
Appendix B

Biological Resources Assessment

MEMORANDUM

To: Nate Gillespie, Scotts Valley Water District

From: Kelsey Higney, Dudek

Subject: Biological Resources Assessment; SVWD Grace Way Well Project, Scotts Valley, California

Date: July 5, 2023

cc: Catherine Wade, Dudek
Matt Ricketts, Dudek

Attachment(s):

- A. Figures
- B. Photo Log
- C. Plant and Wildlife Species Observed
- D. Plant and Wildlife Species Potential to Occur

1 Introduction

This biological resources technical memorandum summarizes Dudek's findings from a reconnaissance-level biological field survey for the Scotts Valley Water District (SVWD) Grace Way Well Project (Project) in the city of Scotts Valley, Santa Cruz County, California. The proposed Project consists of a new groundwater well in Scotts Valley that will allow for increased extraction capacity to strengthen the SVWD's ability to meet potential demand. The Project site (site) is a vacant lot behind existing commercial buildings in a developed area of Scotts Valley near the intersection of Scotts Valley Drive and Willis Road. The site is bounded by Grace Way to the west and commercial development to the north, east, and south. The Project would consist of drilling and equipping a 1,100-foot-deep well into the Butano and Lompico aquifers of the Santa Margarita Groundwater Basin to increase groundwater production. The following would be required for Project construction and implementation: (1) drilling to approximately 1,100 feet deep and installing a well screen, filter pack and sanitary screen to complete well construction; and (2) construction of mechanical facilities at the well site including pump, motor, disinfection, metering, and supervisory control and data acquisition (SCADA) facilities. The well would supplement SVWD's current extraction capacity of 2.25 million gallons per day (1,560 gallons per minute) to serve SVWD demand while sustainably managing the aquifer underlying SVWD.

1.1 Site Location

The site is in an urban/commercial setting in Scotts Valley (Figure 1) and consists primarily of paved surfaces or ruderal vegetation. The northwestern border of the site contains large coast live oak trees. Redwood forest is present to the north and west. The site is otherwise surrounded by residential and commercial development. No natural vegetation communities are present within the Project site. Elevation ranges from approximately 580 to 610 feet above mean sea level. Topography is generally flat, sloping slightly as the empty lot reaches Grace Way.

The region surrounding the site receives an annual average of approximately 49.25 inches of precipitation. Average temperatures range from approximately 43.5 to 73.8°F (WRCC 2023).

2 Methods

2.1 Desktop Literature Review

Prior to fieldwork, Dudek conducted a records search of online databases to identify sensitive biological resources with potential to occur in the site vicinity. For this memorandum, special-status plant and wildlife species are defined as those that are listed, proposed for listing, or candidates for listing as threatened or endangered under the federal Endangered Species Act; listed or candidates for listing as threatened or endangered under the California Endangered Species Act; designated as fully protected under the California Fish and Game Code; designated as a California species of special concern by CDFW; and/or assigned a California Rare Plant Rank of 1 or 2 by the California Native Plant Society. Special-status plant and wildlife species known to occur in the vicinity were identified through a review of past records documented in the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CDFW 2023a), California Native Plant Society's Inventory of Rare and Endangered Plants of California (CNPS 2023) and the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) online planning tool (USFWS 2023a). Dudek conducted a search of these databases for the Big Basin, Castle Rock Ridge, Davenport, Felton, Laurel, Los Gatos, Santa Cruz and Soquel U.S. Geological Survey 7.5 minute quadrangles to assess sensitive species potentially occurring within the Project region. These database queries along with project site conditions, and results of field survey conducted by a Dudek staff biologist indicate that no state or federally listed special-status plant or wildlife species have a moderate or high potential to occur on the Project site.

2.2 Biological Resources Survey

Dudek biologist Kelsey Higney conducted a reconnaissance-level field survey of the biological study area (BSA) including the Project site and 50-foot buffer on June 12, 2023. The focus of the survey was to identify existing biological resources, including vegetation and wildlife habitat values and habitat suitability for special-status plant and wildlife species, as well as to document the presence of aquatic resources or sensitive natural vegetation communities. The site was surveyed on foot with the aid of binoculars. A digital map accessible on a handheld device (ESRI 2023) was used for navigation and observations were recorded in a field notebook.

3 Results

Based on the results of the database search and literature review, a total of 100 special-status species (59 plants and 41 animals) were identified as potentially occurring in the Project region (Attachment D, Plant and Wildlife Species Potential to Occur).

3.1 Special-Status Plants

A total of 10 species of native or naturalized plants, 4 native (40%) and 6 non-native (60%) were recorded in the BSA during the biological field surveys (Attachment C, Plant and Wildlife Species Observed). No special-status plant species were identified. The site was previously disturbed and contains mostly herbaceous weeds and non-native grasses characteristic of disturbed habitats.

A total of 59 special-status plants have potential to occur in the vicinity of the Project site (Attachment D.1, Special-Status Plant Species Potential to Occur). However, due to the existing developed and disturbed nature of the site and largely urbanized setting of the surrounding lands, as well as the absence of suitable native communities and substrates that could support special-status plants, the occurrence of special-status plant species on the site is highly unlikely.

3.2 Special-Status Wildlife

A total of 10 wildlife species were detected during the biological field surveys (Attachment C, Plant and Wildlife Species Observed). No special-status wildlife species were observed. No bird nests (active or inactive), nor any nesting behavior such as courtship, nest-building, food deliveries, or territorial displays were observed during the surveys, but suitable nesting habitat for numerous native bird species protected under the Migratory Bird Treaty Act (MBTA) occurs in the vicinity.

A total of 41 special-status wildlife species have potential to occur in the vicinity of the Project site (Attachment D.2, Special-Status Wildlife Species Potential to Occur). These species are not expected or have a low potential to occur on or in the vicinity of the Project site due to the absence of suitable habitat conditions, existing developed and disturbed conditions, and associated urban land uses.

3.3 Aquatic Resources

No aquatic resources were identified within the BSA during the field survey. The nearest aquatic resource, Carbonera Creek, is a federally and state-protected aquatic resource under USACE (Clean Water Act), Regional Water Quality Control Board (Porter-Cologne Water Quality Control Act), and CDFW (California Fish and Game Code Section 1600) jurisdiction but is across Scotts Valley Drive outside the project boundary (USFWS 2023b).

3.4 Sensitive Natural Communities

No natural communities considered sensitive by CDFW were identified within the Project site during the field survey (CDFW 2023b). The entire site is urban and developed. Redwood forest and coast live oak woodland border the BSA, however project work is unlikely to impact these communities.

4 Conclusions

A Dudek biologist conducted a biological reconnaissance-level field surveys for the project on June 12, 2023, the results of which are summarized below.

- No special-status plant species were identified in the BSA.

