Appendix B – Biological Resources Assessment

Biological Resources Assessment

Roseland Creek Community Park
SANTA ROSA, SONOMA COUNTY, CALIFORNIA

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TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF TABLES

LIST OF ACRONYMS AND ABBREVIATIONS

BMPs	Best Management Practices
BRA	Biological Resources Assessment
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Corps	U.S. Army Corps of Engineers
ESA	Federal Endangered Species Act
Inventory	CNPS Inventory of Rare and Endangered Plants
MSL	Mean Sea Level
MBTA	Migratory Bird Treaty Act
OWHM	Ordinary High Water Mark
Rank	California Rare Plant Rank
RWQCB	Regional Water Quality Control Board
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group
WRA	WRA, Inc.

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1.0 INTRODUCTION

WRA, Inc. (WRA) prepared this biological resources assessment (BRA) report on behalf of David J. Powers & Associates for the proposed Roseland Creek Community Park Project (Project). The proposed Project involves the development of a community park at an approximately 19.49-acre located southeast of the intersection of Hughes Avenue and Burbank Avenue (APN #'s: 125-331-001, 125-252-002, -003, and -004 in the southwest quadrant of the City of Santa Rosa, Sonoma County, California (Project Area; Appendix A - Figure 1). The proposed Roseland Creek Community Park would include various improvements, including but not limited to: picnic areas, a multi-use turf area, multi-use trails, parking lots, and restrooms. Two pedestrian bridges across Roseland Creek are proposed. The downstream proposed bridge is located where an existing footbridge currently crosses the creek.

The purpose of this assessment was to gather information necessary to complete a review of biological resources under the California Environmental Quality Act (CEQA). WRA biologists conducted numerous site visits to assess biological resources, survey for special-status species, and protected and heritage trees throughout the Project Area in 2017 (May 2, July 19), and 2018 (March 16, April 10, May 10, and July 3) in support of the first draft of this report (WRA 2019) completed as part of the Initial Study/Mitigated Negative Declaration CEQA process. Subsequently, due to public meetings with the City Planning Commission and City Council, the City decided to pursue an Environmental Impact Report for the Project. This report updates the previous report, and additional site visits were conducted on April 25 and May 6, 2022.

This report describes the results of the site visits, which assessed the Project Area for the (1) potential to support special-status species, (2) the potential presence of sensitive biological communities such as wetlands or riparian habitats, and (3) the potential presence of other sensitive biological resources protected by local, state, and federal laws and regulations. Specific findings on the habitat suitability or the presence of special-status species or sensitive habitats may require that protocol-level surveys be conducted.

A BRA provides general information on the potential presence of sensitive species and habitats. The BRA is not an official protocol-level survey for listed species that may be required for project approval by local, state, or federal agencies. Subsequent protocol-level surveys for listed plant species were conducted following the biological resources assessment survey and are discussed in this report. This assessment is based on information available at the time of the study and on-site conditions that were observed on the date of the site visits.

2.0 REGULATORY BACKGROUND

The following sections explain the regulatory context of the BRA, including applicable laws and regulations that were applied to the field investigations and analysis of potential project impacts.

2.1 Sensitive Biological Communities

Sensitive biological communities include habitats that fulfill special functions or have special values, such as wetlands, streams, or riparian habitat. These habitats are protected under federal regulations such as the Clean Water Act; state regulations such as the Porter-Cologne

Act, the California Fish and Game Code (CFGC), and the CEQA; or local ordinances or policies such as city or county tree ordinances, Special Habitat Management Areas, and General Plan Elements.

Waters of the United States

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

Waters of the State

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

Other Sensitive Biological Communities

Other sensitive biological communities not discussed above include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife (CDFW, formerly the California Department of Fish and Game [CDFG]). The CDFW ranks sensitive communities and keeps records of their occurrences in its California Natural Diversity Database (CNDDB; CDFW 2018). In the CNDDB, vegetation alliances are ranked 1 through 5 based on NatureServe's (2018) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by the CDFW or U.S. Fish and Wildlife Service (USFWS) must be considered and evaluated under CEQA

(California Code of Regulations [CCR] Title 14, Div. 6, Chap. 3, Appendix G). Specific habitats may also be identified as sensitive in city or county general plans or ordinances.

2.2 Special-Status Species

Special-status species include those plants and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the Federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). These acts afford protection to both listed species and those that are formal candidates for listing. In addition, CDFW Species of Special Concern, which are species that face extirpation in California if current population and habitat trends continue, CDFW California Fully Protected species, USFWS Birds of Conservation Concern, and CDFW special-status invertebrates, are all considered special-status species. Although these aforementioned species generally have no special legal status, they are given special consideration under CEQA. Bat species are also evaluated for conservation status by the Western Bat Working Group (WBWG), a non-governmental entity; bats named as a "High Priority" or "Medium Priority" species for conservation by the WBWG are typically considered special-status and are considered under CEQA. Plant species on the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (Inventory) with California Rare Plant Ranks (Rank) of 1 through 4 are also considered special-status plant species and must be considered under the CEQA. A description of the CNPS Ranks is provided below in Table 1. In addition to regulations for special-status species, most birds in the United States, including non-special-status native species, are protected by the Migratory Bird Treaty Act of 1918 (MBTA) and the CFGC. Under these laws, destroying active bird nests, eggs, and/or young is illegal.

Table 1. Description of CNPS Ranks and Threat Codes

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

Santa Rosa Plain Conservation Strategy

The Project Area is located within the Santa Rosa Plain, an ecoregion which supports habitat for many vernal pool-associated special-status species. The USFWS developed the Santa Rosa Plain Conservation Strategy (Conservation Strategy; USFWS et al. 2005) as a conservation plan for these species. The Santa Rosa Plain Conservation Strategy Area is an area established by the USFWS for the protection and continued existence of California tiger

salamander (CTS, *Ambystoma californiense*) and three endangered plant species: Burke's goldfields (*Lasthenia burkei*), Sonoma sunshine (*Blennosperma bakeri*), and Sebastopol meadowfoam (*Limnanthes vinculans*). The Conservation Strategy (USFWS 2005) outlines the specific species of concern for this area along with guidance for specific conservation measures. In 2007 the Corps consulted with the USFWS on Section 404 permitting within the Conservation Strategy area which resulted in a Programmatic Biological Opinion (PBO). In 2020, the PBO was revised. This 2020 PBO outlines the mitigation requirements resulting from impacts to wetlands and associated impacts to CTS and the three listed plants, and can be appended to permits authorized by the Corps. When appended, it is the PBO that dictates the mitigation requirements for CTS and the three listed plant species.

Critical Habitat

Critical habitat is a term defined in the ESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The ESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. In consultation for those species with critical habitat, federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species' recovery. In many cases, this level of protection is similar to that already provided to species by the ESA jeopardy standard. However, areas that are currently unoccupied by the species but which are needed for the species' recovery are protected by the prohibition against adverse modification of critical habitat.

