in the Project Area[3]
Pitkin Marsh lily *Lilium pardalinum* ssp. *pitkinense*	FE, SE, CRPR 1B.1	Very few occurrences in Sonoma and Marin Counties.	Cismontane woodland, meadows and seeps, freshwater marshes and swamps in mesic or sandy soils; 35-65 m.	Perennial bulbiferous herb; Bloom June to July	**Not Expected.** The project site is too high in elevation and does not contain any of the typical habitat for this species. There are no documented occurrences within 5 miles of the project site.
redwood lily *Lilium rubescens*	CRPR 4.2	Occurs throughout northern California along coastal counties.	Broadleaved upland forest, chaparral, lower montane coniferous forest, North Coast coniferous forest, and upper montane coniferous forest, sometimes in serpentinite soils, sometimes along roadsides; 30-1910 m.	Perennial bulbiferous herb; Blooms April to August	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
North Coast semaphore grass *Pleuropogon hooverianus*	ST, CRPR 1B.1	Limited to Mendocino, Sonoma, and Marin Counties.	Broadleaved upland forest, meadows and seeps, and North Coast coniferous forest in open areas and mesic soils; 10-671 m.	Perennial rhizomatous herb; Blooms April to June	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
nodding semaphore grass *Pleuropogon refractus*	CRPR 4.2	Occurs throughout northern California along coastal counties.	Lower montane coniferous forest, meadows and seeps, North Coast coniferous forest, and riparian forest in mesic soils; 0-1600 m.	Perennial rhizomatous herb; Blooms April to August	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Napa blue grass *Poa napensis*	FE, SE, CRPR 1B.1	Highly limited distribution, only occurs in Napa County.	Meadows and seeps and valley and foothill grassland in alkaline soils near thermal springs; 100-200 m.	Perennial herb; Blooms May to August	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.

Appendix A: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status	Geographic Distribution[1]	Habitat Requirements[2]	Life Form; Blooming Period[2]	Potential Occurrence in the Project Area[3]
California alkali grass *Puccinellia simplex*	CRPR 1B.2	Occurs widely throughout California, primarily within the San Joaquin Valley.	Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools in alkaline or vernally mesic soils along sinks, flats, and lake margins; 2-930 m.	Annual herb; Blooms March to May	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
white beaked-rush *Rhynchospora alba*	CRPR 2B.2	Occurs throughout northern California in hilly and mountainous areas.	Bogs and fens, meadows and seeps, and freshwater marshes and swamps; 60-2040 m.	Perennial rhizomatous herb; Blooms June to August	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
California beaked-rush *Rhynchospora californica*	CRPR 1B.1	Occurs rarely throughout northern California.	Bogs and fens, lower montane coniferous forest, meadows and seeps, and freshwater marshes and swamps; 45-1010 m.	Perennial rhizomatous herb; Blooms May to July	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
brownish beaked-rush *Rhynchospora capitellata*	CRPR 2B.2	Occurs throughout northern California in hilly and mountainous areas.	Lower montane coniferous forest, meadows and seeps, marshes and swamps, and upper montane coniferous forest in mesic soils; 45-2000 m.	Perennial herb; Blooms July to August	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
round-headed beaked-rush *Rhynchospora globularis*	CRPR 2B.1	Occurs only within Sonoma County.	Freshwater marshes and swamps; 45-60 m.	Perennial herb; Blooms July to August	**Not Expected.** The project site is too high in elevation and does not contain the marsh or swamp habitat for this species. There are no documented occurrences within 5 miles of the project site.
ANGIOSPERMS: DICOTS					

Appendix A: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status	Geographic Distribution[1]	Habitat Requirements[2]	Life Form; Blooming Period[2]	Potential Occurrence in the Project Area[3]
Napa false indigo *Amorpha californica* var. *napensis*	CRPR 1B.2	Largely concentrated in the northern San Francisco Bay counties (Marin, Sonoma, and Napa) with one outlying occurrence in Monterey County.	Broadleaved upland forest in openings, chaparral, and cismontane woodland; 120-2000 m.	Perennial deciduous shrub; Blooms April to July	**Low Potential.** The project site does not contain the habitat typical for this species, however there is a documented occurrence approximately 0.5 mile northeast of the project site. This species is a shrub that can be identified year-round and was not observed on the November 11 or December 9, 2020 site visits.
Bent-flowered fiddleneck *Amsinckia lunaris*	CRPR 1B.2	Mid California, including Monterey, Santa Cruz, San Mateo, Marin, Alameda, Contra Costa, Napa, Lake and Colusa counties.	Coastal bluff scrub, cismontane woodland or valley and foothill grassland; 3-500 m.	Annual herb; Blooms March to June	**Not Expected.** The project site does not contain the habitat typical for this species. There are no known occurrences within close proximity to the project site.
Vine Hill manzanita *Arctostaphylos densiflora*	SE, CRPR 1B.1	Largely concentrated in Sonoma County, with very few outlying occurrences in Santa Clara, Humboldt, and Siskiyou Counties.	Chaparral in acid marine soil; 50-120 m.	Perennial evergreen shrub; Blooms February to April	**Not Expected.** The project site is too high in elevation and does not contain the chaparral habitat for this species. There are no documented occurrences within 5 miles of the project site.
Rincon Ridge manzanita *Arctostaphylos stanfordiana* ssp. *decumbens*	CRPR 1B.1	Occurs only in Sonoma and Napa Counties.	Chaparral (rhyolitic) or cismontane woodland; 75-370 m.	Perennial evergreen shrub, Blooms February to April	**Not Expected.** The project site is near documented occurrences (approximately 0.4 and 1 mile away), however there were no manzanita species observed within the small amount of woodland within the project site.

Appendix A: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status	Geographic Distribution[1]	Habitat Requirements[2]	Life Form; Blooming Period[2]	Potential Occurrence in the Project Area[3]
Brewer's milk-vetch *Astragalus* breweri	CRPR 4.2	Occurs throughout northern coastal Californian counties.	Chaparral, cismontane woodland, meadows, seeps, and valley and foothill grassland often in serpentinite or volcanic soils; 90-730 m.	Annual herb; Blooms April to June	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Clara Hunt's milk-vetch *Astragalus claranus*	FE, ST, CRPR 1B.1	Isolated to Sonoma and Napa Counties.	Chaparral, cismontane woodland, and valley and foothill grassland in serpentinite, volcanic, rocky, or clay soils; 75-275 m.	Annual herb; Blooms March to May	**Not Expected.** The project site does not contain the typical habitat for this species. The nearest documented occurrence of this species is approximately 3.6 miles east of the project site.
Big-scale balsamroot *Balsamorhiza macrolepis*	CRPR 1B.2	Endemic; ranges from Redding to San Jose west to the Sierra Nevada.	Chaparral, cismontane woodland and valley and foothill grassland, sometimes serpentinite; 90-1555 m.	Perennial herb, March to June	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Sonoma sunshine *Blennosperma bakeri*	FE, SE, CRPR 1B.1	Occurs primarily within Sonoma County, with few isolated occurrences elsewhere.	Valley and foothill grassland in mesic soils and vernal pools; 10-110 m.	Annual herb; Blooms March to May	**Not Expected.** The project site is too high in elevation and does not contain the valley/foothill grassland habitat for this species. There are no documented occurrences within 5 miles of the project site
Brewer's calandrinia *Calandrinia breweri*	CRPR 4.3	Occurs throughout California, primarily along coastal counties with a few along the eastern portion of the state.	Chaparral and coastal scrub in sandy or loamy soils in disturbed sites and burns; 10-1220 m.	Annual herb; Blooms March to June	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.