- No special-status wildlife species were identified in the BSA.
- Due to the absence of suitable habitat conditions and existing developed and disturbed conditions on the Project site and in the immediate vicinity of the Project site, no special status plant or wildlife species are expected to occur.
- The BSA offers potential nesting habitat for native migratory birds.
- No aquatic resources were identified in the BSA.
- No sensitive natural communities were identified on the BSA.
- The proposed Project will have no effect on critical habitat as no critical habitat has been designated in the location of the Project site.

4.1 Avoidance and Minimization Measures

Nesting and Migratory Birds

The BSA provides potential nesting habitat for a variety of migratory birds. In California, all native birds and active bird nests (with eggs or young) are protected by Sections 3503 and 3503.5 of the California Fish and Game Code. If conducted during the nesting season (typically defined by CDFW as February 1–August 31, with peak activity between April and June), Project activities could directly impact active nests in affected trees and ornamental shrubs within the BSA. Implementation of the following measure would avoid impacts on nesting and migratory birds.

- **Avoidance and Minimization Measure (AMM)-1: Pre-activity Surveys for Nesting Birds.** Within 14 days prior to any ground-disturbing activities or vegetation clearing during the nesting season, a qualified biologist or biological monitor shall conduct a pre-activity nesting bird survey of all potential nesting habitat within the Project site, including a 100-foot buffer for passerine species and a 300-foot buffer for raptors. If there is a lapse between the survey time and initiation of work activities of 14 days or greater, the nesting bird survey shall be repeated. If active nests are found during the survey, work in that area shall stop and a qualified biologist or biological monitor shall determine an appropriate no-work buffer around the nest based on the activity and species and mark the buffer using flagging, pin flags, lathe stakes, or similar marking method. No work shall occur within the buffer until the young have fledged or the nest(s) are no longer active, as determined by the biologist or biological monitor.

After reviewing special-status species occurrences in the site vicinity and evaluating proposed Project activities in the context of existing conditions and land uses, and in conjunction with Dudek’s recommended Avoidance and Minimization Measure, the proposed Project is not expected to have significant impacts on special-status plant or animal species or other sensitive biological resources.

6 References

CDFW (California Department of Fish and Wildlife). 2023a. California Natural Diversity Database. CDFW, Biogeographic Data Branch. Accessed June 2023.
<https://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>.

CDFW. 2023b. "California Sensitive Natural Communities." June 1, 2023. Accessed June 2023.

<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153609&inline>.

CNPS (California Native Plant Society, Rare Plant Program). 2023. Inventory of Rare and Endangered Plants (online edition, v9.5). California Native Plant Society, Sacramento, California. Accessed June 2023.

<http://www.rareplants.cnps.org>.

ESRI. 2023. ArcGIS Field Maps (Version 22.3.0) [Mobile app]. App Store. <https://apps.apple.com/us/app/arcgis-field-maps/id1515671684>.

USFWS. 2023a. IPaC (Information for Planning and Consultation) Search. Accessed June 12, 2023.

<http://www.fws.gov/data>.

USFWS. 2023b. National Wetlands Inventory Wetlands Mapper. Washington, D.C.: U.S. Department of the Interior, Fish and Wildlife Service. Accessed June 2023. <https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper>

WRCC (Western Regional Climate Center). 2023. "Ben Lomond, California (040673)." Period of Record Monthly

Climate Summary. Accessed June 2023. <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca0673>.