2.3 Local Policies, Ordinances, and Regulations

City of Santa Rosa Tree Ordinance

The City of Santa Rosa recognizes the aesthetic, environmental, and economic benefits mature trees provide to the citizens of the City. Chapter 17-24, "Trees" of the Santa Rosa City Code (Tree Ordinance) regulates the protection of certain trees on public and private properties within the City limits. The Tree Ordinance defines a "heritage tree" as: valley oak (*Quercus lobata*), blue oak (*Q. douglasii*), or buckeye (*Aesculus californica*) 19 inches circumference at breast height (measured at 4.5 feet above ground; or 6 inches diameter at breast height [DBH]) or greater; madrone (*Arbutus menziesii*) 38 inches circumference (12 inches DBH) or greater; coast live oak (*Q. agrifolia*), black oak (*Q. kelloggii*), Oregon oak (*Q. garryana*), canyon live oak (*Q. chrysolepis*), interior live oak (*Q. wislizenii*), red alder (*Alnus rubra* [*A. oregona*]), or white alder (*A. rhombifolia*) 57 inches circumference (18 inches DBH) or greater; or redwood (*Sequoia sempervirens*), bay (*Umbellularia californica*), Douglas fir (*Pseudotsuga menziesii*), or big-leaf maple (*Acer macrophyllum*) 75 inches circumference (24 inches DBH) or greater.

A Tree Permit is generally required for the removal, alteration or relocation of any "heritage tree", "protected tree" (i.e. any tree, including a heritage tree, designated to be preserved on an approved development plan or as a condition of approval of a tentative map, a tentative parcel map, or other development approval issued by the City), or "street tree" (i.e. any tree having a single trunk circumference greater than 6.25 inches or a diameter greater than 2 inches, a height of more than six feet, and one half or more of its trunk is within a public right of way or within 5 feet of the paved portion of a City street or a public sidewalk), except as exempted in Section 17-24.030 of the Tree Ordinance. Several non-native species including acacia, silver maple, ailanthus, hawthorn, fruitless mulberry, privet, pyracantha, Monterey pine, Monterey

cypress, and fruit and nut trees (except walnut) are exempt from the provisions of the ordinance. Trees, other than heritage trees, situated within City owned parks and other City owned or controlled places when altered, removed, or relocated by City employees or by contractors retained by the City are also exempt.

Creekside Development Ordinance

Section 20-30.040 “Creekside Development”, of the Santa Rosa City Code defines minimum setbacks from waterways for new structures to protect the public from the hazards of streambank failures and flooding. Under the ordinance, buildings of any type, driveways, streets, parking areas, patios, platforms, decks, fences, earth fill or other structural debris fill, and retaining walls, shall be setback a minimum of 50 feet from: (a) the top of the highest bank for streams with defined channels and banks with slopes gentler than 2.5:1; (b) the intersection of 2.5:1 slope from toe of bank with top-of-bank where the natural bank is steeper than 2.5:1; or (c) the 100-year storm freeboard level for streams where there is no defined top-of-bank. Bridges for motor vehicles, pedestrians, and/or bicycles, and/or public utility infrastructure may cross through a waterway setback area and over or under its channel, provided that the installation has received all required approvals from the City.

3.0 METHODS

WRA biologists have conducted numerous multi-year biological resources assessment site visits across the Project Area throughout 2017, and 2018 in support of the first draft of this report (WRA 2019). Additional surveys were performed in 2022 on April 25 and May 6, 2022. The Project Area was traversed on foot to determine (1) plant communities present within the Project Area, (2) whether existing conditions provide suitable habitat for any special-status plant or wildlife species, and (3) whether sensitive habitats are present. Project figures are provided in Appendix A. All plant and wildlife species encountered were recorded and are summarized in Appendix B. Plant nomenclature follows Baldwin et al. (2012) and subsequent revisions by the Jepson Flora Project (2022), except where noted. For cases in which regulatory agencies, CNPS, or other entities base rarity on older taxonomic treatments, precedence was given to the treatment used by those entities. Special-status species with a potential for occurrence, determined based on field visits and habitat availability, are described in Appendix C. Representative photographs of the Project Area taken during field visits are included in Appendix D.

3.1 Biological Communities

Prior to the site visit, the *Soil Survey of Sonoma County*, California [U.S. Department of Agriculture (USDA) 1972] and SoilWeb (CSRL 2022) were examined to determine if any unique soil types that could support sensitive plant communities and/or aquatic features were present in the Project Area. Biological communities present in the Project Area were classified based on existing plant community descriptions described in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) or *A Manual of California Vegetation, Online Edition* (CNPS 2022a). However, in some cases it is necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature. Biological communities were classified as sensitive or non-sensitive as defined by CEQA and other applicable laws and regulations.

3.1.1 Non-Sensitive Biological Communities

Non-sensitive biological communities are those communities that are not afforded special protection under CEQA, and other state, federal, and local laws, regulations and ordinances. These communities may, however, provide suitable habitat for some special-status plant or wildlife species and are identified or described in Section 4.1.1 below.

3.1.2 Sensitive Biological Communities

Sensitive biological communities are defined as those communities that are given special protection under CEQA and other applicable federal, state, and local laws, regulations and ordinances. Special methods used to identify sensitive biological communities are discussed below.

Wetlands and Non-Wetland Waters

Wetlands and non-wetland waters potentially subject to jurisdiction by the Corps, RWQCB, and/or CDFW were mapped following standard methods from the Corps (Environmental Laboratory 1987, Corps 2008a, b). Identification of wetlands focused on the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) indicators of wetland hydrology. Identification of non-wetland waters focused on the presence of an OHWM.

Other Sensitive Biological Communities

The Project Area was evaluated for the presence of other sensitive biological communities, including riparian areas or other sensitive plant communities recognized by CDFW. Prior to the site visit, aerial photographs, local soil maps, and *A Manual of California Vegetation, Online Edition* (CNPS 2022a) were reviewed to assess the potential for sensitive biological communities to occur in the Project Area. All alliances within the Project Area with a ranking of 1 through 3 were considered sensitive biological communities and mapped. These communities are described in Section 4.1.2 below.

3.2 Special-Status Species

3.2.1 Literature Review

Potential occurrence of special-status species in the Project Area was evaluated by first determining which special-status species occur in the vicinity of the Project Area through a literature and database search. Database searches for known occurrences of special-status species focused on the Santa Rosa 7.5-minute U.S. Geological Survey (USGS) quadrangle and the eight surrounding quadrangles: Healdsburg, Sebastopol, Two Rock, Cotati, Glen Ellen, Kenwood, Calistoga, and Mark West Springs. The following sources were reviewed to determine which special-status plant and wildlife species have been documented to occur in the vicinity of the Project Area:

- CNDDB records (CDFW 2022)
- USFWS Information for Planning and Conservation Report (IPaC; USFWS 2022a)
- National Wetlands Inventory (USFWS 2022b)
- CNPS Rare and Endangered Plant Inventory (CNPS 2022b)

- CDFG publication “California’s Wildlife, Volumes I-III” (Zeiner et al. 1990)
- CDFG publication “California Bird Species of Special Concern” (Shuford and Gardali 2008)
- CDFW and University of California Press publication California Amphibian and Reptile Species of Special Concern (Thomson *et al.* 2016)
- California Herps: A Guide to the Amphibians and Reptiles of California (CalHerp 2022)
- *Sonoma County Breeding Bird Atlas* (Madrone Audubon Society 1995)
- *A Flora of Sonoma County* (Best et al. 1996)

3.2.2 Site Assessment

Several site visits were made to the Project Area, and pedestrian surveys across the entirety of the site were conducted to search for suitable habitats for special-status species. Habitat conditions observed at the Project Site were used to evaluate the potential for presence of special-status species based on these searches and the professional expertise of the investigating biologists. The potential for each special-status species to occur in the Project Area was then evaluated according to the following criteria:

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

The site assessment is intended to identify the presence or absence of suitable habitat for each special-status species known to occur in the vicinity in order to determine its potential to occur in the Project Area. The site visit does not constitute a protocol-level survey and is not intended to determine the actual presence or absence of a species; however, if a special-status species is observed during the site visit, its presence will be recorded and discussed.

