Appendix B:

Biological Resources Supporting Information

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B.1 - Biological Resources Assessment

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Zinfandel Estates

Biological Resources Assessment

Project No.:
1168

Zentner Planning and Ecology

Prepared for:
Bob Biale
Care of: RSA+

Revised:
August 2024

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Zinfandel Estates

Biological Resources Assessment

I. INTRODUCTION

A. Purpose

This analysis has been prepared to provide a biological resource analysis for the Zinfandel Estate's Initial Study/Mitigated Negative Declaration pursuant to the California Environmental Quality Act and addresses the comments provided by First Carbon Solutions on the project's previously completed biological resources analyses. This report will (1) determine the presence or likelihood of occurrence of any special status plant or wildlife species that are listed by State, Federal, or local governments; (2) provide a delineation of U.S. Army Corps of Engineers jurisdictional wetlands and waters; (3) identify the sensitive habitats that occur on the project site and; (4) recommend appropriate measures to be incorporated into the project to avoid any potential impacts to special status species and to mitigate for impacts to special status habitats. In addition, this report provides an update and synthesis on the two previous biological reports completed for this project: WRA and Jane Valerius Environmental Consulting's 2018 Habitat Assessment and Zentner Planning and Ecology's 2019 Riparian Special Status Habitat and Species Analysis.

The Zinfandel Estates project (the project) proposes to construct a 51-lot subdivision on approximately 7.6 acres. The majority of the project site is existing vineyard, though the site also contains two residences, a barn, and a portion of Salvador Creek, which cuts across the southern part of the site. The project site contains two distinct areas, Area 1 which is north of Salvador Creek and Area 2 on the south side of Salvador Creek.

The project will remove one of the residences, the barn, and a pedestrian bridge across Salvador Creek. As well, concrete rubble and rip-rap will be removed from above the ordinary high water mark (OHWM) of Salvador Creek and a wide flood terrace will be constructed along the northern creek edge. An existing trail on the southern side of Salvador Creek will be lowered to provide flood plain functions to the creek. Finally, two stormwater outfalls will be constructed into Salvador Creek above the OHWM.

B. Methodology

Zentner Planning and Ecology conducted site analyses and surveys of the project site, which included reviewing the site and surrounding areas for special status species and habitats and completing a wetlands and waters delineation. The analyses and surveys were completed in August 2019 and May 7, 2024. The August 2019 survey covered the entire project site with a focus on Salvador Creek and its riparian habitat for the preparation of Zentner Planning and

Ecology's 2019 Riparian Special Status Habitat and Species Analysis. The May 2024 survey covered the entire project site including the vineyard, ruderal, creek, and riparian habitats. The updated survey and analyses were conducted to assess site conditions as compared to previous site reviews and to determine the presence or absence of special status habitats and species. The weather was clear and warm during the surveys, which allowed for a thorough review of the site given its nature and condition. The

In addition to this field work, the most recent versions of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB), United States Fish and Wildlife Service (USFWS) special status species list, and the California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Plants were reviewed. These resources were used during the preparation of this analysis to determine special-status plant and wildlife species potentially occurring in the vicinity of the project site The databases were searched for the project site, environs, and greater area (i.e., the USGS-Quads that include and surround the project site). Previously completed environmental documents including WRA and Jane Valerius Environmental Consulting's 2018 Habitat Assessment and Zentner Planning and Ecology's 2019 Riparian Special Status Habitat and Species Analysis were also used to guide this analysis.

C. Site Location

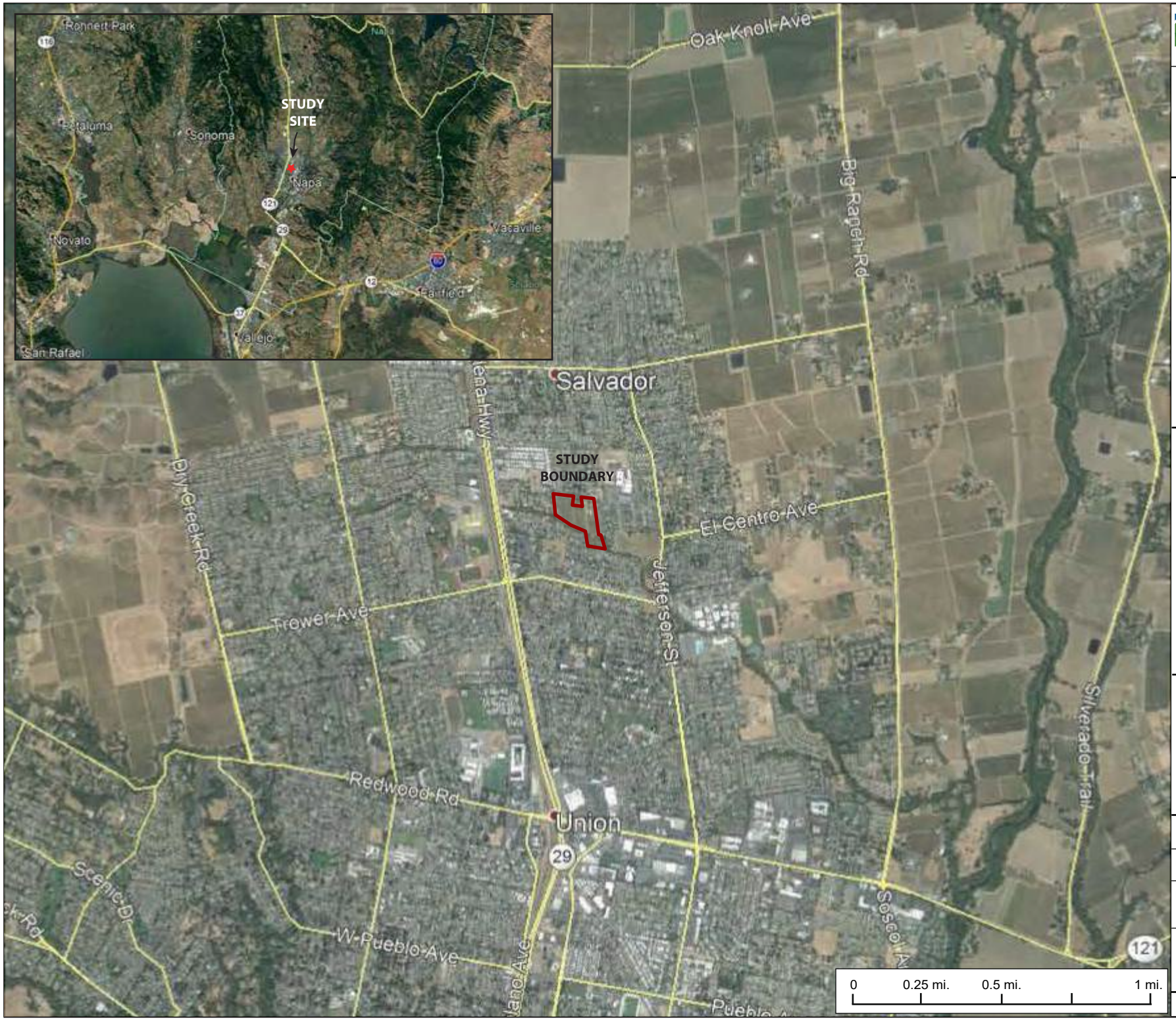
The proposed Zinfandel project is located in the southern portion of Napa County in the northeastern part of the City of Napa (**Figure 1**). Specifically, the Zinfandel project is located at 1583 and 1657 El Centro Avenue (APN: 038-361-010 and 038-361-009), just west of Highway 29. The project site is within the Napa River watershed and can be found on the Napa 7.5 minute USGS topographic Quadrangle. The project site is located in the Napa Land grant.

The approximately 7.6-acre, roughly rectangular shaped parcel, is located within the flatlands of the Napa Valley. The property generally slopes down from the northwest to the southeast with an elevation of approximately 72 feet (22 meters) in the northwest and 64 feet (19.5 meters) in the southeast.

The majority of the property is established vineyard with annual grassland/ruderal understory within the vineyard's aisles and access ways. The property also contains two single-family residences along the northern edge of the property, off El Centro Avenue. The residences both contain driveways, parking areas, and are surrounded by areas of ornamental landscaping. As well a barn and storage areas is located behind the residences.

Salvador Creek, a tributary of the Napa River, runs through the southern portion of the property flowing from northwest to southeast. The channel, banks, and associated riparian zone adjacent to the creek, make up the creek and riparian portions of the project site. A small bridge crosses Salvador Creek in the southeast part of the site and provides access to the southernmost part of the property. Salvador Creek is a seasonal creek that is typically dry by late summer or early fall.

The surrounding land uses include residential developments with several small vineyards and undeveloped lots. The region transitions from suburban land uses to vineyards and other agricultural lands as you travel away from the project site.



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Zinfandel Project

Napa, California

FIGURE 1

LOCATION MAP

N

BY: **JPE**

PROJECT: **1112**

BASE MAP:
© 2018 GOOGLE MAPS

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D. Project Description

The proposed project will convert the project site consisting of vineyards, two residences, and barn into a 51-lot subdivision containing 51 single-family homes, 12 accessory dwelling units (ADUs), 10 junior ADUs, and related improvements. The project will result in the removal of the existing vineyards, removal of one of the two existing homes and the barn, as well as the removal of 29 trees. Two of these trees are native oak species, while the remaining 27 are non-native landscape or ornamental trees such as fruit or nut trees. The location and species of these trees is shown on the development plan RSA development plan **(Figure TM10**).

The project will develop two distinct areas the northern area, located on the north side of Salvador Creek and the southern area located on the south side of the creek. The northern area is substantially larger and will contain the majority of the subdivision's lots. Though the two development areas are currently connected by a small bridge that spans Salvador Creek, this bridge will be removed as part of the project. The northern project area will then be accessed from El Centro Avenue and the southern project area from Lassen Street.

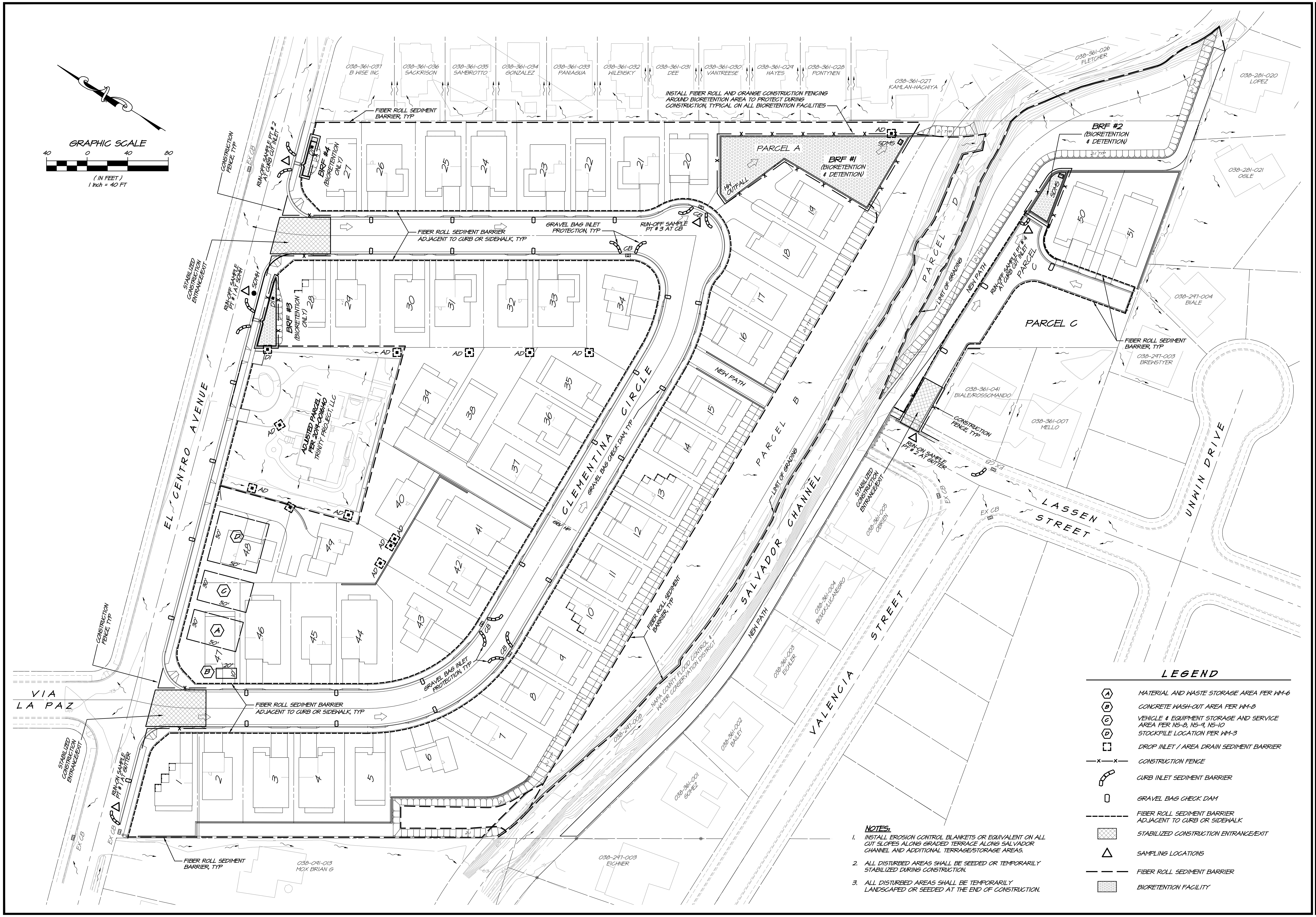
The majority of this work, including development of the residential lots and the majority of the ancillary features, will be completed in upland, already developed/disturbed areas. There are three project components that require work within the top of bank of Salvador Creek: removal of the existing bridge, construction of flood terrace along the northern edge of Salvador Creek, and construction of a flood plain and walking path along the southern edge of Salvador Creek. None of these project components require work below the OHWM of Salvador Creek. These project components are described in detail below. The construction of two culvert outfalls is also discussed below because though they will be constructed above the top of bank they will discharge to Salvador Creek.

1. Culvert Outfalls

Two stormwater outfalls will be constructed into Salvador Creek above the OHWM and outside of the riparian habitat. The location of these two outfalls is shown on Figure TM10. These two stormwater outfalls will service the three bioswales that will be constructed on the project site.

The larger of two outfalls will be constructed on the north side of the project site and will service two bioswales. The outfall will contain a 24" stormdrain outfall with a rip-rap splash pad that will lead from the outfall release. The second, smaller stormwater outfall is located on the south side of Salvador Creek and will service one bioswale on the southern project area. This outfall will have a 12" storm drain that will drain to a small rip-rap splash pad. Both outfalls and their rip-rap splash pads are above the Creek's OHWM and outside of riparian habitat.

The construction of these two outfalls will be completed outside of the wetted portion of the creek. Efforts will be made to ensure that no soil or other debris travels from the work area into riparian habitat or the wetter portion of the creek. If necessary, a silt fence will be installed between the work area and creek to protect the creek from soil or other materials.


GRAPHIC SCALE
40 0 40 80
(IN FEET)
1 inch = 40 FT
EL CENTRO AVENUE
CLEMENTINA CIRCLE
VIA LA PAZ
SALVADOR CHANNEL
VALENCIA STREET
LASSEN STREET
UNWIN DRIVE
PARCEL A
PARCEL B
PARCEL C
PARCEL D
BRF #1 (BIORETENTION & DETENTION)
BRF #2 (BIORETENTION & DETENTION)
BRF #3 (BIORETENTION ONLY)
BRF #4 (BIORETENTION ONLY)
INSTALL FIBER ROLL AND ORANGE CONSTRUCTION FENCING AROUND BIORETENTION AREA TO PROTECT DURING CONSTRUCTION, TYPICAL ON ALL BIORETENTION FACILITIES
FIBER ROLL SEDIMENT BARRIER, TYP
FIBER ROLL SEDIMENT BARRIER ADJACENT TO CURB OR SIDEWALK, TYP
GRAVEL BAG INLET PROTECTION, TYP
GRAVEL BAG CHECK DAM, TYP
CONSTRUCTION FENCE, TYP
STABILIZED CONSTRUCTION ENTRANCE/EXIT
RUN-OFF SAMPLE PT # 1 AT SDMH
RUN-OFF SAMPLE PT # 2 AT CURB INLET
RUN-OFF SAMPLE PT # 3 AT CB
RUN-ON SAMPLE PT # 1 AT GUTTER
RUN-ON SAMPLE PT # 2 AT GUTTER
LIMIT OF GRADING
NEW PATH
ADJUSTED PARCEL 1 PER 2019-0016140 TRINITY PROJECT, LLC
NAPA COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
038-361-037 B WISE INC
038-361-036 SACKRISON
038-361-035 SAMBROTTO
038-361-034 GONZALEZ
038-361-033 PANIAGUA
038-361-032 WILENSKY
038-361-031 DEE
038-361-030 VANTREESE
038-361-029 HAYES
038-361-028 PONTYNEN
038-361-027 KAMLAN-HACHIYA
038-361-026 FLETCHER
038-281-020 LOPEZ
038-281-021 OGLE
038-291-004 BIALE
038-291-003 BREWSTYER
038-361-041 BIALE/ROSSOMANDO
038-361-007 MELLO
038-361-005 OBRIEN
038-361-004 BOUCK/LUCANEGRO
038-361-003 EICHLER
038-361-002 BAILEY
038-361-001 GOMEZ
038-291-008
038-291-003 EICHNER
038-041-013 MOX BRIAN G

NOTES:

1. INSTALL EROSION CONTROL BLANKETS OR EQUIVALENT ON ALL CUT SLOPES ALONG GRADED TERRACE ALONG SALVADOR CHANNEL AND ADDITIONAL TERRAGE/STORAGE AREAS.
2. ALL DISTURBED AREAS SHALL BE SEEDED OR TEMPORARILY STABILIZED DURING CONSTRUCTION.
3. ALL DISTURBED AREAS SHALL BE TEMPORARILY LANDSCAPED OR SEEDED AT THE END OF CONSTRUCTION.

LEGEND

- (A) MATERIAL AND WASTE STORAGE AREA PER WM-6
- (B) CONCRETE WASH-OUT AREA PER WM-8
- (C) VEHICLE & EQUIPMENT STORAGE AND SERVICE AREA PER NS-8, NS-9, NS-10
- (D) STOCKPILE LOCATION PER WM-3
- DROP INLET / AREA DRAIN SEDIMENT BARRIER
- CONSTRUCTION FENCE
- CURB INLET SEDIMENT BARRIER
- GRAVEL BAG CHECK DAM
- FIBER ROLL SEDIMENT BARRIER ADJACENT TO CURB OR SIDEWALK
- STABILIZED CONSTRUCTION ENTRANCE/EXIT
- SAMPLING LOCATIONS
- FIBER ROLL SEDIMENT BARRIER
- BIORETENTION FACILITY

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ZINFANDEL SUBDIVISION
ESCP SITE PLAN
NAPA CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER DEREK MASON DITTMAN No. 90835 Exp. 03.31.2024 CIVIL ENGINEER STATE OF CALIFORNIA

DATE	SEPT 15, 2023
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TM10
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PRELIMINARY - NOT FOR CONSTRUCTION

2. Bridge Removal

The bridge that provides access across Salvador Creek and between the northern and southern portions of the project site will be removed (Figure TM10). The bridge has three supports, one on either side of the creek and one in the center. The two on the sides are above the OHWM of the creek and the one in the center of the creek is below the OHWM. All three supports are within the top of bank and in riparian habitat.

Bridge removal work will be completed in late fall or early summer when the creek has dried. A small excavator or dozer will be used to deconstruct and remove the bridge. Care will be taken to disturb as little area as possible throughout the process. All areas disturbed during removal of the bridge will be restored and compacted to their natural grades. The bridge removal will result in very little impact because of the nature of the work, removal not construction, and because of the small size of the bridge. This work will not result in any fill below the OHWM or within the top of bank. As well, removal of the bridge will benefit the creek and surrounding banks as during the rainy season the bridge's central support often catches logs and other debris creating backup and slowing the creek. Removal of this support will reduce artificial fill within the creek and will allow water to move more freely through the creek lessening stressors on the adjacent banks.

3. Flood Terrace Construction

The project will construct a wide, approximately 50-foot average, flood terrace along the north edge of Salvador Creek (Figure TM10). The terrace will run the length of the new development, approximately 800 linear feet. All work associated with the terrace construction will be above the OHWM of the Creek. The project will, however, result in a small area of impact below the top of bank along the length of the work.

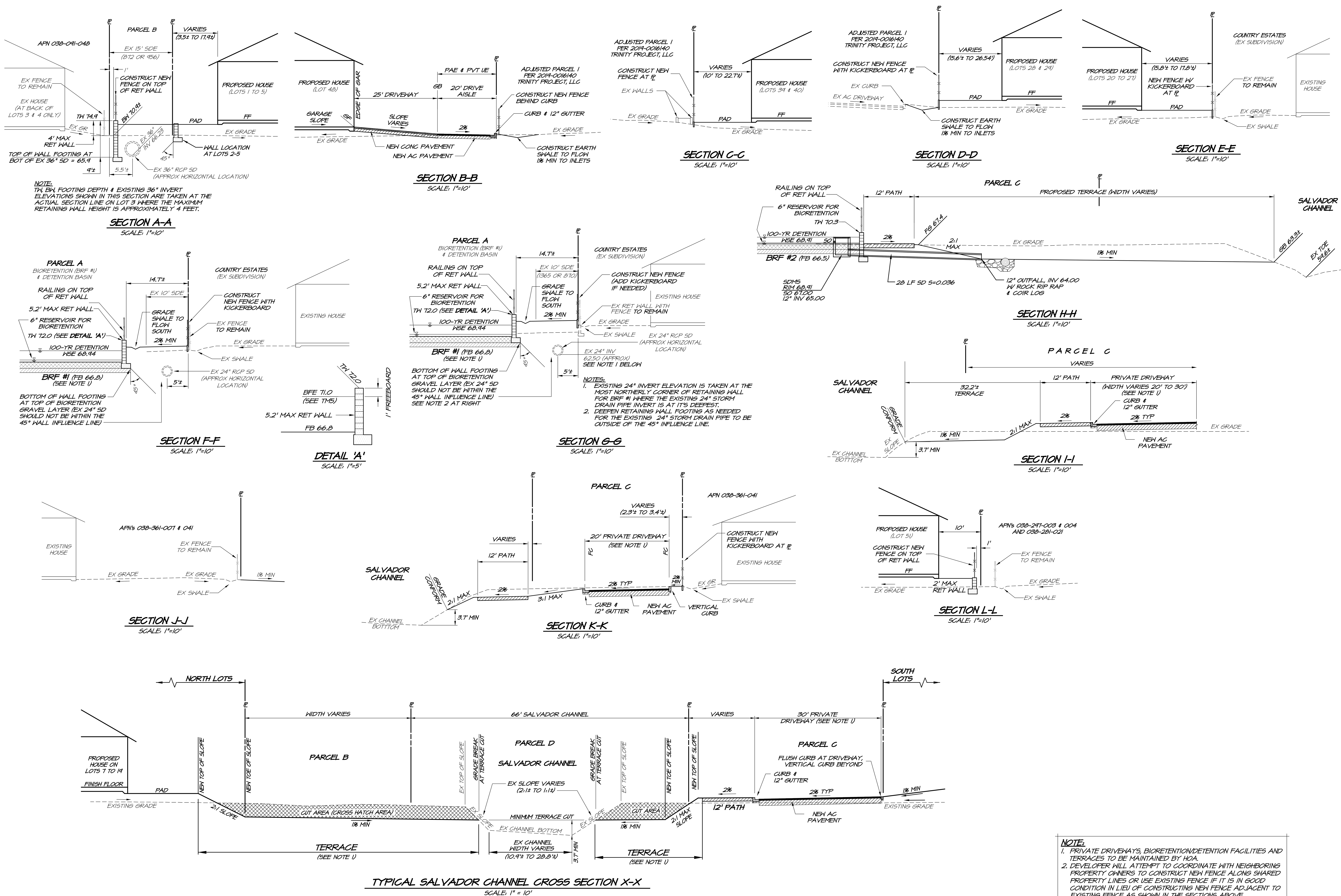
The terrace will be constructed by excavating and lowering the top of bank to create a low grade (minimum of 1%), just above OHW. Existing concrete rubble and rip-rap within the creek bank within the limits of work will be removed as well. Beyond the top of bank an approximately 15 foot wide, 2:1 slope will be constructed along the length of the terrace leading up to the residential lots. The top of this 15-foot slope will be the new top of bank.

All excavated soil will be utilized in upland habitats elsewhere on the project site. Once the final grade is achieved the terrace will be compacted and then planted with native vegetation to ensure that stability of the slope. This will also prevent the creation of gullies and erosional pockets that could capture water and wildlife during high flow events.

Though construction of the terrace will result in temporary impacts within the top of bank, the project will result in a broader flood plain with increased wetland and riparian habitat.

4. Flood Plain and Walking Path Construction

An existing walking path along the south side of Salvador Creek will be modified as a multi-use trail including maintenance access for Flood Control, however, this trail will be above the floodplain (Figures TM10 and **TM6**). All of this work will be completed above Salvador Creek's



NOTE:

1. PRIVATE DRIVEWAYS, BIORETENTION/DETENTION FACILITIES AND TERRACES TO BE MAINTAINED BY HOA.
2. DEVELOPER WILL ATTEMPT TO COORDINATE WITH NEIGHBORING PROPERTY OWNERS TO CONSTRUCT NEW FENCE ALONG SHARED PROPERTY LINES OR USE EXISTING FENCE IF IT IS IN GOOD CONDITION IN LIEU OF CONSTRUCTING NEW FENCE ADJACENT TO EXISTING FENCE AS SHOWN IN THE SECTIONS ABOVE.

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GRADING SECTIONS
NAPA CALIFORNIA

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PRELIMINARY - NOT FOR CONSTRUCTION

OHWM, but within the existing bank, and will look and function very similar to the northern terrace described in Section I.D.3 described above.

Photo 1: View of the Savlador channel; dominated in the late season by Uruguay water-primrose (*Ludwegia hexapetala*); a non-native. August 2019

II. ENVIRONMENTAL SETTING

A. Vegetation Communities

The majority of the project site is comprised of an existing vineyard with annual grassland as the understory and in the surrounding region. The project site also contains two residences with ornamental vegetation and Salvador Creek, running through the southern part of the site which provides marsh habitat and valley oak and riparian woodland habitat along the bank. These habitats are mapped on **Figure 2** and discussed in greater detail below. A plant list for each of these habitats is provided in **Appendix A**.

Nomenclature for wildlife follows the California Department of Fish and Wildlife's (CDFW) *Complete list of amphibian, reptile, bird, and mammal species in California* (2016) and any changes made to species nomenclature as published in scientific journals since the publication of CDFW's list.

Photo 2: View of one of the beaver dams along Salvador creek. May 2024.

1. Vineyard

Vineyard is the dominant habitat at the project site. The vineyard contains planted wine grapes (*Vitis vinifera*) that are actively managed and maintained. The vineyard owner stated that the vineyard and avenues are seeded with an organic cover crop mix after each year's harvest and

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FIGURE 2

Habitat Map

Zinfandel Project
Napa County, California

N

Scale: 1 inch = 120 feet

0 60' 120' 240'

Legend

- Upland Data Points
- Ruderal / Developed
- Riparian
- Vineyard
- Limits of the Project Site
- OHWM

Source: Google Earth 2024	Revisions	By
Date: 6/24/2024		
Cartographer: XM		
File: C:\Users\15105\OneDrive - Zentner Planning and Ecology\Graphicprojects\1168 Zinfandel\CAD\1168_Habitat Map_052024.dwg		

before winter rains. The vineyard is pruned in the winter and the canes dropped on the ground. The cover crop and canes are then mowed in April and then disced to incorporate the organic material into the soil. No herbicides are used within the vineyard though they are used along the fence lines, property lines, and around the building. Organic and conventional fungicide and pesticides are used within the vineyard.

The understory within the vineyard is predominately non-native annual grasses including wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), Italian ryegrass (*Festuca perennis*) and foxtail barley (*Hordeum murinum*).

Photo 3: View of the vineyard with existing houses in the background, while Himalayan blackberry (*Rubus armeniacus*) dominates the banks along the north side of Salvador creek.

May 2024

2. Ruderal grasslands and Developed

Ruderal grassland habitat occurs in the area surrounding the property's existing residences and other infrastructure. The ruderal grassland habitat is dominated by common, non-native annual species including wild oats, ripgut brome, hare barely, and Bermuda grass (*Cynodon dactylon*). Non-native herbaceous forb species are also fairly common throughout the annual grassland habitat. These species include mallow (*Malva parviflora*), dog fennel (*Anthemis cotula*), wild raddish (*Raphanus sativus*), filaree (*Erodium sp.*) and chicory (*Cichorium intybus*).

The developed portion of the property includes the two residences and the ornamental landscaping in the adjoining areas. The landscaping includes turf lawns and a number of

ornamental, non-native, trees and shrubs including English walnut (*Juglans regia*), olive, (*Olea europea*), maple (*Acer sp.),* acacia (*Acacia* sp.) and fruit trees.

Photo 4: View of the ruderal area around existing houses with the vineyard in the background.

May 2024

3. Valley Oak and Riparian

Valley oak and riparian habitat is present along the perimeter of Salvador Creek. There are several willows (*Salix sp.)* growing in this area and several young valley oak (*Quercus lobata*) trees have been planted linearly along the bank. Larger valley oaks on the east side of the project site, downstream of the existing bridge are more integrated into the riparian community. The understory in this area is dominated by non-native species including Himalayan blackberry (*Rubus armeniacus*) and harding grass (*Phalaris aquatica*).

Photo 5: View of the channel with Uruguay water-primrose and cattail (Typha sp.) with cement rip rap along the banks. August 2019

4. Salvador Creek - Perennial Marsh

Salvador Creek is seasonal and generally dries by late fall. It contains several areas of perennial marsh habitat within OHW. Marsh habitat within the Creek was dominated by highly invasive Uruguay water-primrose (*Ludwegia hexapetala*) which is controlled by the Napa County Flood Control and Water Conservation District. However, surveys in May 2024 found that much of the area was dominated by another non-native water primrose (*Ludwigia peploides*). Several native wetland species are also present within the marsh including cattails (*Typha latifolia*) and umbrella sedge (*Cyperus* sp.*).* Several beaver dams were noted this year in the channel, which lead to increased ponding behind the dams.

B. Wildlife

The amount and diversity of wildlife at the project site is likely limited by project site's suburban environment as well as the large amount of land devoted to vineyard. A list of wildlife species observed on the project site during site surveys is provided in Appendix A. Wildlife is likely primarily composed of relatively common suburban species with several rural species. Typical mammals would include coyote (*Canis latrans*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and lagomorphs (rabbits). Small mammals on the site likely include

California vole (*Microtus californicus*) and deer mouse (*Peromyscus maniculatus*), pocket gophers and ground squirrels. These small mammals are likely preyed upon by predators such as coyotes, California grey (*Urocyon cinereoargenteus californicus*) and red fox (*Vulpes vulpes*), and, potentially, bobcat (*Lynx rufus*).

In addition, predatory birds including red tail hawk (*Buteo jamaicensis*), white tailed kites (*Elanus leucurus*), and other slightly less common predatory birds such as red-shouldered hawks (*Buteo lineatus*) and American kestrels (*Falco sparverius*) may forage at the site. The predatory birds that forage at the project site most likely nest in the surrounding area and the project site comprises only a small fraction of their foraging grounds, which are primarily off-site.

Other birds commonly found in this type of habitat include mourning dove (*Zenaida macroura*), western meadowlark (*Sturnella neglecta*) and sparrows (*Spizella sp.*) and other common passerines. Common reptiles that are likely present include, southern alligator lizard (*Gerrhonotus multicarinatus*), gopher snake (*Pituophis melanoleucus*), and western rattle snake (*Crotalus viridis*).

Photo 6: View of the vineyard and existing house on the project site. May 2024

III. SPECIAL-STATUS SPECIES AND HABITATS

A. Definitions

Special-status species are plants and wildlife that are legally protected under the California and Federal Endangered Species Acts (CESA and FESA, respectively) or other regulations, and species that are considered rare by the scientific community (for example, the California Native Plant Society [CNPS]). Special-status species are defined as:

1. Plants and wildlife that are listed or proposed for listing as threatened or endangered under the CESA (Fish and Game Code §2050 et seq.; 14 CCR §670.1 et seq.) or the FESA (50 CFR 17.12 for plants; 50 CFR 17.11 for wildlife; various notices in the Federal Register [FR] for proposed species);
2. Plants and wildlife that are candidates for possible future listing as threatened or endangered under the FESA (50 CFR 17; FR Vol. 64, No. 205, pages 57533-57547, October 25, 1999); and under the CESA (California Fish and Game Code §2068);
3. Plants and wildlife that meet the definition of endangered, rare, or threatened under the California Environmental Quality Act (CEQA) (14 CCR §15380) that may include species not found on either State or Federal Endangered Species lists;
4. Plants occurring on Lists 1A, 1B, 2, 3, and 4 of CNPS' Electronic Inventory (CNPS 2015). The California Department of Fish and Wildlife (CDFW) recognizes that Lists 1A, 1B, and 2 of the CNPS inventory contain plants that, in the majority of cases, would qualify for State listing, and CDFW requests their inclusion in EIRs. Plants occurring on CNPS Lists 3 and 4 are "plants about which more information is necessary," and "plants of limited distribution," respectively (CNPS 2015). Such plants may be included as special-status species on a case by case basis due to local significance or recent biological information;
5. Migratory non-game birds of management concern listed by U.S. Fish and Wildlife Service (Migratory Non-Game Birds of Management Concern in the United States: The list 1995; Office of Migratory Bird Management; Washington D.C.; Sept. 1995);
6. Wildlife that are designated as "species of special concern" by CDFW (2010);
7. Wildlife species that are "fully protected" in California (Fish and Game Codes 3511, 4700, 5050, and 5515).

B. Special Status Species Potentially Occurring Within the Project Site

According to CDFW's California Natural Diversity Database (CNDDB), there are 54 special status animal species known to occur in the general region of the project, that is within the 9 USGS quadrangles that include and surround the project site. There are 74 special status plant species that have CNDDB records and/or California Native Plant Society (CNPS) records within the 9 USGS quadrangles that include and surround the project site. The majority of these species are highly unlikely to occur on the project site due to the absence of suitable habitat or recent local observations.

Of the 54 special status animal and 74 special status plant species only one special status animal, the northwestern pond turtle, has been observed on the project site. No other special status animal or plant species have been observed on the project site, though a further discussion of these species is provided below.

The CNDDB and CNPS species lists are provided in **Appendix B**. The definitions for the special status species designations are provided in **Appendix C**.