INTENTIONALLY LEFT BLANK

Attachment A

Figures



SOURCE: USGS 7.5-Minute Series Felton Quadrangle, County of Santa Cruz 2022

FIGURE 1

Project Vicinity

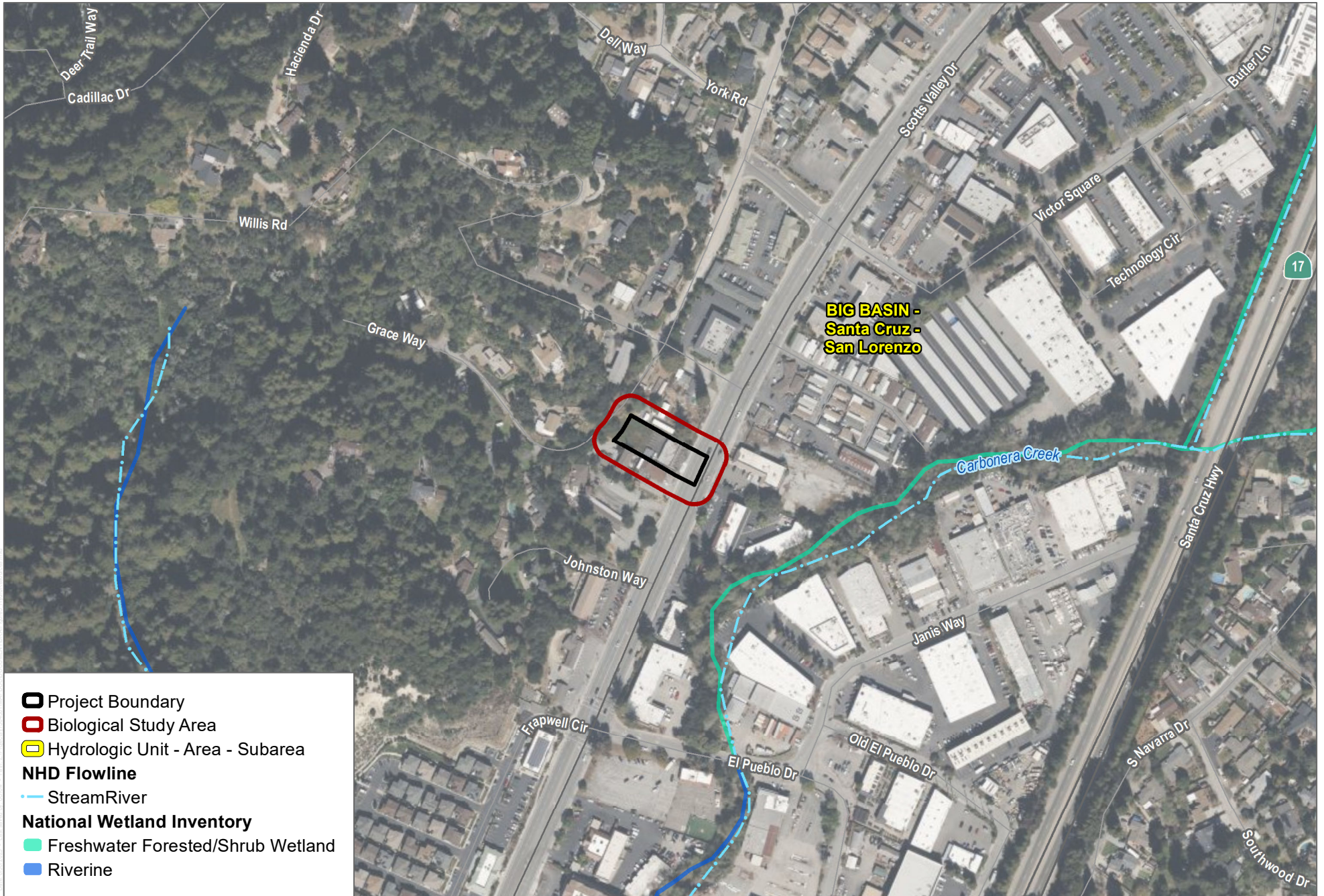
SWWD Grace Way Well Project



SOURCE: Bing Imagery 2022

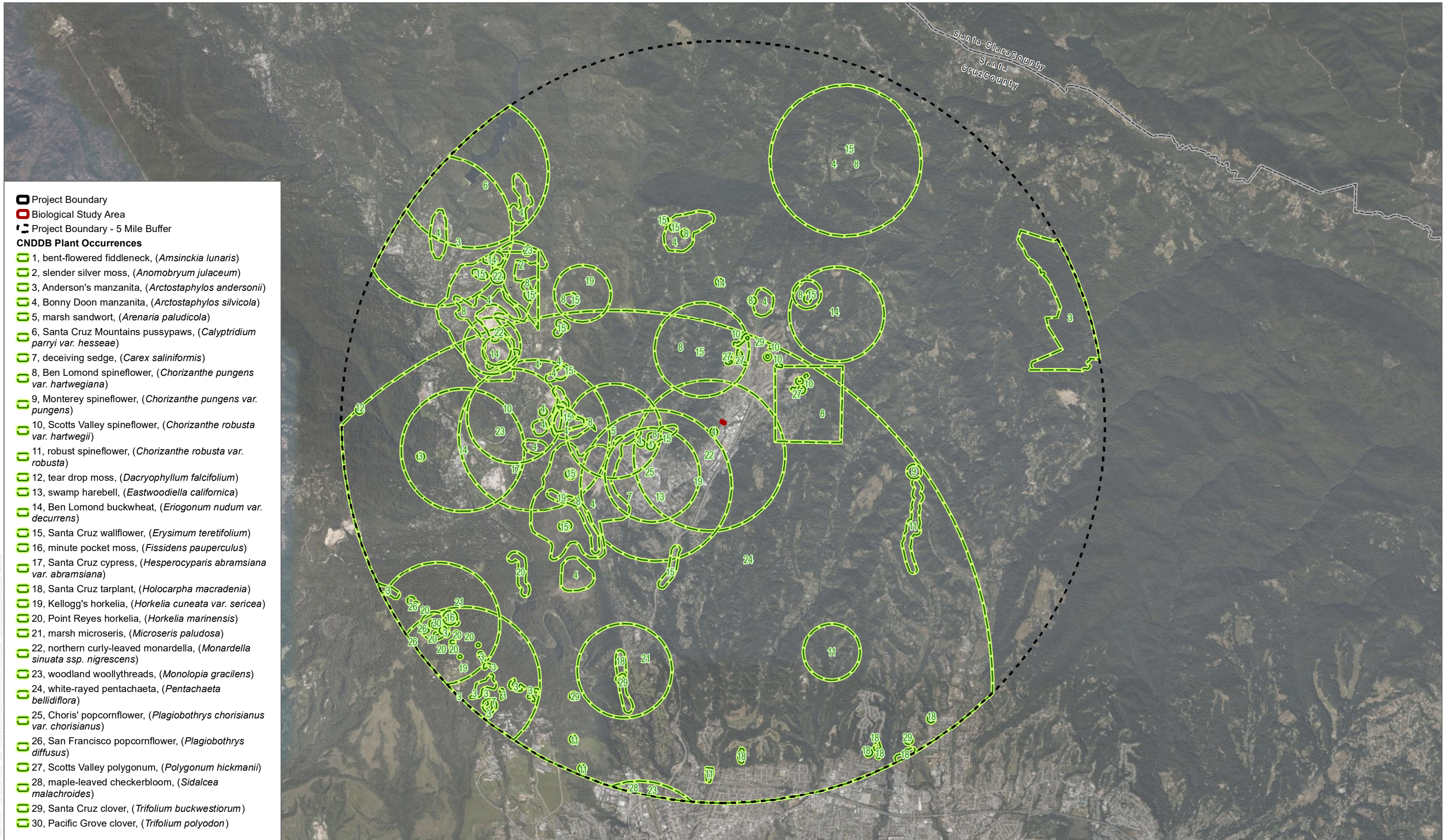


FIGURE 2
Project Site
SWD Grace Way Well Project

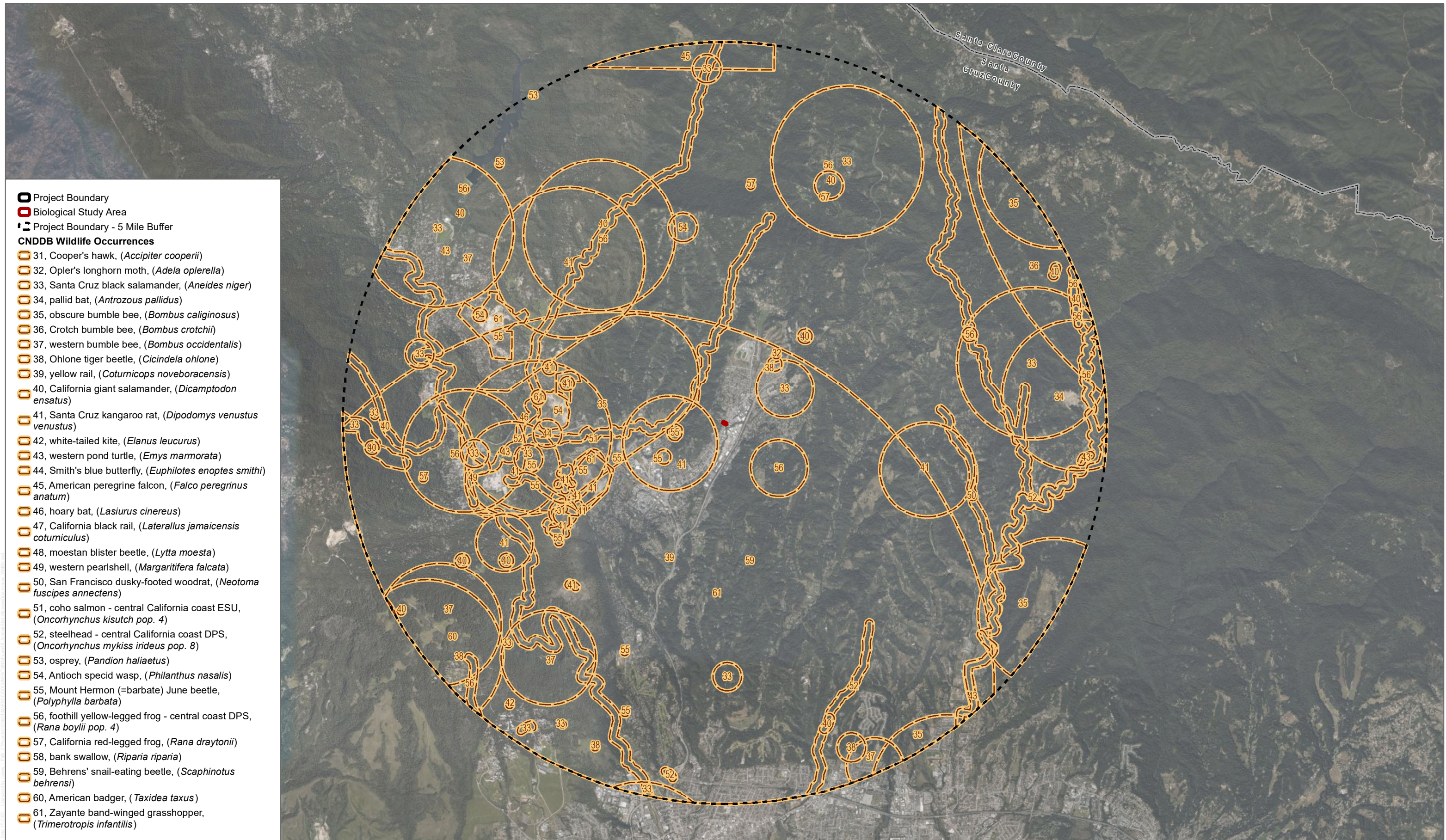


SOURCE: Bing Maps 2022, USFWS 2019, USGS 2019

FIGURE 3
Hydrologic Setting
SWWD Grace Way Well Project



SOURCE: Bing Maps 2022; CA Dept. of Fish and Wildlife 2021



SOURCE: Bing Maps 2022; CA Dept. of Fish and Wildlife 2021



FIGURE 4B

Special-Status Species Occurrences - Wildlife

SVWD Grace Way Well Project

INTENTIONALLY LEFT BLANK

Attachment B