In cases where little information is known about species occurrences and habitat requirements, the species evaluation was based on best professional judgment of WRA biologists with experience working with the species and habitats. If necessary, recognized experts in individual species biology were contacted to obtain the most up to date information regarding species biology and ecology.

If a special-status species was observed during the site visit, its presence is recorded and discussed below in Section 4.2. For some species, a site assessment at the level conducted for this report may not be sufficient to determine presence or absence of a species to the

specifications of regulatory agencies. In these cases, a species may be assumed to be present or further protocol-level special-status species surveys may be necessary. Special-status species for which further protocol-level surveys may be necessary are described below in Section 5.0.

4.0 RESULTS

A general description of the Project Area and the results of the site assessment are provided in the following sections. Project figures are provided in Appendix A. A list of plant and wildlife species observed is included as Appendix B. The assessment of the potential for special-status plant and wildlife species to occur in the Project Area is provided as Appendix C. Photographs of the Project Area are provided as Appendix D.

Project Area Description

The site of the proposed Roseland Creek Community Park is approximately 19.49 acres, and is composed of four separate parcels across from Roseland Creek Elementary School, on Burbank Avenue in the southwest quadrant of the City of Santa Rosa. Three of the four parcels have been previously developed to some degree and previously contained occupied or abandoned structures, but the majority of the land remains undeveloped and is composed of open non-native annual grassland, and valley oak (*Quercus lobata*) woodland. During the time of the 2022 site visits, all previously developed structures had been demolished and removed, however, remnants of the prior development remain such as foundations, driveways, and landscaping. Remnant improvements associated with prior development on the site are proposed to be removed.

The Project Area is bisected by Roseland Creek, an intermittent United States Geological Survey (USGS) “blue-line” stream, which flows through the Project Area in a westerly direction. Historic aerial imagery (Sonoma County 20222, NETR 2022) indicates that nearly the entire Project Area, with the exception of the creek corridor, supported high density, intensive agricultural (orchard) production from at least 1942 to as recently as 1971. The existing conditions of the site generally reflect the previous disturbance regime, and existing oak woodlands on site, outside of the riparian corridor, consist of a naturalized even-aged stand of relatively young trees. Other old, dead and/or decadent Northern California black walnut (*Juglans hindsii*) trees on the northernmost parcel are further indicative of the site’s agricultural past, as this species was typically used as rootstock for English walnut (*J. regia*) orchards. The two northernmost parcels are currently accessible and in use by the public, as evidenced by numerous social trails crossing the site, and evidence of All Terrain Vehicle (ATV) use (e.g. numerous tire tracks and ruts), and resident unhoused people were observed during the site visit(s). Recent aerial imagery (Google Earth 2022) also indicate that the open grassland portions of the Project Area are likely mowed annually for fire suppression. During the site visits in 2022, a population of unhoused people was present in the forested parts of the site and the number of individual encampments has increased since previous iterations of this report.

The City has prepared a Master Plan for park improvements (Design Workshop 2021) which include: public gathering areas, restrooms, shaded pavilion, nature center, lawn area, nature play area, two parking lots, and a network of universally accessible trails which would include two footbridges across Roseland Creek.

4.1 Biological Communities

Table 2 summarizes the area of each biological community type observed in the Project Area. Seven biological communities were identified in the Project Area (Appendix A, Figure 2). Non-sensitive biological communities include: non-native grassland, developed/landscaped areas, and disturbed valley oak woodland. Potentially sensitive biological communities observed in the Project Area include intermittent stream (Roseland Creek), valley oak riparian woodland, riparian wetland, and purple needlegrass grassland, all of which are described in detail below.

Table 2. Summary of Biological Communities in the Project Area

Community Type	Area (acres)
Non-sensitive	
Developed, landscaped	3.09
Non-native grassland	6.47
Disturbed valley oak woodland	7.07
Sensitive	
Intermittent stream	0.35
Purple needlegrass grassland	0.45
Riparian wetland	0.10
Valley oak riparian woodland	1.96
Total	**19.49**

4.1.1 Non-Sensitive Biological Communities

Developed/landscaped. Developed/landscaped areas occupy approximately 3.09 acres within the Project Area. These areas have been previously developed and contained occupied or abandoned residences with associated hardscape, gravel driveways, and landscapes including ornamental trees and shrubs including Mexican fan palm (*Washingtonia robusta*), blue gum (*Eucalyptus globulus*), apple (*Malus* sp.), rose (*Rosa* sp.), and lilac (*Syringa* sp.). Developed/landscaped areas are not considered sensitive. However, they may contain protected trees per the City of Santa Rosa Tree Ordinance.

Non-native grassland. Non-native grassland occupies approximately 6.47 acres within the Project Area. Non-native grasslands within the Project Area are dominated non-native annual grasses including slim oat, and soft chess (*Bromus hordeaceus*), with associated grasses and forbs including Harding grass (*Phalaris aquatica*), bristly ox-tongue (*Helminthotheca echioides*), spring vetch, and carrot (*Daucus carota*). Occasional areas of semi-mesic grasslands which included Italian ryegrass, and Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), were investigated for potential jurisdictional wetland status, and although some features contained marginal wetland criteria (i.e., met one or more of three parameters: hydrology, hydrophytic vegetation, and hydric soils) during the 2017 site visit, which occurred during a substantially above-normal rainfall year, these features do not meet wetland criteria under normal precipitation conditions, as determined in 2018, and reconfirmed in 2022. This community contains scattered trees totaling less than 10 percent absolute cover, including several over-mature, declining Northern California black walnut trees, which, are likely remnant

rootstock from the historic orchard which occupied the area. Historic aerial imagery indicate that the entire northern parcel consisted of an agricultural orchard until at least the 1970s. CNPS (2022b) indicates that "walnut growers use *J. hindsii* and backcrosses with either English walnut (*J. regia*)—the Paradox hybrid created by Luther Burbank—or three other North American black walnuts (*J. nigra, J. major*, and *J. californica*) as rootstock for English walnut orchards in the state." The resulting hybrid walnuts have the potential to become invasive and threaten the natural stands of Northern California black walnut. Therefore, stands of hybrid origin from resprouting orchard root stock are not considered a sensitive vegetation community. Moreover, it is not mapped as a separate community due to the less than 10 percent absolute cover of the walnut trees. Therefore these trees are included within non-native grassland.