Appendix A: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status	Geographic Distribution[1]	Habitat Requirements[2]	Life Form; Blooming Period[2]	Potential Occurrence in the Project Area[3]
Mt. Saint Helen morning-glory *Calystegia collina* ssp. *oxyphylla*	CRPR 4.2	Occurs primarily within north San Francisco Bay area counties.	Chaparral, lower montane coniferous forest, and valley and foothill grassland in serpentinite soils; 279-1010 m.	Perennial rhizomatous herb; Blooms April to June	**Not Expected.** The project site is too low in elevation and does not contain the chaparral, coniferous forest, or valley/foothill grassland habitat for this species. There are no documented occurrences within 5 miles of the project site
swamp harebell *Campanula californica*	CRPR 1B.2	Occurs primarily within north San Francisco Bay area counties along the coast.	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, freshwater marshes and swamps, and North Coast coniferous forest in mesic soils; 1-405 m.	Perennial rhizomatous herb; Blooms June to October	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
johnny-nip *Castilleja ambigua* var. *ambigua*	CRPR 4.2	Occurs throughout northern coastal Californian counties.	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, and vernal pools margins; 0-435 m.	Annual herb (hemiparisitic); Blooms March to August	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Rincon Ridge ceanothus *Ceanothus confusus*	CRPR 1B.1	Occurs primarily within north San Francisco Bay area counties.	Closed-cone coniferous forest, chaparral, and cismontane woodland in volcanic or serpentinite soils; 75-1065 m.	Perennial evergreen shrub; Blooms February to June	**Low Potential.** The project site only contains a small amount of marginal habitat for this species. However, the species is a shrub that is identifiable year-round and was not observed on the November 11 or December 9, 2020 site visits. The nearest documented occurrence of this species is approximately 0.9 mile east of the project site.

Appendix A: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status	Geographic Distribution[1]	Habitat Requirements[2]	Life Form; Blooming Period[2]	Potential Occurrence in the Project Area[3]
Calistoga ceanothus *Ceanothus divergens*	CRPR 1B.2	Occurs primarily within north San Francisco Bay area counties.	Chaparral in serpentinite or volcanic, rocky soils; 170-950 m.	Perennial evergreen shrub; Blooms February to April	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Vine Hill ceanothus *Ceanothus foliosus* var. *vineatus*	CRPR 1B.1	Occurs rarely within north San Francisco Bay area counties.	Chaparral; 45-305 m.	Perennial evergreen shrub; Blooms March to May	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
glory brush *Ceanothus gloriosus* var. *exaltatus*	CRPR 4.3	Occurs primarily within north San Francisco Bay area counties.	Chaparral; 30-610 m.	Perennial evergreen shrub; Blooms March to June	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
holly-leaved ceanothus *Ceanothus purpureus*	CRPR 1B.2	Occurs only within Napa, Sonoma, and Mendocino counties.	Chaparral and cismontane woodland in volcanic and rocky soils; 120-640 m.	Perennial evergreen shrub; Blooms February to June	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Sonoma ceanothus *Ceanothus sonomensis*	CRPR 1B.2	Occurs only within Sonoma and Napa counties.	Chaparral in sandy, serpentinite or volcanic soils; 215-800 m.	Perennial evergreen shrub; Blooms February to April	**Not Expected.** The project site is too low in elevation and does not contain the chaparral habitat for this species. There are no documented occurrences within 5 miles of the project site.

Appendix A: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status	Geographic Distribution[1]	Habitat Requirements[2]	Life Form; Blooming Period[2]	Potential Occurrence in the Project Area[3]
pappose tarplant *Centromadia parryi* ssp. *parryi*	CRPR 1B.2	Endemic to Butte, Colusa, Glenn, Lake, Napa, San Luis Obispo, San Mateo, Solano and Sonoma Counties.	Chaparral, coastal prairie, meadows and seeps, marshes and swamps (coastal salt) or valley and foothill grassland (vernally mesic); 2-420 m.	Annual herb; Blooms May to November	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Sonoma spineflower *Chorizanthe valida*	FE, SE, CRPR 1B.1	Occurs almost exclusively in Sonoma and Marin Counties.	Coastal prairie in sandy soils; 10-305 m.	Annual herb; Blooms June to August	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Brewer's clarkia *Clarkia breweri*	CRPR 4.2	Occurs throughout central California coast counties.	Chaparral, cismontane woodland, and coastal scrub often in serpentinite soils; 215-1115 m.	Annual herb; Blooms April to June	**Not Expected.** The project site is too low in elevation and does not contain the coastal habitat for this species. There are no documented occurrences within 5 miles of the project site.
Vine Hill clarkia *Clarkia imbricata*	FE, SE, CRPR 1B.1	Occurs very rarely only within Sonoma County.	Chaparral or valley and foothill grassland in acidic sandy loam soil; 50-75 m.	Annual herb; Blooms June to August	**Not Expected.** The project site is too high in elevation and does not contain the chaparral or valley/foothill grassland habitat for this species. There are no documented occurrences within 5 miles of the project site.
serpentine bird's-beak *Cordylanthus tenuis* ssp. *brunneus*	CRPR 4.3	Occurs primarily within north San Francisco Bay area counties.	Closed-cone coniferous forest, chaparral, and cismontane woodland, usually in serpentinite soils; 305-915 m.	Annual herb (hemiparisitic); Blooms July to August	**Not Expected.** The project site is too low in elevation and does not contain the typical habitat or soils for this species. There are no documented occurrences within 5 miles of the project site.

Appendix A: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status	Geographic Distribution[1]	Habitat Requirements[2]	Life Form; Blooming Period[2]	Potential Occurrence in the Project Area[3]
Pennell's bird's-beak *Cordylanthus tenuis* ssp. *capillaris*	FE, SR, CRPR 1B.2	Occurs very rarely only within Sonoma County.	Closed-cone coniferous forest and chaparral in serpentinite soils; 45-305 m.	Annual herb (hemiparisitic); Blooms June to September	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Peruvian dodder *Cuscata obtusiflora* var. *glandulosa*	CRPR 2B.2	Occurs rarely throughout California.	Freshwater marshes and swamps; 15-280 m.	Annual vine (parasitic); Blooms July to October	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
golden larkspur *Delphinium luteum*	FE, SR, CRPR 1B.1	Occurs only within Sonoma and Marin Counties.	Chaparral, coastal prairie, and coastal scrub in rocky soils; 0-100 m.	Perennial herb; Blooms March to May	**Not Expected.** The project site is too high in elevation and does not contain coastal habitat for this species. There are no documented occurrences within 5 miles of the project site.
dwarf downingia *Downingia pusilla*	CRPR 2B.2	Occurs throughout northern California.	Valley and foothill grassland in mesic soils, and in vernal pools; 1-445 m.	Annual herb; Blooms March to May	**Not Expected.** The project site does not contain any of the suitable habitat for this species. The nearest documented occurrence is approximately 2.7 miles west of the project site.
streamside daisy *Erigeron biolettii*	CRPR 3	Occurs throughout northern California along coastal counties.	Broadleaved upland forest, cismontane woodland, and North Coast coniferous forest in rocky and mesic soils; 30-110 m.	Perennial herb; Blooms June to October	**Not Expected.** The project site is too high in elevation for this species. In addition, here are no documented occurrences within 5 miles of the project site.
serpentine daisy *Erigeron serpentinus*	CRPR 1B.3	Occurs almost exclusively within Sonoma County, with one documented occurrence in western Tuolumne County.	Chaparral in serpentinite soils, in seeps; 60-670 m.	Perennial herb; Blooms May to August	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.