Photo Log



Photo 1. Photo of the northeastern edge of the project site, facing west, with coast live oak and shrub habitat present.



Photo 2. Photo of the northwest and western edges of the Project site with potential nesting bird habitat.

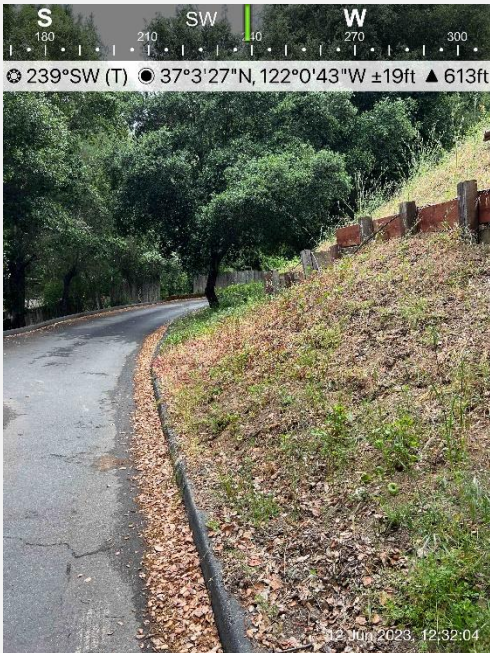


Photo 3. Grassy slope at the northwestern edge of the BSA with potential ground-nesting bird habitat.



Photo 4. Photo of structures at the western edge of the Project site, with marginal roosting bat habitat.

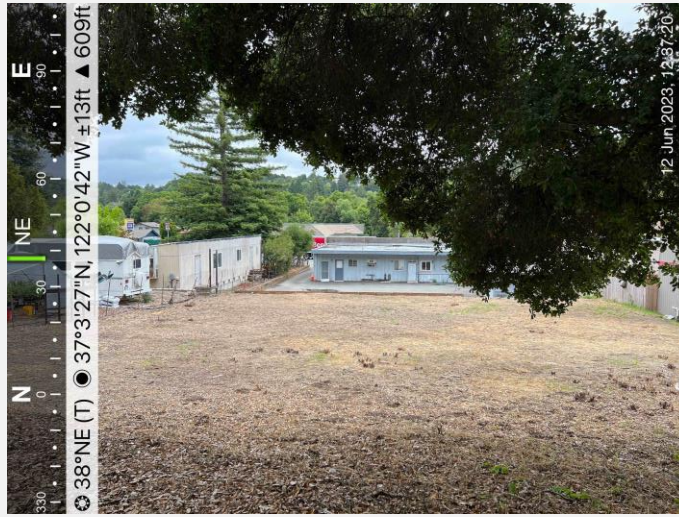


Photo 5. Photo of the Project site facing northeast.



Photo 6. Photo of the northeastern edge of the Project site.

Attachment C

Plant and Wildlife Species Observed

Plant Species

Angiosperms (Dicots)