Disturbed valley oak woodland. Disturbed valley oak woodland occupies approximately 7.07 acres within the Project Area. This community was characterized as disturbed valley oak woodland, due to historic and contemporary disturbance within this plant community. Historic aerials indicate that all areas mapped as disturbed valley oak woodland were occupied by high-density orchards as recently as 1971. This historic disturbance is evident, in particular in the northern portion of the stand, north of Roseland Creek, where the community is composed of an even-aged stand of young valley oak trees. Current disturbance observed within this community included numerous social trails, and ATV use, as evidenced by numerous tire tracks and ruts, and individual encampments of unhoused people. Vegetation within this community is dominated by valley oak, with an understory dominated by non-native grasses including rattlesnake grass (*Briza maxima*), Italian ryegrass, and soft chess. Woody vines including poison oak, and Himalayan blackberry are also abundant within the understory. As described above within non-native grasslands, occasional areas of semi-mesic vegetation within this community were investigated for potential jurisdictional wetland status, and do not meet wetland criteria under normal precipitation conditions, as determined in 2018, and 2022. Valley oak woodland (*Quercus lobata* Woodland Alliance) is reported by the CDFW with a sensitivity ranking of G3, S3 (CDFW 2022a), indicating that it is considered vulnerable globally and within California. However, valley oak woodland within the Project Area, outside of the riparian corridor is previously disturbed and composed of relatively young, volunteer trees and does not meet qualitative criteria to be considered a sensitive natural vegetation community. However, the majority of trees within this community are considered protected per the City of Santa Rosa Tree Ordinance.

4.1.2 Sensitive Biological Communities

Intermittent stream. The Project Area contains approximately 0.35 acre of the intermittent stream which bisects the Project Area flowing in a southwesterly direction. Roseland Creek is an intermittent USGS blue-line stream. The upper reach of the creek within the Project Area is approximately 8 feet wide and has a concrete slab bed with water undermining and flowing underneath the concrete at the time of the site visit. The lower reach (western portion) of the stream has a more natural channel composed of rock and cobble mixed with sands and silts. Roseland Creek was delineated within the Project Area based on observable OHWM indicators including: presence of a bed and bank, scouring, wrack, sediment deposition, and water stains on the banks. The lower reach of the creek contains a backflow, scour channel which supports a riparian wetland, described in detail below. Dominant vegetation along the banks of the intermittent stream is composed of valley oak (*Quercus lobata*) riparian woodland described in detail below. The channel was flowing during the May 2017 site visit, and contained pools of standing water during the May 2022 site visit. Areas mapped as intermittent creek are considered jurisdictional under Section 404 of the CWA and Section 1602 of the CFGC. Roseland Creek is also likely subject to development setbacks for structures (including buildings

of any type, driveways, streets, parking areas, patios, platforms, decks, fences, earth fill or other structural debris fill, or retaining walls) of 50 feet from the top of bank, as per Section 20-30.040 "Creekside Development", of the Santa Rosa City Code. Bridges for motor vehicles, pedestrians, and/or bicycles, and/or public utility infrastructure may cross through a waterway setback area and over or under its channel, provided that the installation has received all required approvals from the City.

Valley oak riparian woodland. Valley oak riparian woodland occupies approximately 1.96 acres in the Project Area. Valley oak riparian woodland forms a contiguous canopy along the banks of Roseland Creek. This community was mapped in accordance with CNPS (2022b) as having valley oak greater than 30 percent relative cover in the tree canopy with other tree species present. The overstory is dominated by large, mature valley oak trees, with a middlestory composed of various native trees tolerant of winter flooding and/or a high water table, including valley oak, arroyo willow (*Salix lasiolepis*), and Oregon ash. The understory is dominated by woody vine/shrub species including non-native invasive Himalayan blackberry (*Rubus armeniacus*), with other native species present including poison oak (*Toxicodendron diversilobum*), and snowberry (*Symphoricarpos albus*). Understory herbs are scarce, and mostly restricted to steep banks, and the stream edge. Valley oak woodland is reported by the CDFW with a rarity ranking of G3, S3 (CNPS 2017), indicating that it is considered vulnerable globally and in California. This community would therefore be considered sensitive and must be evaluated under CEQA (CCR Title 14, Div. 6, Chap. 3). Valley oak riparian woodland is also considered a sensitive community under Section 1602 of the CFGC, and this community also contains many individual trees protected per the City of Santa Rosa Tree Ordinance. Any tree removal deemed necessary for construction of the proposed trail will likely require a tree removal permit from the City of Santa Rosa. Any development within this community, including but not limited to trail and creek crossing construction will require a CDFW permit.

Riparian wetland. The Project Area contains approximately 0.10 acre of riparian wetland within the Project Area, in-line and directly adjacent to Roseland Creek. The riparian wetland is located in the downstream portion of Roseland Creek, adjacent to Burbank Avenue where the stream flows off of the site through a box culvert underneath Burbank Avenue. The culvert appears to be functioning as a sediment trap which backs up stream flows enough to cause conditions below the OHWM, in-line with the stream. Standing water and wetland vegetation was also observed in an approximately 9-foot wide backflow, scour channel on the north side of the main creek channel. The riparian wetland within the Project Area contained standing water to a depth of 2 inches or greater during the time of the site visit, and was dominated by perennial emergent marsh vegetation including Northern water plantain (*Alisma triviale*), Santa Barbara sedge (*Carex barbarae*), and curly dock (*Rumex crispus*). Areas mapped as riparian wetland are considered jurisdictional under Section 404 of the CWA. Additionally, due to its position adjacent to or in-line with the intermittent stream, the riparian wetland is likely to be considered jurisdictional under Section 1602 of the CFGC, as riparian habitat.

Purple needlegrass grassland. Purple needlegrass grassland occupies approximately 0.45 acre in the southern portion of the Project Area. This community was mapped within the Project Area in accordance with CNPS (2022b) as containing purple needle grass (*Stipa* [*Nassella*] *pulchra*) greater than 10 percent relative cover of the herbaceous layer. Within the Project Area, this community is dominated by purple needlegrass at approximately 45 percent relative cover with other predominantly non-native grasses and forbs including slim oat (*Avena barbata*), spring vetch (*Vicia sativa*), hairy cats ear (*Hypochaeris radicata*), rose clover (*Trifolium hirtum*), and Spanish lotus (*Acmispon americanus* var. *americanus*). Although purple needlegrass grassland was recently lumped by CDFW into the needlegrass – melic grassland alliance which

is considered apparently secure globally, and in California (i.e. G4, S4), purple needlegrass grassland within the Project Area fits within the membership rules of the *Stipa* [*Nassella*] *pulchra* – *Bromus* spp. Association, which is considered sensitive by CDFW (CDFW 2022). Although, the purple needlegrass community is relatively disturbed, mowed annually or semi-annually, and contains a low diversity of associated native forbs, this community could potentially be considered sensitive under CEQA, due to its sensitivity ranking.

4.2 Special-Status Species

4.2.1 Special-Status Plants

Based upon a review of the resources and databases listed in Section 3.2.1 for the Santa Rosa, Healdsburg, Sebastopol, Two Rock, Cotati, Glen Ellen, Kenwood, Calistoga, and Mark West Springs 7.5-minute USGS quadrangles, it was determined that 90 special-status plant species have been documented from the vicinity of the Project Area; special-status plant species documented from within 5 miles of the site are shown in Appendix A - Figure 3. Of the 90 special-status species documented, two were initially determined to have a moderate potential to occur in the Project Area, described in Table 3, below. The remaining 88 special-status plant species are either unlikely or have no potential to occur within the Project Area for one or more of the following reasons:

- The Project Area has been repeatedly and intensively altered from a natural state, by development, agricultural conversion, discing, or mowing, thereby eliminating the seedbank or diminishing establishment of the special-status plant(s);
- The Project Area does not contain hydrologic conditions (e.g., perennial saline, freshwater marshes and swamps) necessary to support the special-status plant(s);
- The Project Area does not contain edaphic (soil) conditions (e.g., serpentine or volcanic substrate) necessary to support the special-status plant(s);
- The Project Area does not contain vegetation communities (e.g., chaparral, coastal scrub, vernal pools) associated with the special-status plant(s);
- Very unique pH characteristics, such as alkali wetlands are absent from the Project Area;
- Competition from vigorous non-native invasive species (e.g. non-native annual grasses), likely precludes the species' ability to persist on-site;
- This species was not observed during the site visit which was conducted during the bloom period of the species.