1. Wildlife

There are 54 special status animal species that have CNDDB records within the 9 USGS quadrangles that include and surround the project site. The vast majority of these species are highly unlikely to occur on the project site due to the absence of suitable habitat. The project site contains developed and vineyard habitats and a small amount of creek and riparian habitat, and it does not contain marsh, swamp, forest, scrub, coastal scrub, vernal pool, prairie, or rolling foothill habitats which many of the special status species in the region require.

The special status species that have a potential to occur within the project site are described in **Table 1** with an evaluation of their potential to occur on site. As well, the species evaluated as part of WRA and Jane Valerius Environmental Consulting's and Zentner Planning and Ecology's previously completed habitat and biological assessments for the project site are included in Table 1. The remaining species known from the region, but not included in **Table 2** are listed in the CNDDB lists in Appendix B.

The wildlife species that have potential to occur on the project site are described in more detail below. These species have at least some likelihood to move through the site or otherwise depend on the site for some function given the presence of potentially suitable habitat and known occurrences in the surrounding area.

Amphibians

Foothill yellow-legged frog (*Rana boylii*) ST, BLM:S, CSC, IUCN:NT, USFS:S, SA

The foothill yellow-legged frog is a small species at 1.46 to 3.2 inches. They are gray, brownish, or olive, and tend to match the background of its habitat. It can be plain or mottled with dark spotting with no mask through the eyes, but a light-colored band across top of its head. The lower abdomen and rear legs are yellowish. Juveniles do not have the distinctive yellow coloring right away, but acquire it as they grow older.

The foothill yellow-legged frog occurs in the Coast Ranges from southern Oregon to the Transverse Mountains in Los Angeles County, east to the Sierras (Stebbins 2003). The species frequents shallow, slow, gravelly streams and rivers with sunny banks, in forests, chaparral and woodland habitats, from sea level to 6,700 ft. (2,040 m.) in elevation. It is rarely found far from permanent water and mostly active during daylight. The species typically prefers streams that are more perennial than intermittent, but have been reported from intermittent streams (Jennings and Hayes 1984). They stay still along the river bottom along rock cover and litter, where they are camouflaged by their coloring. Mating and egg-laying occurs in water from

Table 1
Special Status Wildlife Species

Scientific Name	Common Name	Status	Habitat	Potential habitat on-site	Range	Known range/ Critical habitat	Potential for occurrence on-site
AMPHIBIANS							
Dicamptodon ensatus	California giant salamander	CDFW: SSC, IUCN:NT	Known from wet coastal forests near streams and seeps. 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.	No	Mendocino County south to Monterey County and east to Napa County	Yes	None: No habitat.
Rana boylii - pop.1	Foothill yellow-legged frog - north coast DPS	ST, BLM:S, CSC, IUCN:NT,USFS:S	Partially-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats	Marginal	Lower elevation streams draining the Pacific slope from west-central Oregon to northwestern Baja California.	Yes	Unlikely: Disturbed nature of site provides only low quality habitat. Closest recorded observation approximately 3 miles away.
Rana draytonii	California red-legged frog	FT, CSC, IUCN:VU, SA	Aquatic, Artificial flowing waters, Artificial standing waters, Freshwater marsh, Marsh & 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, Wetland	No	Mendocino County to Baja California, primarily west of the Cascade-Sierra crest.	Yes	None: No habitat.
Taricha rivularis	red-bellied newt	CDFW:SSC, IUCN:LC	Terrestrial habitats. Juveniles generally underground, adults active at surface in moist environments, will migrate over 1 KM to breed. Typically in in streams with moderate flow and clean, rocky substrate.	No	Coastal drainages from Humboldt County south to Sonoma County. Inland to Lake County, isolated populations of uncertain origin in Santa Clara County	Yes	None: No habitat.
REPTILES							
Actinemys marmorata (Emys marmorata)	Northwestern pond turtle (western pond turtle)	BLM:S, CSC, IUCN:VU, USFS:S, SA, SC	Aquatic, Artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland	Marginal	Isolated populations exist in the western half of California from the Sierra Nevada foothills to the Pacific coast, throughout the length of the state.	Yes	Likely: Species observed within Salvador Creek during site survey.
BIRDS							
Aechmophorus clarkii	Clark's grebe	BCC	Breeds on large bodied freshwater lakes and marshes with emergent vegetation. Nest is built on floating plants or submerged snag, among emergent vegetation.	No	North from British Columbia and Saskatchewan south to Mexico.	Yes	None: No nesting habitat.
Agelaius tricolor	tricolored blackbird	BLM:S, CSC, IUCN:EN, NABCI:RWL, USFWS:BCC, SA	Freshwater marsh, Marsh & swamp, Swamp, Wetland	No	Oregon to southern California; primarily along the central California coast and the Central Valley.	Yes	None: No nesting habitat.
Aquila chrysaetos	golden eagle	BLM:S, CDF:S, CFP, CDFW:WL, IUCN:LC, USFWS:BCC, SA	Broadleaved upland forest, Cismontane woodland, Coastal prairie, Great Basin grassland, Great Basin scrub, Lower montane coniferous forest, Pinon & juniper woodlands, Upper montane coniferous forest, Valley & foothill grassland	No	Permanent resident in mountainous areas throughout California.	Yes	None: No nesting habitat.
Ardea alba	Great egret	SSC	Nests colonially in large trees near water	No	Nonbreeding range extends from Northern North america to southern South America, breeding season from central California to South America.	Yes	None: No nesting habitat.
Ardea herodias	Great blue heron	CDFW:S, IUCN:LC	Colonial nester in tall trees, cliffsides, and sequestered spots on marshes.	No	Shores and open water and in wetlands over most of North and Central America	Yes	None: No nesting habitat.

Table 1
Special Status Wildlife Species

Scientific Name	Common Name	Status	Habitat	Potential habitat on-site	Range	Known range/ Critical habitat	Potential for occurrence on-site
Athene cunicularia hypugea	burrowing owl	BLM:S, CSC, IUCN:LC, USFWS:BCC, SA	Coastal prairie, Coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, Valley & foothill grassland	No	Permanent resident of southern California valleys, from the Bay Area to Los Vegas, Nevada. Breeding range extends through the northern Central Valley.	Yes	None: No nesting habitat.
Buteo swainsoni	Swainson's hawk	ST, BLM:S, IUCN:LC, USFWS:BCC, SA	Great Basin grassland, Riparian forest, Riparian woodland, Valley & foothill grassland	No	Breeding range extends throughout California's interior counties inluding Contra Costa and Alameda.	Yes	None: No nesting habitat.
Carduelis lawrencei	Lawrence's goldfinch	BCC	Nests in open woodlands, chaparral and weedy fields in trees	No	Breeds in California and is permanent resident in southern California and Arizona, southwestern New Mexico and Northwestern Mexico.	No	None: No nesting habitat.
Chamaea fasciata	Wrentit	BCC	Nests in coastal scrub and chaparral.	No	The pacific coast of North America from Oregon to northenrn Baja.	No	None: No nesting habitat.
Cypseloides niger	Black swift	CDFW:SSC, IUCN:LC, NABCI:YWL, USFWS:BCC	Cliffs behind or adjacent to wateralls in deep canyons and sea-bluffs above the surve; forages widely	No	Coastal belt of Santa Cruz and Monterey Counties, Central and Southern Sierra Nevada, San Bernardino and San Jacinto Mountains	Yes	None: No nesting habitat.
Elanus leucurus	white-tailed kite	BLM:S, CDFW:FP, IUCN:LC	Rolling foothills and valley margins with scattered oaks and river bottomlands or marsh next to deciduous woodland.	No	Central Valley and and Sourthern coastal areas. Humbolt and San Francisco Bay area.	Yes	None: No nesting habitat.
Geothlypis trichas sinuosa	Saltmarsh common yellowthroat	CSC, USFWS:BCC, SA	Marsh & swamp	No	Breeds in the San Francisco Bay area from the Tomales Bay to Carquinez Strait and San Jose. Non-breeding range extends down to San Diego.	Yes	None: No habitat.
Haliaeetus leucocephalus	Bald eagle	SE, BLM:S, CDF:S, CDFW:FP, IUCN:LC, USFS:S, USFWS: BCC	Open shore, lake margins, and rivers for both nesting and wintering, most nests within 1 mile of water. Nests in large, old-growth or dominant live tree with open branches, especialy ponderosa pine	No	Throughout most of California at lakes, reservoirs, rivers and some rangelands and coastal wetlands	Yes	None: No nesting habitat.
Melanerpes lewis	Lewis's woodpecker	BCC, SSC	Found in open forest and woodland, often logged or burned, including oak, coniferous forest, riparian woodland, orchards, less often pinyon-juniper. Closely associated with open ponderosa pine forest in western North America. Most commonly uses pre-made or natural cavities. Wintering areas must provide storage sites for grain or mast.	No	Western North America.	Yes	None: No habitat.
Nycticorax nycticorax	Black-crowned night heron	IUCN:LC	Colonial nester usually in trees and occasionally in tule patches. Rookery sites located adjacent to foraging areas such as lake margins, mud-bordered bays and marshy spots	No	Lowlands and foothills throughout most of California, including the Salton Sea and Colorado River areas.	Yes	None: No habitat.
Passerella iliaca	Fox sparrow	BCC	Nests in forests and chaparral on the ground or in low crotches of bushes or trees.	No	Throughout California and most of North America.	Yes	None: No habitat.
Pica nuttallii	Yellow-billed magpie	BCC	An omnivorous colonial nesting species. Nests are placed high in large trees.	No	The Central Valley, Coast Ranges, and Sierra Nevada foothills.	Yes	None: No habitat.
Picoides nuttallii	Nuttall's woodpecker	BCC	Found primarily in oak woodlands and riparian woods. Cavity nester.	No	From Oregon south into Baja California.	Yes	None: No nesting habitat.
Riparia riparia	Bank swallow	ST, BLM:S, IUCN:LC	Colonial nester, nests primarily in riparian and other lowland habitats west of the desert	No	Vertical banks/cliffs with fine-textured/sany soils near streams, rivers, lakes, ocean to dig nesting hole.	Yes	None: No nesting habitat.
Selasphorus rufus	rufous hummingbird	BCC	Nests in chaparral, coniferous forest, scrub habitats and riparian habitats in Canada and winters in Mexico. Nests are placed on a downward drooping structure.	No	From Alaska and northwestern Canada to Mexico	Yes	None: No nesting habitat.

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Special Status Wildlife Species

Scientific Name	Common Name	Status	Habitat	Potential habitat on-site	Range	Known range/ Critical habitat	Potential for occurrence on-site
Selasphorus sasin	Allen's hummingbird	BCC	Nests in wooded areas, meadows, or thickets along shaded streams, on a branch low down on stem, although placement height varies between 10 inches and 90 feet.	No	Along the West Coast from southern Oregon to Southern California. May winter in central Mexico.	Yes	None: No nesting habitat.
Spizella atrogularis	Black-chinned sparrow	BCC	Nests in arid southwestern hills on steep hillsides covered with dense low scrub	No	Parts of Central and Southern California, southern Nevada, and parts of Arizona and New Meixco south into Mexico.	Yes	None: No nesting habitat.
Strix occidentalis caurina	northern spotted owl	FT, BCC, CT	Dense coniferous and hardwood forest, shaded, steep sided canyons.	No	From southwestern British Columbia through Washington and Oregon into Northern California.	Yes	None: No nesting habitat.
Toxostoma redivivum	California thrasher	BCC	Nests in Lowland and coastal chaparral, and riparian woodland thickets.	No	From Santa Cruz and Placer counties south into northwestern Baja California.	Yes	None: No nesting habitat.
MAMMALS							
Antrozous pallidus	Pallid Bat	BLM:S, CSC, IUCN:LC, USFS:S, WBWG:H, SA	Chaparral, Coastal scrub, Desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Riparian woodland, Sonoran desert scrub, Upper montane coniferous forest, Valley & foothill grassland	Limited	Permanent resident throughout California and western U.S. from Washington to Colorado to Mexico	Yes	Unlikely: Small amount of potentially suitable habitat present.
Corynorhinus townsendii	Townsend's big-eared bat	ST, CSC, SA	Broadleaved upland forest, Chaparral, Chenopod scrub, Great Basin grassland, Great Basin scrub, Joshua tree woodland, Lower montane coniferous forest, Meadow & seep, Mojavean desert scrub, Riparian forest, Riparian woodland, Sonoran desert scrub, Sonoran thorn woodland, Upper montane coniferous forest, Valley & foothill grassland	Limited	Permanent resident throughout California and western U.S. from British Columbia to Colorado to central Mexico	Yes	Unlikely: Small amount of potentially suitable habitat present.
Erethizon dorsatum	North American porcupine	IUCN:LC	Occurs in forests, mountains, chaparral, and sagebrush. During the winter porcupines eat evergreen needles and the inner bark of trees. During the spring and summer they eat flowers, berries, tender twigs, and leaves from deciduous plants.	No	Throughout much of the U.S. Occurrs across North America from the southern half of Canada to Northern Mexico.	Yes	None: No habitat.
Lasiurus blossevillii	Western red bat	SSC, WBWG:H	Solitary roosting, except when females are with young (from 2 to 6 are born). Roosts almost exclusively in foliage, under overhanging leaves, in woodland borders, rivers, agricultural areas including orchards, and urban areas with mature trees. Typically found in large cottonwoods, sycamores, walnuts and willows associated with riparian habitats.	Limited	Found in western Canada, western United States, western Mexico and Central America.	Yes	Unlikely: Small amount of potentially suitable habitat present.
Myotis thysanodes	Fringed myotis	WBWG:H	Roosts colonially, up to 2,000 individuals. Females form maternity roosts, give birth to one young. Roosts in rock crevices, caves, mines, buildings and bridges, as well as tree hollows, particularly large conifer snags.	Limited	Found throughout much of western North America from south-ventral British Columbia to southernMexico.	Yes	Unlikely: Small amount of potentially suitable habitat present.
Myotis volans	long-legged myotis	WBWG:H	Roosts colonially, females forming maternity colonies, giving birth to single young. Primarily uses trees, particularly large diameter conifers, under bark and in cavities, sometimes in abandoned buildings, mines, caves, cracks in the ground, and cliff/rock faces.	Limited	From southeastern Alaska and western South Dakota south to central Mexico.	Yes	Unlikely: Small amount of potentially suitable habitat present.
Myotis yummanensis	Yuma myotis	BLM:S, IUCN:LC, WBWG:LM	Optimal habitats are open forests and woodlands with sources of water over which to feet. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings, or crevices.	Yes	California, Oregon, Washinton, Arizona, New Mexico, Idaho, and portions of Nevada, Utah Montana Wyoming and Colorado and parts of Canada and Mexico.	Yes	Moderate: Potential roosting habitat present on site.
Taxidea taxus	American badger	CSC, IUCN:LC, SA	Broadleaved upland forest, Chaparral, Chenopod scrub, Cismontane woodland, Coastal prairie, Coastal scrub, Meadow & seep, Riparian forest, Riparian scrub, Riparian woodland, Ultramafic, Valley & foothill grassland.	No	Throughout California and North American; from British Columbia to the Great Lake Region and south to Central Mexico.	Yes	None: No habitat.

Table 1
Special Status Wildlife Species

Scientific Name	Common Name	Status	Habitat	Potential habitat on-site	Range	Known range/ Critical habitat	Potential for occurrence on-site
FISH							
Hypomesus transpacificus	Delta smelt	FC, SE, AFS:TH, IUCN:EN	Aquatic, estuaries seldom found in salinities >10ppt and often at salinities < 2ppt.	No	Sacramento San Joaquin Delta, seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay.	No	None: No habitat
Oncorhynchus mykiss irideus	Steelhead- central California coast DPS	FT, AMS:T, SA	Streams and rivers, deep low velocity pools, freshwater bodies, estuaries, Pacific ocean	No	Bir Sur Coast, Carmel Basin, Interior Coast Range, and San Luis Obispos Terrace.	Yes	None: No habitat
Spirinchus thaleichthys	Longfin smelt	FC, ST, CSC, SA	Aquatic, Estuary. Spawns in brackish streams and sloughs.	No	California coastal streams from the San Francisco Bay northward. However populations in the San Francisco Bay Estuary and Delta may be extirpated.	Yes	None: No habitat.
INVERTEBRATES							
Bombus caliginosus	Obscur bumble bee	IUCN:VU	Food plants include Baccharis, Circium, Lupinus, Lotus, Grindelia and Phacelia. Occurs in Coastal areas from northern Washington to southern California.	No	Coastal areas from Santa Barbara County North to Washington State.	Yes	None: No habitat.
Bombus occidentalis	western bumble bee	USFS:S, X:IM, SA	Generalist foragers. They do not depend on any one flower type but they favor Melilotus, Cirsium, Trifolium, Centaurea, Chrysothamnus, Eriogonum.	No	Once realtively widespread, now in serious decline in central to southern California	Yes	None: No habitat.
Branchinecta conservatio	Conservancy fairy shrimp	FE, IUCN:EN, SA	Inhabit astatic pools located in swales formed by old, braided alluvium and filled by winter and spring rains, last until June.	No	Endemic to the grassland of the norther two-thirds of the Central Vally. Not known from Napa County	No	None: No habitat.
Calasellus californicus	An isopod	SA	Found in freshwater habitats; the known collections are from a freshwater well and two springs	No	Known from Lake, Napa, Marin, Santa Curz, and Santa Clara Counties	Yes	None: No habitat.
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT	Occurs only in association with blue elderberry (Sambucuc mexicana), prefers to lay eggs in elderberries 2-8 inches in diameter.	No	California central valley	Yes	None: No habitat; host plant not present on site.
Syncaris pacifica	California freshwater shrump	FE, SE, IUCN:EN	Shallow pools away from main streamflow. Winter, undercut banks with exposed roots. Summer leafy branches touching water.	None	Endemic to Marin, Napa, and Sonoma Counties. Found in low gradient streas where riparian cover is moderate to heavy	Yes	None: No habitat.

mid-March until early June when streams have slowed from winter runoff. Clusters of eggs are attached to the downstream side of submerged rocks. Tadpoles transform in about 15 weeks, from July to September.

There are three records of the foothill yellow-legged frog within 5 miles of the project site; one of these records is listed as "possibly extirpated" (record #781). The closest of these records is located approximately 3 miles west of the project site in habitat described as a perennial seep which flows into a small tributary to Dry Creek (record #415). This record was recorded in 2003. The other extant record is located north of the project site in Dry Creek in Yountville (record #119).

Though Salvador Creek provides low quality potential habitat for the foothill yellow legged frog because the Creek has been heavily disturbed and fails to contain the gravel or rock bottom that generally supports the species. Instead, relatively fine sediments have covered most of the channel, which has developed a growth of emergent plants, such as cattail. As well, there are no records of the species within Salvador Creek, nor are there any records of the species closer than 3 miles from the project site. Finally, no foothill yellow legged frogs were observed within the creek corridor or other portions of the property during surveys. For these reasons the foothill yellow-legged frog is unlikely to occur at the project site or be impacted by the proposed project. The 2018 Habitat Assessment came to a similar conclusion regarding the foothill yellow legged frog stating that "the disturbed nature of this portion of the creek does not provide suitable habitat for this species" (WRA and Jane Valerius Environmental Consulting 2018).

Reptiles

Northwestern Pond turtle (*Actinemys marmorata*) BLM:S, CSC, IUCN:VU, USFS:S, SA, SC

The northwestern pond turtle is a small to medium species growing from 3.5 to 8.5 inches in length. Hatchlings are 1 inch in shell length. They are dark brown, olive brown, or blackish in color with a low, unkeeled carapace. A pattern of darker lines or spots radiate from the centers of the scutes. The head and legs of the turtle are dark with creamy white or yellow speckling. Males have a light throat with no markings and a low domed carapace, while females have a throat with dark markings and a high-domed carapace.

Once inhabiting an extensive portion of the west, it is now listed as vulnerable do to a decline in its range. It is found along the west coast from the Coast Ranges to the central valley in California, north into Washington and British Columbia. Isolated populations may also occur in Susanville, CA, the Mojave Desert, and in Nevada in the Truckee, Carson, and East Walker Rivers. They have been found at elevations from sea level to over 5,900 ft.

The species is aquatic and is found in ponds, lakes, rivers, marshes, and irrigation ditches with abundant vegetation within woodlands, grasslands, or forests. They require logs, rocks, or exposed vegetation one which they bask in the sun. In summer droughts or during colder winter months, the turtles bury themselves in soft soil or hibernate in the muddy bottoms of pools. They may also move along creek channels until they find an isolated pool. Mating occurs

in April and May when the turtles reach 8 to 10 years in age. Eggs are laid between April and August along stream or pond margins.

A juvenile northwestern pond turtle was observed within Salvador Creek during an April 2024 site survey. As well, there are four CNDDB records of northwestern pond turtles within 5 miles of the project site. The closest record is approximately 2.5 miles west of the project site and describes a number of adults observed in two agricultural reservoirs used for vineyard irrigation (record #507). The other records described observations in a dredged channel that is a tributary to the Napa River (records #494), in Tulucay Creek (record # 584), and in Goose Lake (record #602).

Salvador Creek within the project site provides habitat for the western pond turtle during winter and spring when it holds water, especially when the presence of beaver dams result in forming pools with suitable habitat behind the dams as was the case during the May 2024 survey. By late summer and fall once the Creek has dried it is unlikely that it could support a northwestern pond turtle. Because a northwestern pond turtle was observed within Salvador Creek, a pre-construction survey should be completed prior to beginning work within and adjacent to Salvador Creek. As well, wildlife exclusion fencing should be used to ensure that no wildlife moves from Salvador Creek into the work area.

Birds

Nesting raptors (various species), generally protected under the CDFW Code and the Migratory Bird Treaty Act (MBTA).

The riparian area and areas adjacent to the project site contain a number of trees that could provide raptor nesting habitat. Therefore, a preconstruction survey should be completed to determine the presence/absence of nesting raptors on or in proximity to the site, prior to the start of construction.

Other Migratory Nesting Birds; protected by the MBTA

The project site contains trees, shrubs, and structures that provide suitable habitat for nesting birds protected by the MBTA. As well, the trees, shrubs, and other structures on adjacent properties could be utilized for nesting. Accordingly, there is some potential for migratory nesting birds to nest on or adjacent to the site and a preconstruction nesting bird survey should be completed to ensure no nesting birds are impacted by the proposed project.

Mammals

Pallid bat (*Antrozous pallidus*) BLM:S, SSC, IUCN:LC, USFS:S, WBWG:H, SA

Townsend's big-eared bat (*Corynorhinus townsendii*) ST, SSC, SA

Western red bat (*Lasiurus blossevillii*) SSC, WBWG:H

Fringed myotis (*Myotis thysanodes*) WGWG:H

Long-legged myotis (*Myotis volans*) WBWG:H

Yuma myotis (*Myotis yummanensis*) BLM:S, IUCN:LC, WBWG:LM

The pallid bat, townsend's big-eared bat, and western red bat area California Species of Special Concern and are protected under California Fish and Game Code. The fringed myotis, long-legged myotis, and Yuma myotis are also considered under CEQA particularly when significant breeding populations may be affected by a project.

The pallid bat is a large, long-eared vespertilionid bat. There are six subspecies of the pallid bat. Three are found in California, including *A. p. pacificus*, *A. p. pallidus*, and *A. p. minor*. This species is easily distinguished from other bat species with its large size, eyes, and ears, light tan coloration, pig-like snout, and distinctive skunk odor. Its color varies dependent on location, blond in desert locations and tan along the coast and farther north. Pallid bat scat commonly contains the remains of insects like scorpions, Jerusalem crickets, sphinx moths, and/or long-horned beetles.

In California, the pallid bat occurs throughout the state in a variety of habitats including low desert, oak woodland and coastal redwood forests, extending up to 3,000 m elevation in the Sierra Nevada. The pallid bat is colonial with colonies forming in March to May and remaining until October (Barbour and Davis 1969). They are primarily a crevice roosting species and seek out rock crevices, old buildings, bridges, caves, mines and hollow trees (Barbour and Davis 1969). Breeding occurs in the spring and one to two young are born in the early summer. They remain dependent on their mothers for a minimum of 6 weeks.

The Townsend's big-eared bat is one of five subspecies that occur across western North America, from British Columbia to the Mexican highlands, with isolated populations reaching east to the Ozarks and Appalachia. Two subspecies are found in the western United States including *C. t. townsendii* and *C. t. pallescens*. The species can be distinguished from other species in its genera by prominent, bilateral nose lumps and large, rabbit-like ears.

Townsend's big-eared bats take advantage of caves and cave-like roosting habitat, including abandoned mines, buildings, bridges, rock crevices, and hollow trees. The species is colonial with colony size ranging from a few individuals to several hundred. Males are typically solitary during mating season. Maternity colonies are formed between March and June with a single pup born between May and July. They forage in areas adjacent to wooded habitats and streams for primarily lepidopterans.

The western red bat is a medium-sized species with a short rostrum and short round ears (Bolster 1998). It is generally brick-red in color but may vary from intense red to yellow-brown.

This species has a broad distribution, ranging from British Columbia south to Argentina and Chile (Hall 1981). In California, the majority of occurrence records are from the San Francisco Bay Area and the Central Valley. It has been found throughout most of California except for the low desert, high mountain ranges and east of the Sierra Nevada.

The western red bat roosts in trees and shrubs adjacent to streams and open fields and in the Central Valley have been noted in agricultural trees (Shump and Shump 1982). They are associated with mature stands of cottonwoods and sycamores in riparian habitats (Pierson et al 2006). Bats are suggested to prefer trees that are well-pruned and 4.5-6 m in height with rigid branches, a spreading canopy and limited lower limbs (Constantine 1959). They forage on insects by flying for them at canopy height and just over the ground. Western red bats mate in late summer or early fall; females become pregnant in the spring, and then have a gestation period of 80 to 90 days.

Neither the pallid bat, townsend's big-eared bat, western red bat nor any other bat species have been observed, nor have signs of bats have been observed on the project site. However, the site contains potentially suitable habitat for these species and they are known to occur in the region. Therefore, a pre-construction survey for roosting bats should be completed prior to removing or disturbing any trees or structures in order to ensure the species is not impacted by the project.

Fish

Anadromous fish

Anadromous describes a fish that is born in freshwater and spends most of their lives in saltwater then returns to spawn in freshwater. In California, native anadromous fish include highly migratory salmon and steelhead trout, and short-lived smelts, jawless lamprey, and cartilaginous sturgeon. Because of their dietary, commercial, tribal, recreational, ecological, and cultural significance all anadromous fish in California have been the focus of some sort of conservation, protection, management, and recovery effort. Some of these species are protected by the CESA and ESA, and several species have recovery plans released by the USFWS.

Historically, a number of anadromous fish including steelhead/rainbow trout, fall-run Chinook salmon, Pacific and river lamprey, and Sacramento splittail have utilized the Napa River as spawning habitat. As discussed above, the project site is located on Salvador Creek which flows into the Napa River approximately 2 miles downstream of the project site.

CDFW surveyed 1 mile of Salvador Creek from Vintage High School to its junction with Napa Creek in 1977. During this survey, six adult steelhead were observed between Big Ranch Road (less than 0.25 miles upstream of the mouth) and the mouth. CDFW staff speculated that the adult steelhead use this steam when low flows prevent access to more suitable upstream tributaries to the Napa River, though they specified that the flows and water quality within Salvador Creek were inadequate for juvenile fish (Leidy, R.A 2005). CDFW did not locate any steelhead upstream of Big Ranch Road. Given the amount of time that has passed since CDFW completed this survey as well as the large amount of development in the region, it is unlikely

to that water quality within Salvador Creek has improved to a level that could support juvenile steelhead, but more likely that the water quality has become more degraded.

Salvador Creek at the project site does not provide spawning habitat for anadromous fish and anadromous fish are highly unlikely to occur within this section of Salvador Creek because of the degraded water quality and the low flow rates. As well, this section of creek has been heavily modified further reducing its ability to provide habitat for anadromous fish. Anadromous fish are therefore unlikely to occur within Salvador Creek or be impacted by the proposed project.

The project has also been designed with measures to avoid stranding any fish along the created flood terrace. Fish can become stranded in terraces areas where slopes are inadequate or depressions are formed. However, the terrace designed terrace will be sloped, compacted, and planted with native sedges to minimize the chances that depressions will form. The terrace will be graded to a minimum 1% slope to ensure that water runs off of the terrace as high water events subside. In addition, the terrace will be compacted using standard heavy equipment and cat-walked. The result will be a sloped terrace that is compacted to a degree that will allow the planted Santa Barbara sedge (*Carex barbarae*) to take over the terrace. The rhizomatous roots of the sedge will provide further stability against scour within the terrace. These measures, which are part of the project, further reduce the likelihood of fish stranding, in the unlikely event that a stray fish finds its way this far upstream. Therefore, no impacts to anadromous fish or other fish are expected as a result of the project.

Longfin smelt (*Spirinchus thaleichthys*) SA, FC, ST

The Longfin smelt is a small, native species once thought to be the most abundant fish in the Bay-Delta Estuary. This species is found from Monterey Bay north to Alaska. Adult smelts reach a maximum size of 150 mm TL. They have been found in fresh water and seawater but prefer salinities of 15 to 30 PPT. The smelt spawn in dead-end sloughs, larger sloughs such as Montezuma Slough, the lower reaches of rivers, and bypasses used for flood management. Spawning sites are in the shallow, weedy areas inshore and the smelt move into the deeper offshore habitat as they mature.

In estuaries, they are usually found in the middle or bottom of the water column. Anadromous populations spawn in fresh water close to the ocean over sandy-gravel substrates, rocks or aquatic plants. After hatching, the larvae move up into surface waters and are transported downstream into brackish-water nursery areas. The longfin smelt eats small crustaceans and fishes.

The species spawns in the second year in the southern part of its range. In California, according to Wang (1986, cited in Federal Register, 6 January 1994), the species spawns as early as November and as late as June, with a peak from February through April. Females lay 5,000 to 24,000 adhesive eggs. The eggs hatch in about 40 days (Lee et al. 1980) and the young move downstream to lake or sea. Some adults survive spawning.

In the Sacramento-San Joaquin system, good recruitment is positively correlated with high outflows into Suisun and San Pablo bays. Adults of this species migrate from San Francisco and

San Pablo Bays to fresher water upstream in the Delta between the fall and winter (CSLC and ESA 2011). Longfin and Delta smelt have been known to school together and have similar habits when it comes to spawning (CSLC and ESA 2011). Delta smelt are known to inhabit Suisun Bay during their larval stages and move south within the Bay/Delta as they grow larger in April and May (CDFG 2009, CSLC and ESA 2011).

In California, the species has declined dramatically in the Sacramento-San Joaquin estuary and has apparently disappeared from Humboldt Bay. The remaining California populations are small and of uncertain status (Moyle et al. 1995). CDFW' s fall otter trawl data in the 90's was generally in the hundreds each year. Counts in over the last five years have been substantially lower: 16 (2014), 4 (2015), 7 (2016), 141 (2017), and 52 (2018).

Threats have been defined only in areas of known declines in the California portion of the range. Declines in the Sacramento-San Joaquin estuary are due mainly to the effects of water diversions from the Delta. Low flows result in upstream movement of the productive freshwater-saltwater mixing zone, constricting the size of favorable habitat and making the fishes vulnerable to diversion into water project pumps and structures (USFWS 1994). It is unlikely that many individuals survive entrainment, but the degree of effect on larvae is not well known (Moyle et al. 1995). Low flows also fail to disperse larvae downstream into productive nursery areas in Suisun Bay (USFWS 1994, Moyle et al. 1995). Other potential threats include pesticide runoff from agricultural areas and invasions by exotic species such as clams and copepods (Moyle et al. 1995). The causes for decline in the northern California estuaries are unknown but probably similar to the causes for declines in the Sacramento-San Joaquin estuary (Moyle et al. 1995). Sedimentation due to human activities may also have an effect on northern California estuaries. The loss of tidal marsh habitat and resulting reduced productivity, together with reduced flows in the Mad River due to water diversions and land reclamation, may have caused disappearance from Humboldt Bay. Due to a two-year life cycle, relatively brief periods of reproductive failure could lead to extirpations (USFWS 1994).

There is one CNDDB record of a longfin smelt within 5 miles of the project site (record #26). This record is located just under 5 miles south of the project site and describes a 17 mile stretch of the Napa River that has been periodically sampled since 1995. Most recently, in 2012, 536 longfin smelt were encountered at the 10 CDFW 20 mm sampling stations and 1 was encountered at the Spring Kodiak Trawl site.

Though the Napa River is known to support longfin smelt and the proposed project is located on a tributary to Napa River, the species has never been recorded in the upper portions of Napa River near its intersection with Salvador Creek. As well, Salvador Creek does not support the salinity levels required for this species as it is entirely freshwater. Therefore, this species is unlikely to occur in Salvador Creek near the project site or be impacted by the proposed project. Further, the terrace will be graded to a minimum 1% slope and will be compacted and planted with native sedge species. These measures should ensure that depressions will not form within the terrace and strand any fish though no special status fish are known from the channel.

2. Plants

There are 74 special status plant species that have CNDDB records and/or California Native Plant Society records within the 9 USGS quadrangles that include and surround the project site. An additional 8 special status plant species were assessed for their to potential to occur on the project site by WRA and Jane Valerius Environmental Consulting in their 2018 Habitat Assessment. **Table 2** provides information on these special status species and their likelihood to occur within the project site.

Because the project site consists of an active vineyard and developed residential area, Salvador Creek and its riparian habitat are the only habitats that have a potential to support special status plant species. Therefore, the majority of the specials status species known from the region are unlikely to occur on the project site due to lack of habitat. The site does not contain rhyolitic, sandy or alkaline soils and there are no coastal scrub, coastal prairie, closed-cone coniferous forest, North Coast coniferous forest, lower montane coniferous forest, chaparral, meadows and seeps, marshes and swamps or vernal pool habitats.

The 2018 Habitat assessment prepared by WRA and Jane Valerius Environmental Consulting concluded that none of the special status species evaluated in their assessment were likely to occur on the project site and be impacted by the proposed project. Zentner Planning and Ecology's 2019 analysis identified Sanford's arrowhead (*Sagittaria sanfordii*) as the only special status species potentially occurring on the project site. However, a May 7, 2024 survey for Sanford's arrowhead was conducted with negative results. This survey determined that Sanford's arrowhead is not present on the project site and that the presence of rock rip rap and Himalayan blackberry (*Rubus armeniacus*) both above and below OHW critically limited habitat for this species. In addition, no other special status plant species were observed during this survey.

Therefore, for all of the above reason, no special status plant species likely to be present on the project site or be impacted by the proposed project.