ANACARDIACEAE – SUMAC FAMILY

Toxicodendron diversilobum—poison oak

APOCYNACEAE—DOGBANE FAMILY

Nerium oleander—oleander*

FABACEAE—LEGUME FAMILY

Vicia villosa—winter vetch*

FAGACEAE—OAK FAMILY

Quercus agrifolia—coast live oak

GERANIACEAE—GERANIUM FAMILY

Erodium botrys—longbeak stork's bill*

MYRSINACEAE—MYRSINE FAMILY

Lysimachia arvensis—scarlet pimpernel*

ROSACEAE—ROSE FAMILY

Rubus ursinus—California blackberry

GYMNOSPERMS AND GNETOPHYTES

CUPRESSACEAE—Cypress Family

Sequoia sempervirens—redwood

Monocots

POACEAE—GRASS FAMILY

Avena barbata—slender oat*

Bromus diandrus—ripgut brome*

Wildlife Species - Vertebrates

Birds

ACCIPITRIDAE - HAWKS

Buteo jamaicensis - red-tailed hawk

CORVIDAE - JAYS AND CROWS

Aphelocoma californica—California scrub-jay

Corvus brachyrhynchos - American crow

Corvus corax—common raven

Cyanocitta stelleri—Steller's jay

FRINGILLIDAE - FINCHES

Carpodacus mexicanus - house finch

PASSERELLIDAE—NEW WORLD SPARROWS

Junco hyemalis—dark-eyed junco

Pipilo maculatus—spotted towhee

PICIDAE—WOODPECKERS & ALLIES

Melanerpes formicivorus—acorn woodpecker

TYRANNIDAE—TYRANT FLYCATCHERS

Empidonax difficilis—Pacific-slope flycatcher

Attachment D

Plant and Wildlife Species Potential to Occur

Scientific Name	Common Name	Status (Federal/State/C RPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Agrostis blasdalei</i>	Blasdale's bent grass	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal prairie/perennial rhizomatous herb/May–July/0–490	Not expected to occur. There is no suitable habitat for this species present in the BSA and no CNDDDB occurrences within 5 miles (CDFW 2023).
<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	None/None/1B.2	Cismontane woodland, Coastal bluff scrub, Valley and foothill grassland/annual herb/Mar–June/10–1,640	Not expected to occur. There is no suitable habitat for this species present in the BSA and no CNDDDB occurrences within 5 miles (CDFW 2023).
<i>Arctostaphylos andersonii</i>	Anderson's manzanita	None/None/1B.2	Broad-leaved upland forest, Chaparral, North Coast coniferous forest; Edges, Openings/perennial evergreen shrub/Nov–May/195–2,490	Low potential to occur. There is marginal suitable upland forest habitat present for the species in the BSA. There are no CNDDDB occurrences within 5 miles of the Project site (CDFW 2023).
<i>Arctostaphylos glutinosa</i>	Schreiber's manzanita	None/None/1B.2	Chaparral, Closed-cone coniferous forest/perennial evergreen shrub/Mar–Apr(Nov)/560–2,245	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Arctostaphylos ohloneana</i>	Ohlone manzanita	None/None/1B.1	Closed-cone coniferous forest, Coastal scrub/evergreen shrub/Feb–Mar/1,475–1,735	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Arctostaphylos regismontana</i>	Kings Mountain manzanita	None/None/1B.2	Broad-leaved upland forest, Chaparral, North Coast coniferous forest; Granitic, Sandstone/perennial evergreen shrub/Dec–Apr/1,000–2,395	Low potential to occur. There is marginal suitable upland forest habitat present for the species within the BSA, but no suitable habitat within the Project site. There are no CNDDDB occurrences within 5 miles of the project site (CDFW 2023).
<i>Arctostaphylos silvicola</i>	Bonny Doon manzanita	None/None/1B.2	Chaparral, Closed-cone coniferous forest, Lower montane coniferous forest/perennial evergreen shrub/Jan–Mar/395–1,965	Not expected to occur. There is no suitable habitat for this species present in the BSA.

Scientific Name	Common Name	Status (Federal/State/C RPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Arenaria paludicola</i>	marsh sandwort	FE/SE/1B.1	Marshes and swamps; Openings, Sandy/perennial stoloniferous herb/May–Aug/10–560	Not expected to occur. There is no suitable marsh or swamp habitat present within the BSA.
<i>Astragalus agnicidus</i>	Humboldt County milk-vetch	None/SE/1B.1	Broad-leaved upland forest, North Coast coniferous forest; Disturbed areas, Openings, Roadsides (sometimes)/perennial herb/Apr–Sep/395–2,620	Low potential to occur. There is marginal suitable upland forest habitat present for the species within the BSA, and abundant disturbed habitat. There are no CNDDDB occurrences within 5 miles of the Project site (CDFW 2023).
<i>Calyptidium parryi</i> var. <i>hesseae</i>	Santa Cruz Mountains pussypaws	None/None/1B.1	Chaparral, Cismontane woodland; Gravelly (sometimes), Openings, Sandy (sometimes)/annual herb/May–Aug/1,000–5,015	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Carex comosa</i>	bristly sedge	None/None/2B.1	Coastal prairie, Marshes and swamps, Valley and foothill grassland/perennial rhizomatous herb/May–Sep/0–2,050	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Carex saliniformis</i>	deceiving sedge	None/None/1B.2	Coastal prairie, Coastal scrub, Marshes and swamps, Meadows and seeps; Mesic/perennial rhizomatous herb/June(July)/10–755	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Centromadia parryi</i> ssp. <i>congdonii</i>	Congdon's tarplant	None/None/1B.1	Valley and foothill grassland/annual herb/May–Oct(Nov)/0–755	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Chorizanthe pungens</i> var. <i>hartwegiana</i>	Ben Lomond spineflower	FE/None/1B.1	Lower montane coniferous forest/annual herb/Apr–July/295–2,000	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Chorizanthe pungens</i> var. <i>pungens</i>	Monterey spineflower	FT/None/1B.2	Chaparral, Cismontane woodland, Coastal dunes, Coastal scrub, Valley and foothill grassland; Sandy/annual herb/Apr–June(July–Aug)/10–1,475	Not expected to occur. There is no suitable habitat for this species present in the BSA.

ATTACHMENT D.1 / SPECIAL-STATUS PLANT SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Status (Federal/State/C RPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Chorizanthe robusta</i> var. <i>hartwegii</i>	Scotts Valley spineflower	FE/None/1B.1	Meadows and seeps, Valley and foothill grassland/annual herb/Apr–July/755–805	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Chorizanthe robusta</i> var. <i>robusta</i>	robust spineflower	FE/None/1B.1	Chaparral, Cismontane woodland, Coastal dunes, Coastal scrub; Gravelly (sometimes), Sandy (sometimes)/annual herb/Apr–Sep/10–985	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Cirsium fontinale</i> var. <i>campylon</i>	Mt. Hamilton thistle	None/None/1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland; Seeps, Serpentinite/perennial herb/(Feb)Apr–Oct/330–2,915	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Collinsia multicolor</i>	San Francisco collinsia	None/None/1B.2	Closed-cone coniferous forest, Coastal scrub; Serpentinite (sometimes)/annual herb/(Feb)Mar–May/100–900	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Dacryophyllum falcifolium</i>	tear drop moss	None/None/1B.3	North Coast coniferous forest; Carbonate/moss//165–900	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Dirca occidentalis</i>	western leatherwood	None/None/1B.2	Broad-leafed upland forest, Chaparral, Cismontane woodland, Closed-cone coniferous forest, North Coast coniferous forest, Riparian forest, Riparian woodland; Mesic/perennial deciduous shrub/Jan–Mar(Apr)/80–1,390	Low potential to occur. There is marginal suitable upland forest habitat present for the species within the BSA. There are no CNDDDB occurrences within 5 miles of the project site (CDFW 2023).
<i>Dudleya abramsii</i> ssp. <i>setchellii</i>	Santa Clara Valley dudleya	FE/None/1B.1	Cismontane woodland, Valley and foothill grassland; Rocky, Serpentinite/perennial herb/Apr–Oct/195–1,755	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Eriogonum nudum</i> var. <i>decurrens</i>	Ben Lomond buckwheat	None/None/1B.1	Chaparral, Cismontane woodland, Lower montane coniferous forest; Sandy/perennial herb/June–Oct/165–2,620	Not expected to occur. There is no suitable habitat for this species present in the BSA.