Appendix A: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status	Geographic Distribution[1]	Habitat Requirements[2]	Life Form; Blooming Period[2]	Potential Occurrence in the Project Area[3]
Loch Lomond button-celery *Eryngium constancei*	FE, SE, CRPR 1B.1	Occurs rarely within north and east San Francisco Bay area counties.	Vernal pools; 460-855 m.	Annual/perennial herb; Blooms April to June	**Not Expected.** The project site is too low in elevation and does not contain the vernal pool habitat for this species. There are no documented occurrences within 5 miles of the project site.
woolly-headed gilia *Gilia capitata* ssp. *tomentosa*	CRPR 1B.1	Occurs rarely within north and east San Francisco Bay area counties.	Coastal bluff scrub and valley and foothill grassland in serpentinite and rocky soil, in outcrops; 10-220 m.	Annual herb; Blooms May to July	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Boggs Lake hedge-hyssop *Gratiola heterosepala*	SE, CRPR 1B.2	Occurs rarely throughout central and northern California.	Marshes and swamps along lake margins and in vernal pools in clay soils; 10-2375 m.	Annual herb; Blooms April to August	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
congested-headed hayfield tarplant *Hemizonia congesta* ssp. *congesta*	CRPR 1B.2	Occurs primarily throughout northern California and rarely within Los Angeles county.	Valley and foothill grassland, sometimes along roadsides; 20-560 m.	Annual herb; Blooms April to November	**Low Potential.** The project site may provide marginal habitat to this species. However, the species was not observed during the project site survey and the nearest documented occurrence is approximately 0.7 mile west of the project site.
hogwallow starfish *Hesperevax caulescens*	CRPR 4.2	Occurs throughout California, primarily within the San Joaquin Valley.	Valley and foothill grassland in mesic or clay soils and shallow vernal pools, sometimes in alkaline soils; 0-505 m.	Annual herb; Blooms March to June	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.

Appendix A: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status	Geographic Distribution[1]	Habitat Requirements[2]	Life Form; Blooming Period[2]	Potential Occurrence in the Project Area[3]
thin-lobed horkelia *Horkelia tenuiloba*	CRPR 1B.2	Occurs rarely within north San Francisco Bay area counties, with one documented occurrence within southwestern Monterey County.	Broadleaved upland forest, chaparral, and valley and foothill grassland in mesic openings, sandy soils; 50-500 m.	Perennial herb; Blooms May to July	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
harlequin lotus *Hosackia gracilis*	CRPR 4.2	Occurs throughout California along the coast.	Broadleaved upland forest, coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal prairie, coastal scrub, meadows and seeps, marshes and swamps, North Coast coniferous forest, and valley and foothill grassland wetlands along roadsides; 0-700 m.	Perennial rhizomatous herb; Blooms March to July	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Burke's goldfields *Lasthenia burkei*	FE, SE, CRPR 1B.1	Occurs within north San Francisco Bay area counties.	Coastal prairie, lower montane coniferous forest, and meadows and seeps in mesic soils; 0-600 m.	Perennial rhizomatous herb; Blooms March to May	**Not Expected.** The project site does not contain any of the suitable habitat for this species. The nearest documented occurrence is approximately 0.7 mile west of the project site.
Baker's goldfields *Lasthenia californica* ssp. *bakeri*	CRPR 1B.2	Occurs primarily within north San Francisco Bay area counties.	Closed-cone coniferous forest in openings, coastal scrub, meadows and seeps, and marshes and swamps; 60-520 m.	Perennial herb; Blooms April to October	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Contra Costa goldfields *Lasthenia conjugens*	FE, CRPR 1B.1	Endemic to western California from Santa Rosa to Monterey.	Cismontane woodland, playas (alkaline), valley and foothill grassland and vernal pools; 0-470 m. elevation.	Annual herb, Blooms March to June	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.

Appendix A: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status	Geographic Distribution[1]	Habitat Requirements[2]	Life Form; Blooming Period[2]	Potential Occurrence in the Project Area[3]
Colusa layia *Layia septentrionalis*	CRPR 1B.2	Occurs throughout northwestern California.	Chaparral, cismontane woodland, and valley and foothill grassland in sandy or serpentinite soils; 100-1095 m.	Annual herb; Blooms April to May	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Legenere *Legenere limosa*	CRPR 1B.1	Endemic to the Central Valley and Inner Coast Ranges from Redding to Salinas.	Vernal pools; 0-880 m.	Annual herb; Blooms April to June	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
bristly leptosiphon *Leptosiphon acicularis*	CRPR 4.2	Occurs throughout central and northern California along coastal counties.	Chaparral, cismontane woodland, coastal prairie, and valley and foothill grassland; 55-1500 m.	Annual herb; Blooms April to July	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Jepson's leptosiphon *Leptosiphon jepsonii*	CRPR 1B.2	Occurs primarily within north San Francisco Bay area counties.	Chaparral, cismontane woodland, and valley and foothill grassland usually in volcanic soils; 100-500 m.	Annual herb; Blooms March to May	**Not Expected.** The project site does not contain any of the suitable habitat for this species. The nearest documented occurrence is approximately 1.5 miles north of the project site.
woolly-headed lessingia *Lessingia hololeuca*	CRPR 3	Occurs throughout central and northern California along coastal counties.	Broadleaved upland forest, coastal scrub, lower montane coniferous forest, and valley and foothill grassland in clay and serpentinite soils; 15-305 m.	Annual herb; Blooms June to October	**Not Expected.** The project site does not contain any of the suitable habitat for this species. The nearest documented occurrence is approximately 2 miles east of the project site.