3. Wildlife Movement Corridors

Wildlife corridors are generally described as pathways or habitat linkages that connect discrete areas of natural open space otherwise separated or fragmented by topography, changes in vegetation, and other natural or human induced factors such as urbanization. The fragmentation of natural habitat creates isolated "islands" of vegetation that may not provide sufficient area or resources to accommodate sustainable populations for a number of species and thus, adversely affecting both genetic and species diversity. Corridors often partially or largely eliminate the adverse effects of fragmentation by 1) allowing wildlife to move between remaining habitats to replenish depleted populations and increase the gene pool available; 2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fire or disease) will result in population or species extinction; and 3) serving as travel paths for individual animals moving throughout their home range in

Table 2
Special Status Plant Species

Scientific Name	Common Name	Status	Habitat	Potential habitat on-site	Range	Known Range	Elevation	Life Form	Potential for Occurrence On-site	Flowering/ Survey Period
Agrostis hendersonii	Henderson's bent grass	CRPR 3.2	Valley and foothill grassland (mesic) and vernal pools	No	Butte, Calaveras, Merced, Napa, Shasta, Tehama, Tuolumne	Yes	70-305 meters	annual herb	None. No habitat; Site's grasslands not suitable.	April - June
Allium peninsulare var. franciscanum	Franciscan onion	CRPR 1B.2	Clay, volcanic, often serpentine, cismontane woodland, valley and foothill grassland	No	Mendocino, Napa, Santa Clara, San Mateo, Sonoma	Yes	52-305 meters	perennial bulbiferous herb	None: No habitat	(April)May - June
Amorpha californica var. napensis	Napa false indigo	CRPR 1B.2	Broadleaged upland forest (openings), chaparral, cismontane woodland	No	Lake, Monterey, Marin, Napa, Sonoma	Yes	120-2,000 meters	perennial deciduous shrub	None: No habitat. Would have been observed on site if present.	April - July
Amsinkia lunaris	bent-flowered fiddleneck	CRPR 1B.2	Coastal bluff scrub, cismontane woodland, valley and foothill grassland	No	Alameda, Contra Costa, Colusa, Lake, Marin, Napa, San Benito, Santa Clara, Santa Cruz, San Mateo, Sonoma, Sutter, Yolo	Yes	3-500 meters	annual herb	None: No habitat	March - July
Antirrhinum virga	Twig-like snapdragon	CRPR 4.3	Chaparral, lower montange coniferous forest in rocky openings often on serpentinite.	No	Colusa, Glenn, Lake, Mendocino, Napa, Sonoma	Yes	100 - 2015 meters	perennial herb	None: No habitat.	June - July
Arabis modesta	Modest rockcress	CRPR 4.3	Chaparral, lower montane coniferous forest.	No	Lake, Napa, Siskiyou, Solano, Trinity, Yolo	Yes	120 - 800 meters	perennial herb	None: No habitat.	March - July
Arctostaphylos bakerii ssp. bakeri	Baker's manzanita	CRPR 1B.1	Broadleafed upland forest, chaparral – often on serpentinite.	No	Humbolt, San Mateo, Sonoma	No	110 - 230 meters	Perennial evergreen shrub	None: No habitat and no manzanita species present on site.	Feb. - April (May)
Arctostaphylos standordiana ssp. decumbens	Rincon Ridge manzanita	CRPR 1B.1	Chaparral (rhyolitic), cismontance woodland	No	Napa, Sonoma	Yes	75-370 meters	Perennial evergreen shrub	None: No habitat and no manzanita species present on site.	Feb. - April (May)
Astragalus claranus	Clara Hunt's milk-vetch	CRPR 1B.1	Serpentinite or volcanic, rocky clay, chaprral (openings), cismontane woodland, valley and foothill grassland	No	Napa, Sonoma	Yes	75-275 meters	annual herb	None: No habitat.	March - May
Astragalus clevelandii	Cleveland's milk-vetch	CRPR 4.3	Chaparral, cismontane woodland, riparian forest.	No	Colusa, fresno, Glenn, Lake, Mendocino, Napa, San Benito, Sonoma, Tehama, Yolo	Yes	200 - 1500 meters	perennial herb	None: No habitat.	June - Sept.
Astragalus tener var. tener	alkali milk-vetch	CRPR 1B.2	Playas, valley & foothill grassland, vernal pool, wetland	No	Alameda, Contra Costa, Merced, Monterey, Napa, San Benito, Santa Clara, San Francisco, San Joaquin, Solano, Sonoma, Stanslaus, Yolo	Yes	1 - 60 meters	annual herb	None: not observed during surveys, marginal habitat	March - June
Balsamorhiza macrolepis	big-scale balsamroot	CRPR 1B.2; BLM:S	Chaparral, cismontane woodland, ultramafic, valley and foothill grassland; sometimes on serpentine	No	Alameda, Amador, Butte, Colusa, El Dorado, Lake, Mariposa, Napa, Placer, Santa Clara, Shasta, Solano, Sonoma, Tehama, Tuolumne	Yes	90 -1555 meters	perennial herb	None: No habitat.	March - June
Blennosperma nakeri	Sonoma sunshine	CRPR 1B.1, SE, FE	Valley and foothill grassland (mesic), vernal pools.	No	Mendocino, San Joaquin, Sonoma	Yes	10 -110 meters	annual herb	None: No habitat.	March - May
Brodiaea leptandra	Narrow-anthered brodiaea	CRPR 1B:2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, Valley and foothill grassland	No	Lake, Napa, Solano, Sonoma	Yes	30 - 590 meters	perennial bulb	None: No habitat.	May - July

Table 2
Special Status Plant Species

Caladrinia breweri	Brewer's caladrinia	CRPR 4.2	Chaparral and coastal scrub on sandy or loam soils and in disturbed sites and burns.	No	Alameda, Colusa, Contra Costa, El Dorado, Lake, Los Angeles, Marin, Mariposa, Mendocino, Mono, Monterey, Napa, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Shasta, Solano, Sonoma, Tehama, Tulare, Tuolumne, Ventura	Yes	10 - 1220 meters	annual herb	None: No habitat.	March - June
Carex lyngbyei	Lyngbye's sedge	CRPR 2B.2	Marshes and swamps (brackish or freshwater)	No	Del Norte, Humbolt, Mendocino, Marin, Napa	Yes	0 - 10 meters	perennial rhizomatous herb	None: No habitat and not observed during site surveys	April - August
Castilleja affinis var. neglecta	Tiburon paintbrush	ST, FE, CRPR 1B.2	Valley and foothill grassland (serpentinite); rocky serpentine sites	No	Marin, Napa, Santa Clara	Yes	60 - 400 meters	Perennial herb	None: no habitat	April - June
Calochortus pulchellus	Mt. Diablo fairy-lantern	CRPR 1B.2	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland	No	Alameda, Contra Costa, Solano	Yes	30-840 meters	perennial bulbiferous herb	None: No habitat.	April - June
Calycadenia micrantha	Small-flowered calycadenia	CRPR 1B.1	Chaparral, meadows and seeps (volcanic), valley and foothill grassland on roadsides, rocky, sometimes serpentinite, and in sparsely vegetated areas.	No	Colusa, Humbolt, Lake, Mendocino, Monterey, Napa, Trinity	Yes	5 - 1500 meters	annual herb	None: No habitat.	June - Sept.
Castilleja ambigua var. ambigua	Johnny-nip	CRPR 4.2	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pools margins.	No	Alameda, Contra Costa, Del Norte, Humbolt, Marin, Mendocino, Monterey, Napa, San Francisco, San Mateo, Santa Cruz, Solano, Sonoma, Tehama	Yes	0 - 435 meters	annual herb	None: No habitat	March - August
Castilleja ambigua var. meadii	Mead's owl-clover	CRPR 1B.1	Gravelly, volcanic, clay, meadows and seeps, vernal pools	No	Napa		450-475 meters	annual herb (hemiparasitic)	None: No habitat.	April - May
Ceanothus confusus	Rincon Ridge ceanothus	CRPR 1B.1	Volcanic or serpentinite, closed-cone coniferous forest, chaparral, cismontane woodland	No	Lake, Mendocino, Napa, Sonoma	Yes	75-1,065 meters	Perennial evergreen shrub	None: No habitat and no ceanothus species present on site.	Feb. - June
Ceanothus divergens	Calistoga ceanothus	CRPR 1B.2	Chaparral (serpentinite or volcanic, rocky)	No	Lake, Napa, Sonoma	Yes	170-950 meters	Perennial evergreen shrub	None: No habitat and no ceanothus species present on site.	Feb. - April
Ceanothus purpureus	Holly-leaved ceanothus	CRPR 1B.2	Chaparral, cismontane woodland, volcanic and rocky	No	Napa, Shasta, Solano, Sonoma, Trinity	Yes	120 - 640 meters	perennial evergreen shrub	None: No habitat and no ceanothus species present on site.	February - June
Ceanothus sonomensis	Sonoma ceanothus	CRPR 1B.2	Chaparral (sandy, serpentinite or volcanic)	No	Lake, Napa, Sonoma	Yes	215-800 meters	Perennial evergreen shrub	None: No habitat and no ceanothus species present on site.	Feb. - April
Centromadia parryi spp. parryi	Pappose tarplant	CRPR 1B.2	Chaparral, coastal prarie, meadows and seeps, marshes and swamps (coastal salt), and valley and foothill grassland (vernally mesic)	No	Butte, Colusa, Glenn, Lake, Napa, San Mateo, Solano, Sonoma	Yes	0 - 420 meters	annual herb	None: No habitat.	May - November
Centromadia parryi ssp. rudis	Parry's rough tarplant	CRPR 4.2	Valley and foothill grasslands, vernal pools	No	Butte, Colusa, Glen, Lake, Merced, Modoc, Sacramento, San Joaquin, Solano, Stanislaus, Yolo	Yes	0 - 100 meters	annual herb	None: No habitat.	May - Oct.
Chloropyron molle spp. molle	soft bird's beak	CRPR 1B.2, FE	Marshes and swamps	No	Contra Costa, Marin, Napa, Sacramento, Solano, Sonoma	Yes	0 - 3 meters	annual herb	None: No habitat.	July - November
Chorizanthe valida	Sonoma spineflower	CRPR 1B.1, SE, FE	Coastal prairie, sandy.	No	Marin, Sonoma	Yes	10 - 305 meters	annual herb	None: No habitat.	June - August

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Special Status Plant Species

Clarkia breweri	Brewer's clarkia	CRPR 4.2	Chaparral, cismontane woodland, coastal scrub, often on serpentinite.	No	Alameda, Contra Costa, Fresno, Merced, Monterey, Napa, San Benito, Santa Clara, Santa Cruz, Sonoma, Stanislaus	Yes	215 - 1115 meters	annual herb	None: No habitat.	April - June
Clarkia gracilis ssp. tracy	Tracy's clarkia	CRPR 4.2	Chaparral, openings, usually on serpentinite.	No	Colusa, Lake, Mendocino, Napa, Sonoma, Tehama, Yolo	Yes	65 - 650 meters	annual herb	None: No habitat.	April - July
Collomia diversifolia	Serpentine collomia	CRPR 4.3	Chaparral, cismontane woodland on serpentinite, rocky or gravelly soils.	No	Butte, Colusa, Contra Costa, Glenn, Humbolt, Lake, Marin, Mendocino, Napa, Riverside, San Benito, Santa Barbara, Santa Clara, Shasta, Sonoma, Stanislaus, Tehama, Trinity, Yolo	Yes	300 - 600 meters	annual herb	None: No habitat.	May - June
Crypthantha clevelandii var. dissita	Serpentine cryptantha	CRPR 1B.2	Chaparral (serpentinite)	No	Colusa, Lake, Mendocino, Napa, Shasta, Siskiyou, Sonoma	Yes	395-580 meters	annual herb	None: No habitat.	April - June
Downingia pusilla	dwarf downingia	CRPR 2B.2	Valley and foothill grassland (mesic sites), vernal pools	No	Amador, Fresno, Merced, Napa, Placer, Sacramento, San Joaquin, Solano, Sonoma, Stanislaus, Tehama, Yuba	Yes	1 - 445 meters	annual herb	None: No habitat.	March - May
Eleocharis parvula	small spikerush	CRPR 4.3	Coastal salt marshes, wetlands, and riparain habitats	No	Alameda, Contra Costa, Glenn, Humbolt, Lassen, Los Angeles, Marin, Napa, Nevada, Orange, Riverside, Sacramento, San Bernardina, San Diego, San Luis Obispo, Santa Clara, Shasta, Solano, Sonoma, Ventura	Yes	0 - 1,430 meters	perennial grass	None: No habitat and not observed during site surveys.	July - Aug.
Erigeron bioletti	Streamside daisy	CRPR 3	Broadleafed upland forest, cismontane woodland, North Coast coniferous forest on rocky and mesic sites.	No	Humbolt, Lake, Marin, Mendocino, Napa, Solano, Sonoma	Yes	30 - 1100 meters	perennial herb	None: No habitat.	June - Oct.
Erigeron greenei	Greene's narrow-leaved daisy	CRPR 1B.2	Chaparral serpentinite or volcanic	No	Colusa, Lake, Napa, Sonoma	Yes	80 - 1005 meters	perennial herb	None: no habitat	May - September
Eryngium jepsonii	Jepson's coyote thistle	CRPR 1B.2	Clay. Valley and foothill grassland, vernal pools	No	Amameda, Amador, Calaveras, Contra Costa, Fresno, Napa, San Mateo, Solano, Stanislaus, Tuolumne, Yolo	Yes	3-300 meters	perennial herb	None: No habitat and not observed during site survey	April - Aug.
Erythronium helenae	St. Helena fawn lily	CRPR 4.2	Yellow pine forest, foothill woodland, chaparral, valley grassland	No	Lake, Napa, Sonoma	Yes	310 - 980 meters	perennial herb (bulb)	None: No habitat	March - May
Extriplex (Atroplex) joaquinana	San Joaquin spearscale	CRPR 1B.2, BLM:S	Chenopod scrub, alkali meadows and seeps, playas, valley and foothill grassland	No	Alameda, Contra Costa, Colusa, Fresno, Glenn, Merced, Monterey, Napa, San Benito, Santa Clara, San Joaquin, San Luis Obispo, Solano, Tulare, Yolo	Yes	1 - 835 meters	annual herb	None: No habitat.	April - October
Gilia capitata ssp. tomentosa	wooly-headed gilia	CRPR 1B.1	Valley and foothill grassland on serpentinite, rocky soils and outcrops.	No	Del Norte, Marin, Mendocino, Santa Clara, Solano, Sonoma	Yes	10 - 220 meters	annual herb	None: No habitat	May - July
Harmonia nutans	Nodding harmonia	CRPR 4.3	Chaparral, cismontane woodland on volcanic, rocky, or gravelly soils.	No	Lake, Napa, Solano, Sonoma, Yolo	Yes	75 - 975 meters	annual herb	None: No habitat.	March - May
Helianthella castanea	Diablo helianthella	CRPR 1B.2	Usually rocky, axonal soils. Often in partial shade. Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland	No	Alameda, Contra Costa, Marin, San Francisco, San Mateo	Yes	60 - 1300 meters	perennial herb	None: No habitat.	March - June
Hemizonia congesta ssp. Congesta	Congested-headed hayfield tarplant	CRPR 1B.2	Sometimes roadsides valley and foothill grassland	No	Lake, Mendocino, Marin, San Francisco, San Mateo, Sonoma	Yes	20-560 meters	annual herb	None: No habitat	April - Nov.
Hesperolinon bicarpellatum	Two-carpellate western flax	CRPR 1B.2	Chaparral (serpentinite)	No	Lake, Napa, Sonoma	Yes	60-1005 meters	annual herb	None: No habitat.	May - July

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Special Status Plant Species

Hesperolinon breweri	Brewer's western flax	CRPR 1B.2	Chaparral, cismontane woodland, valley and foothill grassland		Alameda, Contra Costa, Napa, Solano	Yes	30 - 945 meters	annual herb	None: No habitat.	May - July
Hesperolinon sharsmithiae	Sharsmith's western flax	CRPR 1B.2	Serpentinite, chaparral	No	Lake, Napa	Yes	270-300 meters	annual herb	None: No habitat.	May - July
Horkelia tenuiloba	Thin-lobed horkelia	CRPR 1B.2	Broadleafed upland forest, chaparral, valley and foothill grassland/mesic openings, sandy.	No	Colusa, Marin, Mendocino, Sonoma	Yes	50 - 500 meters	perennial herb	None: No habitat.	May - July
Iris longipetala	coast iris	CRPR 4.2	Mixed evergreen forest, coastal prairie, wetland-riparian	No	Alameda, Contra Costa, El Dorado, Glenn, Humbolt, Kern, Marin, Mendocino, Merced, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma	Yes	10 - 320 meters	perennial herb	None: No habitat.	March - May
Isocoma arguta	Carquinez goldenbush	CRPR 1B.1	Valley and foothill grassland (alkaline)	No	Solano	Yes	1-20 meters	perennial herb	None: No habitat.	Aug. - Dec.
Juglans hindsii	Northern Californai black walnut	CRPR 1B.1	Riparian forest, riparian woodland	Yes	Contra Costa, Lake, Napa, Sacramento, Solano, Yolo	Yes	0 - 440 meters	perennial deciduous tree	None: Species is easily identified and has not been observed on site.	April - May
Lasthenia conjugens	Contra Costa goldfields	FE, CRPR 1B.1	Alkali playa, cismontane woodland, valley and foothill grassland, vernal pool, wetland	No	Alameda, Contra Costa, Mendocino, Monterey, Marin , Napa, Santa Barbara, Santa Clara, Solano, Sonoma	Yes	0 - 470 meters	annual herb	None: No habitat.	March - June
Lathyrus jepsonii var. jepsonii	Delta tule pea	CRPR 1B.2	Marshes and swamps (freshwater and brackish)	No	Contra Costa, Napa, Sacramento, San Joaquin, Solano, Sonoma, Yolo	Yes	0 - 5 meters	perennial herb	None: No habitat.	May - September
Legenere limosa	Legenere	CRPR 1B.1, BLM:S	Vernal pools	No	Alameda, Lake, Monterey, Napa, Placer, Sacramento, Santa Clara, Shasta, San Joaquin, San Mateo, Solano, Sonoma, Stanislaus, Tehama, Yuba	Yes	1 - 880 meters	annual herb	None: No habitat.	April - June
Leptosiphon acicularis	Bristly leptosiphon	CRPR 4.2	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland.	No	Alameda, Butte, Colusa, Contra Costa, Fresno, Humbolt, Inyo, Kern, Lake, Los Angeles, Marin, Mendocino, Napa, Placer, Riverside, San Benito, San Bernardino, San Diego, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma, Stanislaus, Trinity, Ventura, Yolo, Yuba	Yes	55 - 1500 meters		None: No habitat.	April - July
Leptosiphon jepsonii	Jepson's leptosiphon	CRPR 1B.2	Usully volcanic, chaparral, cismontance woodland, valley and foodhill grassland	No	Lake, Napa, Sonoma, Yolo	Yes	100 - 500 meters	annual herb	None: No habitat.	March - May
Leptosiphon latisectus	Broad-lobed leptosiphon	CRPR 4.3	Broadleafed upland forest, cismontane woodland.	No	Colusa, Del Norte, Glenn, Humbolt, Lake, Marin, Mendocino, Monterey, Napa, San Francisco, San Mateo, Shasta, Sonoma, Tehama, Trinity, Yolo	Yes	170 - 1500 meters	annual herb	None: No habitat.	April - June
Lessingia hololeuca	woolly-headed lessingia	CRPR 3	Nortern coastal scrub, yellow pine forest, valley grassland	No	Alameda, Contra Costa, Fresno, Marin, Mariposa, Mendocino, Monterey, Napa, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma, Tehama, Tulare, Tuolumne, Yolo	Yes	0 - 1350 meters	annual herb	None: No habitat.	June - October
Lilaeopsis masonii	Mason's lilaeopsis	SR, CRPR 1B.1	Marshes and swamps (brackish or freshwater), riparian scrub	No	Alameda, Contra Costa, Marin, Napa, Sacramento, San Joaquin, Solano, Yolo	Yes	0 - 10 meters	perennial rhizomatous herb	None: No habitat	April - November
Lilium rubescens	redwood lily	CRPR 4.2	yellow pine forest, red fir forest, chaparral	No	Del Norte, Glenn, Humbolt, Lake, Mendocino, Napa, Shasta, Siskiyou, Solano, Sonoma, Trinity	Yes	55 - 1,660 meters	perennial herb (bulb)	None: No habitat.	April - Aug.

Table 2
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Limnanthes vinculans	Sebastopol meadowfoam	CRBR 1B.1	Vernally mesic, meadows and seeps, valley and foothill grasslands, vernal pools	No	Napa, Sonoma	Yes	15 - 305 meters	Annual herb	None: No habitat.	April - May
Lomatium repostum	Napa lomatium	CRPR 1B.2	Chaparral, cismontane woodland on serpentinite.	No	Lake, Napa, Solano, Sonoma	Yes	90 - 830 meters	perennnial herb	None: No habitat.	March - June
Lupinus sericatus	Cobb Mountain lupine	CRPR 1B.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest	No	Colusa, Lake, Napa, Sonoma	Yes	275 - 1,525 meters	perennial herb	None: No habitat.	March - June
Micropus amphibolus	Mt. Diablo cottonweed	CRPR 3.2	Mixed evergreen forest, foothill woodland, valley grassland	No	Alameda, Contra Costa, Lake, Marin, Mendocino, Monterey, Napa, San Francisco, Santa Barbara	Yes	35 - 420 meters	annual herb	None: No habitat	March - May
Monardella viridis	green monardella	CRPR 4.3	Broadleafed upland forest, chaparral, cismontane woodland.	No	Colusa, Glenn, Lake, Los Angeles, Mendocino, Napa, Solano, Sonoma	Yes	100 - 1010 meters	perennial herb	None: No habitat.	June - Sept.
Navarretia leucocephala ssp. pauciflora	Few-flowered navarretia	CRPR 1B.1, CT, FE	Volcanic ash flow vernal pools.	No	Lake, Napa, Sonoma	Yes	30 - 950 meters	annual herb	None: No habitat	May - June
Penstemon newberryi var. sonomensis	Sonoma beardtongue	CRPR 1B.3	Chaparral, rocky	No	Lake, Napa, Sonoma	Yes	700 - 1,370 meters	Perennial herb		April - Aug.
Polygonum marinense	Marin knotweed	CRPR 3.1	Brackish marsh, marsh & swamp, salt marsh, wetland	No	Alameda, Humboldt, Marin, Napa, Solano, Sonoma	Yes	0 - 10 meters	annual herb	None: No habitat and not observed during site surveys.	April - October
Ranunculus lobbii	Lobb's aquatic buttercup	CRPR 4.2	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools/mesic.	No	Alameda, Contra Costa, Humbolt, Lake, Marin, Mendocino, Monterey, Napa, Sacramento, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma	Yes	15 - 470 meters	annual herb (aquatic)	None: No habitat.	Feb. - May
Rhynchospora californica	California beaked rush	CRPR 1B.1	Bog and fens, lower montance coniferous forests, meadows and seeps, marshes and swamps	Marginal	Butte, Marin, Napa, Sonoma	Yes	45 - 1010 meters	perennial rhizomatous herb	None: No habitat and not observed during site surveys.	May - July
Sagittaria sanfordii	Sanford's arrowhead	CRPR 1B.2	Marshes and swamps, assorted shallow freshwater	Yes	Butte, Del Norte, El Dorado, Fresno, Merced, Mariposa, Marin, Napa, Orange, Placer, Sacramento, San Bernadino, Shasta, San Joaquin, Solano, Tehama, Tulare, Ventura, Yuba	Yes	0 - 650 meters	Perennial rhizomatous herb (emergent)	None: Species not identified during bloom season surveys.	May - Oct. (Nov.)
Senecio clevelandii var. clevelandii	Cleveland's ragwort	CRPR 4.3	Chaparral in serpentine seeps.	No	Colusa, Lake, Napa	Yes	365 - 900 meters	perennial herb	None: No habitat.	June - July
Sidalcea hickmanii ssp. Napensis	Napa checkerbloom	CRPR 1B.1	Rhyolitic, chaparral	No	Napa, Sonoma	Yes	415-610 meters	perennial herb	None: No habitat.	April - June
Sidalcea hickmanii ssp. viridis	Marin checkerbloom	CRPR 1B.1	Chaparral on rhyolitic soils.	No	Marin, San Mateo, Sonoma	No	415 - 610 meters	perennial herb	None: No habitat.	April - June
Sidalcea keckii	Keck's checkerbloom	CRPR 1B.1, FE	Foothill woodland, valley grassland	No	Yolo, Tulare, Solano, Napa, Merced, Lake, Glenn, Fresno, Colusa,	Yes	140 - 730 meters	annual herb	None: No habitat.	April - May
Streptanthus hesperidis	green jewelflower	CRPR 1B.2	Serpentinite, rocky, chaparral (openings), cismontne woodland	No	Colusa, Glen, Lake, Napa, Sonoma, Yolo	Yes	130 - 760 meters	Annual herb	None: No habitat.	May - July
Symphyotrichum lentum	Suisun marsh aster	CRPR 1B.2	Marshes and swamps brackish and freshwater	No	Contra Costa, Napa, Sacramento, San Joaquin, Solano, Yolo	Yes	0 - 3 meters	perennial rhizomatous herb	None: No habitat.	April - November
Trichostema ruygtii	Napa bluecurls	CRPR 1B.2	Cismontane woodland, chaparral, valley and foothill grassland, vernal pools, lower montane coniferous forest	No	Napa, Solano	Yes	30 -680 meters	annual herb	None: No habitat.	June - October
Trifolium amoenum	Two-fork clover	FE, CRPR 1B.1	Coastal bluff scrub, valley and foothill grassland	No	Marin, Napa, Santa Clara, San Mateo, Solano, Sonoma	Yes	5 - 415 meters	annual herb	None: No habitat.	April - June

Table 2
Special Status Plant Species

Trifolium hydrophilum	saline clover	CRPR 1B.2	Marsh & swamp, valley & foothill grassland, vernal pool, wetland	Marginal	Alameda, Contra Costa, Colusa, Lake, Monterey, Napa, Sacramento, San Benito, Santa Clara, Santa Cruz, San Joaquin, San Luis Obispo, San Mateo, Solano, Sonoma, Yolo	Yes	0 - 300 meters	annual herb	None: No habitat and not observed during site surveys.	April - June
Triteleia lugens	Dark-mouthed triteleia	CRPR 4.3	Broadleafed upland forest, chaparral, coastal scrub, lower montane coniferous forest.	No	Calaceras, El Dorado, Fresno, Lake, Los Angeles, Mariposa, Monterey, Napa, Plumas, San Benito, Solano, Sonoma, Tuolumne, Yolo	Yes	100 - 1000 meters	perennial herb	None: No habitat.	April - June
Viburnum ellipticum	oval-leaved viburnum	CRPR 2B.3	Chaparral, cismontane woodland, lower montane coniferous forest	No	Alameda, Contra Costa, El Dorado, Fresno, Glenn, Humboldt, Lake, Mendocino, Mariposa, Napa, Placer, Shasta, Solano, Sonoma, Tehama	Yes	215 - 1400 meters	perennial deciduous shrub	None: No habitat.	May - June

search of food, water, mates, and other needs, or for dispersing juveniles in search of new home ranges.

The channel and associated riparian habitat along Salvador Creek are likely a wildlife movement corridor. Nearly 100% of the area surrounding the creek corridor has already been developed, which has left the channel and riparian habitats as a likely movement corridor for common area wildlife, though it is common for suburban adapted wildlife to move through residential yards. Wildlife species expected to use this movement corridor include primarily small mammals such as raccoon, skunk and opossum. However, it is likely also used by larger mammals, such as deer and coyote, as well.

The proposed project will result in less than significant impacts to wildlife movement corridors. While the project may result in minor, temporary impacts to wildlife movement during construction, the completed project will likely enhance wildlife movement by providing a broader riparian corridor, which could potentially provide easier movement and larger buffers from existing and proposed development. Overall, the project would result in potentially long-term benefits to wildlife movement.

C. Wetlands, Riparian and Other Sensitive Natural Communities

1. Wetlands and Waters

a. Jurisdictions

"Wetlands" are defined by the Corps as areas periodically or permanently saturated by surface or groundwater that support vegetation adapted to life in saturated (hydric) soil. "Other waters" (synonymous with "waters of the US/State") are defined by the Corps to include ponded waters, tributaries or similar features that may contain minor amounts of wetland vegetation but that are predominantly open water; these are typically stock ponds or ephemeral/intermittent creeks in this region.

b. Delineation Methods

Technical standards for delineating wetlands and other waters have been developed by the Corps in its Wetlands Delineation Manual (Army Corps of Engineers, Environmental Laboratory, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss., 1987 ["Delineation Manual"]) and other regulations.

Wetlands are defined by the Corps Section 404 regulations as: "Those areas that are inundated or saturated by surface or ground water 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". Thus, to be designated a wetland according to Corps regulation, a site must have a predominance of hydrophytic vegetation, evidence of hydric soils, and wetland hydrology under normal circumstances.

Other waters are defined based on water elevations and geomorphic features. In freshwater conditions, the boundary between uplands and other waters is the ordinary high water mark, which is roughly equivalent to the mean annual flood line. In tidal conditions, the boundary is set by the high tide line, roughly equivalent to mean high water.

c. Results

In 2019, the jurisdictional extents of the Salvador Creek channel were defined by RSA staff. Zentner Planning and Ecology staff reviewed and confirmed the extent of the channel jurisdiction between the OHWM as flagged in the field and as shown in RSA project construction plans (Figure TM10). Zentner updated the OHWM during the May 2024 survey and found them to be similar to those previously mapped. The OHWM is provided in the Figure 2 Habitat Map.

Zentner Planning and Ecology also conducted a jurisdictional delineation of the upland portions of the site in May 2024. No jurisdictional areas outside of the channel were observed. The vegetation, soils, and hydrology were detailed at three data points that are characteristic of the conditions within the project site (Figure 2). At each data point, the vegetation, soils, and hydrology were assessed for wetland indicators. No wetland indicators were present at any of the data points; the data sheets are included as **Appendix D**. Site conditions in the remaining parts of the site were consistent with those within the data points, so additional data points were not necessary to determine the absence of wetland habitats.

The proposed project site does not contain any wetland habitats. Below Salvador Creek's OHWM one bridge support will be removed. The removal of this support is the only minor impact below Salvador Creek's OHWM, no grading or fill will be placed and no direct impacts are anticipated.

2. Riparian

Riparian habitat occurs on the project site on either side of Salvador Creek. The riparian habitat canopy consists primarily of willows and young valley oak trees that have been planted along the creek bank. As well, there are several larger valley oak trees on the east side of the project site, downstream of the existing bridge, and a number of non-native trees including a palm. The understory within the riparian habitat is dominated by non-native species including Himalayan blackberry and Harding grass; there are few native understory species present in this habitat.

Project implementation will result in minor impacts to riparian habitats for the construction of flood overflow terrace restoration and a walking path (**Figure 3**). No impacts to the riparian habitat are expected from the bridge removal. Construction of the overflow terrace will temporarily impact 0.20-acres of riparian habitat. These impacts are necessary to excavate and lower the top of bank to create the overflow terrace and provide restoration and enhancement along this portion of Salvador Creek. As part of this work concrete, rubble, rip-rap and other debris, along with invasive Himalyan blackberry, within the creek bank will be removed. The created overflow terrace will be planted with native vegetation. Though construction of the

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FIGURE 3

Riparian Impact Map

Zinfandel Project
Napa County, California

N

Scale: 1 inch = 80 feet

0 40' 80' 160'

Legend

- Ruderal / Developed
- Riparian
- Vineyard
- Limits of the Project Site
- Impacted Riparian Area (Flood overflow terrace) - 0.20 Acres
- Impacted Riparian Area (Walking path) - 0.01 Acres

Source: Google Earth 2024	Revisions	By
Date: 8/15/2024		
Cartographer: XM		

File: C:\Users\15105\OneDrive - Zentner Planning and Ecology\Graphicprojects\1168 Zinfandel\CAD\1168_Fig 3_Riparian impact Map_081224.dwg

terrace will result in temporary impacts within riparian habitat, the project will result in a broader flood plain with increased wetland and riparian habitat. As well, the habitat temporarily impacted will have increase habitat values because concrete and other debris will be removed, and native vegetation will be planted in place of the existing non-native vegetation as part of the restoration and enhancement.

Construction of the walking path will result in impacts to 0.01 acres of riparian habitat. Though the walking path will provide necessary pedestrian and flood control maintenance access, it will look and function similar to the overflow terrace described above.

In addition to the impacts resulting from the overflow terrace and walking path, a small number of native riparian trees will be impacted by this work. These trees are largely small willow and valley oak trees that do not meet the qualifications for the City of Napa's Protected Native Tree designation.

Mitigation for impacts to riparian habitat and riparian trees will be necessary to ensure that the project does not result in significant adverse effects. Mitigation will be completed through habitat restoration and replacement tree planting as described in Section V.B.2 below and as required by the project's regulatory permit requirements.

3. Other Sensitive Natural Communities

There are no other sensitive natural communities on the project site. Figure 2 provides a map of the habitats and natural communities that occur on site.

IV. BIOLOGICAL RESOURCES

A. Regulatory Setting and Federal Framework

1. Federal Endangered Species Act

The Federal Endangered Species Act (FESA) forms the basis for the federal protection of threatened or endangered plants, insects, fish and wildlife. FESA contains four main elements, they are as follows:

1. Section 4 (16 USCA §1533): Species listing, Critical Habitat Designation, and Recovery Planning: outlines the procedure for listing endangered plants and wildlife.
2. Section 7 (§1536): Federal Consultation Requirement: imposes limits on the actions of federal agencies that might impact listed species.
3. Section 9 (§1538): Prohibition on Take: prohibits the "taking" of a listed species by anyone, including private individuals, and State and local agencies.
4. Section 10: Exceptions to the Take Prohibition: non-federal agencies can obtain an incidental take permit through approval of a Habitat Conservation Plan.

In the case of salt water fish and other marine organisms, the requirements of FESA are enforced by the National Marine Fisheries Service (NMFS). The USFWS enforces all other cases.

Section 9 of FESA as amended, prohibits the "take" of any fish or wildlife species listed under FESA as endangered. Under Federal regulation, "take" of fish or wildlife species listed as threatened is also prohibited unless otherwise specifically authorized by regulation. "Take," as defined by FESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." "Harm" includes not only the direct taking of a species itself, but the destruction or modification of the species' habitat resulting in the potential injury of the species. As such, "harm" is further defined to mean "an act which actually kills or injures wildlife; such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR 17.3).

Section 9 applies to any person, corporation, federal agency, or any local or State agency. If "take" of a listed species is necessary to complete an otherwise lawful activity, this triggers the need to obtain an incidental take permit either through a Section 7 Consultation as discussed further below (for federal actions or private actions that are permitted or funded by a federal agency), or requires preparation of a Habitat Conservation Plan (HCP) pursuant to Section 10 of FESA (for state and local agencies, or individuals, and projects without a federal "nexus").

Section 7(a)(2) of the Act requires that each federal agency consult with the USFWS to ensure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of critical habitat for listed species. The Section 7 consultation process applies only to actions taken by federal agencies, or actions by private parties that require federal agency permits, approval, or funding (for example, a private landowner applying to the Corps for a permit). Section 7's consultation process is triggered by a determination of the "action agency" (i.e., the federal agency that is carrying out, funding, or approving a project)

that the project "may affect" a listed species or critical habitat. If an action is likely to adversely affect a listed species or designated critical habitat, formal consultation with the USFWS is required.