Scientific Name	Common Name	Status (Federal/State/C RPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Erysimum teretifolium</i>	Santa Cruz wallflower	FE/SE/1B.1	Chaparral, Lower montane coniferous forest/perennial herb/Mar–July/395–2,000	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Fissidens pauperculus</i>	minute pocket moss	None/None/1B.2	North Coast coniferous forest/moss//35–3,355	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Fritillaria liliacea</i>	fragrant fritillary	None/None/1B.2	Cismontane woodland, Coastal prairie, Coastal scrub, Valley and foothill grassland; Serpentinite (often)/perennial bulbiferous herb/Feb–Apr/10–1,345	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Grimmia torenii</i>	Toren's grimmia	None/None/1B.3	Chaparral, Cismontane woodland, Lower montane coniferous forest; Carbonate, Openings, Rocky, Volcanic/moss//1,065–3,805	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Grimmia vaginulata</i>	vaginulate grimmia	None/None/1B.1	Chaparral; Carbonate, Rocky/moss//2,245	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Hesperevax sparsiflora</i> var. <i>brevifolia</i>	short-leaved evax	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal prairie/annual herb/Mar–June/0–705	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Hesperocyparis abramsiana</i> var. <i>abramsiana</i>	Santa Cruz cypress	FT/SE/1B.2	Chaparral, Closed-cone coniferous forest, Lower montane coniferous forest; Granitic (sometimes), Sandstone (sometimes)/perennial evergreen tree//920–2,620	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Hesperocyparis abramsiana</i> var. <i>butanoensis</i>	Butano Ridge cypress	FT/SE/1B.2	Chaparral, Closed-cone coniferous forest, Lower montane coniferous forest; Sandstone/perennial evergreen tree/Oct/1,310–1,605	Not expected to occur. There is no suitable habitat for this species present in the BSA.

Scientific Name	Common Name	Status (Federal/State/C RPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Hoita strobilina</i>	Loma Prieta hoita	None/None/1B.1	Chaparral, Cismontane woodland, Riparian woodland; Mesic, Serpentine (usually)/perennial herb/May–July(Aug–Oct)/100–2,820	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Holocarpha macradenia</i>	Santa Cruz tarplant	FT/SE/1B.1	Coastal prairie, Coastal scrub, Valley and foothill grassland; Clay (often), Sandy/annual herb/June–Oct/35–720	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Horkelia cuneata</i> var. <i>sericea</i>	Kellogg's horkelia	None/None/1B.1	Chaparral, Closed-cone coniferous forest, Coastal dunes, Coastal scrub; Gravelly (sometimes), Openings, Sandy (sometimes)/perennial herb/Apr–Sep/35–655	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Horkelia marinensis</i>	Point Reyes horkelia	None/None/1B.2	Coastal dunes, Coastal prairie, Coastal scrub; Sandy/perennial herb/May–Sep/15–2,475	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Lasthenia californica</i> ssp. <i>macrantha</i>	perennial goldfields	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub/perennial herb/Jan–Nov/15–1,705	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Lessingia micradenia</i> var. <i>glabrata</i>	smooth lessingia	None/None/1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland; Roadsides (often), Serpentine/annual herb/(Apr–June)July–Nov/395–1,375	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Malacothamnus arcuatus</i>	arcuate bush-mallow	None/None/1B.2	Chaparral, Cismontane woodland/perennial deciduous shrub/Apr–Sep/50–1,160	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Microseris paludosa</i>	marsh microseris	None/None/1B.2	Cismontane woodland, Closed-cone coniferous forest, Coastal scrub, Valley and foothill grassland/perennial herb/Apr–June(July)/15–1,160	Not expected to occur. There is no suitable habitat for this species present in the BSA.

Scientific Name	Common Name	Status (Federal/State/C RPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Monardella sinuata</i> <i>ssp. nigrescens</i>	northern curly-leaved monardella	None/None/1B.2	Chaparral, Coastal dunes, Coastal scrub, Lower montane coniferous forest; Sandy/annual herb/(Apr)May–July(Aug–Sep)/0–985	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Monolopia gracilens</i>	woodland woollythreads	None/None/1B.2	Broad-leaved upland forest, Chaparral, Cismontane woodland, North Coast coniferous forest, Valley and foothill grassland; Serpentine/annual herb/(Feb)Mar–July/330–3,935	Low potential to occur. There is marginal suitable upland forest habitat present for the species within the BSA. There is 1 recent CNDDDB occurrence from 2016 (Occ. 54) approximately 3.4 miles from the Project site, and multiple historical occurrences within 5 miles (CDFW 2023).
<i>Orthotrichum kellmanii</i>	Kellman's bristle moss	None/None/1B.2	Chaparral, Cismontane woodland; Carbonate, Sandstone/moss/Jan–Feb/1,125–2,245	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Pedicularis dudleyi</i>	Dudley's lousewort	None/SR/1B.2	Chaparral, Cismontane woodland, North Coast coniferous forest, Valley and foothill grassland/perennial herb/Apr–June/195–2,950	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Penstemon rattanii</i> <i>var. kleei</i>	Santa Cruz Mountains beardtongue	None/None/1B.2	Chaparral, Lower montane coniferous forest, North Coast coniferous forest/perennial herb/May–June/1,310–3,605	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Pentachaeta bellidiflora</i>	white-rayed pentachaeta	FE/SE/1B.1	Cismontane woodland, Valley and foothill grassland/annual herb/Mar–May/115–2,030	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Pinus radiata</i>	Monterey pine	None/None/1B.1	Cismontane woodland, Closed-cone coniferous forest/perennial evergreen tree//80–605	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Piperia candida</i>	white-flowered rein orchid	None/None/1B.2	Broad-leaved upland forest, Lower montane coniferous forest, North Coast coniferous forest; Serpentine (sometimes)/perennial herb/(Mar)May–Sep/100–4,295	Low potential to occur. There is marginal suitable upland forest habitat present for the species within the BSA. There are no CNDDDB occurrences within 5 miles (CDFW 2023).

Scientific Name	Common Name	Status (Federal/State/C RPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i>	Choris' popcornflower	None/None/1B.2	Chaparral, Coastal prairie, Coastal scrub; Mesic/annual herb/Mar–June/10–525	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Plagiobothrys diffusus</i>	San Francisco popcornflower	None/SE/1B.1	Coastal prairie, Valley and foothill grassland/annual herb/Mar–June/195–1,180	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Plagiobothrys glaber</i>	hairless popcornflower	None/None/1A	Marshes and swamps, Meadows and seeps/annual herb/Mar–May/50–590	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Polygonum hickmanii</i>	Scotts Valley polygonum	FE/SE/1B.1	Valley and foothill grassland/annual herb/May–Aug/690–820	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	None/None/1B.2	Marshes and swamps/perennial rhizomatous herb (emergent)/May–Oct(Nov)/0–2,130	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Sanicula saxatilis</i>	rock sanicle	None/SR/1B.2	Broad-leaved upland forest, Chaparral, Valley and foothill grassland; Rocky, Scree, Talus/perennial herb/Apr–May/2,030–3,850	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Senecio aphanactis</i>	chaparral ragwort	None/None/2B.2	Chaparral, Cismontane woodland, Coastal scrub; Alkaline (sometimes)/annual herb/Jan–Apr(May)/50–2,620	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Stebbinsoseris decipiens</i>	Santa Cruz microseris	None/None/1B.2	Broad-leaved upland forest, Chaparral, Closed-coniferous forest, Coastal prairie, Coastal scrub, Valley and foothill grassland; Openings, Serpentinite (sometimes)/annual herb/Apr–May/35–1,640	Low potential to occur. There is marginal suitable upland forest habitat present for the species within the BSA. There are no CNDDDB occurrences within 5 miles (CDFW 2023).