Appendix A: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status	Geographic Distribution[1]	Habitat Requirements[2]	Life Form; Blooming Period[2]	Potential Occurrence in the Project Area[3]
Sebastopol meadowfoam *Limnanthes vinculans*	FE, SE, CRPR 1B.1	Occurs only within Napa, Sonoma, and Mendocino counties.	Meadows and seeps, valley and foothill grassland, and vernal pools in vernally mesic soils; 15-305 m.	Annual herb; Blooms April to May	**Not Expected.** The project site does not contain any of the suitable habitat for this species. The nearest documented occurrence is approximately 2.7 miles southwest of the project site.
Napa lomatium *Lomatium repostum*	CRPR 4.3	Occurs only within Napa, Sonoma, and Lake counties.	Chaparral and cismontane woodland in serpentinite soils; 90-830 m.	Perennial herb; Blooms March to June	**Not Expected.** The project site does not contain any of the suitable habitat for this species. The nearest documented occurrence is approximately 1.1 miles east of the project site.
Cobb Mountain lupine *Lupinus sericatus*	CRPR 1B.2	Occurs only within Napa, Sonoma, and Lake counties.	Broadleaved upland forest, chaparral, cismontane woodland, and lower montane coniferous forest; 275-1525 m.	Perennial herb; Blooms March to June	**Not Expected.** The project site is too low in elevation and does not contain the typical habitat for this species. There are no documented occurrences within 5 miles of the project site.
Mt. Diablo cottonweed *Micropus amphibolus*	CRPR 3.2	Occurs throughout California, primarily within north Bay Area counties.	Broadleaved upland forest, chaparral, cismontane woodland, and valley and foothill grassland in rocky soils; 45-825 m.	Annual herb; Blooms March to May	**Low Potential.** The project site only contains a small amount of marginal habitat for this species. The nearest documented occurrence of this species is approximately 0.4 mile west of the project site.
marsh microseris *Microseris paludosa*	CRPR 1B.2	Occurs throughout central and northern California along coastal counties.	Closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland; 5-355 m.	Perennial herb; Blooms April to June	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.

Appendix A: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status	Geographic Distribution[1]	Habitat Requirements[2]	Life Form; Blooming Period[2]	Potential Occurrence in the Project Area[3]
green monardella *Monardella viridis*	CRPR 4.3	Occurs primarily within north San Francisco Bay area counties, with scattered occurrences in eastern and southern California.	Broadleaved upland forest, chaparral, and cismontane woodland; 100-1010 m.	Perennial rhizomatous herb; Blooms June to September	**Low Potential.** The project site only contains a small amount of marginal habitat for this species. The nearest documented occurrence of this species is approximately 0.3 mile southeast of the project site.
cotula navarretia *Navarretia cotulifolia*	CRPR 4.2	Occurs throughout central and northern California.	Chaparral, cismontane woodland, and valley and foothill grassland in adobe soils; 4-1830 m.	Annual herb; Blooms May to June	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Tehama navarretia *Navarretia heterandra*	CRPR 4.3	Occurs throughout northern California.	Valley and foothill grassland in mesic soils, and vernal pools; 30-1010 m.	Annual herb; Blooms April to June	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Baker's navarretia *Navarretia leucocephala* ssp. *bakeri*	CRPR 1B.1	Occurs rarely throughout northern California.	Cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, and vernal pools in mesic soils; 5-1740 m.	Annual herb; Blooms April to July	**Not Expected.** The project site does not contain any of the suitable habitat for this species. The nearest documented occurrence is approximately 3 miles southwest of the project site.
many-flowered navarretia *Navarretia leucocephala* ssp. *plieantha*	FE, SE, CRPR 1B.2	Occurs only within Lake and Sonoma Counties.	Vernal pools within historic volcanic ash flows; 30-950 m.	Annual herb; Blooms May to June	**Not Expected.** The project site does not contain any of the suitable habitat for this species. The nearest documented occurrence is approximately 4.3 miles north of the project site.

Appendix A: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status	Geographic Distribution[1]	Habitat Requirements[2]	Life Form; Blooming Period[2]	Potential Occurrence in the Project Area[3]
Sonoma beardtongue *Penstemon newberryi* var. *sonomensis*	CRPR 1B.3	Occurs rarely within northern California counties.	Chaparral in rocky soils; 700-1370 m.	Perennial herb; Blooms April to August	**Not Expected.** The project site is too low in elevation and does not contain chaparral habitat for this species. There are no documented occurrences within 5 miles of the project site.
Gairdner's yampah *Perideridia gairdneri* ssp. *gairdneri*	CRPR 4.2	Occurs rarely throughout California.	Broadleaved upland forest, chaparral, coastal prairie, valley and foothill grassland, and vernal pools in vernally mesic soils; 0-610 m.	Perennial herb; Blooms June to October	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Calistoga popcornflower *Plagiobothrys strictus*	FE, ST, CRPR 1B.1	Occurs very rarely only within Napa, Sonoma, and Lake counties.	Meadows and seeps, valley and foothill grassland, and vernal pools in alkaline areas near thermal springs; 90-160 m.	Annual herb; Blooms March to June	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Lobb's aquatic buttercup *Ranunculus lobbii*	CRPR 4.2	Occurs along coastal counties in northern California.	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, and vernal pools in mesic soils; 15-470 m.	Annual herb (aquatic); Blooms February to May	**Not Expected.** The project site does not contain any of the suitable habitat for this species. The nearest documented occurrence is approximately 3.4 miles southwest of the project site.
Napa checkerbloom *Sidalcea hickmanii* ssp. *napensis*	CRPR 1B.1	Occurs rarely within Sonoma, Solano, and Napa counties.	Chaparral in rhyolitic soils; 415-610 m.	Perennial herb; Blooms April to June	**Not Expected.** The project site is too low in elevation and does not contain chaparral habitat for this species. There are no documented occurrences within 5 miles of the project site.

Appendix A: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status	Geographic Distribution[1]	Habitat Requirements[2]	Life Form; Blooming Period[2]	Potential Occurrence in the Project Area[3]
Kenwood Marsh checkerbloom *Sidalcea oregana* ssp. *valida*	FE, SE, CRPR 1B.1	Occurs rarely within Sonoma County.	Freshwater marshes and swamps; 115-150 m.	Perennial rhizomatous herb; Blooms June to September	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
long-styled sand-spurrey *Spergularia macrotheca* var. *longistyla*	CRPR 1B.2	Occurs rarely within northern and eastern Bay Area counties, with few documented occurrences within Fresno County.	Meadows and seeps and marshes and swamps in alkaline soils; 0-255 m.	Perennial herb; Blooms February to May	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Showy rancheria clover *Trifolium amoenum*	FE, CRPR 1B.1	Marin, Sonoma, Napa Solano, and San Mateo counties.	Coastal bluff scrub, valley and foothill grassland (sometimes serpentine), often open sunny sites; 5-415 m.	Annual herb, Blooms April to June	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there are no documented occurrences of this species within 5 miles of the project site.
Santa Cruz clover *Trifolium buckwestiorum*	CRPR 1B.1	Occurs rarely along northern California coastal counties.	Broadleaved upland forest, cismontane woodland, and coastal prairie in gravelly soils and margins; 105-610 m.	Annual herb; Blooms April to October	**Not Expected.** The project site does not contain any of the suitable habitat for this species. The nearest documented occurrence is approximately 3.5 miles south of the project site.
Saline clover *Trifolium hydrophilum*	CRPR 1B.2	Endemic to San Francisco Bay Area and surrounding counties.	Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools; 0-300 m.	Annual herb, Blooms April to June	**Not Expected.** The project site does not contain any of the suitable habitat for this species and there only documented occurrence of this species within 5 miles of the project site is listed as extirpated.