2. Federal Migratory Bird Treaty Act (FMBTA)

The Migratory Bird Treaty Act of 1918 (16 U.S.C. §§ 703-712, July 3, 1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989) makes it unlawful to "take" (kill, harm, harass, shoot, etc.) any migratory bird listed in Title 50 of the Code of Federal Regulations, Section 10.13, including their nests, eggs, or young. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, wading birds, seabirds, and passerine birds (such as warblers, flycatchers, swallows, etc.).

3. Federal Clean Water Act

Section 404

Pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344), the U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged or fill material into "waters of the United States" (33 CFR Part 320 *et seq.*). This requires project applicants to obtain authorization from the USACE prior to discharging dredged or fill material into any water of the United States. The "waters of the United States" are defined in federal regulations at 33 CFR section 328.3, and may include wetlands, ponds, drainages, creeks, streams, and other types of waterbodies, depending on whether any such aquatic feature meets current jurisdictional standards.

To remain in compliance with Section 404 of the Clean Water Act, project proponents and property owners (applicants) are required to acquire authorization from the USACE prior to discharging or otherwise impacting "waters of the United States." This authorization is typically given by reference to compliance with an existing Nationwide Permit(s) or by issuance of a project-specific Individual Permit.

Section 401

Prior to issuance by a Section 404 authorization by the USACE, Section 401 of the federal Clean Water Act requires the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCB) to certify, conditionally certify, or waive certification on the question of whether issuance of the USACE permit will violate water quality standards of the State. This certification (or waiver thereof) applies only to the proposed impacts to the "waters of the United States" that are at issue in the proposed Section 404 permit. Potential impacts to "waters of the State" that may not be jurisdictional for the USACE are addressed under the RWQCB's Porter-Cologne Water Quality Control Act statutory authority (see below).

B. State Framework

1. California Endangered Species Act

In 1984, the state legislated the California Endangered Species Act (CESA) (Fish and Game Code §2050). The basic policy of CESA is to conserve and enhance endangered species and their habitats.

If proposed projects would result in impacts to a State listed species, an "incidental take" permit pursuant to §2081 of CDFG Code would be necessary (versus a Federal incidental take permit for Federal listed species). No §2081 permit may authorize the take of a species for which the Legislature has imposed strict prohibitions on all forms of "take."

State and federal incidental take permits are typically only authorized if applicants are able to demonstrate that impacts on the listed species in question are unavoidable, and can be mitigated to an extent that the reviewing agency can conclude that the proposed impacts would not jeopardize the continued existence of the listed species under review.

2. California Fish and Game Code

Section 4700

In accordance with California Fish and Game Code, Section 4700, "fully protected" mammals or parts thereof may not be taken or possessed (held in captivity) at any time (a) (1), except as provided in Section 2081.7. 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 mammal, and no permits or licenses heretofore issued shall have any force or effect for that purpose. However, subject to certain notice requirements, the department may authorize the taking of those species for necessary scientific research, including efforts to recover fully protected, threatened, or endangered species.

Sections 3503, 3503.5, 3511, and 3513

CDFG Code §§ 3503, 3503.5, 3511, and 3513 prohibit the take, possession, or destruction of the nest or eggs of any bird. Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered "take." Take of any migratory nongame bird is also prohibited, except in compliance with rules promulgated under the Migratory Bird Treaty Act.

All raptors (that is, hawks, eagles, owls) their nests, eggs, and young are protected under California Fish and Game Code (§3503.5). Additionally, "fully protected" birds, such as the white-tailed kite (*Elanus leucurus*) and golden eagle (*Aquila chrysaetos*), are protected under CDFG Code (§3511). "Fully protected" birds may not be taken or possessed (that is, kept in captivity) at any time.

Section 1602

Pursuant to Section 1602 of the Fish and Game Code, CDFG regulates activities that divert, obstruct, or alter stream flow, or substantially modify the bed, channel, or bank of a stream. CDFG's jurisdiction includes the outer extent of any riparian vegetation associated with the stream. Any proposed activity in a natural stream channel that would substantially adversely affect an existing fish and/or wildlife resource, would require entering into a Streambed Alteration Agreement (SBAA) with CDFG prior to commencing work in the stream.

3. Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Control Act, Water Code § 13260, requires that "any person discharging waste, or proposing to discharge waste, that could affect the waters of the State to file a report of discharge" with the RWQCB through an application for waste discharge (Water Code Section 13260(a)(1). The SWRCB and its several RWQCBs have interpreted this authority to extend to proposed fills of "waters of the State" that include all "waters of the United States" that are subject to the jurisdiction of the USACE, and any other "isolated" waters that are beyond the reach of the USACE claim of jurisdiction.

C. Environmental Analysis

1. CEQA Thresholds of Significance

According to Appendix G of the CEQA Guidelines, the proposed project would have significant impacts on biological resources if it would:

1. 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 CDFG or U.S. Fish and Wildlife Service (USFWS).
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by CDFG or USFWS.
3. Have a substantial adverse effect on federally protected "wetlands" or "Waters of the U.S." as defined by Section 404 of the Clean Water Act or "Waters of the State" as defined by the Porter-Cologne Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
4. 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.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

D. Applicable Local Restrictions

1. Napa County Code

18.108.025 - General provisions—Intermittent/perennial streams.

A. Applicability. The provisions of this section shall apply to those streams defined by Section 18.108.030. The final administrative determination of whether a particular watercourse is subject to the specific provisions of this section shall rest with the director.

B. Setback Requirements. In addition to any requirements of the floodway and floodplain regulations set forth in Title 16, construction of main or accessory structures, earthmoving activity, grading or removal of vegetation or agricultural uses of land (including access roads, avenues and tractor turnaround areas, or other improvements necessary for ongoing agricultural operations) as defined by Section 18.08.040 shall be prohibited within the stream setback areas established below unless specifically permitted in subsection (E) of this section, exempt pursuant to Section 18.108.050, or authorized by the commission through the granting of an exception in the form of a use permit pursuant to Section 18.108.040. "Ephemeral or intermittent streams" that are not included under the definition of a "stream" are subject to a 35-foot setback.

18.108.026 - General provisions—Wetlands.

Construction of main or accessory structures, earthmoving activity, land clearing or agricultural uses of land as defined by Section 18.08.040 shall be set back 50 feet from the delineated wetland boundary. In limited circumstances, the 50-foot setback may be reduced if recommended by a qualified professional biologist and approved by the director.

Section 18.108.100 – Erosion Hazard Areas - Vegetation Preservation and Management

Discretionary permits, and in some cases administrative permits, for projects in the County's jurisdiction on slopes greater than 5 percent are subject to a number of conditions, requiring the preservation of existing vegetation wherever feasible and where necessary for the preservation of threatened plant or animal species; and in some cases, no removal of trees 6 inches or more in diameter at breast height without authorization and replacement; and re-vegetation of graded/disturbed areas.

Napa County Code 18.108.100 may require the following conditions when granting a discretionary permit for activities on slopes greater than 5 percent:

- Existing vegetation shall be preserved to the maximum extent feasible. Vegetation shall not be removed if necessary for erosion control or preservation of habitat for threatened or endangered species.
- An approved erosion control plan (ECPA) permit or grading permit is required for the grading associated with the removal of trees or tree stands measuring six inches in diameter (dbh) or larger. Replacement of removed protected trees located outside of the approved project boundary may be required. Trees to be avoided by project activities shall be protected through fencing or other methods during construction.

V. POTENTIAL IMPACTS AND MITIGATION

A. CEQA Significance Criteria

The California Environmental Quality Act (CEQA) and the CEQA Guidelines provide guidance in evaluating project impacts and determining which impacts can be termed "significant". CEQA defines "significant effect on the environment" as "a substantial adverse change in the physical conditions which existed in the area affected by the proposed project". Under the CEQA Guidelines, a project's effects on biotic resources may be significant when the project would result in one or more of the following:

- "substantially reduce the habitat of a fish or wildlife species," including causing a fish or wildlife population to drop below self-sustaining levels or threatening to eliminate an animal community.
- "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 CDFG or USFWS"
- "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 the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan."

B. Project Impacts

1. Less Than Significant Impacts

Would the project conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan?

There are no existing landscape-level HCP's or NCCP's within Napa County. Therefore, the implementation of the project would not conflict with any such plans.

2. Potentially Significant Impacts

Impact 1: Development of the project could have a potentially significant impact on the northwestern pond turtle.

A juvenile northwestern pond turtle was observed within Salvador Creek during an May 2024 site survey. Though Salvador Creek will not be impacted by the proposed project, the channel banks and riparian areas could be used by the turtle. Because portions of the channel banks will be impacted by the project, construction related activities could result in the loss of individual western pond turtles in the vicinity of the channel. Therefore, the following measures

shall be implemented to reduce potential impacts on western pond turtles. These impacts will be mitigated to a level considered less than significant by implementing Mitigation Measure 1-1 and 1-2.

Mitigation Measure 1-1: Within 5 days of construction, a qualified biologist shall conduct a preconstruction survey for the northwestern pond turtle and northwestern pond turtle nest sites. The survey shall encompass all potential nest sites (loose soils or duff) within 1,000 feet of Salvador Creek or within the project limits. If eggs, individuals, or hatchlings are discovered, CDFW shall be contacted for guidance on appropriate avoidance and minimization measures. Project activities shall not commence until approved by CDFW.

Mitigation Measure 1-2: After the preconstruction survey and prior to grading activities, an exclusion fence shall be placed just above the OHWM along the edge of construction. The fence shall run along the entire length of the property where work will be conducted and tie into existing adjacent fencing. Because of the existing placement of cement and other debris along the channel banks, installation of the fencing is not likely to be feasible until this debris is removed. Therefore, a biologist shall be present during the removal of the debris prior to the installation of the exclusion fence. If necessary, steel plates held in place along the OHWM by equipment or other methods may be used in order to ensure that the debris does not fall back into the channel during the debris removal process. After the removal of debris, the exclusion fence shall be installed with a qualified biologist present during the fence installation. Personnel involved with the removal of debris and the installation of exclusion fencing and onsite supervision of the same, shall receive environmental awareness training regarding the ecology of the pond turtle, its status, habitat, approved avoidance and minimization measures, and penalties for violations.

The fencing will be standard silt fencing, approximately forty-two (42) inches in height that will be trenched six (6) inches into the soil. The soil will then be compacted against both sides of the fence to prevent wildlife from gaining access underneath. The stakes will be placed on the inside of the fence facing the development. No gaps or holes are permitted in the fencing system, except for pedestrian and vehicle entry points.

The entry/exit points may be constructed in the fencing system for equipment and personnel, but the qualified biologist must ensure no wildlife is capable of entering the fenced off site via the gate. The gate structure must be flush to the ground with no holes or gaps (i.e. plywood gates with silt fencing flaps).

The fence will be inspected occasionally by a qualified biologist for holes, gaps, or access points, which shall be repaired upon discovery and a biological monitor will be trained to review the condition of the fence daily. The biological monitor will also inspect the site for trapped wildlife daily, prior to the initiation of construction each day. If wildlife is discovered the fence shall be opened and monitored until the wildlife has left the fenced area on its own accord, no work shall occur during this period. If the wildlife does not leave on its own accord CDFW will be contacted before work may continue.

Level of Significance After Mitigation: Less Than Significant

Impact 2: The project may result in direct or indirect impacts to nesting birds.

The site's trees and shrubs provide potential nesting habitat for nesting raptors. In addition, nesting birds protected by the Migratory Bird Treated Act also have the potential to nest on-site. Should these be present, construction-related activities could result in their loss, which would result in a substantial adverse effect to a special status species.

Mitigation Measure 2-1*:* If construction would commence anytime during the nesting/breeding season of the raptors or bird species listed in the Migratory Bird Treaty Act (typically February through August), a pre-construction survey of the project vicinity for nesting birds should be conducted. This survey should be conducted by a qualified biologist (experienced with the nesting behavior of bird species of the region) within 7 days prior to the commencement of construction activities that would occur during the nesting/breeding season. The intent of the survey should be to determine if active nests are present within or adjacent to the construction zone within approximately 250 feet. The surveys should be timed such that the last survey is concluded no more than one week prior to initiation of construction. If ground disturbance activities are delayed following a survey, then an additional pre-construction survey should be conducted such that no more than two weeks will have elapsed between the last survey and the commencement of ground disturbance activities.

If active nests are found in areas that could be directly or indirectly affected by the project, a no-disturbance buffer zone should be created around active nests during the breeding season or until a qualified biologist determines that all young have fledged. The size of the buffer zones and types of construction activities restricted within them should be determined through consultation with the CDFW depending on the species, taking into account factors such as the following:

- Noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity;

- Distance and amount of vegetation or other screening between the construction site and the nest; and

- Sensitivity of individual nesting species and behaviors of the nesting birds.

The buffer zone around an active nest should be established in the field with orange construction fencing, or another appropriate barrier and construction personnel should be instructed on the sensitivity of nest areas. The biologist should serve as a construction monitor during those periods when construction activities would occur near active nest areas of special status bird species to ensure that no impacts on these nests occur.

Level of Significance After Mitigation: Less Than Significant

Impact 3: Development of the project could have a potentially significant impact on special status bat species.

The trees and structures on the site provide potentially suitable roosting habitat for bats, including pallid bat. Though no signs of bat use have been observed within the project site, there is a possibility that bat species could use the trees and bridge structure for roosting. The structure and a number of the trees will be removed as part of the project. Any project-related impacts to bat species would be considered a significant adverse impact.

Mitigation Measure 3-1: For construction activities between October 16 and August 14: Prior to the commencement of construction activities, a qualified biologist shall conduct a focused survey to determine the presence/absence of any special status bat species. If bats are found then a plan for removal or exclusion of any tree between October 16 and August 14 will be developed by a qualified biologist in conjunction with the CDFW.

For construction activities between August 15 and October 15: If trees are to be removed between August 15 and October 15, they will be trimmed and removed in a two-phased system conducted over two consecutive days under the supervision of a qualified biologist. The first day (afternoon), limbs, branches and trunks without cavities, crevices and deep bark fissures are removed by chainsaw only. Limbs and trunks with cavities, crevices and bark fissures would be avoided. On the second day, the remainder of the tree may be removed.

Level of Significance After Mitigation: Less Than Significant

Impact 4: Development of the project could have a potentially significant impact on riparian habitats.

Construction of a flood overflow terrace restoration will result in temporary impacts to 0.20-acres of riparian habitat and construction of a walking path will result in impacts to 0.01 acres of riparian habitat. Riparian habitat is a special habitat community and has state protections. Therefore, temporary and permanent impacts to this habitat could be considered significant. Impacts to riparian habitats will be mitigated to a level considered less than significant by implementing Mitigation Measure 4-1.

Mitigation Measure 4-1: All riparian habitat temporarily impacted by project restoration shall be restored to a condition similar to or better than (i.e. with increased habitat values) the pre-construction conditions. All riparian habitat permanently impacted by project implementation shall be mitigated on site through the creation of new riparian habitat. Mitigation for permanent impacts shall be completed at a 2:1 ration of created to impacted habitat.

A riparian habitat mitigation plan shall be prepared and approved as part of the project's CDFW and RWQCB permits. The habitat mitigation plan shall include, at a minimum, the following information:

- Description of the project and proposed impact.
- Identification of proposed mitigation or planting/restoration areas.

- A list of native trees and shrubs to be planted, sizes and spacing. The plant species to be planted shall be native species adapted to the area and known to grow within the existing plant community.
- Plantings will be done during the optimal season for the species being planted which is typically in the winter season.
- Target success criteria will be established.
- Invasive exotic plant species will be controlled to the maximum extent practicable to accomplish the revegetation effort.
- All disturbed areas will be seeded with a native herbaceous seed mix to be developed as part of the restoration plan.
- An annual report will be prepared each year for a minimum of five years and submitted CDFW and the RWQCB that describes the revegetation effort, survival of the plantings and any recommendations for maintenance and work needed to ensure a successful restoration effort.

Level of Significance After Mitigation: Less Than Significant

Impact 5: Development of the project could have a potentially significant impact on riparian trees.

The project will remove a small number of native riparian trees for the construction of the overflow terrace and walking path. As well, project work around native trees could adversely affect these trees if adequate protection measures are not implemented. If not mitigated, the loss of native riparian trees could be considered significant. Impacts to riparian trees may be mitigated to a level considered less than significant by implementing Mitigation Measures 5-1 and 5-2.

Mitigation Measure 5-1: The removal of any native trees that is protected by the City of Napa's Protected Native Tree designation shall be mitigated per the City of Napa's mitigation requirements. As well, the removal of any native riparian shall be mitigated per the requirements of the regulatory agencies (CDFW and RWQCB). At a minimum, each native riparian tree removed shall be replaced by planting one native riparian tree within the riparian corridor. Replacement trees shall be monitored for a period of 5 years after planting to ensure their success establishment within the riparian corridor.

Mitigation Measure 5-2: Tree protection zones (TPZ) shall be established and identified in the field to protect trees that will be preserved by the project. The TPZ shall be a radii around the preserved tree equal to one foot per inch of trunk diameter. The TPZ shall be marked in the field using orange construction fencing and no equipment shall enter, nor should any work be performed within the TPZ. Should work within the TPZ be necessary, a certified arborist should be consulted to determine if monitoring and/or mitigation measures need to be implemented to protect the tree while this work is performed.

Level of Significance After Mitigation: Less Than Significant

VI. REFERENCES

Barbour, R. W. and W. H. Davis. 1969. Bats of America. University Press of Kentucky, Lexington, 286 pp.

Bolster, B.C., editor. 1998. Terrestrial Mammal Species of Special Concern in California. Draft Final Report prepared by P.V. Brylski, P.W. Collins, E.D. Pierson, W.E. Rainey and T.E. Kucera. Report submitted to California Department of Fish and Game Wildlife Management Division, Nongame Bird and Mammal Conservation Program for Contract No. FG3146WM.

Constantine, D. G., 1959. Ecological observations on lasiurine bats in the north bay area of California. Journal of Mammalogy 40(1):13-15.

Jennings, M.R. and M.P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. Prepared for the California Department of Fish and Game Inland Fisheries Division Rancho Cordova, CA. November 1.

Hall, E.R. 1981. The mammals of North America. Vol. 2. John Wiley and Sons, Inc., NY. 600 p.

Martin, C. O. and D. J. Schmidly. 1982. Taxonomic Review of the Pallid Bat, Antrozous pallidus. Volume 18. Lubbock, Texas. Texas Tech Books. 48 p.

Morey, S. 2000. Foothill Yellow-legged Frog: California Wildlife Habitat Relationships System. California Department of Fish and Game. California Interagency Wildlife Task Group.

Piaggio, A. and R. Sherwin. 2005. *Corynorhinus townsendii* Townsend's Big-eared Bat. Western Bat Working Group.

Pierson, E. D. and W. E. Rainey. 1994. Distribution, Status, and Management of Townsend's Big-eared Bat (*Corynorhinus townsendii*) in California. State of California The Resources Agency Department of Fish and Game.

Pierson, E.D., W.E. Rainey and C. Corben. 2006. Distribution and status of Western red bats (Lasiurus blossevillii) in California. Calif. Dept. Fish and Game, Habitat Conservation Planning Branch, Species Conservation and Recovery Program Report 2006-04, Sacramento, CA 45 pp.

Shump, K. A., Jr. and A. U. Shump. 1982. Lasiurus blossevillii. American Society of Mammalogists, Lawrence, KS. Mammalian Species No. 185:1-5.

Leidy, R.A., G.S. Becker, B.N. Harvey. 2005. Historical distribution and current status of steelhead/rainbow trout *(Oncorhynchus mykiss)* in streams of the San Francisco Estuary, California. Center for Ecosystem Management and Restoration, Oakland, CA.

Stebbins, Robert C. 2003. *A Field Guide to Western Reptiles and Amphibians*. 3rd Edition. Houghton Mifflin Company.

Stebbins, Robert C., and McGinnis, Samuel M. 2012. *Field Guide to Amphibians and Reptiles of California: Revised Edition* (California Natural History Guides) University of California Press.

Wildlife Research Associates (WRA) and Jane Valerius Environmental Consulting. 2018. Habitat Assessment: 1583 and 1657 El Centro Avenue, Napa County, CA.

Zentner Planning and Ecology. 2019. Riparian Special Status Habitat and Species Analysis.

Appendix A

Plant and Wildlife Species Observed on Site

Zinfandel Project
April 2024 Wildlife List

Common Name	*Species*
Birds	
turkey vulture	*Cathartes aura*
mourning dove	*Zenaida macroura*
tree swallow	*Tachycineta bicolor*
American crow	*Corvus brachyhynchos*
house finch	*Carpodacus mexicanus*
red tailed hawk	*Buteo jamaicensis*
red winged blackbird	*Agelaius phoeniceus*
mallard	*Anus platyrhynchos*
white crowned sparrow	*Zonotrichia leucophrys*
Other Wildlife	
mole (burrow)	*Scapanus sp.*
northwestern pond turtle	*Actinemys marmorata*
western fence lizard	*Sceloporus occidentalis*
beaver (dams)	*Castor canadensis*
mosquito fish	*Gambusia affinis*

Zinfandel Project
May 2024 Plant List

Common Name	*Botanical Name*	Native
<u>Ruderal/Developed Habitat</u>		
wild oats	*Avena fatua*	
scarlet pimpernel	*Anagallis arvensis*	
ripgut brom	*Bromus diandrus*	
soft chess	*Bromus hordeaceus*	
Italian thistle	*Carduus pycnocephalus*	
storkbill	*Erodium botrys*	
brome fescue	*Festuca bromoides*	X
Italian ryegrass	*Festuca perennis*	
Mediterranean barley	*Hordeum marinim*	
hare barley	*Hordeum murinum*	
mallow	*Malva parviflora*	
pineapple weed	*Matricaria discoidea*	
bur clover	*Medicago polymorpha*	
annual bluegrass	*Poa annua*	
knotweed	*Polygonum aviculare*	
black locust	*Robinia psuedoacacia*	
prickly sow thistle	*Sonchus asper*	
red sandspurry	*Spegularia rubra*	

Common Name	*Botanical Name*	Native
Riparian		
alder	*Alnus rhombifolia*	X
black mustard	*Brassica nigra*	
ripgut	*Bromus diandrus*	
cleavers	*Galium aparine*	X
little robin	*Geranium purpureum*	
California walnut	*Juglands hindsii*	X
English walnut	*Juglans regia*	X
prickly lettuce	*Lactuca serriola*	
floating primrose	*Ludwigia peploides*	
Japanese privet	*Lugustrum ovalifolium*	
yellow sweetclover	*Melilotus indicus*	
olive	*Olea europaea*	
Harding grass	*Phalaris aquatica*	
almond	*Prunus dulcis*	
coast live oak	*Quercus agrifolia*	X
valley oak	*Quercus lobata*	X
wild radish	*Raphanus sativus*	
garden (horticultural) rose	*Rosa sp.*	
Himalayan blackberry	*Rubus armeniacus*	
curly dock	*Rumex crispus*	
weeping willow	*Salix babylonica*	
arroyo willow	*Salix lasiolepis*	X
cattail	*Typha sp.*	X
vetch	*Vicia sativa*	
periwinkle	*Vinca major*	
Mexican fan palm	*Washingtonia robusta*	

Common Name	*Botanical Name*	Native
Vineyard		
wild garlic	*Allium sativum*	
wild oats	*Avena fatua*	
Chilean brome	*Bromus catharticus*	
soft chess	*Bromus hordeaceus*	
bindweed	*Convolvulus arvensis*	
Italian ryegrass	*Festuca perennis*	
fig	*Ficus carica*	
cleavers	*Galium aparine*	X
cut-leaf geranium	*Geranium dissectum*	
prickly ox-tongue	*Helminotheca echioides*	
Mediterranean barley	*Hordeum marinum*	
sharpleaf cancerwort	*Kickxia elatine*	
wild lettuce	*Lactuca saligna*	
prickly lettuce	*Lactuca serriola*	
alkali mallow	*Malvella leprosa*	
black medic	*Medicago lupilina*	
English plantain	*Plantago lanceolata*	
radish	*Raphinus sativus*	
prickly sow thistle	*Soncus asper*	
red sandspurry	*Spegularia rubra*	
sock destroyer	*Torilis arvensis*	
vetch	*Vicia sativa*	

Appendix B

CNDDB and CNPS Species Lists

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Napa (3812233) OR Mt. George (3812232) OR Cordelia (3812222) OR Capell Valley (3812242) OR Sonoma (3812234) OR Yountville (3812243) OR Rutherford (3812244) OR Cuttings Wharf (3812223) OR Sears Point (3812224))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Acipenser medirostris pop. 1 green sturgeon - southern DPS	AFCAA01031	Threatened	None	G2T1	S1	SSC
Adela oplerella Opler's longhorn moth	IILEE0G040	None	None	G2	S2	
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S2	SSC
Agrostis hendersonii Henderson's bent grass	PMPOA040K0	None	None	G2Q	S2	3.2
Allium peninsulare var. franciscanum Franciscan onion	PMLIL021R1	None	None	G4G5T2	S2	1B.2
Amorpha californica var. napensis Napa false indigo	PDFAB08012	None	None	G4T2	S2	1B.2
Amsinckia lunaris bent-flowered fiddleneck	PDBOR01070	None	None	G3	S3	1B.2
Andrena blennospermatis Blennosperma vernal pool andrenid bee	IIHYM35030	None	None	G2	S1	
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Arctostaphylos stanfordiana ssp. decumbens Rincon Ridge manzanita	PDERI041G4	None	None	G3T1	S1	1B.1
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Astragalus claranus Clara Hunt's milk-vetch	PDFAB0F240	Endangered	Endangered	G1	S1	1B.1
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S2	SSC
Balsamorhiza macrolepis big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
Blennosperma bakeri Sonoma sunshine	PDAST1A010	Endangered	Endangered	G1	S1	1B.1
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G2G3	S1S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Bombus occidentalis western bumble bee	IIHYM24252	None	Candidate Endangered	G3	S1	
Bombus pensylvanicus American bumble bee	IIHYM24260	None	None	G3G4	S2	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Brodiaea leptandra narrow-anthered brodiaea	PMLIL0C022	None	None	G3?	S3?	1B.2
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S4	
Calasellus californicus An isopod	ICMAL34010	None	None	G2	S3	
Carex lyngbyei Lyngbye's sedge	PMCYP037Y0	None	None	G5	S3	2B.2
Castilleja affinis var. neglecta Tiburon paintbrush	PDSCR0D013	Endangered	Threatened	G4G5T1T2	S1S2	1B.2
Castilleja ambigua var. meadii Mead's owls-clover	PDSCR0D404	None	None	G4T1	S1	1B.1
Ceanothus confusus Rincon Ridge ceanothus	PDRHA04220	None	None	G1	S1	1B.1
Ceanothus divergens Calistoga ceanothus	PDRHA04240	None	None	G2	S2	1B.2
Ceanothus purpureus holly-leaved ceanothus	PDRHA04160	None	None	G2	S2	1B.2
Ceanothus sonomensis Sonoma ceanothus	PDRHA04420	None	None	G2	S2	1B.2
Centromadia parryi ssp. parryi pappose tarplant	PDAST4R0P2	None	None	G3T2	S2	1B.2
Charadrius nivosus nivosus western snowy plover	ABNNB03031	Threatened	None	G3T3	S3	SSC
Chloropyron molle ssp. molle soft salty bird's-beak	PDSCR0J0D2	Endangered	Rare	G2T1	S1	1B.2
Circus hudsonius northern harrier	ABNKC11011	None	None	G5	S3	SSC
Coastal Brackish Marsh Coastal Brackish Marsh	CTT52200CA	None	None	G2	S2.1	
Coturnicops noveboracensis yellow rail	ABNME01010	None	None	G4	S2	SSC
Cypseloides niger black swift	ABNUA01010	None	None	G4	S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Danaus plexippus plexippus pop. 1 monarch - California overwintering population	IILEPP2012	Candidate	None	G4T1T2Q	S2	
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T3	S3	
Dicamptodon ensatus California giant salamander	AAAAH01020	None	None	G2G3	S2S3	SSC
Downingia pusilla dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	Proposed Threatened	None	G3G4	S3	SSC
Erethizon dorsatum North American porcupine	AMAFJ01010	None	None	G5	S3	
Erigeron greenei Greene's narrow-leaved daisy	PDAST3M5G0	None	None	G2?	S2?	1B.2
Eryngium jepsonii Jepson's coyote-thistle	PDAPI0Z130	None	None	G2	S2	1B.2
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	
Geothlypis trichas sinuosa saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
Gonidea angulata western ridged mussel	IMBIV19010	None	None	G3	S2	
Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
Hemizonia congesta ssp. congesta congested-headed hayfield tarplant	PDAST4R0W1	None	None	G5T2	S2	1B.2
Hesperolinon breweri Brewer's western flax	PDLIN01030	None	None	G2	S2	1B.2
Hesperolinon sharsmithiae Sharsmith's western flax	PDLIN010E0	None	None	G2Q	S2	1B.2
Horkelia tenuiloba thin-lobed horkelia	PDROS0W0E0	None	None	G2	S2	1B.2
Hydroprogne caspia Caspian tern	ABNNM08020	None	None	G5	S4	
Hypomesus transpacificus Delta smelt	AFCHB01040	Threatened	Endangered	G1	S1	
Isocoma arguta Carquinez goldenbush	PDAST57050	None	None	G1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Lasiurus frantzii western red bat	AMACC05080	None	None	G4	S3	SSC
Lasthenia conjugens Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3T1	S2	FP
Lathyrus jepsonii var. jepsonii Delta tule pea	PDFAB250D2	None	None	G5T2	S2	1B.2
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2	1B.1
Leptosiphon jepsonii Jepson's leptosiphon	PDPLM09140	None	None	G2G3	S2S3	1B.2
Lilaeopsis masonii Mason's lilaeopsis	PDAPI19030	None	Rare	G2	S2	1B.1
Limnanthes vinculans Sebastopol meadowfoam	PDLIM02090	Endangered	Endangered	G1	S1	1B.1
Lupinus sericatus Cobb Mountain lupine	PDFAB2B3J0	None	None	G2?	S2?	1B.2
Melospiza melodia maxillaris Suisun song sparrow	ABPBXA301K	None	None	G5T3	S2	SSC
Melospiza melodia samuelis San Pablo song sparrow	ABPBXA301W	None	None	G5T2	S2	SSC
Nannopterum auritum double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
Navarretia leucocephala ssp. pauciflora few-flowered navarretia	PDPLM0C0E4	Endangered	Threatened	G4T1	S1	1B.1
Northern Coastal Salt Marsh Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
Northern Vernal Pool Northern Vernal Pool	CTT44100CA	None	None	G2	S2.1	
Nycticorax nycticorax black-crowned night heron	ABNGA11010	None	None	G5	S4	
Oncorhynchus mykiss irideus pop. 8 steelhead - central California coast DPS	AFCHA0209G	Threatened	None	G5T3Q	S3	SSC
Penstemon newberryi var. sonomensis Sonoma beardtongue	PDSCR1L483	None	None	G4T3	S3	1B.3
Pogonichthys macrolepidotus Sacramento splittail	AFCJB34020	None	None	G3	S3	SSC
Polygonum marinense Marin knotweed	PDPGN0L1C0	None	None	G2Q	S2	3.1
Rallus obsoletus obsoletus California Ridgway's rail	ABNME05011	Endangered	Endangered	G3T1	S2	FP

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Rana boylii pop. 1 foothill yellow-legged frog - north coast DPS	AAABH01051	None	None	G3T4	S4	SSC
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Reithrodontomys raviventris salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S3	FP
Rhynchospora californica California beaked-rush	PMCYP0N060	None	None	G1	S1	1B.1
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S3	
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Serpentine Bunchgrass Serpentine Bunchgrass	CTT42130CA	None	None	G2	S2.2	
Sidalcea hickmanii ssp. napensis Napa checkerbloom	PDMAL110A6	None	None	G2T1	S1	1B.1
Sidalcea keckii Keck's checkerbloom	PDMAL110D0	Endangered	None	G2	S2	1B.1
Sorex ornatus sinuosus Suisun shrew	AMABA01103	None	None	G5T1T2Q	S1S2	SSC
Speyeria callippe callippe callippe silverspot butterfly	IILEPJ6091	Endangered	None	G5T1	S1	
Speyeria zerene sonomensis Sonoma zerene fritillary	IILEPJ6083	None	None	G5T1	S1	
Spirinchus thaleichthys longfin smelt	AFCHB03010	Proposed Endangered	Threatened	G5	S1	
Streptanthus hesperidis green jewelflower	PDBRA2G510	None	None	G2G3	S2S3	1B.2
Stygobromus cowani Cowan's amphipod	ICMAL05D70	None	None	G1	S1	
Symphyotrichum lentum Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
Syncaris pacifica California freshwater shrimp	ICMAL27010	Endangered	Endangered	G2	S2	
Taricha rivularis red-bellied newt	AAAAF02020	None	None	G2	S2	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Trachusa gummifera San Francisco Bay Area leaf-cutter bee	IIHYM80010	None	None	G1	S1	
Trichostema ruygtii Napa bluecurls	PDLAM220H0	None	None	G1G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Trifolium amoenum two-fork clover	PDFAB40040	Endangered	None	G1	S1	1B.1
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2
Viburnum ellipticum oval-leaved viburnum	PDCPR07080	None	None	G4G5	S3	2B.3

Record Count: 106

ScientificName	CommonName	Lifeform
Agrostis hendersonii	Henderson's bent grass	annual herb
Allium peninsulare var. franciscan	Franciscan onion	perennial bulbiferous herb
Amorpha californica var. napensis	Napa false indigo	perennial deciduous shrub
Amsinckia lunaris	bent-flowered fiddleneck	annual herb
Antirrhinum virga	twig-like snapdragon	perennial herb
Arabis modesta	modest rockcress	perennial herb
Arctostaphylos stanfordiana ssp.	Rincon Ridge manzanita	perennial evergreen shrub
Astragalus claranus	Clara Hunt's milk-vetch	annual herb
Astragalus clevelandii	Cleveland's milk-vetch	perennial herb
Astragalus tener var. tener	alkali milk-vetch	annual herb
Balsamorhiza macrolepis	big-scale balsamroot	perennial herb
Blennosperma bakeri	Sonoma sunshine	annual herb
Brodiaea leptandra	narrow-anthered brodiaea	perennial bulbiferous herb
Calandrinia breweri	Brewer's calandrinia	annual herb
Carex lyngbyei	Lyngbye's sedge	perennial rhizomatous herb
Castilleja affinis var. neglecta	Tiburon paintbrush	perennial herb (hemiparasitic)
Castilleja ambigua var. ambigua	johnny-nip	annual herb (hemiparasitic)
Castilleja ambigua var. meadii	Mead's owls-clover	annual herb (hemiparasitic)
Ceanothus confusus	Rincon Ridge ceanothus	perennial evergreen shrub
Ceanothus divergens	Calistoga ceanothus	perennial evergreen shrub
Ceanothus purpureus	holly-leaved ceanothus	perennial evergreen shrub
Ceanothus sonomensis	Sonoma ceanothus	perennial evergreen shrub
Centromadia parryi ssp. parryi	pappose tarplant	annual herb
Centromadia parryi ssp. rudis	Parry's rough tarplant	annual herb
Chloropyron molle ssp. molle	soft salty bird's-beak	annual herb (hemiparasitic)
Clarkia breweri	Brewer's clarkia	annual herb
Clarkia gracilis ssp. tracyi	Tracy's clarkia	annual herb
Collomia diversifolia	serpentine collomia	annual herb
Downingia pusilla	dwarf downingia	annual herb
Eleocharis parvula	small spikerush	perennial herb
Erigeron biolettii	streamside daisy	perennial herb
Erigeron greenei	Greene's narrow-leaved daisy	perennial herb
Eryngium jepsonii	Jepson's coyote-thistle	perennial herb
Erythronium helenae	St. Helena fawn lily	perennial bulbiferous herb
Extriplex joaquinana	San Joaquin spearscale	annual herb
Harmonia nutans	nodding harmonia	annual herb
Helianthella castanea	Diablo helianthella	perennial herb
Hemizonia congesta ssp. congest	congested-headed hayfield tarpl	annual herb
Hesperolinon bicarpellatum	two-carpellate western flax	annual herb
Hesperolinon breweri	Brewer's western flax	annual herb
Hesperolinon sharsmithiae	Sharsmith's western flax	annual herb
Horkelia tenuiloba	thin-lobed horkelia	perennial herb
Iris longipetala	coast iris	perennial rhizomatous herb

ScientificName	CommonName	Lifeform
Isocoma arguta	Carquinez goldenbush	perennial shrub
Lasthenia conjugens	Contra Costa goldfields	annual herb
Lathyrus jepsonii var. jepsonii	Delta tule pea	perennial herb
Legenere limosa	legenere	annual herb
Leptosiphon aureus	bristly leptosiphon	annual herb
Leptosiphon jepsonii	Jepson's leptosiphon	annual herb
Leptosiphon latisectus	broad-lobed leptosiphon	annual herb
Lessingia hololeuca	woolly-headed lessingia	annual herb
Lilaeopsis masonii	Mason's lilaeopsis	perennial rhizomatous herb
Lilium rubescens	redwood lily	perennial bulbiferous herb
Limnanthes vinculans	Sebastopol meadowfoam	annual herb
Lomatium repostum	Napa lomatium	perennial herb
Lupinus sericatus	Cobb Mountain lupine	perennial herb
Micropus amphibolus	Mt. Diablo cottonweed	annual herb
Monardella viridis	green monardella	perennial rhizomatous herb
Navarretia leucocephala ssp. pau	few-flowered navarretia	annual herb
Penstemon newberryi var. sonom	Sonoma beardtongue	perennial herb
Polygonum marinense	Marin knotweed	annual herb
Ranunculus lobbii	Lobb's aquatic buttercup	annual herb (aquatic)
Rhynchospora californica	California beaked-rush	perennial rhizomatous herb
Sagittaria sanfordii	Sanford's arrowhead	perennial rhizomatous herb (emergent)
Sidalcea hickmanii ssp. napensis	Napa checkerbloom	perennial herb
Sidalcea keckii	Keck's checkerbloom	annual herb
Streptanthus hesperidis	green jewelflower	annual herb
Symphyotrichum lentum	Suisun Marsh aster	perennial rhizomatous herb
Trichostema ruygtii	Napa bluecurls	annual herb
Trifolium amoenum	two-fork clover	annual herb
Trifolium hydrophilum	saline clover	annual herb
Triteleia lugens	dark-mouthed triteleia	perennial bulbiferous herb
Viburnum ellipticum	oval-leaved viburnum	perennial deciduous shrub

Appendix C

Special Status Species Designation Definitions

DEFINITIONS FOR SPECIAL STATUS SPECIES DESIGNATIONS

Federal Endangered Species Act

The following are the standard definitions for the status designations under the federal Endangered Species Act (ESA), implementing regulations and relevant notices (as published in the Federal Register). The ESA is administered by the U.S. Fish and Wildlife Service (USFWS).