Table 3. Special-status Plant Species with Potential to occur in the Project Area.

SPECIES / STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA
Sonoma alopecurus *Alopecurus aequalis* var. *sonomensis* FE, Rank 1B	Marshes and swamps (freshwater), riparian scrub. Elevation ranges from 20 to 1200 feet. Blooms May-Jul.	**Not Present (originally assessed: Moderate Potential).** The Project Area contains potentially suitable riparian habitat which could support this species. However, this species was not observed during a protocol-level survey conducted during the species' bloom period in 2017, 2018, and 2022.

SPECIES / STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA
congested-headed hayfield tarplant *Hemizonia congesta* ssp. *congesta* Rank 1B	Chaparral, cismontane woodland/volcanic, rocky. Elevation ranges from 390 to 2100 feet (120 to 640 meters). Blooms April-Nov.	**Not Present (originally assessed: Moderate Potential).** The Project Area contains potentially suitable grassland habitat that may support this species. This species is relatively disturbance-tolerant and may not be precluded by historic and current disturbance regime in the Project Area. However, this species was not observed during protocol-level survey conducted during the species' bloom period in 2017, 2018, and 2022.

Federally Listed Species that Occur in the Region which are Unlikely to Occur in the Project Area

All listed plant species covered by the Santa Rosa Plain PBO, Burke's goldfields, Sonoma sunshine, and Sebastopol meadowfoam are unlikely to occur within the Project Area due to a lack of vernal pool habitat, lack of suitable hydrology (i.e. extended ponding), prior disturbance (i.e. agricultural conversion, annual mowing). Moreover, Burke's goldfields, and Sebastapol meadowfoam were not observed during the initial May 2, 2017 site visit which was conducted during their documented bloom period. Both species were observed in bloom at a documented reference site just five days after the site visit, confirming their phenology would have been identifiable during the time of the site visit. However, as a conservative measure, due to the presence of semi-mesic grassland and valley oak woodland observed during the 2017 site visit, a second round of protocol-level surveys for these species were conducted in 2018. Surveys were conducted by WRA botanists, Rhiannon Korhummel, Scott Yarger, and Scott Batiuk on March 16, April 10, May 10, and July 3, 2018. The March and April surveys were conducted by Rhiannon Korhummel, and the May survey was conducted by Scott Yarger and Scott Batiuk, and the July survey was conducted by Scott Yarger. Scott Yarger conducted an additional updated rare plant survey on May 6, 2022. No special-status plants were encountered during the surveys, and special-status plant species are presumed absent.

4.2.2 Special-Status Wildlife

A total of 37 special-status wildlife species are known in the vicinity based upon review of the resources and databases. Of these wildlife species, 13 have moderate or high potential to occur within the Project Area; special-status wildlife species documented from within 5 miles of the site are shown in Appendix A - Figure 4. Special-status wildlife species with potential to occur include seven species of bat, five species of birds, and northwestern pond turtle (NPT; *Actinemys marmorata*). These species may be affected both directly and indirectly by project activities if present.

The diversity of vegetation within the Project Area provides a variety of suitable conditions for nesting and foraging by both special-status and non-special-status birds. Vegetation communities including non-native grassland, purple needlegrass grassland, and valley oak woodland may provide suitable habitat to support nesting birds. Table 4 identifies special-status birds which have been documented in the area and have a moderate to high potential to nest within the Project Area.

Table 4. Special-Status Birds Present or with Moderate or High Potential to Nest within the Project Area

Scientific Name	Common Name	Protection Status
Selasphorus sasin	Allen's hummingbird	USFWS Bird of Conservation Concern
Picoides nuttallii	Nuttall's woodpecker	USFWS Bird of Conservation Concern
Elanus leucurus	white-tailed kite	California Fully Protected Species
Icteria virens	yellow-breasted chat	CDFW Species of Special Concern
Baeolophus inornatus	oak titmouse	USFWS Bird of Conservation Concern

In addition to the special-status bird species noted above, non-status nesting birds are protected under the Migratory Bird Treaty Act (MBTA) and by California Fish and Game Codes (CFGC). Birds may nest in trees, brush, shrubs and grasslands within or adjacent to the Project Area. Nesting birds may be directly or indirectly affected by activities within the Project Area.

Seven special-status bat species also have a moderate potential to occur within the oak woodland, intermittent stream habitat, and abandoned structures within the Project Area. Table 5 outlines the species with potential to occur in the Project Area as well as their protection status.

Table 5. Special-Status Bat Species with Moderate Potential to Occur within the Project Area

Scientific Name	Common Name	Protection Status
Myotis thysanodes	fringed myotis	WBWG High Priority
Lasiurus cinereus	hoary bat	WBWG Medium Priority
Myotis volans	long-legged myotis	WBWG High Priority
Antrozous pallidus	pallid bat	CDFW Species of Special Concern, WBWG High Priority
Corynorhinus townsendii	Townsend's big-eared bat	CDFW Species of Special Concern, WBWG High Priority
Lasiurus blossevillii	western red bat	CDFW Species of Special Concern, WBWG High Priority
Myotis yumanensis	Yuma myotis	WBWG Low Priority

Additionally, one special-status herptile species has a moderate potential to occur within the Project Area's riparian habitat and is listed below in Table 6.

Table 6. Herptile Species with Moderate or High Potential to Occur within the Project Area

Scientific Name	Common Name	Protection Status
Actinemys marmorata	northwestern pond turtle	CDFW Species of Special Concern, Proposed Federal Threatened

Federally Listed Species that Occur in the Region which are Unlikely to Occur in the Project Area

Although the Project Area is within designated critical habitat (the "Santa Rosa Plain Unit"; USFWS 2016) for California tiger salamander (CTS; *Ambystoma californiense*), this species is unlikely to occur in the Project Area, due to the lack of suitable wetland breeding habitat, lack of suitable upland dispersal and aestivation habitat and significant barriers to dispersal between the Project Area and the nearest documented extant breeding occurrence of the species.