Appendix A: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status	Geographic Distribution[1]	Habitat Requirements[2]	Life Form; Blooming Period[2]	Potential Occurrence in the Project Area[3]
oval-leaved viburnum *Viburnum ellipticum*	CRPR 2B.3	Occurs rarely throughout northern and central California.	Chaparral, cismontane woodland, and lower montane coniferous forest; 215-1400 m.	Perennial deciduous shrub; Blooms May to June	**Not Expected.** The project site is too low in elevation and does not contain the typical habitat for this species. The nearest documented occurrence is approximately 4.4 miles north of the project site.
PLANT COMMUNITIES					
Coastal and Valley Freshwater Marsh					**This community does not occur within the project site.**
Northern Hardpan Vernal Pool					**This community does not occur within the project site.**
Northern Vernal Pool					**This community does not occur within the project site.**
Valley Needlegrass Grassland					**This community does not occur within the project site.**

STATUS KEY:
Federal
FE: Federally-listed Endangered
FT: Federally-listed Threatened

State
SE: State-listed Endangered
SR: State-listed Rare
ST: State-listed Threatened

California Native Plant Society (CNPS) California Rare Plant Rank (CRPR):
1B: Plants listed as rare, threatened, or endangered in California and elsewhere
2B: Plants rare, threatened, or endangered in California, but more common elsewhere
3: Plants about which we need more information
4: Watch list: plants of limited distribution

CNPS CRPR added a decimal threat rank to the List rank to parallel that used by the CNDDB. This extension replaces the E (Endangerment) value from the R-E-D Code. CRPR ranks therefore read like this: 1B.1, 1B.2, etc. Threat code extensions and their meanings are as follows:

Appendix A: Special Status Plant Species with Potential to Occur on the Project Site.

.1 – Seriously endangered in California (over 80% of occurrences threatened / high degree of immediacy of threat)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

SOURCES:
1 Calflora (December 2020) and the CNPS (December 2020) Rare and Endangered Plant Inventory was used to identify preferred habitat for each species
2 CNDDB (December 2020) was used to determine the approximate distance of each species to the Project Site

Appendix A: Special-Status Wildlife Species with Potential to Occur on the Project Site**.**

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
INVERTEBRATES				
Invertebrates: Crustaceans				
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 streamflow. Winter: undercut banks with exposed roots. Summer: leafy branches touching water.	**Not Expected.** There are no occurrences of this species within 5 miles of the project site.
Invertebrates: Insects				
crotch bumble bee *Bombus crotchii*	CSE	Coastal California east to the Sierra-Cascade crest and south into Mexico.	Food plant genera include *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*.	**Not Expected.** While there is little location data for this species, the project site is primarily disturbed habitat and common and nonnative plant species unlikely to provide foraging habitat for this species.
western bumble bee *Bombus occidentalis*	CSE	Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.	Unknown.	**Not Expected.** While there is little location data for this species, the project site is primarily disturbed habitat and common and nonnative plant species unlikely to provide foraging habitat for this species.
San Bruno elfin butterfly *Callophrys mossii bayensis*	FE	Endemic to only three locations in San Mateo County: Milagra Ridge, San Bruno Mountain and Montara Mountain.	Coastal, mountainous areas with grassy ground cover. Colonies are located on steep, north-facing slopes within the fog belt. Larval host plant is *Sedium spathulifolium.*	**Not Expected.** The project site is well outside this species' known range.
FISH				
Fish: Anadromous				
coho salmon – central California coast ESU *Oncorhynchus kisutch* pop. 4	FE, SE	The species was historically distributed throughout the North Pacific Ocean from central California to Point Hope, Alaska, through the Aleutian Islands, and from the Anadyr River, Russia, south to Hokkaido, Japan. Coho inhabited most coastal streams in Washington, Oregon, and central and northern California.	Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water & sufficient dissolved oxygen.	**Not Expected.** The project site does not contain riparian habitat suitable for this species.
Steelhead - central California coast DPS *Oncorhynchus mykiss irideus*	FT	This DPS includes all populations of steelhead from the Russian River south to Aptos Creek. Steelhead in drainages of San Francisco, San Pablo, and Suisun Bays are also part of this DPS.	Adult steelhead migrate from the ocean into streams in the late fall, winter, or early spring seeking out deep pools within fast moving water to rest prior to spawning. Steelhead spawn in shallow-water gravel beds.	**Not Expected.** The project site does not contain riparian habitat suitable for this species.
Fish: Freshwater				

Appendix B: Special-Status Animal Species with Potential to Occur on the Project Site**.**

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
Russian River tule perch *Hysterocarpus traskii porno*	CSC	Low elevation streams of the Russian River system.	Requires clear, flowing water with abundant cover. They also require deep (> 1 m) pool habitat.	**Not Expected.** The project site does not contain riparian habitat suitable for this species.
Navarro roach *Lavinia symmetricus navarroensis*	CSC	Flowing waters within the Sacramento and San Joaquin Rivers.	Habitat generalists. Found in warm, intermittent streams as well as cold, well-aerated streams.	**Not Expected.** The project site does not contain riparian habitat suitable for this species.
AMPHIBIANS				
Amphibians: Frogs/Toads				
Foothill yellow-legged frog *Rana boylii*	CSC	Occurs in the foothills of the western side of the Sierra Nevada mountains from the northern border of the state to the Tehachapi mountains.	Inhabits partly shaded, shallow streams and rifles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg laying, need at least 15 weeks for metamorphisis.	**Not Expected.** The nearest documented occurrence of this species is approximately 3.4 miles northeast of the project site and is separated by urbanization of increasing density. The project site is highly unlikely to be hydrologically connected to waterways occupied by this species and individuals are highly unlikely to migrate into the project site.
California red-legged frog *Rana draytonii*	FT, CSC	Found from Riverside County to Mendocino County along the Coast Range, from Calaveras County to Butte County in the Sierra Nevada, and in Baja California.	Found in aquatic, artificial flowing waters, artificial standing waters, freshwater marsh, marsh and swamp, riparian forest, riparian scrub, riparian woodland, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, south coast flowing waters, south coast standing waters, and wetland habitats. Likely within lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	**Not Expected.** There are no documented occurrences of this species within 5 miles of the project site.
Amphibians: Salamanders/Newts				

Appendix B: Special-Status Animal Species with Potential to Occur on the Project Site**.**

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
California tiger salamander *Ambystoma californiense*	FT, ST	Found in the Coast Range and Sierra Nevada foothills of California. In the Coast Range, it occurs from southern San Mateo County south to central San Luis Obispo County, and also in the vicinity of northwestern Santa Barbara County. In the Sierra Nevada foothills, it occurs from northern Yolo County to northwestern Kern County and northern Tulare County.	Found in cismontane woodland, meadow & seep, riparian woodland, valley & foothill grassland, vernal pool, and wetland habitats. Need California ground squirrel or gopher burrows for underground refuges, and vernal pools or other seasonal water sources that do not support predatory fish or frog populations for breeding.	**Not Expected.** The nearest documented occurrence of this species is approximately 3.9 miles southwest of the project site—there are no further documented occurrences within 5 miles of the project site. Individuals are highly unlikely to traverse the heavily trafficked urban Santa Rosa, including over the major Highway 101, to migrate into the project site where only marginal suitable habitat occurs.
California giant salamander *Dicamptodon ensatus*	CSC	Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County.	Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	**Not Expected.** The nearest documented occurrence of this species is approximately 3.6 miles northeast of the project site and is separated by urbanization of increasing density. The project site is highly unlikely to be hydrologically connected to waterways occupied by this species and individuals are highly unlikely to migrate into the project site.
red-bellied newt *Taricha rivularis*	CSC	Coastal drainages from Humboldt County south to Sonoma County, inland to Lake County. Isolated population of uncertain origin in Santa Clara County.	Lives in terrestrial habitats, juveniles generally underground, adults active at surface in moist environments. Will migrate over 1 km to breed, typically in streams with moderate flow and clean, rocky substrate.	**Not Expected.** The nearest documented occurrence of this species is approximately 4 miles northwest of the project site and is separated by urbanization of increasing density. The project site is highly unlikely to be hydrologically connected to waterways occupied by this species and individuals are highly unlikely to migrate into the project site.
REPTILES				
Reptiles: Turtles/Tortoises				