Endangered – A species that is in danger of extinction throughout all or a significant portion of its range.

Threatened – A species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Proposed for Listing – Taxa formally noticed as being under review to determine whether listing as threatened or endangered is warranted.

Candidate – Taxa for which USFWS has on file sufficient information on biological vulnerability and threat to support a proposed rule to list the species as endangered or threatened. Proposals to list have not yet been issued because this action is precluded by other listing activity. Species in this category are assigned a listing priority in order to assist the FWS in determining those species most in need of protection.

[Note: As of February 1996, the USFWS eliminated the differing categories of candidate species and now has only one category of candidate species as defined above.]

California Endangered Species Act

The following are the standard definitions for the status classifications under the California Endangered Species Act (CESA), administered by the California Department of Fish and Game (CDFG), now renamed the California Department of Fish and Wildlife (CDFW).

Endangered species – A native California bird, mammal, fish, amphibian, reptile or plant (species or subspecies) is endangered when it is in serious danger of becoming extinct throughout all, or a significant portion of, its range due to one or more causes, including loss of habitat, change of habitat, over-exploitation, predation, competition or disease (CDFW Code, Section 2062).

Threatened species – A native bird, mammal, fish, amphibian, reptile or plant (subspecies or species) is threatened when, although not presently threatened with extinction, it is likely to become an endangered species in the foreseeable future in the absence of special protection and management efforts. Any animal listed as "rare" by the Commission on or before January 1, 1985, is a threatened species (CDFW Code, Section 2067).

Candidate species – A native California species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant is a candidate when the Fish and Wildlife Commission (Commission) has formally noticed it as being under review by the CDFW to determine whether listing as threatened or endangered is warranted, or when it is the subject of a proposed rulemaking by the Commission to list as threatened or endangered (CDFW Code, Section 2068).

California Department of Fish and Game

Fully Protected – Fully Protected species may not be taken or possessed without a permit from the Fish and Wildlife Commission. Information of Fully Protected species can be found in the CDFW Code, (birds at §3511, mammals at §4700, reptiles and amphibians at §5050, and fish at §5515). Additional information on Fully Protected fish can be found in the California Code of Regulations, Title 14, Division 1, Subdivision 1, Chapter 2, Article 4, §5.93. The category of Protected Amphibians and reptiles in Title 14 has been repealed.

Species of Special Concern – A California species of special concern is a plant or animal species or subspecies that is possibly declining or is vulnerable to extirpation and may be considered for listing or for special management and protection measures. These species, although not legally protected under the CESA, are monitored by the CDFW.

It is the goal and responsibility of the CDFW to maintain viable populations of all native species. To this end, the CDFW has designated certain species as “Species of Special Concern” because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as “Species of Special Concern” is to halt or reverse their decline by calling attention to their plight and addressing the issues of concern early enough to secure their long term viability. Not all “Species of Special Concern” have declined equally; some species may be just starting to decline, while others may have already reached the point where they meet the criteria for listing as a “Threatened” or “Endangered” species under the State and/ or Federal Endangered Species Acts.

California Native Plant Protection Act

The California Native Plant Protection Act (CNPPA), administered by the CDFW, protects "rare" plant species.

Rare – A native California plant (species, subspecies or variety) is rare when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens (CDFW Code, Section 1901).

California Native Plant Society (CNPS) List of Rare, Threatened and Endangered Vascular Plants of California

The CNPS maintains a list of rare, threatened and endangered vascular plants of California which summarizes the distribution, rarity, endangerment, and ecology of these plants. CNPS updates this list approximately every four years. The most recent edition (8th ed.) was published in December 2010. The CNPS listing designations are as follows:

California Rare Plant Rank (CRPR) 1A – The plants Ranked as 1A are presumed extinct because they have not been seen or collected in the wild in California for many years. All of the List 1A plants meet the definitions of "rare", "endangered", or "threatened" contained in Fish and Game Code Section 1901 (Native Plant Protection Act), and Sections 2062 and 2067 (CESA).

CRPR 1B – The plants Ranked as 1B are rare throughout their range, and all but a few are endemic to California. List 1B plants are considered vulnerable under present circumstances or have a high potential for becoming so because of their limited or vulnerable habitat, low numbers of individuals per population, or their limited number of populations. As with List 1A plants, all of the 1B plants meet the definitions of "rare", "endangered", or "threatened" contained in Sections 1901, 2062 and 2067 of the Fish and Game Code.

CRPR 2 – Except for being common outside California, Rank 2 plants are defined similarly to List 1B plants.

CRPR 3 – Rank 3 contains plants about which more information is needed to assign them to one of the other lists or reject them. Some List 3 plants meet the definitions of "rare", "endangered", or "threatened" contained in Sections 1901, 2062 and 2067 of the Fish and Game Code.

CRPR 4 – The plants in Rank 4 are of limited distribution or infrequent throughout a broader area in California, and their susceptibility to threat appears low at this time. These plants are uncommon enough that their status should be monitored regularly. Very few List 4 plants meet the definitions of "rare", "endangered", or "threatened" contained in Sections 1901, 2062 and 2067 of the Fish and Game Code, and few, if any, are eligible for state listing.

CNPS Threat Code extensions and their meanings:

.1 – Seriously endangered in California

.2 – Fairly endangered in California

.3 – Not very endangered in California

CNPS Local Listings (Alameda and Contra Costa Counties)

***A1** or ***A2** – Species in Alameda and Contra Costa Counties listed as rare, threatened or endangered statewide by federal or state agencies or by the state level of CNPS.

A1x – Species previously known from Alameda or Contra Costa Counties, but now presumed extirpated here.

A1 – Species currently known from two or less regions in Alameda and Contra Costa Counties.

A2 – Species currently known from three to five regions in the two counties, or, if more, meeting other important criteria such as small populations, stressed or declining populations, small geographical range, limited or threatened habitat, etc.

A1? – Species with taxonomic or distribution problems that make it unclear if they actually occur here.

Special Animals

California Department of Fish and Wildlife (CDFW)

Special Animals – Special animals is a general term that refers to all of the taxa that the California Natural Diversity Database (CNDDB) is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special status species". The CDFW considers the taxa on this list to be those of greatest conservation need and were used in the development of California's Wildlife Action Plan (CDFG 2009). Special animals includes a broad list of agency designations.
For more information see: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/SPAnimals.pdf

Watch List – The Watch List consists of taxa that were previously Species of Special Concern (SSC's) but no longer merit SSC status or which do not meet SSC criteria but for which there is concern and a need for additional information to clarify status.

Other "Special Animal" Status Codes:

The status of species on the Special Animals List according to other conservation organizations is provided. Taxa on these lists are reviewed for inclusion in the CNDDB Special Animals List, but are not automatically included. For example, taxa that are regionally rare within a portion of California may not be included, because they may be of lesser conservation concern across their full range in California.

These species, which are also tracked regardless of their legal or protection status, are provided below.

U.S Fish and Wildlife Service (USFWS)

Birds of Conservation Concern – The goal of the Birds of Conservation Concern report is to accurately identify the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent the US Fish and Wildlife Service's highest conservation priorities and draw attention to species in need of conservation action.

National Marine Fisheries Service (NMFS) also known as NOAA Fisheries

Species of Concern – NOAA Fisheries is responsible for the management, conservation, and protection of living marine resources within the United States Exclusive Economic Zone. Species of Concern are those species about which we have some concerns regarding status and threats, but for which insufficient information is available to indicate a need to list the species under the Endangered Species Act (ESA). Though NMFS wishes to draw proactive attention and conservation action to these species, "Species of concern" status does not carry any procedural or substantive protections under the ESA.

Bureau of Land Management

Sensitive – According to BLM Manual 6840, a Bureau Sensitive Species must meet the following criteria to be considered for sensitive species listing:

- They must be native species found on BLM-administrated lands for which BLM has the capability to significantly affect the conservation status of the species through management.
- Information is available that a species has recently undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species range.

- The species depends on ecological refugia or specialized or unique habitats on BLM-administrated lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk.
- All federally designated candidate species, proposed species, and delisted species in the 5 years following their delisting shall be conserved as Bureau Sensitive Species.

Once a species is declared sensitive by the BLM, it is their obligation to determine its distribution and manage the species' habitat.

California Dept. of Forestry & Fire Protection

CDF Sensitive **–** California Department of Forestry and Fire Protection classifies "sensitive species" as those species that warrant special protection during timber operations. The list of "sensitive species" is given in §895.1 (Definitions) of the California Forest Practice Rules.

International Union for Conservation of Nature (IUCN)

IUCN List **–** The IUCN assesses, on a global scale, the conservation status of species, subspecies, varieties and even selected subpopulations in order to highlight taxa threatened with extinction, and therefore promote their conservation. Detailed information on the IUCN and the Red List is available at: http://www.iucnredlist.org

Marine Mammal Commission

Species of Special Concern **–** Section 202 of the Marine Mammal Protection Act directs the Marine Mammal Commission, in consultation with its Committee of Scientific Advisors, to make recommendations to the Department of Commerce, the Department of the Interior, and other federal agencies on research and management actions needed to conserve species of marine mammals. To meet this charge, the Commission devotes special attention to particular species and populations that are vulnerable to various types of human-related activities, impacts, and contaminants. Such species may include marine mammals listed as Endangered or Threatened under the Endangered Species Act or as depleted under the Marine Mammal Protection Act. In addition, the Commission often directs special attention to other species or populations of marine mammals not so listed whenever special conservation challenges arise that may affect them.

More information on the Marine Mammal Protection Act and the Marine Mammal Species of Special Concern list is available at: http://www.mmc.gov/species/welcome.shtml

U.S Forest Service

Sensitive – USDA Forest Service defines sensitive species as plant and animal species identified by a regional forester that are not listed or proposed for listing under the Federal Endangered Species Act for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density, or significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution. Regional Foresters identify sensitive species occurring within each region. California is the Pacific Southwest Region (Region 5).
More information is available at: http://www.fs.usda.gov/main/r5/plants-animals and at:
http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5435266.xlsx

North American Bird Conservation Initiative (NABCI)

North American Bird Conservation Initiative Watchlist – The North American Bird Conservation Initiative is a coalition of private organization and government agencies. They work to ensure the long-term health of North America's native bird populations and publish an annual State of the Birds report. The annual State of the Bird report includes a watch list of bird species in need of conservation help and classifies the birds as either Red Watch List or Yellow Watch List species. Species on the Red Watch List have extremely high vulnerability, and Yellow Watch List species are species that may be range restricted or may be widespread but with declines and high threats. More information is available at http://stateofthebirds.org.

American Fisheries Society (AFS)

AFS List – Designations for freshwater and diadromous species were taken from the paper: Jelks,.L., S.J. Walsh, N.M. Burkhead, S.Contreras-Balderas, E. Díaz-Pardo, D.A. Hendrickson, J. Lyons, N.E. Mandrak, F. McCormick, J.S. Nelson, S.P. Platania, B.A. Porter, C.B. Renaud, J. J. Schmitter-Soto, E.B. Taylor, and M.L. Warren, Jr. 2008. Conservation status of imperiled North American freshwater and diadromous fishes. Fisheries 33(8):372-407. Available at:
http://www.fisheries.org/afs/docs/fisheries/fisheries_3308.pdf
Designations for marineand estuarine species were taken from the paper: Musick, J.T. et al. 2000. "Marine, Estuarine, and Diadromous Fish Stocks at Risk of Extinction in North America (Exclusive of Pacific Salmonids). Fisheries 25(11):6-30. Available at:
http://www.flmnh.ufl.edu/fish/sharks/sawfish/Reprint1390.pdf

Western Bat Working Group (WBWG)

WBWG List – The WBWG is comprised of agencies, organizations and individuals interested in bat research, management and conservation from the 13 western states and provinces. The goals are (1) to facilitate communication among interested parties and reduce risks of species decline or extinction; (2) to provide a mechanism by which current information on bat ecology, distribution and research techniques can be readily accessed; and (3) to develop a forum to discuss conservation strategies, provide technical assistance and encourage education programs. Species are ranked as High, Medium, or Low Priority in each of 10 regions in western North America. Because California includes multiple regions where a species may have different WBWG Priority ranks, the CNNDB includes categories for Medium-High, and Low-Medium Priority. The CNDDB tracks bat species that are at least Low-Medium Priority in California. More information is available at: http://www.wbwg.org

The Xerces Society

Red List – The Xerces Society is an international non-profit organization dedicated to protecting biological diversity through invertebrate conservation. The Society advocates for invertebrates and their habitatsby working with scientists, land managers, educators, and citizens on conservation and education projects. Their core programs focus on endangered species, native pollinators, and watershed health. More information on the Red List is available at:
http://www.xerces.org

Special Status Species Abbreviations

Federal Endangered Species Act

FE	Federally-listed as endangered
FT	Federally-listed as threatened
FPE	Federally proposed for listing as endangered or threatened
FC	Federal candidate for listing as endangered or threatened

State Endangered Species Act

SE	State-listed as endangered
ST	State-listed as threatened
SC	State candidate for listing as endangered or threatened

California Department of Fish and Wildlife

FP	Fully protected
SSC	California species of special concern
WL	Watch List

California Native Plant Protection Act

CNPPA: Rare	Rare plant

California Native Plant Society

CRPR	California Rare Plant Rank

SPECIAL ANIMALS (SA)

California Department of Fish and Wildlife

CDFW: WL Watch list

CDFW: SA Special Animal

US Fish and Wildlife Service

USFWS:BCC Birds of Conservation Concern

NMFS (NOAA Fisheries)

NMFS: SC Species of Concern

Bureau of Land Management

BLM:S Sensitive

California Dept. of Forestry & Fire Protection

CDFS:S Sensitive

International Union for Conservation of Nature

IUCN:CD Conservation Dependent

IUCN:CR Critically Endangered

IUCN:DD Data Deficient

IUCN:EN Endangered

IUCN:EW Extinct in the Wild

IUCN:EX Extinct

IUCN:LC Least Concern

IUCN:NE Not evaluated

IUCN:NT Near Threatened

IUCN:VU Vulnerable

Marine Mammal Commission

MMC:SSC Species of Special Concern

National Marine Fisheries Service

NMFS:SC Species of Special Concern

U.S Forest Service

USFS:S Sensitive

Western Bat Working Group

WBWG: H High priority

WBWG: LM low-medium priority

WBWG: M medium priority

WBWG: MH medium-high priority

Xerces Society Red List

X: CI Critically imperiled

X: DD Data deficient

X: IM Imperiled

X: VU Vulnerable

North American Bird Conservation Initiative

NABCI: RWL Red watch list

NABCI: YWL Yellow watch list

American Fisheries Society

AMS: EN Endangered

AMS: TH Threatened

AMS: VU Vulnerable

Appendix D

Wetland Delineation Data Sheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zinfandel City/County: Napa Sampling Date: 5/7/24

Applicant/Owner: State: CA Sampling Point: 1

Investigator(s): Sean Micallef Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks: Upland - Ruderal grassland with vineyard

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Festuca bromoides	30	Y	FACU
2. Bromus hordeaceus	2.5	—	FACU
3. Medicago polymorpha	15	Y	FACU
4. Kickxia elatine	5	—	UPL
5. Avena fatua	5	—	UPL
6. Bromus diandrus	5	—	UPL
7. Lactuca saligna	2.5	—	UPL
8. Hordeum murinum	15	Y	FACU
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: Upland Vegetation is Dominant

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
12	10YR3/2						Clay Loam	
								a little gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No Indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No Indicators

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zinfandel City/County: Napa Sampling Date: 5/7/24

Applicant/Owner: State: CA Sampling Point: 2

Investigator(s): Sean Micallef Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

Upland – Ruderal grassland

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Medicago polymorpha	20	Y	FACU
2. Avena fatua	5	—	UPL
3. Hordeum murinum	40	Y	FACU
4. Hordeum marinum	15	Y	FAC
5. Matricaria discoidea	10	—	FACU
6. Convolvulus arvensis	5	—	UPL
7. Erodium botrys	5	—	FACU
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Upland Vegetation Dominates

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
8	10YR3/2						Clay loam	with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No Indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No Indicators

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zinfandel City/County: Napa Sampling Date: 5/7/24

Applicant/Owner: State: CA Sampling Point: 3

Investigator(s): Sean Micallef Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ~~X~~ No ____	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

Upland- Ruderal grassland with vineyard

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Festuca bromoides	25	Y	FACU
2. Medicago polymorpha	10	—	FACU
3. Hordeum murinum	20	Y	FACU
4. Malvella leprosa	15	Y	FACU
5. Poa annua	35	Y	FAC
6.			
7.			
8.			
	105 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species 35	x 3 = 105
FACU species 70	x 4 = 280
UPL species ____	x 5 = ____
Column Totals: 105 (A)	385 (B)

Prevalence Index = B/A = 3.67

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Upland vegetation is dominant

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
12	10YR 3/2						Clay loam	
								Some mottles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Some mottles - but within area irrigated for vineyard

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No Indicators

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B.2 - Botanical Survey Report

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Zinfandel Estates

Botanical Survey Report
Focusing on
Sanford's arrowhead (*Sagittaria sandfordii*)

Project No.:
1168

Zentner Planning and Ecology

Prepared for:
Bob Biale
Care of: RSA+

Date:
August 2024

Zentner Planning and Ecology
info@zentner.com | www.zentner.com
2872 Ygnacio Valley Road #403 | Walnut Creek, CA 94598
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Zinfandel Project

Botanical Survey Report
Focusing on
Sanford's arrowhead (*Sagittaria sandfordii*)

I. INTRODUCTION

A. Purpose

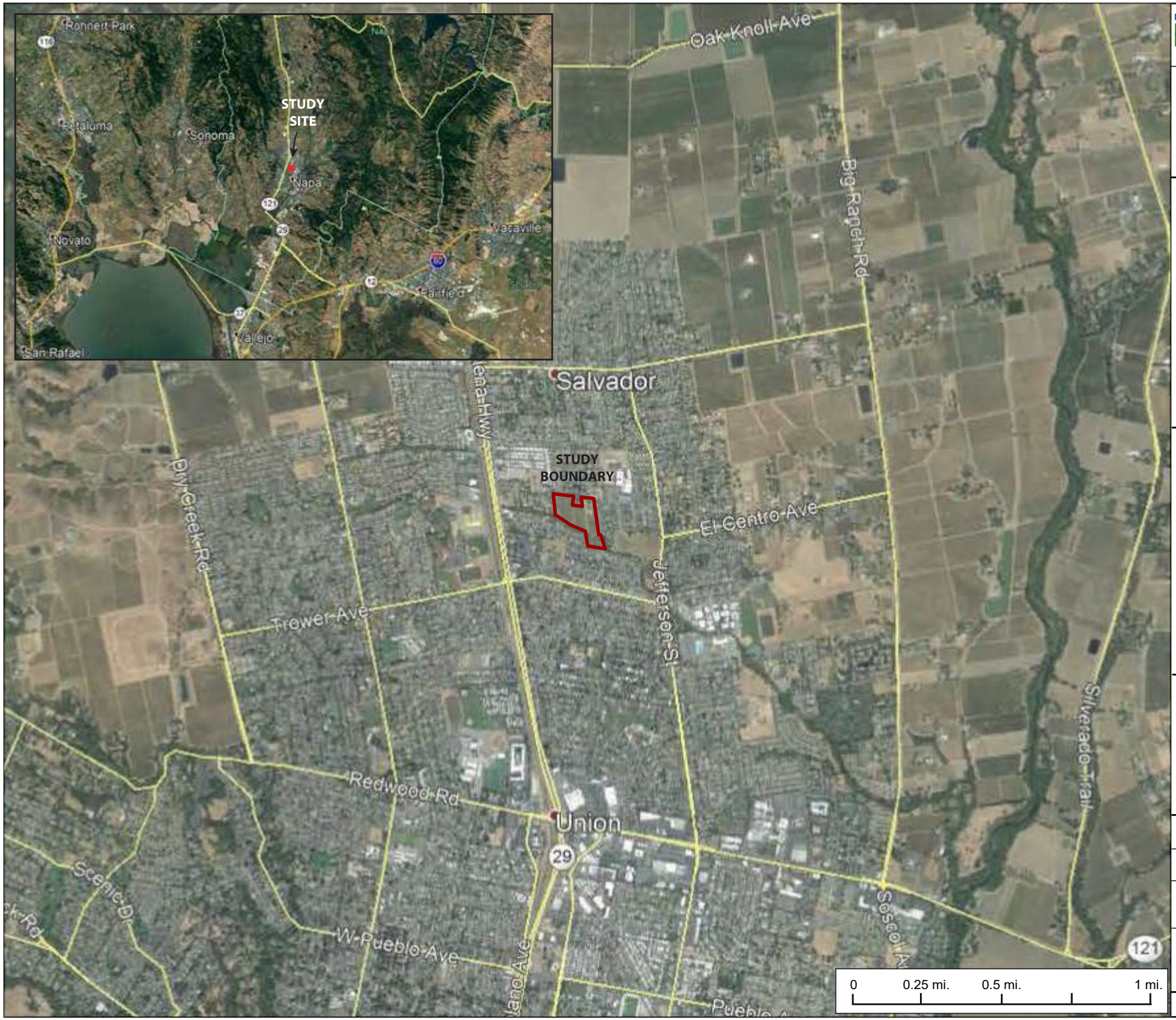
Zentner Planning and Ecology completed a botanical survey in accordance with California Department of Fish and Wildlife (CDFW) protocols (CDFG 2018), for special status plant species that have the potential to occur on the approximately 7.6-acre site known as Zinfandel in Napa, CA. However, the primary focus of the survey was Sanford's arrowhead (*Sagittaria sandfordii*), a CNPS RPR 1B.2 species, which was identified as having some potential habitat onsite in a 2019 assessment by Zentner Planning in Ecology (Zinfandel, Riparian Special Status Habitat and Species Analysis; October 2019). This botanical survey was timed to occur during the flowering period of potential special status plant species in the region and in the middle of the May through October blooming period for Sandford's arrowhead.

B. Location and Site Description

The proposed Zinfandel project is located in the southern portion of Napa County in the northeastern part of the City of Napa (**Figure 1**). Specifically, the Zinfandel project is located at 1583 and 1657 El Centro Avenue (APN: 038-361-010 and 038-361-009), just west of Highway 29. The project site is within the Napa River watershed and can be found on the Napa 7.5 minute USGS topographic Quadrangle. The project site is located in the Napa Land grant.

The approximately 7.6-acre, roughly rectangular shaped parcel, is located within the flatlands of the Napa Valley. The property generally slopes down from the northwest to the southeast with an elevation of approximately 72 feet (22 meters) in the northwest and 64 feet (19.5 meters) in the southeast.

The majority of the property is established vineyards with annual grassland/ruderal understory within the vineyard's aisles and access ways. The property also contains two single-family residences along the northern edge of the property, off El Centro Avenue. The residences both contain driveways, parking areas, and are surrounded by areas of ornamental landscaping. As well a barn and storage areas is located behind the residences.



ZENTNER
Planning & Ecology

2827 Ygnacio Valley Road #403
Walnut Creek, CA 94598
Phone: 510.812.6101

Zinfandel Project

Napa, California

FIGURE 1

LOCATION MAP

N

BY: **JPE**

PROJECT: **1112**

BASE MAP:
© 2018 GOOGLE MAPS

FILE: D:\Graphic Designer\My Documents\PROJECTS\1100-1199\1112\Adobe\ZinfandelLocation.pdf

DATE: **06/25/2024, 10:00 PM**

Salvador Creek, a tributary of the Napa River, runs through the southern portion of the property flowing from northwest to southeast. The channel, banks, and associated riparian zone adjacent to the creek, make up the Creek and Riparian portion of the site. A small bridge crosses Salvador Creek in the southeast part of the site and provides access to the southernmost part of the property. Salvador Creek is a seasonal creek that is typically dry by late summer or early fall.

The surrounding land uses include residential developments with several small vineyards and undeveloped lots. The region transitions from suburban land uses to vineyards and other agricultural lands as you travel away from the project site.

II. ENVIRONMENTAL SETTING

A. Vegetation Communities

The majority of the project site is comprised of an existing vineyard with annual grassland as the understory and in the surrounding region. The project site also contains two residences with ornamental vegetation and Salvador Creek, running through the southern part of the site which provides marsh habitat and valley oak and riparian woodland habitat along the bank. These habitats are mapped in **Figure 2** and discussed in greater detail below.

Nomenclature for wildlife follows the California Department of Fish and Wildlife's (CDFW) *Complete list of amphibian, reptile, bird, and mammal species in California* (2016) and any changes made to species nomenclature as published in scientific journals since the publication of CDFW's list.

Photo 2: View of one of the beaver dams along Salvador creek. May 2024.

ZENTNER Planning & Ecology

2872 Ygnacio Valley Road #403, Walnut Creek, CA 94598 F: 510.812.6101

FIGURE 2

Habitat Map

Zinfandel Project
Napa County, California

N

Scale: 1 inch = 120 feet

0 60' 120' 240'

Legend

- Upland Data Points
- Ruderal / Developed
- Riparian
- Vineyard
- Limits of the Project Site
- OHWM

Source: Google Earth 2024	Revisions	By
Date: 6/24/2024		
Cartographer: XM		
File: C:\Users\15105\OneDrive - Zentner Planning and Ecology\Graphicprojects\1168 Zinfandel\CAD\1168_Habitat Map_052024.dwg		

Vineyard

Vineyard is the dominant habitat at the project site. The vineyard contains planted wine grapes (*Vitis vinifera*) that are actively managed and maintained. The vineyard owner stated that the vineyard and avenues are seeded with an organic cover crop mix after each year's harvest and before winter rains. The vineyard is pruned in the winter and the canes dropped on the ground. The cover crop and canes are then mowed in April and then disced to incorporate the organic material into the soil. No herbicides are used within the vineyard though they are used along the fence lines, property lines, and around the building. Organic and conventional fungicide and pesticides are used within the vineyard.

The understory within the vineyard is predominately non-native annual grasses including wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), Italian ryegrass (*Festuca perennis*) and foxtail barley (*Hordeum murinum*).

Photo 3: View of the vineyard with existing houses in the background, while Himalayan blackberry (*Rubus armeniacus*) dominates the banks along the north side of Salvador creek.

May 2024

Ruderal Grassland and Developed

Ruderal grassland habitat occurs in the area surrounding the property's existing residences and other infrastructure. The ruderal grassland habitat is dominated by common, non-native annual species including wild oats, ripgut brome, hare barely, and Bermuda grass (*Cynodon dactylon*). Non-native herbaceous forb species are also fairly common throughout the annual grassland habitat. These species include mallow (*Malva parviflora*), dog fennel (*Anthemis cotula*), wild raddish (*Raphanus sativus*), filaree (*Erodium sp.*) and chicory (*Cichorium intybus*).

The developed portion of the property includes the two residences and the ornamental landscaping in the adjoining areas. The landscaping includes turf lawns and a number of ornamental, non-native, trees and shrubs including English walnut (*Juglans regia*), olive, (*Olea europea*), maple (*Acer sp.),* acacia (*Acacia* sp.) and fruit trees.

Photo 4: View of the ruderal area around existing houses with the vineyard in the background.

May 2024

Valley Oak and Riparian

Valley oak and riparian habitat is present along the perimeter of Salvador Creek. There are several willows (*Salix sp.)* growing in this area and several young valley oak (*Quercus lobata*) trees have been planted linearly along the bank. Larger valley oaks on the east side of the project site, downstream of the existing bridge are more integrated into the riparian community. The understory in this area is dominated by non-native species including Himalayan blackberry (*Rubus armeniacus*) and harding grass (*Phalaris aquatica*).

Photo 5: View of the channel with Uruguay water-primrose and cattail (*Typha sp.)* with cement rip rap along the banks. August 2019

Salvador Creek – Perennial Marsh

Salvador Creek is seasonal and generally dries by late fall. It contains several areas of perennial marsh habitat within OHW. Marsh habitat within the Creek was dominated by highly invasive Uruguay water-primrose (*Ludwigia hexapetala*) which is controlled by the Napa County Flood Control and Water Conservation District. However, surveys in May 2024 found that much of the area was dominated by another non-native water primrose (*Ludwigia peploides*). Several native wetland species are also present within the marsh including cattails (*Typha latifolia*) and umbrella sedge (*Cyperus* sp.*).* Several

beaver dams were noted this year in the channel, which lead to increased ponding behind the dams.

III. METHODS AND RESULTS

A. Methods

Zentner Planning and Ecology staff used a variety of federal, state and local sources to create a list of potential special status species plants. Along with Zentner Planning and Ecology's records and knowledge of the region's vegetation, occurrence records of potentially occurring special status species plants were developed from the CDFW California Natural Diversity Database (CNDDB), the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Vascular Plants of California, and CalFlora information on California plants. The CDFW Biogeographic Information and Observation System (BIOS) was also consulted to review the natural communities prior to the field surveys.

Initial survey and assessment work was completed by Zentner in August 2019 and by WRA and Jane Valerius Environmental Consulting in January 2018. During these surveys, the site was evaluated for its potential to provide habitat for special status habitats and plant species. No special status species were identified as a result of these surveys and assessment work.

The focused botanical survey was conducted by Sean Micallef of Zentner Planning and Ecology on May 7, 2024, during the May through October blooming period for Sanford's arrowhead. The botanical survey was completed by walking over the entire site, including overflow terrace areas and areas adjacent to the site, and each of the site habitats, and noting all of the plant taxa observed. The site was also specifically surveyed for the presence of any potential special status plant species, especially those noted as having the potential to occur on or near the site. Extra time was taken in habitats that had the potential to support special status species, especially the creek and riparian zone in areas that had the greatest potential to host Sanford's arrowhead. A list of all plants and natural communities detected on the site was prepared.

B. Sanford's Arrowgrass Description and Ecology

Sanford's arrowhead (*Sagittaria sandfordii*) CRPR 1B.2

Sanford's arrowhead is an aquatic perennial rhizomatous herb in the water plantain family (Alismataceae). The species is native and endemic to California and has recorded observations along the North Coast and in the Central Valley though it is now mostly absent from the Central Valley and it has been extirpated from southern California. Sanford's arrowhead grows in standing or slow-moving freshwater ponds, marshes, and ditches. It is commonly found in association with water plantain (*Alisma plantago-aquatica*), water primrose (*Ludwegia peploides*), and cattails (*Typha* spp.).

Sanford's arrowhead grows from a spherical tuber and grows up to 130 cm tall. The leaves are variable in shape though they are generally long and strap-shaped or narrowly lanceolate. The plant is monoecious and the inflorescence rises above the surface of the water and contains several whorls of flowers. The flower is 3.5 cm in width with wide white petals. The species blooms from May through October. The species is threated by grazing, development, recreational activities, non-native plants, road widening, channel alteration and maintenance (CNPS 2019).