While surrounded on three sides by urbanized areas, the Project Area and neighboring properties to the south are mapped within the "Core Area" for CTS by the USFWS (2016), albeit at the periphery of this area. The Project area is designated as an area where projects are likely to affect CTS (Figure 7). However, several factors indicate that the species is unlikely overall to occur within the Project Area. During WRA site visits spanning 2017 to 2022, small mammal burrows, the typical subterranean refugia for CTS, were not observed. The nearest documented CTS occurrence in CNDDB is located approximately 0.6-mile to the south of the Project Area, south of Hearn Avenue; this occurrence involved an adult CTS that was found along the road in 2003 (CDFW 2022). The nearest documented breeding occurrence/habitat is located approximately 0.7-mile to the southwest (CDFW 2022), though this site has become isolated by urban development. The next-nearest breeding occurrence is at Southwest Community Park approximately 0.75-mile to the south of the Project Area, south of Hearn Avenue (CDFW 2022). As described in Trenham and Cook (2008), Hearn Avenue and directly associated infrastructure (e.g., storm drains) provides a barrier to CTS movement. The Project Area does not provide any wetlands or seasonal aquatic features suitable for CTS breeding, and as such the persistence of a population there and on adjacent properties north of Hearn Avenue is highly unlikely. As such, CTS is considered unlikely to occur within the Project Area.

The Project Area is, however, within designated critical habitat which typically applies regardless of habitat conditions and on-site presence/absence of the species unless USFWS removes the designation for this area. In that regard, the USFWS published guidance for interpretation of critical habitat in and around the urbanized centers of Santa Rosa, Bennett Valley, Rohnert Park, and Cotati, and in a final rule (Federal Register, Vol. 76, No. 169, 2011), the USFWS removed designation of critical habitat for urban centers, and isolated, remnant habitat areas surrounded by heavily urbanized areas. The guidance states that "*the remnant natural habitat within those areas is limited to small, isolated parcels within a matrix of urban development. These areas are not included in the final rule because developed areas (lands covered by buildings, pavement, and other structures) lack the physical or biological features essential to the conservation of the species, according to section 3(5)(A) of the Act. We also do not consider the remnant open space within these city centers as essential for the conservation of the Sonoma California tiger salamander.*" Under this final rule, it is our interpretation that the Project Area is most accurately classified as a partially developed remnant natural habitat area surrounded by a matrix of urban development. Urban development directly adjacent to the Project Area has also expanded since the publication of the critical habitat designation through

the development of Roseland Creek Elementary school located across Burbank Avenue to the east.

In summary, the lack of breeding or aestivation habitat combined with several published materials referencing the improbability of CTS using the Project Area ultimately indicate that this species is unlikely to occur within the Project Area or be affected by its development. Site visits over the course of five years did not detect fossorial mammal burrows, which are the most important upland refugia for CTS on the Santa Rosa Plain. Some areas contain expansion cracks that may serve as temporary refugia for CTS, but without other forms of refugia, CTS would not persist on the site because these cracks open and close based on saturation level. These cracks are also expected to be avoided by most or all project impacts. Temporary, wet season refugia such as leaf litter would not be impacted when CTS would be present due to the Project's schedule of work that is restricted to the dry season. Moreover, the 2011 USFWS final rule on critical habitat indicate that the Project Area should not be considered critical habitat, and no formal permit from the USFWS or mitigation for impacts to critical habitat should be required.

4.3 Protected Trees

The Project Area contains several native trees that are large enough to be considered "heritage" trees per Chapter 17-24, "Trees" of the Santa Rosa City Code (Tree Ordinance). WRA's ISA-Certified Arborist conducted a heritage tree survey and identified 355 heritage trees within the immediate vicinity of Project improvements (Appendix A – Figure 5). A separate arborist report was prepared for the Project (WRA 2019). Potential impacts to heritage trees and recommendations to avoid or minimize impacts to heritage trees are provided below in the arborist report and summarized below.

5.0 SUMMARY AND RECOMMENDATIONS

Wetlands and Waters of the U.S., Riparian Habitat

<u>Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife</u>

The Project Area contains riparian wetland, and intermittent stream which are likely to be considered jurisdictional waters of the U.S. All areas mapped as riparian wetland appear that they can potentially be avoided by routing project improvements around those features. However, the Master Plan (Design Workshop 2021) includes two potential footbridge crossings across Roseland Creek. It appeared that the western location of a proposed crossings contains an existing footbridge, though the eastern footbridge would be completely new bridge. The Project has been designed to avoid impacts to wetlands or areas below the OHWM and TOB of the creek.

Stream setbacks for new structures may apply per Section 20-30.040, "Creekside Development" of the Santa Rosa City Code. The setback area on either side of Roseland Creek is typically measured as 50 feet from the top of the highest bank of the creek. When the bank is steeper than 2.5:1, the setback is measured by projection of the slope of 2.5:1 from the toe of the stream bank to ground level above top of bank, plus 50 feet.

Removal or significant trimming of vegetation to facilitate pedestrian bridge construction, particularly woody trees within the valley oak riparian woodland will likely require a CDFW permit and require replacement mitigation for removed trees. Based on a preliminary impact analysis, it appears that one valley oak tree (tree #106) may require significant pruning within the riparian corridor (Figure 5). If mature trees within the riparian corridor require removal, they would require replacement mitigation as part of the CDFW permit. Replacement trees will likely be required at a ratio of 3 to 1 (trees replaced to trees removed) although the ultimate replacement ratio will be determined by CDFW.

A habitat mitigation and monitoring plan (HMMP) should be developed to compensate for removal of riparian trees. Replacement plantings should be sited in non-native annual grassland habitat adjacent to valley oak riparian woodland with the intention of filling in gaps in existing riparian woodland habitat, and/or expanding the extent of riparian habitat within the Project Area. The Plan shall include: 1) a plant palette of species/quantity riparian species to be planted; 2) approximate area of temporary and permanent riparian impacts; 3) a map showing restoration locations, area dimensions, and riparian enhancement methods; and 5) performance standards, monitoring and reporting programs, and corrective actions to be taken when enhancement measures do not meet performance standards.

Purple Needlegrass Grasslands

The Project Area contains a robust stand of native purple needlegrass grassland which is potentially considered sensitive under the CEQA, and may require mitigation if significant impacts to these grasslands occur through Project implementation. Purple needlegrass grasslands are mapped within the Project Area as containing purple needlegrass greater than approximately 45 percent relative cover of the herbaceous layer. A small impact to this resource, such as a trail through this community may be found to be non-significant with no or minimal mitigation required upon further CEQA review.

In accordance with the Master Plan (Design Workshop 2021) the stand of purple needlegrass grassland will be preserved by the Project, therefore no mitigation is expected to be required for purple needlegrass grassland.

Protected Trees

The Project has been designed to avoid impacts to heritage trees through a variety of measures including siting trails and project improvements away from significant heritage trees, and use of elevated boardwalk structures to avoid compaction within adjacent tree root zones. However, a total of four heritage trees have been identified as potentially needing to be removed to accommodate the proposed project plans, i.e. they are directly in-line with trail alignments and/or paved surfaces. Heritage trees which will potentially be removed are all valley oak ranging in size from 9 inches to 18.1 inches DBH. In addition, a total of 18 heritage trees may require pruning as they are located directly adjacent to planned improvements including trail alignments or paved surfaces. Potential impacts to the canopy or root system could include damage to branches or trunk during construction, ripping or tearing roots during subgrade excavation, or smothering roots due to soil compaction or grade fills. These types of injuries can lead to reduced tree vigor, increased susceptibility to pathogens or pests, or in severe cases eventual tree decline or death.