Appendix B: Special-Status Animal Species with Potential to Occur on the Project Site**.**

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
Western pond turtle *Actinemys marmorata*	CSC	Found from Baja California, Mexico north through Klickitat County, Washington. In California, found west of the Sierra-Cascade crest. Absent from desert regions, except the Mojave Desert along the Mojave River and its tributaries.	Requires permanent or nearly permanent bodies of water including ponds, marshes, rivers, streams, and irrigation ditches below 6,000 feet in elevation. Requires basking sites, such as submerged rocks, logs, open mud banks, or floating vegetation mats. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 kilometers from water for egg-laying.	**Low Potential.** The nearest documented occurrence of this species is approximately 1.1 miles west of the project site. However, the project site contains only a small amount of flowing water through a drainage that is undergrounded on both sides of the site. Turtles may rarely migrate through the site during times of high drainage flow, but are highly unlikely to utilize the project site for permanent habitat. No basking or suitable upland habitat for nesting for this species occurs on the project site.
green sea turtle *Chelonia mydas*	FT	Found globally in tropical and subtropical ocean waters.	Utilizes sandy beaches (for nesting in the tropics), shallow coastal water, seagrass beds, lagoons, and shoals.	**Not Expected.** There is no marine habitat within or near the project site.
BIRDS				
Birds: Raptors				
Cooper's hawk *Accipiter cooperii*	WL	Widespread throughout North America.	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	**Low Potential.** The project site is surrounded by development on all sides and contains only isolated patches of woodland that only provide very marginal suitable nesting habitat for this species. Individuals may rarely roost or forage within the project site. The nearest documented occurrence is approximately 4.3 miles southwest of the project site.

Appendix B: Special-Status Animal Species with Potential to Occur on the Project Site**.**

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
sharp-shinned hawk *Accipiter striatus*	WL	Widespread throughout North America.	Ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers riparian areas. North-facing slopes with plucking perches are critical requirements. Nests usually within 275 ft of water.	**Low Potential.** The project site is surrounded by development on all sides and contains only isolated patches of woodland that only provide marginal suitable nesting habitat for this species. Individuals may rarely roost or forage within the project site. There are no documented occurrences within 5 miles of the project site.
Golden eagle *Aquila chrysaetos*	CFP	Inhabits foothills and mountains throughout California.	Nests on cliffs and escarpments or in tall trees overlooking open country; forages in annual grasslands, chaparral, and oak woodlands with plentiful medium and large-sized mammals.	**Not Expected.** The project site is surrounded by development on all sides and contains only isolated patches of woodland that would not provide suitable nesting habitat for this species. Individuals may rarely fly over the project site. There are no documented occurrences within 5 miles of the project site.
Burrowing owl *Athene cunicularia*	CSC	Found year-round throughout much of California, except the coastal counties north of Marin and mountainous areas. Breeding has not been observed in Sonoma County since 1987 and breeding colonies are considered extirpated from this county.	Found in coastal prairie, coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran Desert scrub, and valley and foothill grassland habitats. Likely in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	**Not Expected.** This species is rare within northern California and the species is considered extirpated from Sonoma County.
ferruginous hawk *Buteo regalis*	WL	Widespread throughout western North America.	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	**Not Expected.** The project site is surrounded by development on all sides and contains only isolated patches of woodland that would not provide suitable nesting habitat for this species. Individuals may rarely roost or forage within the project site. There are no documented occurrences within 5 miles of the project site.

Appendix B: Special-Status Animal Species with Potential to Occur on the Project Site**.**

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
White-tailed kite *Elanus leucurus*	FP	Found year-round in nearly all areas of California up to the western Sierra Nevada foothills and southeast deserts. Common in the Central Valley of California and along the entire length of the coast, possibly breeding in more arid regions east of the Sierra Nevada and Transverse Range (Inyo and eastern Kern Counties). Documented breeding in Imperial County, western Riverside County, and eastern San Diego County. In the Sacramento Valley, populations have predominantly increased in irrigated agricultural areas where the California vole (*Microtus californicus*) often occurs.	Found in cismontane woodland, marsh & swamp, riparian woodland, valley and foothill grassland, and wetland habitats. Likely in rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	**Low Potential.** The project site is surrounded by development on all sides and contains only isolated patches of woodland that only provide marginal suitable nesting habitat for this species. Individuals may rarely roost or forage within the project site. There are no documented occurrences within 5 miles of the project site.
American peregrine falcon *Falco peregrinus anatum*	FP	Includes most of California during migration and winter. Breeding occurs along the coast of southern and central California, in the inland coastal mountains, in the Klamath Mountains and Cascade Range, in the Sierra Nevada, and in the Channel Islands.	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	**Not Expected.** The project site is surrounded by development on all sides and contains only isolated patches of woodland that would not provide suitable nesting habitat for this species. Individuals may rarely roost or forage within the project site. There are no documented occurrences within 5 miles of the project site.
osprey *Pandion haliaetus*	WL	Widespread throughout North America.	Ocean shore, bays, freshwater lakes, and larger streams. Large nests built in treetops within 15 miles of a good fish-producing body of water.	**Not Expected.** The project site is surrounded by development on all sides and contains only isolated patches of woodland that would not provide suitable nesting habitat for this species. Individuals may rarely roost or forage within the project site. There are no documented occurrences within 5 miles of the project site.