There is one CNDDB record of Sanford's arrowhead within 5 miles of the project site. The record is located just under 5 miles north of the project site and describes "tens of plants seen in 2012" (CNDDB). The location is described as along the Solano Avenue frontage road between the road and railroad tracks in a swampy area. There are no other records of this species within 5 miles of the study area.

The WRA and Jane Valerius Environmental Consulting's 2018 Habitat Assessment concluded that there was no habitat for this species. The Special Habitat and Species Analysis conducted by Zentner Planning and Ecology in 2019, ultimately concluded that the project site contains relatively low-quality habitat within the Salvador Creek channel and that, therefore, the species was unlikely to occur on the project site or be impacted by the proposed project.

C. Special Status Plant Survey Results

No special status plant species were observed on or adjacent to the site, including no observations of Sanford's arrowhead.

Generally, the site is dominated by non-native species, as is characteristic of lands that are farmed such as the vineyard that dominates this site. However, even the riparian zone is dominated by non-native vegetation. Only eight native species were observed on the entire site, with four of them being riparian trees.

The presence of such a large amount of relatively dense, non-native vegetation, makes it difficult for even relatively common native plants to establish on the site. This dominance by non-native vegetation, combined with general agricultural maintenance practices, results in very few native plants at all, and makes the potential for special status plants very remote.

The shallows and wetted portion of the shoreline along Salvador Creek is generally dominated by non-native and relatively invasive water primrose species, while much of the creek banks are dominated by Himalayan blackberry (*Rubus aremeniacus*) and rip rap down to the water line. Rip rap is found along most of the bank along the north side of the creek channel. The combination of rip rap, Himalayan berry, and Luwigia, provides few openings and little opportunity for Sanford's arrowhead or similar wetland and riparian plant species.

In sum, Sanford's arrowgrass has not been observed on site during previous surveys or during the latest focused survey. Further, the conditions on the site are more conducive to non-native vegetation rather than native vegetation, and make the potential for special status plants remote. Therefore, Sandford's arrowgrass and other special status plants are not expected to occur onsite and no further measures are necessary.

A list of all plants species observed on-site as a result of previous surveys is provided in **Appendix A** and during the recent May 2024 survey in **Appendix B**.

References

Baldwin, Bruce G., Douglas H. Goldman, David J. Keil, Robert Patterson, Thomas J. Rosatti, and Dieter H. Wilken. 2012. The Jepson Manual, Vascular Plants of California (Second Edition). University of California Press.

Calflora: Information on California plants for education, research and conservation. [web application]. 2023. Berkeley, California: The Calflora Database [a non-profit organization]. Available: https://www.calflora.org/ (Accessed: March-June 2024).

California Department of Fish and Game (CDFG), 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. State of California, Natural Resources Agency.

California Natural Diversity Database (CNDDB). July 2023. Special Vascular Plants, Bryophytes, and Lichens List. California Department of Fish and Wildlife. Sacramento, CA.

California Native Plant Society (CNPS) Rare Plant Program. 2023. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Website http://www.rareplants.cnps.org [accessed March-June 2024].

Wildlife Research Associates (WRA) and Jane Valerius Environmental Consulting. 2018. Habitat Assessment: 1583 and 1657 El Centro Avenue, Napa County, CA.

Zentner Planning and Ecology. 2019. Riparian Special Status Habitat and Species Analysis.

APPENDIX A

Plant Species Observed
2018 Habitat Assessment

Appendix C: Plant species observed at the 1583 and 1657 El Centro Avenue Project Site – January 17, 2108.

Scientific Name	**Common Name**
Acacia sp.	Acacia
Acer sp.	Maple*
Agapanthus sp.	Agapanthus
Amaranthus sp.	Pigweed*
Anthemis cotula	Dog fennel*
Avena barbata	Wild oats*
Avena fatua	Oats*
Brassica nigra	Black mustard*
Brassica rapa	Field mustard*
Bromus diandrus	Ripgut brome*
Bromus hordaeceus	Soft chess*
Calendula sp.	Calendula*
Cichorium intybus	Chicory*
Cyperus sp.	Umbrella sedge
Daucus carota	Queen Anne's lace*
Epilobium sp.	Willow herb
Erodium botrys	Broad-leaf filaree*
Erodium brachycarpum	Foothill filaree*
Erodium moschatum	White stemmed filaree*
Festuca perennis	ryegrass
Gallium aparine	Bedstraw
Helminthotheca echioides	Bristly ox-tongue*
Hordeum marinum ssp. *gussoneanum*	Mediterranean barley*
Hordeum murinum ssp. *leporinum*	Hare barley*
Juglans regia	English walnut*
Lactuca seriola	Prickly lettuce*
Ludwigia sp.	Water primrose*
Lysimachia arvensis	Scarlet pimpernel*
Malva parviflora	Mallow*
Melilotus alba	White sweet clover*
Olea europea	Olive*
Opuntia sp.	Cactus*
Phalaris aquatica	Harding grass
Plantago lanceolata	English plantain*
Pseudognaphalium luteoalbum	Jersey cudweed*
Quercus agrifolia	Coast live oak
Quercus lobata	Valley oak
Raphanus sativus	Wild radish*
Rubus armeniacus	Himalayan blackberry*
Rumex crispus	Curly dock*
Salix lasiolepis	Arroyo willow
Salix sp.	Tree willow
Senecio vulgaris	Common groundsel*
Sonchus oleraceus	Common sowthistle*
Sorghum halepense	Johnson grass*
Trifolium hirtum	Rose clover*
Typha latifolia	Narrow leaved cattail
Vicia sativa	Spring vetch*
Vinca major	Periwinkle*
Vitis vinifera	Wine grapes*
Xanthium strumarium	Cocklebur
Unknown	Palm tree*

APPENDIX B

Plant Species Observed
May 7, 2024

Zinfandel Project
May 2024 Plant List

Ruderal/Developed Habitat

Common Name	***Botanical Name***	**Native**
wild oats	*Avena fatua*	
scarlet pimpernel	*Anagallis arvensis*	
ripgut brom	*Bromus diandrus*	
soft chess	*Bromus hordeaceus*	
Italian thistle	*Carduus pycnocephalus*	
storkbill	*Erodium botrys*	
brome fescue	*Festuca bromoides*	X
Italian ryegrass	*Festuca perennis*	
Mediterranean barley	*Hordeum marinim*	
hare barley	*Hordeum murinum*	
mallow	*Malva parviflora*	
pineapple weed	*Matricaria discoidea*	
bur clover	*Medicago polymorpha*	
annual bluegrass	*Poa annua*	
knotweed	*Polygonum aviculare*	
black locust	*Robinia psuedoacacia*	
prickly sow thistle	*Sonchus asper*	
red sandspurry	*Spegularia rubra*	

Riparian

alder	*Alnus rhombifolia*	X
black mustard	*Brassica nigra*	
ripgut	*Bromus diandrus*	
cleavers	*Galium aparine*	X
little robin	*Geranium purpureum*	
California walnut	*Juglands hindsii*	X
English walnut	*Juglans regia*	X
prickly lettuce	*Lactuca serriola*	
floating primrose	*Ludwigia peploides*	
Japanese privet	*Lugustrum ovalifolium*	
yellow sweetclover	*Melilotus indicus*	
olive	*Olea europaea*	
Harding grass	*Phalaris aquatica*	
almond	*Prunus dulcis*	
coast live oak	*Quercus agrifolia*	X
valley oak	*Quercus lobata*	X

wild radish	*Raphanus sativus*	
garden (horticultural) rose	*Rosa sp.*	
Himalayan blackberry	*Rubus armeniacus*	
curly dock	*Rumex crispus*	
weeping willow	*Salix babylonica*	
arroyo willow	*Salix lasiolepis*	X
cattail	*Typha sp.*	X
vetch	*Vicia sativa*	
periwinkle	*Vinca major*	
Mexican fan palm	*Washingtonia robusta*	

Vineyard

wild garlic	*Allium sativum*	
wild oats	*Avena fatua*	
Chilean brome	*Bromus catharticus*	
soft chess	*Bromus hordeaceus*	
bindweed	*Convolvulus arvensis*	
Italian ryegrass	*Festuca perennis*	
fig	*Ficus carica*	
cleavers	*Galium aparine*	X
cut-leaf geranium	*Geranium dissectum*	
prickly ox-tongue	*Helminotheca echioides*	
Mediterranean barley	*Hordeum marinum*	
sharpleaf cancerwort	*Kickxia elatine*	
wild lettuce	*Lactuca saligna*	
prickly lettuce	*Lactuca serriola*	
alkali mallow	*Malvella leprosa*	
black medic	*Medicago lupilina*	
English plantain	*Plantago lanceolata*	
radish	*Raphinus sativus*	
prickly sow thistle	*Soncus asper*	
red sandspurry	*Spegularia rubra*	
sock destroyer	*Torilis arvensis*	
vetch	*Vicia sativa*	

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B.3 - Habitat Assessment Report

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Habitat Assessment

1583 and 1657 El Centro Avenue
Napa County, CA

January 30, 2018

Prepared for
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Habitat Assessment
1583 and 1657 El Centro Avenue, Napa

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SUMMARY

The proposed 1583 and 1657 El Centro Avenue project is located in the northeastern portion of the City of Napa. The total acreage of the site is +/- 10.0 acres. The proposed permanent development acreage is +/- 7.4 acres. The proposed work area and associated grading areas include 7.4 acres of permanent development and 0.3 acres of temporary work area for a total of 7.7 acres. The majority of the site is an existing vineyard. One 1,400 square foot house and one 3,000 square foot barn will be removed. A second existing residence, approximately 0.51 acre area, will remain. Two distinct areas are proposed for planting, Area 1, located on the north side of the Salvador Creek and comprising +/- 6.4-acres, and Area 2, located on the south side Salvador Creek and comprising +/-1.0-acres.

The existing bridge across Salvador Creek will be removed. Two outfalls will be placed into Salvador Creek as shown on the Conceptual Layout prepared by RSA dated November 20, 2017. The outfalls are associated with the bioswale areas for the north and south sides of the development. There are a total of three (3) bioretention facilities, also shown on the concept plan (RSA 2017).

This Habitat Assessment presents the findings of our review of scientific literature and reports detailing previous studies conducted in the area, and the California Department of Fish and Wildlife's (CDFW) Natural Diversity Data Base (CNDDB) for reported occurrences of special-status vegetation communities, plants, and animals. We conducted a site visit of all habitats on the 10.0-acre project area to evaluate the potential for occurrence of 68 special-status plant species, and 47 special-status wildlife species. All vegetation was assessed for potentially suitable bird and bat habitat.

Several vegetation communities occur within and adjacent to the proposed project. The majority of the site is an established vineyard with an understory of ruderal non-native annual grassland. The two existing residences have some landscaped vegetation and Salvador Creek has a valley oak and willow riparian community along its banks with a perennial marsh wetland vegetation within the channel. Where possible, vegetation types have been classified corresponding to *The Manual of California Vegetation Second Edition* (Sawyer, et. al. 2009).

No special-status plants were observed or have potential to occur on the site based on current conditions given that the site is an actively maintained and managed vineyard. A 20-foot buffer will be maintained between Salvador Creek and the development.

We have prepared a summary table of biological resources that may be affected from the proposed project and the seasonal timing to determine occupancy or prevent take of individuals.

Biological Resource	Actions/Seasons to determine occupancy	Action/Seasonality to prevent take of individuals
Nesting Birds	February 1- August 31	September 1- January 31
Roosting bats	Year round	March 1-April 15 or September 1-October 15

INTRODUCTION

Mr. Randy Gularte with Heritage Sotheby's International Realty, contracted with Jane Valerius Environmental Consulting and Wildlife Research Associates to conduct a Habitat Assessment of the approximately 10.0-acre site proposed for a 57-lot subdivision. The proposed project, located at 1583 and 1657 El Centro Avenue (APN: 038-361-010 and 038-361-009), is located in the northeastern portion of the City of Napa, in the southeastern portion of the Napa Valley, California.

This habitat assessment was conducted to determine the potential for special-status vegetation communities, plant and animal species to occur within the proposed project and to identify the limitations to potential development of the project, such as habitat removal. Federal and state agencies that have purview over biological resources include the following:

- U.S. Army Corps of Engineers (USACE) - regulates the discharge of dredged or fill material into waters of the United States,
- U.S. Fish and Wildlife Service (USFWS) - authority over federally listed plant and animal species,
- National Marine Fisheries Service (NMFS) - authority over essential fish habitat, which is habitat necessary to maintain sustainable fisheries,
- California Regional Water Quality Control Board (RWQCB) - protects all waters with special responsibility for wetlands, riparian areas, and headwaters, and the
- California Department of Fish and Wildlife (CDFW) - authority over state listed plants and animals as well as streams and lakes within the State.

Site Location

The approximately 10.0-acre parcel is located on the east side of HWY 29, in the northeastern portion of the City of Napa, on the southeast side of Napa Valley. The proposed residential development is located within the Napa River watershed (Figure 1) and consists of two areas: Area 1 is approximately 1.0 acre in size and Area 2 is approximately 9.0-acres in size.

The site is situated on relatively flat lands and is currently an active vineyard. Surrounding land uses include residential developments.

Proposed Project

The proposed project consists of converting approximately 10-acres of existing vineyards, including 2 residences, into 57 lots for residential housing. Two distinct areas are proposed for development, Area 1, located on the north side of Salvador Creek and comprising 9.0-acre, of which +/- 6.4-acres will be developed, and Area 2, located on the south side of Salvador Creek and comprising 1.0-acres.

The proposed permanent development acreage is +/- 7.4 acres. The proposed work area and associated grading areas include 7.4 acres of permanent development and 0.3 acres of temporary work area for a total of 7.7 acres. One 1,400 square foot (sf) house and one 3,000 sf barn will be removed. A second existing residence, approximately 22,328 sf, will remain.

The existing bridge across Salvador Creek will be removed. Two outfalls will be placed into Salvador Creek as shown on the Conceptual Layout prepared by RSA dated November 20, 2017. The outfalls are associated with the bioswale areas for the north and south sides of the development. There are a total of three (3) bioretention facilities, also shown on the concept plan (RSA 2017).

A total of 29 trees will be removed consisting of 2 oaks and 27 non-native landscape or ornamental trees which include various fruit and nut trees. No trees will be removed along Salvador Creek. A 20-foot buffer will be maintained between the creek and any of the development.

METHODS

Information on special-status plant and animal species was compiled through a review of the literature and database search, with a focus on the Napa, Mt. George, Sonoma, Capell Valley, Yountville and Rutherford U.S. Geologic Service 7.5-minute topographic quadrangles, which provided a five-mile radius around the proposed project area. To determine which special-status plant and wildlife species have been documented near the project site, the following sources were reviewed:

- U.S. Fish and Wildlife Service (USFWS) Information on Planning and Conservation (IPaC) (USFWS 2018)
- USFWS list of special-status animals for Sonoma County (USFWS 2018)
- California Natural Diversity Database records (CNDDB) (CDFW 2018)
- California Department of Fish and Wildlife's (CDFW) Special Animals List (CDFW 2018),
- State and Federally Listed Endangered and Threatened Animals of California (CDFW 2018)
- California Native Plant Society (CNPS) Electronic Inventory records (CNPS 2018)
- California Department of Fish and Game (CDFG) publication "California's Wildlife, Volumes I-III" (Zeiner, et al. 1990)

Botanical nomenclature used in this report conforms to Baldwin, et al. (2012) for plants and to Sawyer, et al. (2009) for vegetation communities. Nomenclature for special-status animal species conforms to CDFW (2018).

Site Survey: Trish Tatarian, Wildlife Research Associates, and Jane Valerius, botanist and wetland specialist of Jane Valerius Environmental Consulting, conducted a site visit on January 17, 2018. The weather was cool (~55° Fahrenheit) and sunny. As required by CDFW protocols, the entire site identified as the project area was walked and all species identifiable at the time of the site visits were recorded. A list of plant species (Appendix C) and wildlife species (Appendix D) observed were recorded. Although the site visit was conducted outside of the flowering period for many special status plants, based on the CNDDB and CNPS searches the site lacks the typical habitat for any special status plants known to occur in the area, therefore no further surveys are recommended. A formal delineation of waters of the U.S. and State, including wetlands, was not conducted for the site.

The project area was evaluated for suitable bird nesting habitat using 8 x 42 roof-prism binoculars, noting presence of old bird nests. Potential bat roosting habitat was also assessed in the trees present.

The reconnaissance-level site visit was intended only as an evaluation of on-site and adjacent habitat types; no special-status species surveys were conducted as part of this effort.

EXISTING CONDITIONS

The project area is located within the North Coast Province (CDFW 2015). This province is located along the Pacific coast from the California-Oregon border to the San Francisco Bay watershed in the south (CDFW 2015). The eastern boundary includes the Cascade Range along the northern portion of the province and the transition to the Sacramento Valley along the southern portion. The coastal mountain ranges within the province are aligned somewhat parallel and rise from low to moderate elevation (i.e., up to about 7,500 feet) (CDFW 2015). The climate varies considerably across the province, with high precipitation levels and moderate temperatures in many coastal areas, and dry conditions with rain shadow effects and more extreme temperatures in some inland valleys. Overall, the province has a fairly wet climate and receives more rainfall than any other part of the state, feeding more than ten river systems (CDFW 2015).

The North Coast Province vegetation consists predominantly of conifer and mixed-conifer forests dissected by chaparral stands, riparian forests, and wetlands (CDFW 2015). Valley and foothill grassland and woodland communities emerge along the central and southern eastern border of the province, while coastal

wetlands and marshes appear along the coastline (CDFW 2015). Specifically, Douglas-fir, mixed-evergreen, western hardwoods, and chaparral-mountain shrub dominate the province (CDFW 2015).

The roughly rectangular-shaped 10-acre parcel ranges in elevation between 22 meters (72 feet) in the northwest and 19.5 meters (64 feet) in the southeast and is situated on the flatlands of the Napa Valley. Salvador Creek runs along the southern portion of the northern parcel (Area 1) and flows from northwest to southeast to the Napa River. Surrounding land uses consist of mainly of residential development located along El Centro Avenue.

Vegetation Communities

Several vegetation communities occur within and adjacent to the proposed project. The majority of the site is an established vineyard with an understory of ruderal non-native annual grassland. The two existing residences have some landscaped vegetation and Salvador Creek has a valley oak and willow riparian community along its banks with a perennial marsh wetland vegetation within the channel. These vegetation communities are further described below:

Vineyard: The majority of the site is planted with wine grapes (*Vitis vinifera*). The vineyard is actively managed and maintained. According to the owner, Bob Biale, the vineyard and avenues are seeded with an organic cover crop seed mix after harvest and before the rains come. The vineyard is pruned in the winter and canes are dropped on the ground. The cover crop and canes are mowed in early April and then several passes are made with the disc to incorporate all the organic matter into the soil through July. No herbicides are used in the vineyard. Herbicides are used along fence and property lines and along building edges and spot spraying in the work yard. A combination of organic and conventional fungicide and pesticide sprays are used on the vines as they are growing.

Ruderal non-native annual grassland. Grassland occurs as understory vegetation within the vineyard rows, along the fence lines and as understory to the riparian along Salvador Creek (Fig. 2 and 3). Non-native grasses noted include oats (*Avena barbata, A. fatua*), bromes (*Bromus hordaeceus, B. diandrus*), ryegrass (*Festuca perennis*), hare barely (*Hordeum murinum* ssp. *leporinium*), Harding grass (*Phalaris aquatica*), and Bermuda grass (*Cynodon dactylon*). Non-native herbaceous forb species observed include mustards (*Brassica nigra, B. rapa*), calendula (*Calendula* sp.), mallow (*Malva parviflora*), dog fennel (*Anthemis cotula*), wild radish (*Raphanus sativus*), amaranth (*Amaranthus* sp.), filaree (*Erodium* spp.), and chicory (*Cichorium intybus*).

Landscaped Areas: There are two residences within the project area (Fig. 4). The residence on the eastside will be demolished with the other one remaining. Landscaped area include lawns and ornamental, non-native trees and shrubs. Tree species noted on the tree removal map include English walnut (*Juglans regia*), olive (*Olea europea*), maple (*Acer* sp.), acacia (*Acacia* sp.), and various fruit trees.

Valley Oak and Willow Riparian: Along the top of bank of Salvador creek there are numerous young valley oak (*Quercus lobata*) trees that have been planted in a row. Within the channel there are also some willows (*Salix* spp.) (Fig. 5). Himalayan blackberry (*Rubus armeniacus*) is common along the banks and at the time of the site visit appeared to have been sprayed as the blackberry canes were dead.

Perennial Marsh: Salvador Creek has an aquatic wetland community within the creek bed that includes an highly invasive species, water primrose (*Ludwigia* sp.) which is controlled by the Napa County Flood Control and Water Conservation District (NCFCWCD) (Fig. 6). Other wetland plants include cattails (*Typha latifolia*) and umbrella sedge (*Cyperus* sp.).

Waters of the U.S. and State, Including Wetlands

A formal delineation of waters of the U.S. and State, including wetlands, was not conducted as part of this study. Salvador Creek is an intermittent creek, with a cobblestone bed and incised banks. This creek would qualify as a waters of the U.S. by the U.S. Army Corps of Engineers (USACE) and also a waters of the State.

The Napa County Flood Control and Water Conservation District (NCFCWCD) maintains this portion of the creek. In the NCFCWCD Stream Maintenance Manual (Horizon Water and Environmental 2012) the portion of Salvador Creek within the project area is identified as Salvador Creek Reach 1. Reach 1 is a modified channel that conveys runoff from the North and South Salvador Collectors. The channel has been highly modified for flood control purposes and has a simple cross-sectional form with relatively uniform bed and bank. The active channel is 25- to 30-feet wide and the channel bed is 5- to 7-feet beneath the top of bank. The bed slope is less than 0.5%. The creek in this area is a trapezoidal channel that has 5- to 7-feet high earth banks with a 1:1 or 1.5:1 slope. Riprap, some in the form of broken concrete, has been placed at the toe of slope along much of the channel.

The creek has an aquatic wetland community that includes an highly invasive species, water primrose which is controlled by the NFCWCD. Other wetland plants include cattails and umbrella sedge. Along the top of bank there are numerous young valley oak trees that have been planted in a row. Within the channel there are also some willows. Himalayan blackberry is common along the banks along with other non-native grasses and forbs as described for the non-native grassland community above.

There is an existing bridge across Salvador Creek. This bridge will be removed as part of the project.

Wildlife Habitats

The value of a site to wildlife is influenced by a combination of the physical and biological features of the immediate environment. Species diversity is a function of diversity of abiotic and biotic conditions and is greatly affected by human use of the land. The wildlife habitat quality of an area, therefore, is ultimately determined by the type, size, and diversity of vegetation communities present and their degree of disturbance. Wildlife habitats are typically distinguished by vegetation type, with varying combinations of plant species providing different resources for use by wildlife. The following is a discussion of the wildlife species supported by the on-site habitats, as described by *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988).

Grasslands: Grassland habitat, including native and non-native grasslands, typically provides both primary habitat, such as nesting and foraging, and secondary habitat, such as a movement corridor. However, the habitat occurring on the site is interspersed between vineyard rows. As a result, the habitat is too disturbed to provide nesting habitat for birds. Small species using this habitat as primary habitat include reptiles, such as terrestrial garter snake (*Thamnophis elegans*), and amphibians, such as Pacific slender salamander (*Batrachoseps attenuatus*) and Sierra chorus frog (*Pseudacris sierra*), which feed on invertebrates found within and beneath vegetation. This habitat also attracts seed-eating and insect-eating species of birds, such as white-crowned sparrows (*Zonotrichia leucophrys*), and song sparrow (*Melospiza melodia*). Signs of other wildlife using the grasslands include Botta's pocket gophers (*Thomomys bottae*).

Valley Foothill Riparian: Riparian areas, such as along Salvador Creek, provide nesting habitat and insect diversity attractive to a variety of migratory birds. Diverse foraging substrates, such as foliage, bark and ground substrates, increase feeding availability. Birds that forage for insects in the leaves of plants include Bewick's wren (*Thryomanes bewickii*), northern oriole (*Icterus galbula*), orange-crowned Warbler (*Oreothlypis celata*), bushtit (*Psaltriparus minimus*), and black-headed grosbeak (*Pheuticus melanocephalus*). Bark-insect foraging species, such as downy woodpecker (*Picoides pubescens*), Nuttall's woodpecker (*Picoides nutallii*), plain titmouse (*Parus inornatus*) and white-breasted nuthatch (*Sitta carolinensis*) forage for insects in the bark. There are a few species that are adapted to foraging for insects in flight, such as black phoebe (*Sayornis nigricans*), western wood pewee (*Contopus sordidulus*) and tree swallows (*Tachicyneta bicolor*). Generalist omnivores are species such as the western scrub jay (*Aphelocoma caerulescens*) and European starling (*Sturnus vulgaris*) that eat a variety of different foods, from insects to seeds to fruits. Although insects are the primary food source for most species in the riparian habitat, ground dwelling species, such as California quail (*Callipepla californica*) and brown towhee (*Pipilo fuscus*), are also present in the riparian habitat feeding on seeds.

Individual trees: This habitat, which includes the valley and coast live oak trees along Salvador Creek and the English walnuts and landscape trees, contains food for species such as western scrub jay (*Aphelocoma californica*), chestnut-backed chickadee (*Poecile rufescens*), and white- breasted nuthatch (*Sitta carolinensis*). These latter species are bark gleaners, eating insects that are in the bark of trees, as well as catching insects in flight. Other species, such as the brown towhee (*Pipilo fuscus*), glean insects from the foliage on the ground, such as under leaf litter and plants. The western gray squirrel (*Sciurus griseus*) feed on mushrooms, fruits, and nuts within the forest.

Bats may also use oak and other trees if they are large enough and contain cavities, crevices and/or exfoliating bark. Bats that use trees fall into three categories; 1) solitary, obligate tree-roosting bats that roost in the foliage or bark such as Western red-bat (*Lasiurus blossevillii*), or hoary bat (*Lasiurus cinereus*); 2) frequent tree-roosting bats that form colonies of varying size in tree cavities, such as silver-haired bats (*Lasionycteris noctivagens*), and 3) more versatile bat species that will use a wide variety of roosts from buildings to bridges to trees, such as various *Myotis* species, pallid bat (*Antrozous pallidus*), and others. Solitary-roosting bats consist either of single males or females either alone or with young. Colonial-roosting bats form maternity colonies in tree cavities or crevices, whereas with man-made structures, young are left behind while females forage, then return to nurse their young. Greater impacts can occur as a result of removal of trees that support cavity-roosting bat species than those that provide habitat for solitary foliage-roosting species.

Buildings: Depending on the composition of the structure, buildings also provide potential roosting habitat for bats. Many colonial bat species have adapted to using man-made structures such as houses, barns, sheds, garages, bridges, and culverts. Statewide and in the project region, buildings provide significant roosting habitat for bat species, including more common species such as Brazilian free-tailed bat (*Tadarida brasiliensis*) and Yuma myotis (*Myotis yumanensis*), as well as more rare species such as pallid bat (*Antrozous pallidus*), and Townsend's big-eared bat (*Corynorhinus townsendii*).

In general, day roost habitat is considered more critical than night roost habitat, because it provides shelter for bats from light, air currents, predators, and other disturbance, and are where bats mate, raise young, roost during dispersal, and overwinter, either in torpor or hibernation. Because of this, and because demolition typically occurs during daytime hours, the risks of direct mortality of bats is very high at day roosts. Although night roosts are also very important for bats for various purposes (conservation of energy during foraging bouts, social interaction, etc.), buildings are not usually demolished at night, so although the habitat is lost, direct mortality does not usually occur.

Vineyards: Vineyards and orchards offer the least overall wildlife habitat value of all agricultural crops, mostly because of farming practices. Vineyards do provide limited food (in the form of insects) and cover for birds and mammals, but typically do not provide adequate foraging grounds for predators, such as raptors. Although some wildlife use vineyards, these fields are thought to be a "second choice" for most and are unusable by some species, such as larger mammalian predators. Native species that have been detected using riparian corridors that flow through vineyards include striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), bobcat (*Lynx rufus*), coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), and mountain lion (*Felis concolor*). Non-native mammalian predators detected included opossum (*Didelphis virginiana*), domestic cat (*Felis catus*), and domestic dog (*Canis familiaris*). Small mammals, such as rabbits and rodents, forage on the leaves and grasses of vineyards and orchards and, in turn, may attract small predators, such as hawks or feral cats.

Movement Corridors

Wildlife movement includes migration (i.e., usually one way per season), inter-population movement (i.e., long-term genetic flow) and small travel pathways (i.e., daily movement corridors within an animal's territory). While small travel pathways usually facilitate movement for daily home range activities such as foraging or escape from predators, they also provide connection between outlying populations and the main corridor, permitting an increase in gene flow among populations.

These linkages among habitat types can extend for miles between primary habitat areas and occur on a large scale throughout California. Habitat linkages facilitate movement among populations located in discrete areas and populations located within larger habitat areas. The mosaic of habitats found within a large-scale landscape results in wildlife populations that consist of discrete sub-populations comprising a large single population, which is often referred to as a meta-population. Even where patches of pristine habitat are fragmented, such as occurs with coastal scrub, the movement between wildlife populations is facilitated through habitat linkages, migration corridors and movement corridors. Depending on the condition of the corridor, genetic flow between populations may be high in frequency, thus allowing high genetic diversity within the population, or may be low in frequency. Potentially low frequency genetic flow may lead to complete isolation, and if pressures are strong, potential extinction (McCullough 1996; Whittaker 1998).

As described in the *California Essential Connectivity Project* (Spencer, et al. 2010), the study area is located in North Coast Ecoregion (Spencer et al. 2010). The natural drainages in the area (e.g., Salvador Creek) flow southeast into the Napa River and south into the San Pablo Bay. The Study Area is not within a Natural Landscape Block (defined as relatively natural habitat blocks that support native biodiversity). The study area is not located in an Essential Connectivity Area (defined as areas that are essential for ecological connectivity between blocks) (Spencer et al. 2010).

Wildlife connectivity of this site to other open lands in the area occurs along Salvador Creek. Hardware cloth (approximately 2.5 feet in height) runs along the top of the bank on the north and south banks. This is considered a small barrier to movement from the creek to the parcel for amphibians, reptiles and small mammals as most species are unable to climb hardware cloth. The proposed development with the XX-foot setback will not impede movement by terrestrial species along Salvador Creek.

SPECIAL-STATUS BIOLOGICAL RESOURCES

Certain vegetation communities, and plant and animal species are designated as having special-status based on their overall rarity, endangerment, restricted distribution, and/or unique habitat requirements. In general, special-status is a combination of these factors that leads to the designation of a species as sensitive. The Federal Endangered Species Act (FESA) outlines the procedures whereby species are listed as endangered or threatened and established a program for the conservation of such species and the habitats in which they occur. The California Endangered Species Act (CESA) amends the California Fish and Wildlife Code to protect species deemed to be locally endangered and essentially expands the number of species protected under the FESA.

Special-status Vegetation Communities

Only one special-status vegetation community has been reported in the CNDDB for the six topographic quadrangles, Napa, Sonoma, Mt. George, Capell Valley, Yountville and Rutherford (CNDDB 2018) and that is northern vernal pool. There are no vernal pools on the site and no special-status vegetation communities occur on the site. The valley oak and willow riparian woodland along Salvador Creek would be considered a sensitive natural community. With the exception of the removal of the existing bridge and placement of two outfalls into the creek, Salvador Creek and the associated riparian woodland will be avoided and a 20-foot creek setback will be maintained.

Special-status Plant Species

The CDFW has compiled a list of "Special Plants" (CDFW 2018), which include California Special Concern species. These designations are given to those plant species whose vegetation communities are seriously threatened. Although these species may be abundant elsewhere they are considered to be at some risk of extinction in California. Although Special Concern species are afforded no official legal status under FESA or CESA, they may receive special consideration during the planning stages of certain development projects and adverse impacts may be deemed significant under the California Environmental Quality Act (CEQA).

A total of 68 special-status plant species have been reported occurring on the six topographic quadrangles (CNDDB 2018). See Appendix B for a list of the species evaluated.

The following set of criteria has been used to determine each species' potential for occurrence on the site in Appendix A:

- **Present**: Species is known to occur on the site, based on CNDDB records, and/or was observed onsite during the field survey(s).
- **High**: Species is known to occur on or near the site (based on CNDDB records within 5 miles, and/or based on professional experience) and there is suitable habitat onsite.
- **Moderate/Low**: Species is known to occur in the vicinity of the site, but there is only marginal habitat onsite -OR- species is not known to occur in the vicinity of the site, however, the site is within the species' range and there is suitable habitat onsite.
- **None**: There is no suitable habitat for the species onsite -OR- species was surveyed for during the appropriate season with negative results.

None of the special-status plant species known to occur in the area are expected to occur within the project study area due to lack of habitat. The site does not contain any serpentine, rhyolitic, sandy or alkaline soils and there are no coastal scrub, coastal prairie, closed-cone coniferous forest, North Coast coniferous forest, lower montane coniferous forest, chaparral, meadows and seeps, marshes and swamps or vernal pools within the proposed development area. No special-status plants were noted during the site visit conducted on January 17, 2018. The grassland habitat within the vineyard area is dominated by non-native and invasive weedy species. The vineyard is actively managed and, although herbicides are not used in the vineyard, they are used along the fence and property lines and along building edges with spot spraying in the work yard. The grassland does not provide suitable habitat for any of the special-status plants known to occur in the area. As a result, no further action is required.

Special-status Animal Species

Special-status animal species include those listed by the USFWS (2018) and the CDFW (2018). The USFWS officially lists species as either Threatened or Endangered, and as candidates for listing. Additional species receive federal protection under the Bald Eagle Protection Act *(e.g*., bald eagle, golden eagle), the Migratory Bird Treaty Act (MBTA), and state protection under CEQA Section 15380(d). In addition, many other species are considered by the CDFW to be species of special concern; these are listed in Shuford and Gardali (2008), Williams (1986), and Thomson, et al. (2016). Although such species are afforded no official legal status, they may receive special consideration during the planning and CEQA review stages of certain development projects. The CDFW further classifies some species under the following categories: "fully protected", "protected fur-bearer", "protected amphibian", and "protected reptile". The designation "protected" indicates that a species may not be taken or possessed except under special permit from the CDFW; "fully protected" indicates that a species can be taken for scientific purposes by permit only.

Of the 28 special-status animal species identified as potentially occurring in the vicinity of the project area, including a 5-mile radius (CNDDB 2018), several additional species were evaluated for their potential to occur within the study area, based on: 1) review of the IPaC (USFWS 2018), 2) the "Special Animals" list (CDFW 2018) that includes those wildlife species whose breeding populations are in serious decline, and 3) the habitat present on site. See Appendix C for a list of the 47 species evaluated. Species with habitats not present on the site (i.e. saltmarsh and open water) are not included in this evaluation. See Appendix E for a list of species observed on the site.