Scientific Name	Common Name	Status (Federal/State/C RPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	most beautiful jewelflower	None/None/1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland; Serpentine/annual herb/(Mar)Apr–Sep(Oct)/310–3,280	Not expected to occur. There is no suitable habitat for this species present in the BSA.
<i>Trifolium buckwestiorum</i>	Santa Cruz clover	None/None/1B.1	Broad-leaved upland forest, Cismontane woodland, Coastal prairie; Gravelly/annual herb/Apr–Oct/345–2,000	Low potential to occur. There is marginal suitable upland forest habitat present for the species within the BSA. The nearest recent CNDDDB occurrence is a 2008 approximately 1 mile northeast of the Project site (Occ. 52), and there are multiple other recent and historic CNDDDB occurrences within 5 miles (CDFW 2023).
<i>Trifolium polyodon</i>	Pacific Grove clover	None/SR/1B.1	Closed-cone coniferous forest, Coastal prairie, Meadows and seeps, Valley and foothill grassland; Granitic (sometimes), Mesic/annual herb/Apr–June(July)/15–1,390	Not expected to occur. There is no suitable habitat for this species present in the BSA.

Status Legend

Note: BSA = Biological Study Area

Federal

FE: Federally listed as endangered

FT: Federally listed as threatened

State

SE: State listed as endangered

SR: State listed as rare

CRPR: California Rare Plant Rank

1A: Plants presumed extirpated in California, rare or extinct elsewhere

1B: Plants rare, threatened, or endangered in California and elsewhere

2B: Plants rare, threatened, or endangered in California, more common elsewhere

Threat Rank

0.1 – Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)

0.2 – Moderately threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Amphibians				
<i>Ambystoma californiense</i> pop. 1	California tiger salamander - central California DPS	FT/ST, WL	Annual grassland, valley–foothill hardwood, and valley–foothill riparian habitats; vernal pools, other ephemeral pools, and (uncommonly) along stream courses and man-made pools if predatory fishes are absent	Not expected to occur. The project site does not support suitable habitat for this species.
<i>Ambystoma macrodactylum croceum</i>	Santa Cruz long-toed salamander	FE/FP, SE	Dense riparian vegetation, thick coastal scrub, and oak woodland	Not expected to occur. The project site does not support suitable habitat for this species.
<i>Aneides flavipunctatus niger</i>	Santa Cruz black salamander	None/SSC	Restricted to mesic forests in the fog belt of the outer Coast Range of San Mateo, Santa Cruz, and Santa Clara counties. Mixed deciduous and coniferous woodlands and coastal grasslands. Occurs in moist streamside microhabitats and is found under rocks, talus, and damp woody debris.	Low potential to occur. The BSA supports marginal suitable upland habitat for this species. There are 15 CNND occurrences within 5 miles of the project site. The nearest recent occurrence is approximately 4 miles southeast of the project site, a 2009 occurrence near UC Santa Cruz. (CDFW 2023).
<i>Dicamptodon ensatus</i>	California giant salamander	None/SSC	Known from wet coastal forests and chaparral near streams and seeps from Mendocino Co. south to Monterey Co. and east to Napa Co. 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.	Low potential to occur. The BSA supports marginal suitable upland habitat for this species. There are 12 CNND occurrences within 5 miles of the project site. The nearest recent occurrence is approximately 1.5 miles northeast of the project site, a 2016 occurrence near Carbonera Creek (CDFW 2023).
<i>Rana boylei</i> pop. 4	foothill yellow-legged frog - central coast DPS	FPT/SE	Rocky streams and rivers with open banks in forest, chaparral, and woodland.	Not expected to occur. The project site does not support suitable habitat for this species.
<i>Rana draytonii</i>	California red-legged frog	FT/SSC	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands	Not expected to occur. The project site does not support suitable habitat for this species.

Scientific Name	Common Name	Status (Federal/ State)	Habitat	Potential to Occur
<i>Birds</i>				
Agelaius tricolor (nesting colony)	tricolored blackbird	BCC/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture.	Not expected to nest or forage. The project site does not support suitable habitat for this species.
Aquila chrysaetos (nesting & wintering)	golden eagle	None/FP, WL	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats.	Not expected to nest or forage. The project site does not support suitable habitat for this species.
Athene cunicularia (burrow sites & some wintering sites)	burrowing owl	BCC/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Not expected to nest or forage. The project site does not support suitable habitat for this species.
Brachyramphus marmoratus (nesting)	marbled murrelet	FT/SE	Nests in old-growth coastal forests, forages in subtidal and pelagic habitats	Not expected to nest or forage. The project site does not support suitable habitat for this species.
Charadrius nivosus nivosus (nesting)	western snowy plover	FT, BCC/SSC	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds	Not expected to nest or forage. The project site does not support suitable habitat for this species.
Coccyzus americanus occidentalis (nesting)	western yellow-billed cuckoo	FT/SE	Nests in dense, wide riparian woodlands and forest with well-developed understories	Not expected to nest or forage. The project site is outside of the known distribution of this species.
Coturnicops noveboracensis	yellow rail	BCC/SSC	Nesting requires wet marsh/sedge meadows or coastal marshes with wet soil and shallow, standing water	Not expected to nest or forage. The project site does not support suitable habitat for this species.
Cypseloides niger (nesting)	black swift	BCC/SSC	Nests in moist crevices, caves, and cliffs behind or adjacent to waterfalls in deep canyons; forages over a wide range of habitats	Not expected to nest or forage. The project site does not support suitable habitat for this species.