Appendix B: Special-Status Animal Species with Potential to Occur on the Project Site**.**

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
northern spotted owl *Strix occidentalis caurina*	FT, ST	Occurs throughout the Pacific Northwest of North America, south into the northern portion of California.	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests with patches of big trees. High, multistory canopy dominated by big trees, many trees with cavities or broken tops, woody debris, and space under canopy.	**Not Expected.** The project site is surrounded by development on all sides and contains only isolated patches of woodland that would not provide suitable nesting habitat for this species. Individuals may rarely roost or forage within the project site. There are no documented occurrences within 5 miles of the project site.
Birds: Shorebirds/Waterbirds/Rails				
yellow rail *Coturnicops noveboracensis*	CSC	Summer resident in eastern Sierra Nevada in Mono County.	Freshwater marshlands.	**Not Expected.** There is no suitable marsh habitat for this species within the project site.
Birds: Passerines				
Tricolored blackbird *Agelaius tricolor*	CSC (nesting colony)	Permanent resident in Central Valley from Butte to Kern Counties; breeds at scattered coastal locations from Marin to San Diego Counties and at scattered locations in Lake, Sonoma, and Solano Counties; rare nester in Siskiyou, Modoc, and Lassen Counties.	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grain fields; habitat must be large enough to support 50 pairs; probably requires water at or near the nesting colony.	**Not Expected.** There is no emergent marsh vegetation suitable for this species nesting within the project site. This species may rarely forage within the project site, although there are no documented occurrences within 5 miles of the project site.
grasshopper sparrow *Ammodramus savannarum*	CSC	Occurs throughout North America, though rarely along the west coast.	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	**Not Expected.** There is no extensive grassland habitat suitable for this species within the project site and there are no documented occurrences of this species within 5 miles of the project site.
California horned lark *Eremophila alpestris actia*	WL	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills.	Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	**Not Expected.** There is no extensive grassland habitat typical for this species within the project site, although individuals may rarely forage within the project site. There are no documented occurrences of this species within 5 miles of the project site.

Appendix B: Special-Status Animal Species with Potential to Occur on the Project Site**.**

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
Bank swallow *Riparia riparia*	ST	Occurs in scattered locations in northern and central California in major lowland valleys and coastal areas where alluvial soils exist. The major breeding population is confined to the Sacramento and Feather Rivers and their major tributaries.	Found in riparian scrub, and riparian woodland habitats. This species is a colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	**Not Expected.** There is no riparian habitat suitable for this species within the project site and there are no documented occurrences within 5 miles.
Birds: Nightbirds/Hummingbirds/Cuckoos				
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT, SE	Occurs primarily in the eastern half of North America along riparian corridors, very rarely occurs within California.	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	**Not Expected.** There is no riparian habitat suitable for this species within the project site and there are no documented occurrences within 5 miles.
MAMMALS				
Mammals: Bats				
Pallid bat *Antrozous pallidus*	CSC	Common throughout low elevations of California. No found in the high Sierra from Shasta to Kern counties and the northwestern corner of the State from Del Norte and western Siskiyou counties to northern Mendocino County.	Found in chaparral, coastal scrub, desert wash, Great Basin grassland, Great Basin scrub, Mojavean Desert scrub, riparian woodland, Sonoran Desert scrub, upper montane coniferous forest, and valley & foothill grassland habitats. Prefers deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Not Expected.** There is only a small amount of relatively young woodland (i.e. smaller, interspersed trees) that does not provide highly protected and undisturbed habitat for this species. In addition, the project site is bounded by two heavily-trafficked roads to the north and west of the project site. Individuals may rarely day-roost within the project site but are highly unlikely to utilize the project site for maternity roosting. There are no documented occurrences of this species within 5 miles of the project site.

Appendix B: Special-Status Animal Species with Potential to Occur on the Project Site**.**

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
Townsend's big-eared bat *Corynorhinus townsendii*	CSC	Found throughout California, but details of its distribution are not well known. Found in all but subalpine and alpine habitats.	Found in broadleaved upland forest, chaparral, chenopod scrub, Great Basin grassland, Great Basin scrub, Joshua tree woodland, lower montane coniferous forest, meadow and seep, Mojavean Desert scrub, riparian forest, riparian woodland, Sonoran Desert scrub, Sonoran thorn woodland, upper montane coniferous forest, and valley & foothill grassland habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	**Not Expected.** There is only a small amount of relatively young woodland that does not provide highly protected and undisturbed habitat for this species. In addition, the project site is bounded by two heavily-trafficked roads to the north and west of the project site. Individuals may rarely day-roost within the project site but are highly unlikely to utilize the project site for maternity roosting. There are no documented occurrences of this species within 5 miles of the project site.
western red bat *Lasiurus blossevillii*	CSC	Occurs throughout the western portion of North America.	Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	**Not Expected.** There is only a small amount of relatively young woodland that does not provide highly protected and undisturbed habitat for this species. In addition, the project site is bounded by two heavily-trafficked roads to the north and west of the project site. Individuals may rarely day-roost within the project site but are highly unlikely to utilize the project site for maternity roosting. There are no documented occurrences of this species within 5 miles of the project site.
Mammals: Mustelids/Skunks				

Appendix B: Special-Status Animal Species with Potential to Occur on the Project Site**.**

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
American badger *Taxidea taxus*	CSC	Occurs throughout California, the western United States, and Canada.	American badger is rare in western San Francisco Bay area. It occurs in grasslands and open stages of forest and scrub habitats with friable soils and good prey base of burrowing rodents. Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	**Not Expected.** The project site does not contain the vast open tracts of space with friable soils required by this species. There are no documented occurrences of this species within 5 miles of the project site.

STATUS KEY:

Federal

FE: Federally-listed Endangered
FT: Federally-listed Threatened
FD: Federally-delisted
CE: Candidate Endangered
DL: Delisted

State

SE: State-listed Endangered
ST: State-listed Threatened
SCT: State-listed Candidate Threatened
CSC: California Species of Special Concern
WL: Watch List
FP: Fully Protected
CSE: Candidate State Endangered

SOURCES:

1 CNDDB (Accessed December 2020) were used to identify preferred habitat for each species.

Appendix C

USDA Soil Map Database Information

Sonoma County, California

GIE—Goulding cobbly clay loam, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: hfdc
Elevation: 1,500 to 5,000 feet
Mean annual precipitation: 30 inches
Mean annual air temperature: 55 degrees F
Frost-free period: 220 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Goulding

Setting

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

Typical profile

H1 - 0 to 9 inches: cobbly clay loam
H2 - 9 to 18 inches: very gravelly clay loam
H3 - 18 to 24 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 8 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R015XD129CA - SHALLOW LOAMY UPLANDS
Hydric soil rating: No

Minor Components

Toomes
Percent of map unit: 4 percent
Hydric soil rating: No

Rock outcrop
Percent of map unit: 4 percent
Hydric soil rating: No

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

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

Unnamed
Percent of map unit: 1 percent
Landform: Drainageways
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Sonoma County, California
Survey Area Data: Version 14, May 29, 2020

Sonoma County, California

SkE—Spreckels loam, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: hfjr
Elevation: 100 to 800 feet
Mean annual precipitation: 30 inches
Mean annual air temperature: 55 degrees F
Frost-free period: 210 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Spreckels

Setting

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

Typical profile

H1 - 0 to 9 inches: loam
H2 - 9 to 18 inches: clay loam
H3 - 18 to 37 inches: clay
H4 - 37 to 60 inches: cemented

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R015XD115CA - CLAYPAN
Hydric soil rating: No