A tree removal permit may be required for any alteration, removal or relocation of heritage, protected or street trees. The City of Santa Rosa may require replacement plantings as a

condition of approval in order to mitigate for the loss of functions provided by trees to be removed including shade, erosion control, groundwater replenishment, visual screening, and wildlife habitat. Replacement trees shall be planted in accordance with the following criteria from the Ordinance:

- For each 6 inches or fraction thereof of the diameter of a tree which was approved for removal, two trees of the same genus and species as the removed tree (or another species, if approved by the City), each of a minimum 15-gallon container size, shall be planted on the project site, provided however, that an increased number of smaller size trees of the same genus and species may be planted if approved by the City, or a fewer number of such trees of a larger size if approved by the City.
- If the development site is inadequate in size to accommodate the replacement trees, the trees shall be planted on public property with the approval of the Director of the City's Recreation and Parks Department. Upon the request of the developer and the approval of the Director, the City may accept an in-lieu payment of $100.00 per 15-gallon replacement tree on condition that all such payments shall be used for tree-related educational projects and/or planting programs of the City.

Wildlife that will need to be protected if any trees are removed include birds and bats. The nesting season of birds is generally considered to be between February 1 through August 31. If construction, woody or herbaceous vegetation removal, or initial ground disturbance commences during the nesting season, then a pre-construction nesting bird survey should be completed by a qualified biologist no more than 14 days prior to the start of work. If active nests are observed during the pre-construction surveys, project activities will avoid the area as determined by a qualified biologist and resume only after the young have fledged the nest or the nest otherwise becomes inactive.

It is recommended, if possible, that any trees or standing snags (i.e. dead standing trees) needing to be removed should be taken down outside of the bat maternity roosting season which is from March 1 to July 31. The optimum work window for tree removal which avoids maternity season and hibernation period for bats, and nesting season for birds is between August 31 and Oct 15. If tree removal is necessary during the maternity season (between March 1 and July 31), preconstruction surveys for bat maternity roosts should be conducted by a qualified biologist no less than 14 days prior to removal of trees, or snags within the Project Area. If special-status bat species are detected during surveys, appropriate species avoidance and minimization measures should be developed, such as following the removal of any tree, at any time of year, that tree should be allowed to lay undisturbed for one night to allow any roosting bats to leave the tree or snag before chipping, grinding or off-hauling, and/or other measures.

In addition to the heritage trees anticipated to be removed, the Project will include trail construction within the root zones (defined by the Tree Ordinance as the outer extent of the tree dripline, plus 10 feet) of heritage trees to be preserved, and may require pruning of one heritage valley oak tree (tree #106) within the riparian corridor. In order to avoid and minimize any further damage to existing trees the following measures are recommended during the Project construction where construction activities overlap with heritage tree root zones:

- A Tree Protection Zone (TPZ) equal to the dripline radius plus 10 feet shall be the standard TPZ for heritage trees selected for preservation in which ground disturbance shall be limited to the maximum extent feasible.
- Where possible, temporary protective fencing shall be installed around the TPZ of each

tree designated for preservation prior to commencement of any construction activity conducted within 25' of the TPZ, of a tree designated for preservation.

- Many existing trees in the Project Area selected for preservation are situated too close to project improvements (e.g. trail alignments), where fencing around the TPZ is infeasible. In those cases, high visibility temporary fencing shall be wrapped around the tree trunk to signify the tree is to be saved and to alert machine operators to avoid damaging the tree. Extreme caution shall be taken to avoid mechanical injury to tree trunks, scaffold branches and root flares. As soon as required work is complete within the TPZ, temporary protective fencing shall be installed around the TPZ and shall remain in place as long as ground disturbance activities are taking place.
- The fence shall consist of highly visible material (e.g. orange safety fencing) to prevent inadvertent encroachment by heavy machinery. Heavy equipment use, excavation, fill, grading, trenching, drainage changes or other soil disturbance shall be limited within the TPZ. Material storage, vehicle parking, and trash disposal shall not occur within the TPZ.
- Grading and soil compacting shall be restricted within the TPZ to the maximum extent feasible. If any significant roots (2 inch diameter or greater) are uncovered within the TPZ they shall be kept moist at all times with use of damp burlap fabric, and buried as soon as feasible.
- Grading and/or trail construction within the TPZ of heritage trees shall be monitored periodically by a Certified Arborist. All necessary tree work should be performed by an ISA-Certified Arborist or comparable tree specialist. Improper pruning can be harmful to health and structure of trees. No tree pruning will be permitted unless approved by a Certified Arborist. Any pruning of existing trees shall be performed by a licensed tree care professional and shall comply with the ANSI A300 standards and International Society of Arboriculture (ISA) Best Management Practices for Tree Pruning. All tree pruning tools must be cleaned prior to and after use. All branches being removed shall be cut to, but not beyond, the branch collar. All pruning shall be done in a way that maintains the balance and structure of the tree.
- Site drainage should be designed to create positive drainage away from the trunk of preserved trees, and to prevent ponding within the TPZ. Supplemental irrigation of 1 to 2 inches monthly, may be necessary within the TPZ of preserved trees during construction within the dry season.

Rare Plant Surveys

Ninety three special-status plant species have been documented within the vicinity of the Project Area. Two special-status plant species, Sonoma alopecurus, and congested-headed hayfield tarplant, were initially determined to have a moderate potential to occur within the Project Area, due to the presence of potentially suitable habitat, proximity to documented occurrences, and relative tolerance of the disturbance regime (in the case of congested-headed hayfield tarplant).

The Project Area does not contain suitable habitat for listed plant species covered by the Santa Rosa Plain PBO, Burke's goldfields, Sonoma sunshine, and Sebastopol meadowfoam due to a lack of vernal pool and seasonal wetland habitat, lack of suitable hydrology (i.e. extended ponding), prior disturbance (i.e. agricultural conversion, development, repeated mowing or discing). Although the Project Area does contain riparian wetland habitat, riparian wetlands within the Project Area are characterized by perennial emergent marsh conditions which does not represent suitable habitat for these species. Moreover, Burke's goldfields, and Sebastapol

meadowfoam were not observed during the site visit which was conducted during their documented bloom period.

Despite the lack of suitable habitat within the Project Area, protocol-level surveys for listed species were conducted as a conservative measure in March, April, and May 2018. The surveys did not encounter any special-status plants, and these species are considered not present within the Project Area. A follow up site visit in May 2022 did not identify any special-status plants in the Project Area, and special-status plants are considered absent. No further surveys are recommended for special-status plant species.

Non-native Grassland

Non-native grassland areas have relatively few constraints. These are not sensitive habitat areas and multiple rare plant survey site visits did not identify any special-status plant species within non-native annual grassland. Special-status wildlife species are also unlikely to be present. There is the possibility that ground-nesting birds may nest in open, grassland, or ruderal areas. However, pre-construction surveys conducted during any work planned in the nesting season (February 1 through August 31) would avoid impacts to any potential nests. Special-status herptile species discussed in sections below could utilize margins of open areas along Roseland creek, but species-specific surveys and avoidance measures (also discussed below) could be conducted to avoid impacts. Therefore, non-native grassland areas provide the second-best option for development, following previously developed/landscaped areas as described below.