Scientific Name	Common Name	Status (Federal/ State)	Habitat	Potential to Occur
<i>Elanus leucurus</i> (nesting)	white-tailed kite	None/FP	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	Low potential to nest and forage. The BSA contains suitable trees for this species to nest as well as marginal open foraging habitat in the project vicinity.
<i>Empidonax traillii eximius</i> (nesting)	southwestern willow flycatcher	FE/SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Not expected to nest or forage. The project site is outside of the known distribution of this species.
<i>Falco peregrinus anatum</i> (nesting)	American peregrine falcon	FPD/FP, SCD	Nests on cliffs, buildings, and bridges; forages in wetlands, riparian, meadows, croplands, especially where waterfowl are present	Low potential to nest and forage. The BSA contains suitable nesting substrate but lacks suitable wetlands for foraging.
<i>Geothlypis trichas sinuosa</i>	saltmarsh common yellowthroat	BCC/SSC	Nests and forages in emergent wetlands including woody swamp, brackish marsh, and freshwater marsh	Not expected to nest or forage. The BSA does not support suitable habitat for this species.
<i>Gymnogyps californianus</i>	California condor	FE/FP, SE	Nests in rock formations, deep caves, and occasionally in cavities in giant sequoia trees (<i>Sequoiadendron giganteus</i>); forages in relatively open habitats where large animal carcasses can be detected	Not expected to nest or forage. The BSA does not support suitable habitat and is outside of the known distribution for this species.
<i>Laterallus jamaicensis coturniculus</i>	California black rail	None/FP, ST	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	Not expected to nest or forage. The BSA does not support suitable habitat for this species.
<i>Progne subis</i> (nesting)	purple martin	None/SSC	Nests and forages in woodland habitats including riparian, coniferous, and valley foothill and montane woodlands; in the Sacramento region often nests in weep holes under elevated freeways	Low potential to nest and forage. The BSA supports marginal suitable habitat for this species and the species occurs in the region, however there are no CNDDDB occurrences within 5 miles of the project site (CDFW 2023).

Scientific Name	Common Name	Status (Federal/ State)	Habitat	Potential to Occur
Riparia riparia (nesting)	bank swallow	None/ST	Nests in riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with sandy soils; open country and water during migration	Not expected to nest or forage. The BSA does not support suitable habitat for this species.
Sternula antillarum browni (nesting colony)	California least tern	FE/FP, SE	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats	Not expected to nest or forage. The Project site is outside of the known distribution of this species.
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	Not expected to nest or forage. The Project site is outside of the known distribution of this species.
Fishes				
Eucyclogobius newberryi	tidewater goby	FE/None	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County, to the mouth of the Smith River	Not expected to occur. The BSA does not contain suitable habitat for this species.
Oncorhynchus kisutch pop. 4	coho salmon - central California coast ESU	FE/SE	Streams and small freshwater tributaries during first half of life cycle and estuarine and marine waters of the Pacific Ocean during the second half of life cycle. Spawns in small streams with stable gravel substrates.	Not expected to occur. The BSA does not contain suitable habitat for this species.
Oncorhynchus mykiss irideus pop. 10	southern steelhead - southern California DPS	FE/SCE	Clean, clear, cool, well-oxygenated streams; needs relatively deep pools in migration and gravelly substrate to spawn	Not expected to occur. The BSA does not contain suitable habitat for this species.
Thaleichthys pacificus	eulachon	FT/None	Found in Klamath River, Mad River, and Redwood Creek and in small numbers in Smith River and Humboldt Bay tributaries	Not expected to occur. The Project site is outside of the known distribution of this species.
Invertebrates				
Bombus crotchii	Crotch bumble bee	None/SCE	Open grassland and scrub communities supporting suitable floral resources.	Not expected to occur. This species is no longer common in central California due to population

Scientific Name	Common Name	Status (Federal/ State)	Habitat	Potential to Occur
				declines. There are no CNDDDB occurrences within 5 miles (CDFW 2023).
<i>Bombus occidentalis</i>	western bumble bee	None/SCE	Once common and widespread, species has declined precipitously from central California to southern British Columbia, perhaps from disease	Low potential to occur. This species is no longer common in central California due to population declines. There are 4 CNDDDB occurrences within 5 miles of the project site but no occurrences more recent than 1998 (CDFW 2023).
<i>Cicindela ohlone</i>	Ohlone tiger beetle	FE/None	Remnant native grasslands with California oatgrass (<i>Danthonia californica</i>) and purple needlegrass (<i>Stipa pulchra</i>) in Santa Cruz County	Not expected to occur. The BSA does not support suitable native grassland for this species.
<i>Euphilotes enoptes smithi</i>	Smith's blue butterfly	FE/None	Sand dunes, scrub, chaparral, grassland, and their ecotones	Not expected to occur. The BSA does not support suitable habitat for this species.
<i>Polyphylla barbata</i>	Mount Hermon (=barbate) June beetle	FE/None	Known only from sand hills in vicinity of Mount Hermon, Santa Cruz County	Not expected to occur. The BSA does not support suitable sandhill habitat for this species.
<i>Trimerotropis infantilis</i>	Zayante band-winged grasshopper	FE/None	Isolated sandstone deposits in the Santa Cruz Mountains (the Zayante Sand Hills ecosystem)	Not expected to occur. The BSA does not support suitable sandhill habitat for this species.
<i>Danaus plexippus plexippus</i> pop. 1	monarch - California overwintering population	FC/None	Wind-protected tree groves with nectar sources and nearby water sources	Not expected to occur. The BSA does not support suitable habitat for this species.
Mammals				
<i>Antrozous pallidus</i>	pallid bat	None/SSC	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees.	Low potential to occur. The BSA supports marginal suitable habitat for this species to roost. There is one CNDDDB occurrences within 5 miles of the project site, a 2003 occurrence approximately 4.5 miles to the east (Occ. 113) (CDFW 2023).
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None/SSC	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels.	Low potential to occur. The BSA supports marginal suitable habitat for this species to roost. There no CNDDDB occurrences within 5 miles of the project site (CDFW 2023).

Scientific Name	Common Name	Status (Federal/ State)	Habitat	Potential to Occur
<i>Neotoma fuscipes annectens</i>	San Francisco dusky-footed woodrat	None/SSC	Forest habitats with a moderate canopy and moderate to dense understory	Low potential to occur. The BSA supports marginal suitable habitat for this species but lacks density of canopy or understory. There is 1 CNDDDB occurrence of this species within 5 miles, a 2014 occurrence approximately 3.4 miles southeast of the project site (CDFW 2023).
<i>Taxidea taxus</i>	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Not expected to occur. The BSA does not support suitable habitat for this species.
Reptiles				
<i>Emys marmorata</i>	western pond turtle	None/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	Not expected to occur. The BSA does not support suitable habitat for this species.
<i>Thamnophis sirtalis tetrataenia</i>	San Francisco garter snake	FE/FP, SE	Wide range of habitats including grasslands or wetlands adjacent to ponds, marshes, and sloughs	Not expected to nest or forage. The BSA is outside of the known distribution of this species.

Status Legend

Note: BSA = Biological Study Area

Federal

BCC: USFWS—Birds of Conservation Concern

FC: Candidate for federal listing as threatened or endangered

FE: Federally listed as endangered

FPD: Federally proposed for delisting

FPT: Federally proposed for listing as threatened

FT: Federally listed as threatened

State

FP: CDFW Fully Protected species

SCD: State candidate for delisting

SCE: State candidate for listing as endangered

SE: State listed as endangered

SSC: California Species of Special Concern

ST: State listed as threatened

WL: CDFW Watch List species