Several of these species are prominent in today's regulatory environment and are discussed below. This document does not address impacts to species that may occur in the region but for which no habitat occurs on site, such as coastal scrub, saltmarsh habitat, or brackish marshes, vernal pools or saline water bodies.

Foothill yellow-legged frog (*Rana boylii*), a California Candidate for Threatened status, occurs in most Pacific drainages. This species typically inhabits rocky streams, preferring streams that are more perennial

than intermittent, but have been reported from intermittent streams (Hayes and Jennings 1988). Occupied drainages range from sea level to 2,040 meters (6,700 feet) (Jennings and Hayes 1994). Streams in woodland, chaparral or forest with little to no bank vegetation cover are also preferred (Stebbins 2003).

Potential for Occurrence: No focused surveys were conducted for this habitat assessment. Although the site is within the range of the species, the nearest reported presence occurs more than 3 miles to the west of the project area, in Salvador Creek (CNDDB 2018). The disturbed nature of this portion of the creek does not provide suitable habitat for this species. No further analysis is required.

Western pond turtle **(***Emys marmorata*) is listed by the CDFW as a California Special Concern species. It originally inhabited many of the pacific drainage basins in California (Stebbins 2003). This medium sized turtle ranges in size to just over 8 inches (21cm) with a low carapace that is generally olive, brownish or blackish (Stebbins 2003, Thomson, et al. 2016). Primary habitats include permanent water sources such as ponds, streams and rivers. It is often seen basking on logs, mud banks or mats of vegetation, although wild populations are wary and individuals will often plunge for cover after detecting movement from a considerable distance. Although it is an aquatic species with webbed feet, it can move across land in response to fluctuating water level, an apparent adaptation to the variable rainfall and unpredictable flows that occur in many coastal California drainage basins (Rathbun, *et al*. 1992). Females travel from aquatic sites into open, grassy areas to lay eggs in a shallow nest (Holland 1992; Rathbun, *et al.* 1992), with nests being reported from 2-400 meters or more away from water bodies (Jennings and Hayes 1994). Females deposit eggs between April and July and young emerging from the underground nest the following spring (Reese and Welsh 1977), with most hatchlings overwintering in the nest (Holland 1992; Thomson et al. 2016).

Potential for Occurrence: No surveys were conducted for this species as part of this habitat assessment. No suitable aquatic habitat occurs on the site. This species has been reported occurring more than 3 mile west of the site in Salvador Creek (CNDDB 2018). The disturbed nature of this portion of the creek does not provide suitable habitat for this species. No further analysis is required.

Nesting Passerines: As stated previously, passerines, protected under the MBTA and Fish and Wildlife Code 3503, have potential to nest within the proposed project area. Passerines (perching birds) observed potentially nesting in the trees on site include white-breasted nuthatch (*Sitta carolinensis*) and black phoebe (*Sayornis nigricans*). As early as February, passerines begin courtship and once paired, they begin nest building, often around the beginning of March. Nest structures vary in shapes, sizes and composition and can include stick nests, mud nests, matted reeds and cavity nests. Depending on environmental conditions, young birds may fledge from the nest as early as May and, if the prey base is large, the adults may lay a second clutch of eggs.

Project Area Occurrence: Nesting bird surveys were not conducted as part of this habitat assessment. Several species were observed on the site, and the structures and native trees located throughout the parcel provide suitable nesting habitat for birds. Please refer to the Impacts and Mitigation Measures for details on avoidance measures of these nesting bird species.

Nesting Raptors – white-tailed kite (*Elanus leucurus*), red-shouldered hawk (*Buteo lineatus*), American kestrel (*Falco sparverius*), Cooper's hawk (*Accipiter cooperi*)
Status: Protected under the Federal Migratory Bird Treaty Act and CDFW 3503.5

General Ecology and Distribution: Raptors nest in a variety of substrates including, cavities, ledges and stick nests. For example, Cooper's hawks are small bird hunters, hunting on the edges of forests in broken forest and grassland habitats where passerines forage for seeds and insects. Nests occur in heavily forested areas near a water source. Research sites on nesting Cooper's hawks rarely show the nests more than a quarter of a mile away from water, whether it is a cattle tank, stream or seep (Snyder and Snyder 1975). Trees typically used by Cooper's hawks include coast live oaks, cottonwoods, and black oaks (Call 1978), as well as second growth conifer stands or deciduous riparian areas. Most raptors build stick nests, except for American

kestrels that nest in cavities. In general, the breeding season for raptors occurs in late March through June, depending on the climate, with young fledging by early August

Project Area Occurrence: No surveys were conducted for these species as part of this habitat assessment. Foraging habitat for raptors, such as red-shouldered hawk, among others, occurs throughout the project area. The oak trees provide suitable nesting habitat for American kestrels. See below for further details.

Swainson's hawk (*Buteo swainsoni*)
Status: California Threatened species, falls under California Code 3503.5, which prohibits the taking or destroying of nest or eggs of any bird in the order of Falconiformes (falcons, kites, and hawks) and Strigiformes (owls).

General Ecology and Distribution: Historically, Swainson's hawks were once found throughout the lowland basin of California, but is now restricted to portions of the Central Valley where suitable nesting and foraging habitat are still available. Swainson's hawks prefer to nest along the periphery of riparian systems, but will also use lone trees or groves of trees in agricultural fields (Estep 1989). Valley oak (*Quercus lobata*), Fremont cottonwood (*Populus fremontii*), walnut (*Juglans hindsii*) and large willow (*Salix* sp.) are the most commonly used species. Swainson's hawks were found to nest in urban areas in park-like settings, such as golf courses, cemeteries and at the U.C. Davis campus (England, *et al*. 1995). Residential neighborhoods in which nests were located were >20 years old with an average height of 73 feet for nesting trees (England, *et al*. 1995). Over 85 % of Swainson's hawk territories in the Central Valley are in riparian systems adjacent to suitable foraging habitats.

Swainson's hawks require large open grasslands with abundant prey, such as small mammals and insects. In a study on foraging behavior on Colorado, 50% of prey remains were birds, 45% were mammals and 55 were reptiles (Anderson 1995).

Project Area Occurrence: No surveys were conducted for this species as part of this habitat assessment. No Swainson's hawks were observed in or near the project area. None of the trees on the site are tall enough to support roosting Swainson's hawks. The parcel is a small, disjunct parcel that doesn't provide enough foraging habitat (< 5 acres) to sustain the reproductive effort of a Swainson's hawk pair (CDFG 1994). The closest reported sightings of Swainson's hawk are more than 3 miles to the southeast, on the east side of Napa River (CNDDB 2018). No further analysis is required.

Roosting bats – including Townsend's big-eared bat (*Corynorhinus townsendii*), pallid bat (*Antrozous pallidus*), western red bat (*Lasiurus blossevillii*) and hoary bat (*Lasiurus cinereus*).
Status: California Species of Special Concern (SSC), as well as Fish and Wildlife Code Sections 86, 2000, 2014, 3007, Title 14, Sections 15380, 15382

Within California, 25 bat species occur, of which 11 are classified as SSC (CDFW 2018). One SSC bat species that often roosts in structures or suitable trees in those areas where they occur is the pallid bat (*Antrozous pallidus*). Removal of occupied roosts without prior humane eviction or other actions approved by the CDFW would result in "take", defined under the CESA as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill".

In addition to the SSC bat species above, non-SSC species are also afforded consideration under the California Environmental Quality Act (CEQA), primarily when significant local breeding populations may be impacted. This includes two more common and widely-distributed bat species, Yuma myotis (*Myotis yumanensis*) and Brazilian free-tailed bat (*Tadarida brasiliensis*), which can form very large colonies, often in features such as those found in buildings.

General Ecology and Distribution: Bats in this region of California are not active year-round and their activity periods can be split into two distinct seasons, the maternity season and the winter season. During the

maternity season, non-volant young (those not capable of flight) of colonial bats remain in the roost until late summer (end of August), after which they may disperse from the natal roost or remain into or throughout the winter. During the winter season, bats typically enter torpor, rousing only occasionally to drink water or opportunistically feed on insects. The onset of torpor is dependent upon environmental conditions, primarily temperature and rainfall.

California bats include colonial and solitary roosting species. Colonial bats are those that roost in groups of dozens to many thousands. *C. townsendii* roosts colonially, and often in the types of structures that occur within the local area. Pallid bats, an SSC species, are eclectic in their roosting habitat selection, and to some extent distribution, and can be found in crevices and small cavities in rock outcrops, tree hollows, mines, caves, and a wide variety of man-made structures such as buildings, bridges and culverts, generally in lower to mid-elevation sites. This species forms maternity colonies, composed of dozens to sometimes hundreds of females and their young, and smaller bachelor colonies composed of males and not-yet reproductive females. Non-SSC species, include Brazilian free-tailed bats (*Tadarida brasiliensis*), Yuma myotis (*Myotis yumanensis*), big brown bat (*Eptesicus fuscus*), and other *Myotis* species. These species may form significant local breeding populations in roosts of sufficient size, which usually occur in buildings, bridges or culverts, but occasionally in large tree hollows.

Obligate tree-roosting bats include another SSC species that could occur in the project area; western red bat (*Lasiurus blossevillii)*. An obligate tree-roosting species, *L. blossevillii* uses tree foliage, typically of large-leafed trees such as cottonwood (*Populus fremontii*) and others, but is also associated with orchards where suitable canopy density occurs. *L. blossevillii* females roost singly and with 2-6 pups during maternity season, and there is evidence that *L. blossevillii* is often faithful to selected trees. Suitable potential tree canopy habitat is present within the alignment for this species, as well as for a non-SSC tree-roosting species, hoary bat (*Lasiurus cinereus*). Obligate tree-roosting bat species, and to some extent, colonial bats, may switch tree roosts frequently, particularly after young are volant, but are sometimes faithful for longer periods (weeks).

Potential for Occurrence: Buildings: Pallid bats and Townsend's big-eared bats have potential to roost in the barn structures and houses located on the project site. Please refer to the Impacts and Mitigation Measures for details on avoidance measures of roosting bats in buildings on this site.

Trees: Several landscape trees contained suitable potential cavity, crevice and/or exfoliating bark roost features which are suitable for SSC bat species such as pallid bats, as well as non-SSC species. In addition to cavity, crevice, and exfoliating bark roost features that can support colonial bat species, dense canopy cover that provides suitable potential roost habitat for *L. blossevillii* and *L. cinereus* occurs within these trees. Please refer to the Impacts and Mitigation Measures for details on avoidance measures of roosting bats in trees on this site.

IMPACTS AND MITIGATION MEASURES

This section summarizes the potential temporary biological impacts from construction activities within the study area. The analysis of these impacts is based on a single reconnaissance-level survey of the study area, a review of existing databases and literature, and personal professional experience with biological resources of the region.

CEQA Guidelines Sections 15206 and 15380 were used to determine impact significance. Impacts are generally considered less than significant if the habitats and species affected are common and widespread in the region and the state.

A species may be treated as rare or endangered even if it has not been listed under CESA or FESA. Species are designated endangered when it survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, disease or other factors.

For the purposes of this report, three principal components in the evaluation were considered:

- Magnitude of the impact (e.g., substantial/not substantial)
- Uniqueness of the affected resource (rarity)
- Susceptibility of the affected resource to disturbance (sensitivity)

The evaluation of significance must consider the interrelationship of these three components. For example, a relatively small-magnitude impact (e.g., disturbing a nest) to a state or federally listed species would be considered significant because the species is at low population levels and is presumed to be susceptible to disturbance. Conversely, a common habitat such as non-native grassland is not necessarily rare or sensitive to disturbance. Therefore, a much larger magnitude of impact (e.g., removal of extensive vegetation) would be required for it to be considered a significant impact.

Waters of the U.S. and State, Including Wetlands

Impact: The project proposes to remove the existing bridge across Salvador Creek and to place two outfalls into the creek that are associated with the bioswales for the project. Any alteration of the creek bed, bank and riparian will require both a Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW) and a 401 water quality certification or waste discharge permit from the Regional Water Quality Control Board (RWQCB). If the outfalls are placed below the ordinary high water mark of the creek then the project will also need to obtain a Section 404 Nationwide Permit from the U.S. Army Corps of Engineers (USACE). The wetlands associated with Salvador Creek are within the ordinary high water mark (OHWM) so provided that the outfalls avoid the OHWM then no wetlands will be impacted. A formal delineation of waters of the U.S. and State, including wetlands, was not conducted as part of this study.

Mitigation Measure: CDFW and the RWQCB may require a riparian habitat mitigation plan as part of the Streambed Alteration Agreement and 401 water quality certification or waste discharge permit to compensate for any impacts to the creek bank and riparian from removal of the bridge and placement of the outfalls. A riparian habitat mitigation plan would include the following:

- A description of the project and proposed impact
- Identification of proposed mitigation or planting/restoration areas.
- A list of native trees and shrubs to be planted, sizes and spacing.
- Plant species selected shall be native species adapted to the area and be species known to grow within the existing plant community.
- Plantings will be done during the optimal season for the species being planted which is typically in the winter season.
- Target success criteria will be established.
- Invasive exotic plant species will be controlled to the maximum extent practicable to accomplish the revegetation effort.
- All disturbed areas will be seeded with a native herbaceous seed mix to be developed as part of the restoration plan.
- An annual report will be prepared each year for a minimum of five years and submitted CDFW and the RWQCB that describes the revegetation effort, survival of the plantings and any recommendations for maintenance and work needed to ensure a successful restoration effort.

If there are any impacts to the creek below the OHWM then a Section 404 permit from the USACE will be required. Mitigation for the loss of any wetlands or waters of the U.S. will also be required. Mitigation can be either in the form of purchase of credits in an approved mitigation bank or on-site or off-site mitigation. If impacts are less than 0.1 acres a USACE permit may not be required. Consultation with the USACE is recommended regarding impacts to any USACE jurisdictional areas.

Birds

Impact: Several passerine (perching birds) species, such as tufted titmouse and black phoebe, may build nests in the trees and on the buildings. Disturbance during the nesting season (February 15- August 15) may result in the potential nest abandonment and mortality of young, which is considered a "take" of an individual.

Mitigation Measure: The following mitigation measures should be followed in order to avoid or minimize impacts to passerines that may potentially nest in the trees that are to be removed:

1) Removal of nesting habitat (trees) should be conducted outside the nesting season, which occurs between approximately February 15 and August 15.
2) If removal between August 15 and February 15 is infeasible and removal must occur within the nesting season, a pre-construction nesting bird survey of the habitats shall be performed by a qualified biologist within 7 days of ground breaking. If no nesting birds are observed no further action is required and habitat removal shall occur within one week of the survey to prevent "take" of individual birds that could begin nesting after the survey.
3) If active bird nests are observed during the pre-construction survey, a disturbance-free buffer zone shall be established around the nest habitat(s) until the young have fledged, as determined by a qualified biologist.
4) The radius of the required buffer zone can vary depending on the species, (i.e., 75-100 feet for passerines), with the dimensions of any required buffer zones to be determined by a qualified biologist in consultation with CDFW.
5) To delineate the buffer zone around a nesting habitat, orange construction fencing shall be placed at the specified radius from the base of the structure that supports the nest within which no machinery or workers shall intrude.
6) After the fencing is in place there will be no restrictions on grading or construction activities outside the prescribed buffer zones.

Project Direct Impacts: Removal of landscape trees may cause **direct mortality of roosting bats**, if the trees provide suitable roosting habitat and are removed during seasonal periods of inactivity (maternity season or winter).

Preventing Take of Tree-roosting Bats – General Discussion

As with those bats that roost in buildings, colonial bats that roost in trees are seasonally inactive (e.g. non-volant young during maternity season or torpid bats during winter months). Unlike with buildings however, bats cannot readily be humanely evicted from trees. This is because many trees have numerous cavities, crevices, or large areas of exfoliating bark that cannot be fitted with one-way exits, or cannot even be safely worked on due to poor condition or lack of accessibility. This is particularly true of snags due to their extremely poor condition, however snags provide some of the most preferred and substantial bat tree roost habitat.

Conducting visual cavity surveys is only rarely possible due to difficulty with access and number of trees and night emergence surveys of potential roost trees is generally only feasible logistically and economically, where a few habitat trees occur, because only 1-2 trees can be surveyed each night per observer. Also, because bats tend to switch tree roosts more frequently than more stable roosts such as caves, mines, rock outcrops, buildings, bridges, or culverts, negative results have extremely limited temporal validity (24-48 hours), which would result in multiple mobilizations by tree cutters in order to remove trees immediately after a negative survey. In the event a tree is found to be occupied, a method for safely getting the bats out of the tree will still be needed.

A method that provides the most reasonable and cost-effective opportunity for bats to abandon the roost tree prior to cutting is a two-step method, *conducted over two consecutive days*, and works by creating noise and

vibration by cutting non-habitat branches and limbs from habitat trees using chainsaws only (no excavators or other heavy machinery) on Day 1. The noise and vibration disturbance, together with the visible alteration of the tree, is very effective in causing bats that emerge nightly to feed, to not return to the roost that night. The remainder of the tree is removed the following day - Day 2.

Two-step tree removal must only occur during seasonal periods of bat activity as described above; however, there are certain, limited exceptions, such as when the roost features can be visually surveyed and absence of bats can be determined, or when the roost features do not provide suitable maternity or overwintering habitat (e.g. shallow crevices in bark or wood). In a small percentage of trees, there are accessible cavities which could support colonial roosts, a visual inspection using fiber optic or video probes could be conducted outside the seasonally restricted periods, to permit removal at that time, if no bats are present. If all roost features can be completely surveyed, the entire tree may be removed in one action, making two-step removal unnecessary.

Two-step removal of bat habitat trees must only be conducted during seasonal periods of bat activity, which are in this region, between March 1 (or after evening temperatures rise above 45F and/or no more than 1/2" of rainfall within 24 hours occurs), and April 15, or between August 31 and October 15 (or before evening temperatures fall below 45F and/or more than 1/2" of rainfall within 24 hours occurs).

Project Mitigation: To prevent take of individual roosting bats a bat habitat assessment of the trees to be removed should be conducted by a qualified bat biologist. Specific recommendations based on the habitats on the site will be made to prevent direct impacts to individuals that may be roosting on the site.

Project Direct Impacts: Renovation/removal/demolition of buildings may cause **direct mortality of roosting bats** that use the structures, if the structures are removed during seasonal periods of inactivity (maternity season or winter), or without first conducting humane bat eviction or partial dismantling under supervision of a qualified bat biologist experienced with bats using man-made roosts.

Preventing Take of Bats in Buildings – General Discussion

In the case of buildings to be demolished for redevelopment, there are only two effective methods for getting bats out of the structure. The first, utilized mainly when the building is in good condition or will not be demolished, and the work is feasible, is "humane eviction", or "bat exclusion", which relies on the bats' ability to fly out of the roost. In this method, all potential, but currently unused entry points into the structure are sealed. The active entry points are fitted with one-way exits, which are left in place 7-10 days to allow all bats to emerge normally during nightly feeding flights. The one-way exits are then removed and the remaining openings sealed until demolition if it will occur more than 30 days after demolition. If the interval between successful eviction and demolition will be short (less than 4 weeks), the one-way exits may often be left in place until demolition. This work must be conducted by, or under direct supervision or instruction by a bat biologist qualified in humane bat eviction methods and materials.

In some cases, the physical condition of the structure is so poor that humane eviction as described above is not possible. If that occurs, the building must be carefully, and selectively dismantled in such a way that the internal environment is altered to a degree sufficient to cause bats to abandon the roost and not return. This must occur under the guidance bat biologist qualified in partial dismantling of structures for bat eviction.

In general, humane eviction of bats must occur during seasonal periods of bat activity, ***between March 1, or when evening temperatures are above 45F and rainfall less than ½" in 24 hours occurs, and April 15, prior to parturition of pups. The next acceptable period for humane eviction with suitable roosting habitat is after pups become self-sufficiently volant – September 1 through about October 15, or prior to evening temperatures dropping below 45F and onset of rainfall fretter than ½" in 24 hours.***

Mitigation Measure: To prevent take of individual roosting bats a bat habitat assessment of the buildings to be removed should be conducted by a qualified bat biologist. Specific recommendations based on the habitats on the site will be made to prevent direct impacts to individuals that may be roosting on the site.

REFERENCES

ANDERSON, D.E. 1995. PRODUCTIVITY, FOOD HABITS AND BEHAVIOR OF SWAINSON'S HAWKS BREEDING IN SOUTHEAST COLORADO. JOURNAL OF RAPTOR RESEARCH 29(3): 158-165.

ALSOP III, F. 2001. BIRDS OF NORTH AMERICA, WESTERN REGION. SMITHSONIAN HANDBOOKS. LONDON, NEW YORK.

BAICICH, P. AND C. HARRISON. 1997. A GUIDE TO NESTS, EGGS AND NESTLINGS OF NORTH AMERICAN BIRDS. SECOND EDITION. NATURAL WORLD ACADEMIC PRESS. SAN DIEGO. 347 PP.

BARBOUR, R. W. AND W. H. DAVIS. 1969. BATS OF AMERICA. UNIVERSITY OF KENTUCKY PRESS, LEXINGTON, KY.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW). 2018A. SPECIAL VASCULAR PLANTS, BRYOPHYTES, AND LICHENS LIST. NATURAL DIVERSITY DATA BASE, HABITAT CONSERVATION DIVISION. JANUARY.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW). 2018B. STATE AND FEDERALLY LISTED ENDANGERED, THREATENED, AND RARE PLANTS OF CALIFORNIA. NATURAL DIVERSITY DATA BASE, WILDLIFE AND HABITAT DATA ANALYSIS BRANCH. JANUARY.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW). 2018C. SPECIAL ANIMALS. NATURAL DIVERSITY DATA BASE, WILDLIFE AND HABITAT DATA ANALYSIS BRANCH. JANUARY.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW). 2018D. STATE AND FEDERALLY LISTED ENDANGERED AND THREATENED ANIMALS OF CALIFORNIA. NATURAL DIVERSITY DATA BASE, WILDLIFE AND HABITAT DATA ANALYSIS BRANCH. JANUARY.

CALIFORNIA DEPARTMENT OF FISH AND GAME (CDFG). 1994. STAFF REPORT REGARDING MITIGATION FOR IMPACTS TO SWAINSON'S HAWKS (BUTEO SWAINSONI) IN THE CENTRAL VALLEY OF CALIFORNIA. NOVEMBER 8. 14PP.

CALIFORNIA DEPARTMENT OF FISH AND GAME (CDFG). 1988B. CALIFORNIA'S WILDLIFE - AMPHIBIANS AND REPTILE. VOLUME I. CALIFORNIA DEPARTMENT OF FISH AND GAME. EDITORS, ZEINER, D.C., W.F. LAUDENSLAYER, JR., AND K.E. MAYER.

CALIFORNIA NATIVE PLANT SOCIETY (CNPS). 1998. MITIGATION GUIDELINES REGARDING IMPACTS TO RARE, THREATENED AND ENDANGERED PLANTS.

CALIFORNIA NATURAL DIVERSITY DATA BASE (CNDDB). 2018. REPORTED OCCURRENCES FOR THE NAPA, SONOMA, MT. GEORGE, CAPELL VALLEY, YOUNTVILLE AND RUTHERFORD 7.5-MINUTE TOPOGRAPHIC QUADRANGLE. WILDLIFE CONSERVATION DIVISION. SACRAMENTO, CALIFORNIA. JANUARY.

CALL, MAYO W. 1978. NEST SURVEYS. TECHNICAL NOTES-316. BUREAU OF LAND MANAGEMENT

CONSTANTINE, D. 1961. LOCALITY RECORDS AND NOTES ON WESTERN BATS. J. OF MAMMALOGY 42:404:405.

DAVIS, R. AND E. L. COCKRUM. 1963. BRIDGES UTILIZED AS DAY-ROOSTS BY BATS. J. MAMMALOGY 44(3):428-430.

ENGLAND, A.S., J.A. ESTEP, AND W.R. HOLT. 1995. NEST-SITE SELECTION AND REPRODUCTIVE PERFORMANCE OF URBAN NESTING SWAINSON'S HAWK IN THE CENTRAL VALLEY OF CALIFORNIA. JOURNAL OF RAPTOR RESEARCH 29 (3): 179-186.

ESTEP, J. 1989. BIOLOGY, MOVEMENTS AND HABITAT RELATIONSHIPS OF THE SWAINSON'S HAWK IN THE CENTRAL VALLEY OF CALIFORNIA, 1986-1987. CALIF. DEP. FISH AND GAME, NONGAME BIRD AND MAMMAL SEC. REP. 52 PP.

FENTON, B. 1983. JUST BATS. UNIVERSITY OF TORONTO PRESS, TORONTO. 165 PP.

HICKMAN, J.C. 1993. THE JEPSON MANUAL: HIGHER PLANTS OF CALIFORNIA. UNIVERSITY OF CALIFORNIA PRESS, BERKELEY, CALIFORNIA. 1400 PP.

HOLLAND, D.C. 1992. A SYNOPSIS OF THE DISTRIBUTION AND CURRENT STATUS OF THE WESTERN POND TURTLE (*CLEMMYS MARMORATA*) IN OREGON. REPORT PREPARED FOR NON-GAME DIVISION OREGON DEPARTMENT OF FISH AND WILDLIFE.

HORIZON WATER AND ENVIRONMENT. 2012 NAPA COUNTY STREAM MAINTENANCE MANUAL. PREPARED FOR NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT. MARCH.

JENNINGS, M.R. AND M.P. HAYES. 1994. AMPHIBIAN AND REPTILE SPECIES OF SPECIAL CONCERN IN CALIFORNIA. PREPARED FOR THE CALIF. DEPT. OF FISH AND GAME INLAND FISHERIES DIV. RANCHO CORDOVA, CALIF. NOVEMBER 1. 255 PP.

KUNZ, T. H. 1982B. LASIONYCTERIS NOCTIVAGANS. MAMMALIAN SPECIES. NO. 172, PP. 1-5. THE AMERICAN SOCIETY OF MAMMALOGISTS.

MAYER, K.E. AND W. F. LAUDENSLAYER, JR. EDS. 1988. A GUIDE TO WILDLIFE HABITATS OF CALIFORNIA. CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION. SACRAMENTO. 166 PP.

MCCULLOUGH, D. 1996. METAPOPULATIONS AND WILDLIFE CONSERVATION. ISLAND PRESS. 429PP.

RATHBUN, G.B., N. SIEPEL, AND D.C. HOLLAND. 1992. NESTING BEHAVIOR AND MOVEMENTS OF WESTERN POND TURTLES (*CLEMMYS MARMORATA*). THE SOUTHWESTERN NATURALIST 37(3):319-324.

REESE, D.A. AND H.H. WELSH. 1997. USE OF TERRESTRIAL HABITAT BY WESTERN POND TURTLES, CLEMMYS MARMORATA: IMPLICATIONS FOR MANAGEMENT. PROCEEDINGS: CONSERVATION, RESTORATION AND MANAGEMENT OF TORTOISES AND TURTLES. AN INTERNATIONAL CONFERENCE HELD BY THE NEW YORK TURTLE AND TORTOISE SOCIETY. PP 352-357.

RSA. 2017. CONCEPTUAL LAYOUT, ZINFANDEL ESTATE SUBDIVISION. NOVEMBER 10.

SAWYER, JOHN O., TODD KEELER-WOLF, JULIE M EVENS. 2009. A MANUAL OF CALIFORNIA VEGETATION. SECOND EDITION. CALIFORNIA NATIVE PLANT SOCIETY PRESS, SACRAMENTO, CA. 1300 PAGES.

SHUFORD, W. D., AND GARDALI, T., EDITORS. 2008. CALIFORNIA BIRD SPECIES OF SPECIAL CONCERN: A RANKED ASSESSMENT OF SPECIES, SUBSPECIES, AND DISTINCT POPULATIONS OF BIRDS OF IMMEDIATE CONSERVATION CONCERN IN CALIFORNIA. STUDIES OF WESTERN BIRDS 1. WESTERN FIELD ORNITHOLOGISTS, CAMARILLO, CALIFORNIA, AND CALIFORNIA DEPARTMENT OF FISH AND GAME, SACRAMENTO.

SPENCER, W.D., P. BEIER, K. PENROD, K. WINTERS, C. PAULMAN, H. RUSTIGIAN-ROMSOS, J. STRITTHOLT, M. PARISI, AND A. PETTLER. 2010. CALIFORNIA ESSENTIAL HABITAT CONNECTIVITY PROJECT: A STRATEGY FOR CONSERVING A CONNECTED CALIFORNIA. PREPARED FOR CALIFORNIA DEPARTMENT OF TRANSPORTATION, CALIFORNIA DEPARTMENT OF FISH AND GAME, AND FEDERAL HIGHWAYS ADMINISTRATION.

STEBBINS, R.C. 2003. WESTERN REPTILES AND AMPHIBIANS. PETERSON FIELD GUIDES. 3RD ED., HOUGHTON,-MIFFLIN, BOSTON.

TOBIN, D.P. 2001. INVENTORY OF RARE AND ENDANGERED VASCULAR PLANTS OF CALIFORNIA. CALIFORNIA NATIVE PLANT SOCIETY, SACRAMENTO, CALIFORNIA. SPECIAL PUBLICATION NO. 1, SIXTH ED. 384 PP.

THOMSON, R.C., A. W. WRIGHT AND H. B. SHAFFER. 2016. CALIFORNIA AMPHIBIAN AND REPTILE SPECIES OF SPECIAL CONCERN. CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE AND UNIVERSITY OF CALIFORNIA PRESS. XV + 390 PP.

U.S. FISH AND WILDLIFE SERVICE (USFWS). 2017. INFORMATION ON PLANNING AND CONSERVATION (IPAC) AS OF 2/1/2017.

WELSH, H. 1994. BIOREGIONS: AN ECOLOGICAL AND EVOLUTIONARY PERSPECTIVE AND A PROPOSAL FOR CALIFORNIA. CALIFORNIA FISH AND GAME (80) 3:97-124.

WHITTAKER, R. 1998. ISLAND BIOGEOGRAPHY: ECOLOGY, EVOLUTION AND CONSERVATION. OXFORD UNIVERSITY PRESS. 285PP.

WILLIAMS, D.F. 1986. MAMMALIAN SPECIES OF SPECIAL CONCERN IN CALIFORNIA. CALIFORNIA DEPARTMENT OF FISH AND GAME. WILDLIFE MANAGEMENT DIVISION ADMINISTRATIVE REPORT 86-1. 112 PP.

ZEINER, D., W. LAUDENSLAYER, K. MAYER, AND M. WHITE. 1990. CALIFORNIA'S WILDLIFE. VOLUME III. MAMMALS. CALIFORNIA STATEWIDE WILDLIFE HABITAT RELATIONSHIPS SYSTEM. STATE OF CALIFORNIA, THE RESOURCES AGENCY, DEPT. OF FISH AND GAME, SACRAMENTO, CALIF.

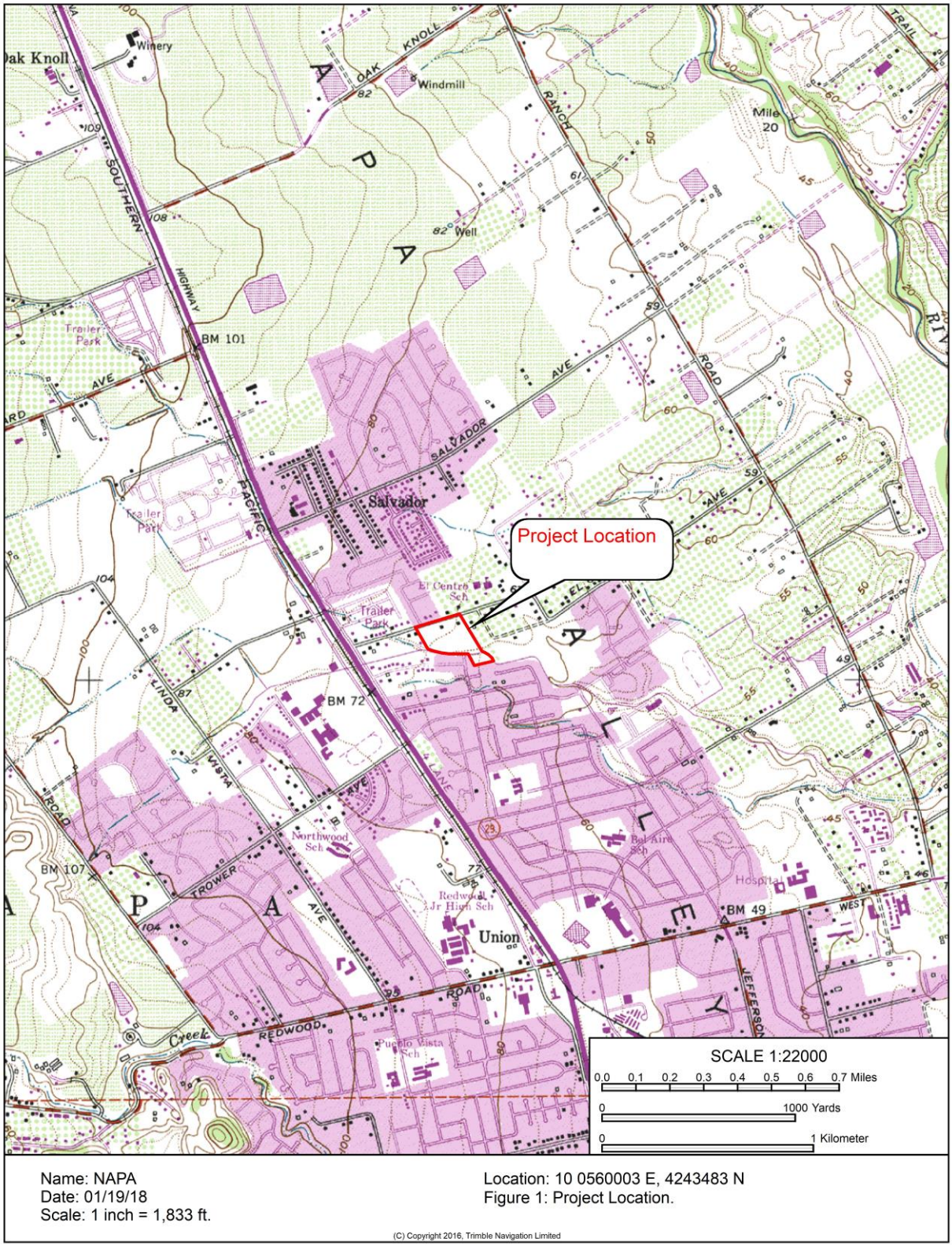

Figure 1: Project Location.

Figure 2: Non-native grasslands showing vineyard planting.

Figure 3: Non-native grasslands along fence line and as understory to the riparian along Salvador Creek.

Figure 4: House to remain with landscaping.

Figure 5: Salvador Creek showing willows and young valley oak trees.

Figure 6: Perennial marsh in Salvador Creek.