Minor Components

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

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

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

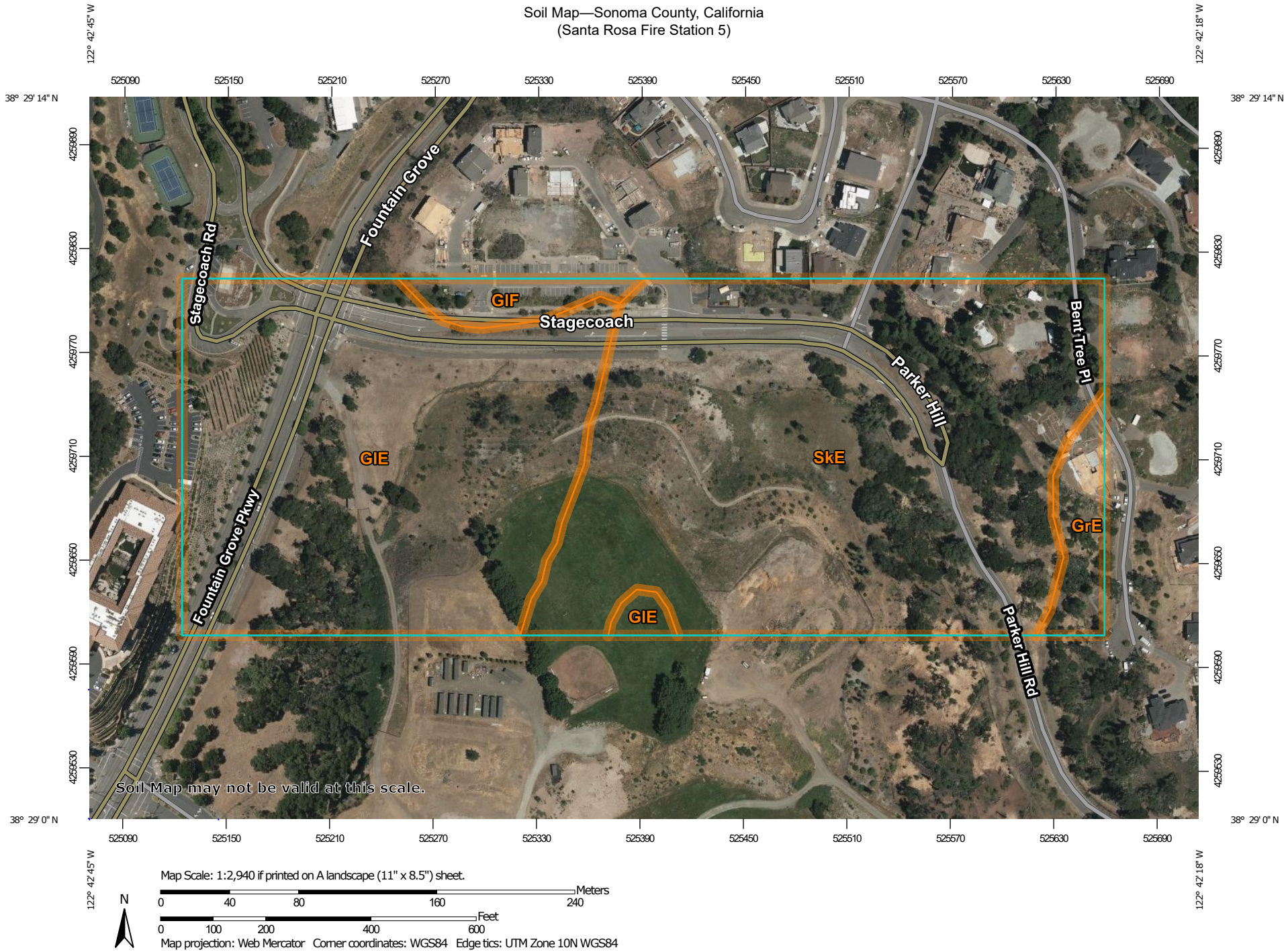
Toomes
Percent of map unit: 3 percent
Hydric soil rating: No

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

Data Source Information

Soil Survey Area: Sonoma County, California
Survey Area Data: Version 14, May 29, 2020

Soil Map—Sonoma County, California
(Santa Rosa Fire Station 5)



Map Scale: 1:2,940 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

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

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

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

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

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

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

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

Soil Survey Area: Sonoma County, California
Survey Area Data: Version 14, May 29, 2020

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

Date(s) aerial images were photographed: Jun 1, 2020—Jun 5, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
GlE	Goulding cobbly clay loam, 15 to 30 percent slopes	11.3	41.3%
GlF	Goulding cobbly clay loam, 30 to 50 percent slopes	0.7	2.5%
GrE	Guenoc gravelly silt loam, 5 to 30 percent slopes	0.9	3.2%
SkE	Spreckels loam, 15 to 30 percent slopes	14.5	53.0%
Totals for Area of Interest		**27.4**	**100.0%**

Appendix D

List of Observed Species

Table 1 Plant species observed November 11, 2020 Santa Rosa Fire Station 5

Common Name	*Scientific Name*
Blackwood acacia	*Acacia melanoxylon*
yarrow	*Achillea millefolium*
black mustard	*Brassica nigra*
sedge	*Carex* spp.
stinkwort	*Dittrichia graveolens*
willow herb	*Epilobium* sp.
horseweed	*Erigeron canadensis*
Blue gum eucalyptus	*Eucalyptus globulus*
fennel	*Foeniculum vulgare*
French broom	*Genista monspessulana*
bristly oxtongue	*Helminthotheca echioides*
bay laurel	*Laurus nobilis*
Harding grass	*Phalaris aquatica*
Chinese pistache	*Pistacia chinensis*
English plantain	*Plantago lanceolata*
coast live oak	*Quercus agrifolia*
valley oak	*Quercus lobata*
blackberry	*Rubus* sp.
dock	*Rumex* spp.
willow	*Salix* spp.
Pacific poison oak	*Toxicodendron diversilobum*

Table 1 Wildlife observed November 11, 2020.

Common Name	***Scientific Name***
California scrub jay	*Aphelocoma californica*
cedar waxwing	*Bombycilla cedrorum*
Anna's hummingbird	*Calypte anna*
coyote[1]	*Canis latrans*
northern flicker	*Colaptes auratus*
house finch	*Haemorhous mexicanus*
dark-eyed junco	*Junco hyemalis*
black-tailed jackrabbit	*Lepus californicus*
Lincoln's sparrow	*Melospiza lincolnii*
song sparrow	*Melospiza melodia*
California towhee	*Melozone crissalis*
northern mockingbird	*Mimus polyglottos*
mule deer[2]	*Odocoileus hemionus*
bushtit	*Psaltriparus minimus*
yellow-rumped warbler	*Setophaga coronata*
western bluebird	*Sialia mexicana*
lesser goldfinch	*Spinus psaltria*
American robin	*Turdus migratorius*

[1] Scat observed only.
[2] Scat observed only.

Appendix E

Representative Photographs

Photo 1. Culvert area at the eastern edge of the project site. Taken December 9, 2020.

Photo 2. A view of the "panhandle" of the project site with Mediterranean Scrub and Grassland Formation, taken from the west looking east on November 11, 2020.

Photo 3. A view of the potentially jurisdictional perennial drainage, looking west toward Fountaingrove Parkway on December 9, 2020.

Photo 4. A view of inundation within the potentially jurisdictional perennial drainage, along the fenceline bording the southern portion of the project site. Taken November 11, 2020.

Photo 4. A view of the California Bay Forest and Woodland at the western edge of the project site on the access road, looking north, adjacent to Fountaingrove Parkway. Taken December 9, 2020.