Appendix A: Potentially Occurring Special-Status Plant Species in the Study Area

Scientific Name **Common Name**	**Status USFWS/ CDFW/ CNPS Rank**	**Habitat Affinities and Blooming Period/Life Form**	**Potential for Occurrence**
Agrostis hendersonii Henderson's bent grass	-/-/3	Valley and foothill grassland (mesic), vernal pools. Blooms April to June. Elevation: 70-305m.	None. No habitat in study area. Grassland habitat on site not suitable habitat.
Allium peninsulare var. *franciscanum* Franciscan onion	-/-/1B	Cismontane woodland, valley and foothill grassland on clay, volcanic soils; often on serpentinite. Blooms May to June. Elevation 52-300m.	None. No habitat in study area.
Amorpha californica var. *napensis* Napa false indigo	-/-/1B	Broadleafed upland forest (openings), chaparral, cismontane woodland. Blooms April-July. Elevation: 120-2000m.	None. No habitat in study area.
Antirrhinum virga Twig-like snapdragon	-/-/4	Chaparral, lower montane coniferous forest in rocky openings often on serpentinite. Blooms June to July. Elevation: 100-2015m.	None. No habitat in study area.
Arabis modesta modest rockcress	-/-/4	Chaparral, lower montane coniferous forest. Blooms March to July. Elevation: 120-800m.	None. No habitat in study area.
Arctostaphylos bakeri ssp. *bakeri* Baker's manzanita	-/-/1B	Broadleafed upland forest, chaparral – often on serpentinite. Blooms February to April.	None. No habitat in study area. No species of manzanita in project area.
Arctostaphylos stanfordiana ssp. *decumbens* Rincon Ridge manzanita	-/-/1B	Chaparral on rhyolitic soils and cismontane woodland. Blooms February to April (sometimes May). Elevation: 75-370m.	None. No habitat in study area. No species of manzanita in project area.
Astragalus claranus Clara Hunt milk-vetch	FE/CT/1B	Openings in chaparral, cismontane woodland, valley and foothill grassland on serpentinite or volcanic, rocky or clay soils. Blooms March to May. Elevation: 75-275m.	None. No habitat in study area.
Astragalus clevelandii Cleveland's milk-vetch	-/-/4	Chaparral, cismontane woodland, riparian forest. Blooms June to September. Elevation: 200-1500m.	None. No habitat in study area.
Astragalus tener var. *tener* alkali milk-vetch	-/-/1B	Playas, grassland (adode clay), vernal pools (alkaline). Blooms March-June. Elevation: 1-60m.	None. No habitat in study area.

Scientific Name **Common Name**	**Status USFWS/ CDFW/ CNPS Rank**	**Habitat Affinities and Blooming Period/Life Form**	**Potential for Occurrence**
Balsamorhiza macrolepis Big-scale balsamroot	-/-/1B	Chaparral, cismontane woodland, valley and foothill grassland/sometimes serpentinite. Blooms March to June. Elevation 90-1555m.	None. No habitat in study area.
Blennosperma bakeri Sonoma sunshine	FE/CE/1B	Valley and foothill grassland (mesic), vernal pools. Blooms March to May. Elevation: 10-110m.	None. No habitat in study area.
Brodiaea leptandra Narrow-anthered brodiaea	-/-/1B	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland on volcanic soils. Blooms May to July. Elevation: 110-915m.	None. No habitat in study area.
Calandrinia breweri Brewer's calandrinia	-/-/4	Chaparral and coastal scrub on sandy or loam soils and in disturbed sites and burns. Blooms March to June. Elevation: 10-1220m.	None. No habitat in study area.
Calochortus pulchellus Mt. Diablo fairy-lantern	-/-/1B	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland. Blooms April to June. Elevation: 30-840m.	None. No habitat in study area. Grassland habitat on site not suitable habitat.
Calycadenia micrantha Small-flowered calycadenia	-/-/1B	Chaparral, meadows and seeps (volcanic), valley and foothill grassland on roadsides, rocky, talus, scree, sometimes serpentinite, and in sparsely vegetated areas. Blooms June to September. Elevation: 5-1500m.	None. No habitat in study area.
Castilleja ambigua var. *ambigua* Johnny-nip	-/-/4	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pools margins. Blooms March to August. Elevation: 0-435m.	None. No habitat in study area.
Castilleja ambigua var. *meadii* Mead's owl-clover	-/-/1B	Meadows and seeps, vernal pools in gravelly, volcanic or clay soils. Blooms April to May. Elevation: 450-475m.	None. No habitat in study area.
Ceanothus confusus Rincon Ridge ceanothus	-/-/1B	Closed-cone coniferous forest, chaparral, cismontane woodland on volcanic or serpentinite. Blooms February to June. Elevation: 75-1065m.	None. No habitat in study area. No species of ceanothus in project area.

Scientific Name **Common Name**	**Status USFWS/ CDFW/ CNPS Rank**	**Habitat Affinities and Blooming Period/Life Form**	**Potential for Occurrence**
Ceanothus divergens Calistoga ceanothus	-/-/1B	Chaparral on serpentinite or volcanic, rocky soils. Blooms February to April. Elevation 170-950m.	None. No habitat in study area. No species of ceanothus in project area.
Ceanothus purpureus Holly-leaved ceanothus	-/-/1B	Chaparral, cismontane woodland on volcanic, rocky soils. Blooms February to June. Elevation: 120-640m.	None. No habitat in study area. No species of ceanothus in project area.
Ceanothus sonomensis Sonoma ceanothus	-/-/1B	Chaparral on sandy, serpentinite or volcanic soils. Blooms February to April. Elevation: 215-800m.	None. No habitat in study area. No species of ceanothus in project area.
Centromadia parryi ssp. *rudis* Parry's rough tarplant	-/-/4	Valley and foothill grassland, vernal pools, in alkaline soils, vernally mesic sites and seeps. Blooms May to October. Elevation: 0-100m.	None. No habitat in study area. No species of ceanothus in project area.
Chorizanthe valida Sonoma spineflower	-/-/1B	Coastal prairie, sandy. Blooms June to August. Elevation: 10-305m.	None. No habitat in study area.
Clarkia breweri Brewer's clarkia	-/-/4	Chaparral, cismontane woodland, coastal scrub, often on serpentinite. Blooms April to June. Elevation: 215-1115m.	None. No habitat in study area.
Clarkia gracilis ssp*. tracy* Tracy's clarkia	-/-/4	Chaparral, openings, usually on serpentinite. Blooms April to July. Elevation: 65-650m.	None. No habitat in study area.
Collomia diversifolia Serpentine collomia	-/-/4	Chaparral, cismontane woodland on serpentinite, rocky or gravelly soils. Blooms May to June. Elevation: 300-600m.	None. No habitat in study area.
Cryptantha dissita Serpentine cryptantha	-/-/1B	Chaparral on serpentinite. Blooms April to June.	None. No habitat in study area.
Downingia pusilla Dwarf downingia	-/-/2B	Valley and foothill grassland (mesic), vernal pools. Blooms March to May. Elevation: 1-445m.	None. No habitat in study area.
Erigeron bioletti Streamside daisy	-/-/3	Broadleafed upland forest, cismontane woodland, North Coast coniferous forest on rocky and mesic sites. Blooms June-October. Elevation 30-1100m.	None. No habitat in study area.
Erigeron greenei Greene's narrow-leaved daisy	-/-/1b	Chaparral on serpentinite or volcanic soils. Blooms May to September. Elevation: 80-1005m.	None. No habitat in study area.

Scientific Name **Common Name**	**Status USFWS/ CDFW/ CNPS Rank**	**Habitat Affinities and Blooming Period/Life Form**	**Potential for Occurrence**
Eryngium jepsonii Jepson's coyote thistle	-/-/1B	Valley and foothill grassland, vernal pools on clay soils. Blooms April to August. Elevation: 3-300m.	None. No habitat in study area.
Etriplex joaquinana San Joaquin spearscale	-/-/1B	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland in alkaline soils. Blooms April to October. Elevation: 1-835m.	None. No habitat in study area.
Gilia capitata ssp. *tomentosa* Woolly-headed gilia	-/-/1B	Valley and foothill grassland on serpentinite, rocky soils and outcrops. Blooms May to July. Elevation: 10-220m.	None. No habitat in study area.
Harmonia nutans Nodding harmonia	-/-/4	Chaparral, cismontane woodland on volcanic, rocky, or gravelly soils. Blooms March to May. Elevation: 75-975m.	None. No habitat in study area.
Hemizonia congesta ssp. *congesta* Congested-headed hayfield tarplant	-/-/1B	Valley and foothill grassland, sometimes roadsides. Blooms April to November. Elevation: 20-560m.	None. No habitat in study area. Grassland habitat on site not suitable habitat.
Hesperolinon bicarpellatum Two-carpellate western flax	-/-/1B	Chaparral on serpentinite. Blooms May to July. Elevation: 60-1005m.	None. No habitat in study area.
Hesperolinon breweri Brewer's western flax	-/-/1B	Chaparral, cismontane woodland, valley and foothill grassland usually on serpentinite. Blooms May to July. Elevation: 30-945m.	None. No habitat in study area.
Hesperolinon sharsmithiae Sharsmith's western flax	-/-/1B	Chaparral on serpentinite. Blooms May to July. Elevation: 270-300m.	None. No habitat in study area.
Horkelia tenuiloba Thin-lobed horkelia	-/-/1B	Broadleafed upland forest, chaparral, valley and foothill grassland/mesic openings, sandy. Blooms May to July (August). Elevation: 50-500m.	None. No habitat in study area. Grassland habitat on site not suitable habitat. No sandy soils.
Juglans hindsii Northern California black walnut	-/-/1B	Riparian forest, riparian woodland. Blooms April to May. Elevation: 0-440m.	None. No observed during survey.
Lasthenia conjugens Contra Costa goldfields	FE/-/1B	Cismontane woodland, playas (alkaline), valley and foothill grassland, vernal pools/ mesic. Blooms March-June. Elevation: 0-470m.	None. No habitat in study area.
Lathyrus jepsonii var. *jepsonii* Delta tule pea	-/-/1B	Freshwater and brackish marshes and swamps. Blooms May to September. Elevation: 0-5m.	None. No habitat in study area.

Scientific Name **Common Name**	**Status USFWS/ CDFW/ CNPS Rank**	**Habitat Affinities and Blooming Period/Life Form**	**Potential for Occurrence**
Leptosiphon acicularis Bristly leptosiphon	-/-/4	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Blooms April to July. Elevation: 55-1500m.	None. No habitat in study area. Grassland habitat on site not suitable habitat.
Leptosiphon jepsonii Jepson's leptosiphon	-/-/1B	Chaparral, cismontane woodland, usually volcanic. Blooms March to May. Elevation: 100-500m.	None. No habitat in study area.
Leptosiphon latisectus Broad-lobed leptosiphon	-/-/4	Broadleafed upland forest, cismontane woodland. Blooms April to June. Elevation: 170-1500m.	None. No habitat in study area.
Lilaeopsis masonii Mason's lilaeopsis	-/CR/1B	Brackish or freshwater marshes and swamps, riparian scrub. Blooms April to November. Elevation: 0-10m.	None. No habitat in study area.
Lilium rubescens Redwood lily	-/-/4	Broadleafed upland forest, chaparral, lower montane coniferous forest, North Coast coniferous forest, upper montane coniferous forest, sometimes serpentinite, sometimes roadsides. Blooms April to September. Elevation: 30-1910m.	None. No habitat in study area.
Limnanthes vinculans Sebastopol meadowfoam	FE/CE/1B	Meadows and seeps, valley and foothill grassland, vernal pools/vernally mesic. April-May. Elevation: 15-305m.	None. No habitat in study area.
Lomatium repostum Napa lomatium	-/-/4	Chaparral, cismontane woodland on serpentinite. Blooms March-June. Elevation: 90-830m.	None. No habitat in study area.
Lupinus sericatus Cobb Mountain lupine	-/-/1B	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest. Blooms March-June. Elevation: 275-1525m.	None. No habitat in study area.
Monardella viridis green monardella	-/-/4	Broadleafed upland forest, chaparral, cismontane woodland. June-September. Elevation: 100-1010m.	None. No habitat in study area.
Navarretia leucocephala ssp. *pauciflora* Few-flowered navarretia	FE/CT/1B	Volcanic ash flow vernal pools. Blooms May to June. Elevation: 30-950m.	None. No habitat in study area.
Penstemon newberryi var. *sonomensis* Sonoma beardtongue	-/-/1B	Chaparral on rocky soils. Blooms April to August. Elevation: 700-1370m.	None. No habitat in study area.

Scientific Name **Common Name**	**Status USFWS/ CDFW/ CNPS Rank**	**Habitat Affinities and Blooming Period/Life Form**	**Potential for Occurrence**
Ranunculus lobbii Lobb's aquatic buttercup	-/-/4	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools/mesic. Blooms February to May. Elevation: 15-470m.	None. No habitat in study area.
Rhynchospora californica California beaked-rush	-/-/1B	Bogs and fens, lower montane coniferous forest, meadows and seeps, freshwater marshes and swamps. Blooms May to July. Elevation: 45-1010m.	None. No habitat in study area.
Sagittaria sanfordii Sanford's arrowhead	-/-/1B	Assorted shallow freshwater marshes and swamps. Blooms May to October (November). Elevation: 0-650m.	None. No habitat in study area.
Senecio clevelandii var. *clevelandii* Cleveland's ragwort	-/-/4	Chaparral in serpentine seeps. Blooms June to July. Elevation: 365-900m.	None. No habitat in study area.
Sidalcea hickmanii ssp. *napensis* Napa checkerbloom	-/-/1B	Chaparral on rhyolitic soils. Blooms April-June. Elevation: 415-610m.	None. No habitat in study area.
Sidalcea hickmanii ssp. *viridis* Marin checkerbloom	-/-/1B	Chaparral on serpentinite. Blooms May to June. Elevation: 50-430m.	None. No habitat in study area.
Sidalcea keckii Keck's checkerbloom	FE/-/1B	Cismontane woodland, valley and foothill grassland on serpentinite or clay soils. Blooms April to May (June). Elevation: 75-650m.	None. No habitat in study area.
Streptanthus hesperidis Green jewelflower	-/-/1B	Chaparral (openings), cismontane woodland on serpentinite, rocky soils. Blooms May to July. Elevation: 130-760m.	None. No habitat in study area.
Symphyotrichum lentum Suisun Marsh aster	-/-/1B	Brackish and freshwater marshes and swamps. Blooms April to November. Elevation: 0-3m.	None. No habitat in study area.
Trichostema ruygtii Napa bluecurls	-/-/1B	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland, vernal pools. Blooms June to October. Elevation: 30-680m.	None. No habitat in study area.
Trifolium amoenum Two-fork clover	FE/-/1B	Coastal bluff scrub, valley and foothill grassland, sometimes on serpentinite. Blooms April to June. Elevation: 5-415m.	None. No habitat in study area.
Trifolium hydrophilum Saline clover	-/-/1B	Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools. Blooms April to June. Elevation: 0-300m.	None. No habitat in study area.

Scientific Name Common Name	Status USFWS/ CDFW/ CNPS Rank	Habitat Affinities and Blooming Period/Life Form	Potential for Occurrence
Triteleia lugens Dark-mouthed triteleia	-/-/4	Broadleafed upland forest, chaparral, coastal scrub, lower montane coniferous forest. Blooms: April to June. Elevation: 100-1000 m.	None. No habitat in study area.
Viburnum ellipticum Oval-leaved viburnum	-/-/2B	Chaparral, cismontane woodland, lower montane coniferous forest. Blooms May to June. Elevation: 215-1400m.	None. No habitat in study area.
Special Status Vegetation Communities			
Northern Vernal Pool			None

NOTES:

U.S. FISH AND WILDLIFE SERVICE

FE = federally listed Endangered
FT = federally listed Threatened

CALIFORNIA DEPT. OF FISH AND WILDLIFE

CE = California listed Endangered
CR = California listed as Rare
CT = California listed as Threatened

CALIFORNIA NATIVE PLANT SOCIETY -

Rank 1B: Plants rare and endangered in California and elsewhere
Rank 2B: Plants rare and endangered in California but more common elsewhere.
Rank 3: Plants about which more information is needed – a review list.
Rank 4: Plants of limited distribution – a watch list.

Appendix B: Potentially Occurring Special-Status Animal Species in the Project Area

Common Name *Scientific Name*	Status USFWS/ CDFW	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence
Invertebrates			
Obscure bumblebee *Bombus calignosus*	-/-	Food plants include Baccharis, Circium, Lupinus, Lotus, Grindelia and Phacelia. Occurs in Coastal areas from northern Washington to southern California.	None – no suitable habitat on site.
Western bumblebee *Bombus occidentalis*	-/-	Generalist foragers. They do not depend on any one flower type but they favor Melilotus, Cirsium, Trifolium, Centaurea, Chrysothamnus, Eriogonum. Historically from the Pacific coast to the Colorado Rocky Mountains; severe population decline west of the Sierra-Cascade Crest.	None – no suitable habitat on site.
Conservancy fairy shrimp *Branchinecta conservatio*	FE/-	Inhabits vernal pools in grasslands in the Central Valley, Coast Ranges and South Coast Mountains. Active between December and May.	None – no suitable habitat present.
An isopod *Calasellus californicus*	-/-	Found in freshwater habitats; the known collections are from a freshwater well and two springs.	None – no suitable habitat present.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT/-	Riparian and oak savanna habitats. Requires elderberry (*Sambucus mexicanus*) as host plants. Inhabits streamsides in the Central Valley below 3,000 feet.	None – no suitable habitat on site.
California freshwater shrimp *Syncaris pacifica*	FE/SE	Endemic to Napa, Sonoma and Marin Counties. Occurs in low elevation and low gradient streams with moderate to heavy riparian cover.	None – no suitable habitat.
Fish			
Delta smelt *Hypomesus transpacificus*	FT/-	Sacramento-San Joaquin delta. Seasonally in Suisun Bay, Carquinez Strait & San Pablo Bay. Seldom found at salinities > 10ppt. Most often at salinities <2ppt.	None – no suitable habitat on site.
steelhead - Central California Coast DPS *Onchorhynchus mykiss*	FT/SSC	Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen.	None – no suitable habitat present.
longfin smelt *Spirinchus thaleichthys*	FC/ST	Pacific coast of North America from Sacramento-San Joaquin estuary and (extirpated?). Well documented declines in California. Spawns in sandy-gravel, rock, or aquatic plants, Dec. – Feb. in CA, in coastal waters near shore, bays, estuaries, and rivers. Some populations anadromous close to ocean.	None – no suitable habitat present.
Amphibians			
California giant salamander *Dicamptodon ensatus*	-/-	Known from wet coastal forests near streams and seeps. Larvae found in cold, clear streams and adults known from wet forests under rocks and logs near streams and lakes.	None – no suitable habitat present.

Common Name *Scientific Name*	Status USFWS/ CDFW	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence
foothill yellow-legged frog *Rana boylii*	SC/ SSC	Inhabits permanent, flowing stream courses with a cobble substrate and a mixture of open canopy riparian vegetation.	None – no suitable habitat present.
California red-legged frog *Rana draytonii*	FT/SSC	Prefers semi-permanent and permanent stream pools, ponds and creeks with emergent and/or riparian vegetation. Occupies upland habitat especially during the wet winter months.	None – no suitable habitat present.
Red-bellied newt *Taricha rivularis*	-/SSC	Spends dry season underground within root channels. Requires rapid streams with temps between 15°C and 26° C and rocky substrate for breeding and egg-laying.	None – no suitable habitat present.
Reptiles			
western pond turtle *Emys marmorata marmorata*	SC/ SSC	Prefers permanent, slow-moving creeks, streams, ponds, rivers, marshes and irrigation ditches with basking sites and a vegetated shoreline. Requires upland sites for egg-laying. Reported within 2 miles of project site (CNDDB 2016), but no hydrologic connection.	None – no suitable habitat on site.
Birds (All birds are protected under the MBTA)			
Clark's grebe *Aechmophorus clarkii*	BCC	Breeds on large bodied freshwater lakes and marshes with emergent vegetation. Nest is built on floating plants or submerged snag, among emergent vegetation.	None – no suitable nesting habitat.
tricolored blackbird *Agelaius tricolor*	SC/ SCE	Nests primarily in dense freshwater marshes with cattail or tules, but also known to nest in upland thistles. Forages in grasslands.	None – no suitable nesting habitat.
golden eagle *Aquila chrysaetos*	-/FP	Forages in a variety of habitats including grasslands, chaparral and oak woodland supporting abundant mammals. Nests on cliffs and escarpments and tall trees.	None – no suitable nesting habitat.
Great egret *Ardea alba*	/ SSC	Nests colonially in large trees near water	None – no suitable nesting habitat.
Great blue heron *Ardea herodius*	/ SSC	Nests colonially in large trees near water	None – no suitable nesting habitat.
Burrowing owl *Athene cunicularia hypugea*	BCC/ SSC	Nests in open, dry grasslands, deserts, prairies, farmland and scrublands with abundant active and abandoned mammal burrows. Prefers short grasses and moderate inclined hills.	None – no suitable habitat.
Oak titmouse *Baeolophus inornatus*	BCC/ -	Breeds in cavities in oak woodlands, gleaning insects from the bark. Occurs from southern Oregon to northern Mexico along the Central Valley and xeric coastal foothills.	**Moderate** –suitable nesting habitat along creek.
Swainson's hawk *Buteo swainsoni*	-/ST	Nests in scattered trees in open areas, with nests usually high in the tree. Nests are reused annually and are made of sticks, with a diameter of 21-28 inches.	None – no suitable nesting habitat.
Lawrence's goldfinch *Carduelis lawrencei*	BCC/	Nests in open woodlands, chaparral and weedy fields in trees	None – no suitable nesting habitat.

Common Name *Scientific Name*	Status USFWS/ CDFW	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence
Wrentit *Chamaea fasciata*	BCC	Nests in coastal scrub and chaparral.	None – no suitable nesting habitat.
black swift *Cypseloides niger*	BCC/SSC	Nests made of moss bound with mud or simply a cushion of grass or bare mud, are often built on small ledges with overhanging moss or grass near seashore and waterfalls.	None – no suitable nesting habitat.
white-tailed kite *Elanus leucurus*	/CFP	Inhabits low rolling foothills and valley margins with scattered oaks and river bottom- lands or marshes adjacent to deciduous woodlands. Prefers open grasslands, meadows and marshes for foraging close to isolated, dense-topped trees for nesting and perching.	None – no suitable nesting habitat.
saltmarsh common yellowthroat *Geothylpis trichas sinuosa*	BCC/SSC	Nests in fresh and salt marshes in tall grasses, tule patches and willows and forages in thick, continuous cover down to the water surface.	None – no suitable nesting habitat.
bald eagle *Haliaeetus leucocephalus*	BCC/CE, CFP	Nests in tall snags near water and forages on fish. This species winters near large bodies of waters with fish.	None – no suitable nesting habitat.
Lewis's woodpecker *Melanerpes lewis*	BCC/SSC	Found in open forest and woodland, often logged or burned, including oak, coniferous forest, riparian woodland, orchards, less often pinyon-juniper. Closely associated with open ponderosa pine forest in western North America. Most commonly uses pre-made or natural cavities. Wintering areas must provide storage sites for grain or mast.	None – no suitable nesting habitat.
Black-crowned night heron *Nycticorax nycticorax*	/-	Nests in saltmarshes, freshwater marshes, swamps, streams, rivers, lakes, ponds, lagoons, tidal mudflats, canals, reservoirs, and wet agricultural fields. Nests situated in trees or in cattails in colonial nest tree.	None – no suitable habitat.
Fox sparrow *Passerella iliaca*	BCC/-	Nests in forests and chaparral on the ground or in low crotches of bushes or trees.	None – no suitable nesting habitat.
Yellow-billed magpie *Pica nuttallii*	BCC	An omnivorous colonial nesting species. Nests are placed high in large trees.	None – no suitable nesting habitat.
Nuttall's woodpecker *Picoides nuttallii*	BCC/-	Found primarily in oak woodlands and riparian woods. Cavity nester.	**Moderate** –suitable nesting habitat occurs along creek.
bank swallow *Riparia riparia*	MB/ST	Nests in banks along rivers, excavating holes in sides of the banks.	None – no suitable nesting habitat.
rufous hummingbird *Selasphorus rufus*	BCC/-	Nests in chaparral, coniferous forest, scrub habitats and riparian habitats in Canada and winters in Mexico. Nests are placed on a downward drooping structure.	None – no suitable nesting habitat.
Allen's hummingbird *Selasphorus sasin*	BCC/-	Nests in wooded areas, meadows, or thickets along shaded streams, on a branch low down on stem, although placement height varies between 10 inches and 90 feet.	None – no suitable nesting habitat.

Common Name *Scientific Name*	Status USFWS/ CDFW	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence
Black-chinned sparrow *Spizella atrogularis*	BCC	Nests in arid southwestern hills on steep hillsides covered with dense low scrub	None – no suitable nesting habitat.
northern spotted owl *Strix occidentalis caurina*	FT, BCC/CT	Dense coniferous and hardwood forest, shaded, steep sided canyons.	None – no suitable nesting habitat
California thrasher *Toxostoma redivivum*	BCC	Nests in Lowland and coastal chaparral, and riparian woodland thickets.	None – no suitable nesting habitat.
Mammals			
pallid bat *Antrozous pallidus*	-/SSC	Day roosts in crevices and cavities in rock outcrops, mines, caves, buildings, bridges, as well as hollows and cavities in a wide variety of tree species. May roost alone, in small groups (2 to 20 bats), or in 100s in maternity roosts, with males and non-reproductive subadults in other, smaller roosts.	**Low** –suitable habitat on site in buildings.
Townsend's big-eared bat *Corynorhinus townsendii townsendii*	-/SSC, WBWG:H	Day roosts in cave analogs; mines, buildings, bridges, sometimes large tree hollows. Particularly sensitive to roost disturbance, this species has declined throughout its range in California; very few maternity roosts are known in California. Females form maternity colonies, males roost singly, and all disperse widely after maternity season. During winter, roosts in cold, but non-freezing roosts, which may include man-made structures.	**Low** –suitable habitat on site in buildings.
North American porcupine *Erethizon dorsatum*	-/-	Occurs in forests, mountains, chaparral, and sagebrush. During the winter porcupines eat evergreen needles and the inner bark of trees. During the spring and summer they eat flowers, berries, tender twigs, and leaves from deciduous plants.	None – no suitable habitat on site.
Western red bat *Lasiurus blossevillii*	-/SSC, WBWG:H	Solitary roosting, except when females are with young (from 2 to 6 are born). Roosts almost exclusively in foliage, under overhanging leaves, in woodland borders, rivers, agricultural areas including orchards, and urban areas with mature trees. Typically found in large cottonwoods, sycamores, walnuts and willows associated with riparian habitats.	None – no suitable habitat on site.
fringed myotis *Myotis thysanodes*	-/-, WBWG:H	Roosts colonially, up to 2,000 individuals. Females form maternity roosts, give birth to one young. Roosts in rock crevices, caves, mines, buildings and bridges, as well as tree hollows, particularly large conifer snags.	**Low** –suitable habitat on site in buildings.
long-legged myotis *Myotis volans*	-/-, WBWG:H	Roosts colonially, females forming maternity colonies, giving birth to single young. Primarily uses trees, particularly large diameter conifers, under bark and in cavities, sometimes in abandoned buildings, mines, caves, cracks in the ground, and cliff/rock faces.	None – no suitable habitat on site.

Common Name *Scientific Name*	Status USFWS/ CDFW	Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence
Yuma Myotis *Myotis yumanensis*	-/-, WBWG:M	Forms often large maternity colonies, females giving birth to one young. Males roost singly. Primarily a crevice roosting species in natural habitat, forms large maternity colonies in large spaces in man-made roosts, e.g. buildings. Also uses bridges, caves, mines, tree cavities, bat houses, abandoned swallow nests, exfoliating bark.	**Low** –suitable habitat on site in buildings.
American badger *Taxidea taxus*	-/SSC	Inhabits open grasslands, savannas and mountain meadows near timberline. Requires abundant burrowing mammals, their principal food source, and loose, friable soils.	None – no suitable habitat on site.

U.S. FISH AND WILDLIFE SERVICE

FE = federally listed Endangered
FT = federally listed Threatened
FC = federal candidate for listing
MBTA = Migratory Bird Treaty Act.

CALIFORNIA DEPT. OF FISH AND WILDLIFE

CE = California listed Endangered
CT = California listed as Threatened
CFP = California fully protected species
SSC = Species of Special Concern

Appendix C: Plant species observed at the 1583 and 1657 El Centro Avenue Project Site – January 17, 2108.

Scientific Name	**Common Name**
Acacia sp.	Acacia
Acer sp.	Maple*
Agapanthus sp.	Agapanthus
Amaranthus sp.	Pigweed*
Anthemis cotula	Dog fennel*
Avena barbata	Wild oats*
Avena fatua	Oats*
Brassica nigra	Black mustard*
Brassica rapa	Field mustard*
Bromus diandrus	Ripgut brome*
Bromus hordaeceus	Soft chess*
Calendula sp.	Calendula*
Cichorium intybus	Chicory*
Cyperus sp.	Umbrella sedge
Daucus carota	Queen Anne's lace*
Epilobium sp.	Willow herb
Erodium botrys	Broad-leaf filaree*
Erodium brachycarpum	Foothill filaree*
Erodium moschatum	White stemmed filaree*
Festuca perennis	ryegrass
Gallium aparine	Bedstraw
Helminthotheca echioides	Bristly ox-tongue*
Hordeum marinum ssp. *gussoneanum*	Mediterranean barley*
Hordeum murinum ssp. *leporinum*	Hare barley*
Juglans regia	English walnut*
Lactuca seriola	Prickly lettuce*
Ludwigia sp.	Water primrose*
Lysimachia arvensis	Scarlet pimpernel*
Malva parviflora	Mallow*
Melilotus alba	White sweet clover*
Olea europea	Olive*
Opuntia sp.	Cactus*
Phalaris aquatica	Harding grass
Plantago lanceolata	English plantain*
Pseudognaphalium luteoalbum	Jersey cudweed*
Quercus agrifolia	Coast live oak
Quercus lobata	Valley oak
Raphanus sativus	Wild radish*
Rubus armeniacus	Himalayan blackberry*
Rumex crispus	Curly dock*
Salix lasiolepis	Arroyo willow
Salix sp.	Tree willow
Senecio vulgaris	Common groundsel*
Sonchus oleraceus	Common sowthistle*
Sorghum halepense	Johnson grass*
Trifolium hirtum	Rose clover*
Typha latifolia	Narrow leaved cattail
Vicia sativa	Spring vetch*
Vinca major	Periwinkle*
Vitis vinifera	Wine grapes*
Xanthium strumarium	Cocklebur
Unknown	Palm tree*

Unknown	Ornamental trees and shrubs in yards*

* = Non-native species

Appendix D: Wildlife Species Observed at the 1583 and 1657 El Centro Avenue Project Site – January 17, 2108.

Common Name	***Scientific Name***
Western scrub jay	*Aphelocoma californica*
American robin	*Turdus migratorius*
Turkey vulture	*Cathartes aura*
Tufted titmouse	*Baeolophus bicolor*
Common Raven	*Corvus corax*
Mourning Dove	*Zenaida macroura*
House Finch	*Haemorhous mexicanus*
American Goldfinch	*Spinus tristis*
White-crowned Sparrow	*Zonotrichia leucophrys*
Song Sparrow	*Melospiza melodia*
Northern Flicker	*Colaptes auratus*
Eurasian Collared-Dove	*Streptopelia decaocto* -
Bewick's Wren	*Thryomanes bewickii*
Chestnut-backed chickadee	*Poecile rufescens*
White-breasted Nuthatch	*Sitta carolinensis*
Brown Creeper	*Certhia americana*
Belted Kingfisher	*Ceryle alcyon*
Green heron	*Butorides virescens*
Black phoebe	*Sayornis nigricans*
California towhee	*Melozone crissalis*
White-breasted nuthatch	*Sitta carolinensis*
Acorn woodpecker	*Melanerpes formicivorus*
Botta’s Pocket gopher	*Thomomys bottae*

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B.4 - Arborist Report

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Bill Pramuk, Consulting Arborist

May 13, 2024

Randy Gularte
Golden Gate, Sotheby's Intl. Realty
780 Trancas Street
Napa, CA 94558

Arborist Report

Re: El Centro: Zinfandel Estate Subdivision, Napa

Summary

I performed a tree survey of the trees on site January 2019. At that time, the site contained no *Protected Native Trees*. Since 2019, trees have increased in trunk diameter.

You requested I respond to 'Peer Review Memorandum of the Biological Assessments for the proposed Zinfandel Subdivision Project' Firstcarbon Solutions, FCS International, INC. by remeasuring trees and documenting diameters over 12-inch diameter.

I revisited the site on May 7, 2024. Two trees (#1 and 9) are now large enough to be designated as **Protected Native Trees** under the City of Napa tree ordinance.

Methods and Limitations

I examined trees from ground level and measured trunk diameters using a diameter scale tape.

You provided 'Peer Review Memorandum of the Biological Assessments for the proposed Zinfandel Subdivision Project' Firstcarbon Solutions, FCS International, INC. which reads:

Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

- The2019 Pramuk report states that although the site contains no "ProtectedNativeTrees,"one valley oak on the top of the creek bank is nearly large enough to qualify as protected (0.1-inch shy). Given that approximately 5 years have elapsed, there is potential that this valley oak has

now grown to the size and status of a protected tree as defined by the City of Napa. FCS recommends an updated survey to confirm the findings in the 2019 Pramuk report and identify any new oaks that meet City regulations.

Observations

I reexamined and measured the trees on May 7, 2024. This table includes trees that are over 12" diameter and protected. They are shown on the attached site map.

#	DBH[1]	Species	Vigor[2]	Structure	Comment
1	14+12.3+11+8+14+13.1 (virtual DBH 30)	Coast live oak	Good	Fair	Multi trunk on property boundary
9	14.2	Valley oak	Excellent	Good	At top of creek bank

Discussion

Tree #1: In my previous report of January 11, 2019, Tree #1 was 10+10+10+10+7" DBH. It is on the apparent property boundary.

Tree #9: In my previous report of January 11, 2019, Tree #9 was 11.9" DBH. It now measures 14.2" DBH.

[1] DBH: Diameter at breast height, 4.5' above ground or just below the first limb.
[2] Vigor is a measure of the trees current health and ability to withstand pests and diseases. It is not a measure of structural stability. The range of vigor is: Excellent, Good, Fair, Poor, Dying, Dead.

Conclusions

Two trees, #1 and #9 are now large enough to be designated as Protective Native Trees under the City of Napa tree ordinance.

Prepared by:

Bill Pramuk, Consulting Arborist
RCA #409 ISA WE-0610A
Tree Risk Assessment Qualified
Tree and Plant Appraisal Qualified

And

Autumn Brazell, Certified Arborist
ISA WE 10130-A
Tree Risk Assessment Qualified
Member, American Society of Consulting Arborists

Attached: *Tree Survey Map*

Tree Survey Map