Nesting Birds

Due to the diverse nature of vegetation within the Project Area and resulting potential for nesting habitat, it is recommended that vegetation removal and initial site grading occur outside of the nesting season. The nesting season is generally defined as February 1 through August 31. If construction, woody or herbaceous vegetation removal, or initial ground disturbance commences during the nesting season (February 1 through August 31), a pre-construction nesting bird survey should be completed by a qualified biologist no more than 14 days prior to the start of work. If active nests are observed sufficiently close to work areas to be disturbed by construction, during the pre-construction surveys, project activities will avoid the area as determined by a qualified biologist, typically 50 to 250 feet with lesser distance for smaller passerine birds and the greater distance for raptors, to ensure that raptor or migratory bird nests will not be disturbed during project construction. Project construction may resume within the buffer zone only after the young have fledged the nest or the nest otherwise becomes inactive. If disturbance does not commence within 7 days of the completed nesting survey, the survey should be repeated to ensure that active nesting has not begun since the previous survey.

Special-status Bats

The Project Area contains trees that could support roosting bats. Several special-status bat species occur in the area and have moderate potential to use trees on the site for day-roosting. The Project is designed to retain nearly all trees on the site, but for those trees that will be impacted, measures to avoid potential impacts to bats are recommended. One structure, a small footbridge, may support day roosting bats.

WRA recommends the following measures be implemented to avoid impacts to special-status bat species:

- *Pre-construction roost assessment survey:* A qualified biologist should conduct a roost assessment survey of trees or structures located within the Project Area, prior to removal. The survey will assess use of the feature for roosting as well as potential presence of bats. If the biologist finds no evidence of, or potential to support bat roosting, no further measures are recommended as long as removal occurs within 14 days of the survey. If evidence of bat roosting is present, additional measures described below should be implemented:
    - *Work activities outside the maternity roosting season*: If tree removal is planned August 1 through February 28 (outside the bat maternity roosting season, trees should be felled in a two-step method as follows:
        - Remove limbs of trees first and leave them unprocessed on the site for at least 24 hours.
        - After the 24 hour period passes, the remainder of the tree can be felled and debris can be processed.
    - *Work activities during the maternity roosting season:* If a pre-construction roost assessment discovers evidence of bat roosting in trees during the maternity roosting season (March 1 through July 31), and determines maternity roosting bats are present, demolition of maternity roost structures will be avoided during the maternity roosting season or until a qualified biologist determines the roost has been vacated. Any trees removed during this time should follow the two-step method of removal (see above).

Special-status Herptiles

NPT has a moderate potential to occur within the Project Area but only associated with Roseland Creek and the riparian wetland habitat. At the time of this report, no in-water work is proposed within the Project Area's aquatic habitats. However, the following are typical measures intended to prevent and/or avoid impacts to NPT during work in or adjacent to the aquatic features they inhabit.

Northwestern pond turtle

NPT has a moderate potential of occurring in the intermittent stream and riparian wetland habitat within the Project Area. To avoid impacting this species of special concern, a pre-construction survey is recommended to determine if the species or its nests are present within work impact areas that are within the creek or within 300 feet of it. The pre-construction survey should be completed within 48 hours prior to commencement of work to locate any NPT nests or individual turtles. If no NPT are located, the work may proceed without further actions. If NPT or active NPT nests are found within the work area, they should be avoided by 50 feet and be allowed to leave on their own accord. If NPT is in a work area that cannot be avoided and/or does not leave the area, CDFW should be consulted to determine the procedure for relocation. Any active nest should be avoided by 15 feet and if it cannot be avoided, CDFW should be consulted to determine next steps.

If NPT is listed under the Federal Endangered Species Act, and cannot be avoided, the Project should contact both CDFW and USFWS to determine next steps, as no "take" can occur without authorization from USFWS.

California tiger salamander – Avoidance and Minimization

As described above, CTS is unlikely to occur in the Project Area, due to the lack of suitable wetland breeding habitat, lack of suitable upland dispersal and aestivation habitat (i.e., small mammal burrows) and significant barriers to dispersal between the Project Area and the nearest documented extant breeding occurrence of the species. The City of Santa Rosa, as applicant, has chosen to avoid federal nexus (i.e., no impacts to Wetlands and Waters of the U.S.) that would invoke Section 7 ESA consultation for the Project. For projects that are unable to avoid direct impacts to CTS, a CDFW-issued incidental take permit pursuant to CESA is necessary. However, due to the lack of upland refugia and breeding habitat on the site, it is unlikely for CTS to be present. However, because upland refugia can form overtime and as a conservative measure, the following avoidance and minimization measures are recommended, as described below.

- No ground disturbing activities shall be conducted during the wet season (October 15 through April 14) when CTS migrate to and from breeding habitats.
- The City or the project biologist shall consult the 72-hour weather forecast from the National Weather Service (NWS) prior to the start of ground disturbing activities. Ground disturbing activities shall not begin unless a no precipitation forecast is obtained and necessary erosion control measures are implemented.
- Prior to the commencement of ground disturbing activities, the site should be inspected for burrows or other refugia that could support CTS. If none are detected, work can proceed without further measures. If burrows or other refugia with potential to support CTS are detected and cannot be avoided, the project should consult with CDFW to determine if any additional measures, including an incidental take permit, may be required.
- To substantiate that no CTS are present and/or affected by the project, a qualified biological monitor will be present during initial ground disturbance. The biological monitor will conduct a training session for all construction workers before work is started on the project. If any CTS are encountered during ground disturbing activities, all work will stop and not commence until authorization to commence work has been given by CDFW and USFWS. Such authorization may come in the form of take permits, if required.
- Access routes and number and size of staging and work areas will be limited to the minimum necessary.
- All foods and food-related trash items will be enclosed in sealed trash containers at the end of each day, and removed completely from the site once every three days.
- No pets will be allowed anywhere in the project site during construction.
- All equipment will be maintained such that there will be no leaks of automotive fluids such as gasoline, oils, or solvents.
- Hazardous materials such as fuels, oils, solvents, etc., will be stored in sealable containers in a designated location that is at least 200 feet from Roseland Creek. All fueling and maintenance of vehicles and other equipment and staging areas will occur at least 200 feet from Roseland Creek.

<u>California tiger salamander – Mitigation for Upland Dispersal Habitat</u>

CTS is considered unlikely to be present within the Project Area based on evidence presented in this report. The Project Area is within mapped designated critical habitat for CTS, but conditions in the Project Area and surrounding environment prevent it from being essential to

the conservation of the species and/or supporting it. Because of this and because no federal permit that would necessitate consultation with the USFWS is required for the project, mitigation for critical habitat is not required. The proposed project does not include activities that would result impact CTS's ability to traverse the Project Area. Ecologically, the landscape will function the same after the Project as it does now. By implementing the work windows described above, risk to individual CTS is reduced to discountable levels. If it is determined that an incidental take permit is needed because a reasonable expectation of take has been found and cannot be avoided, mitigation for impacts to CTS may be determined to be necessary. In this case, CTS habitat that is permanently and adversely impacted by the Project would be mitigated for in accordance to the ratios described in the Santa Rosa Plain Conservation Strategy. The applicable ratio for mitigation in this area is 1:1. This ratio will be applied to the net loss of suitable CTS habitat that results from the Project. Square footage of developed areas onsite will most likely be removed (resulting in temporary impacts) that are restored to their natural state may be used to offset novel impacts that result from the Project. Figure 6 shows the maximum total potential impacts, both temporary and permanent, that are expected to result from the Project. A maximum of 1.37 acres of permanent impacts are expected to result from the project, however, final mitigation ratio and acreage requirements shall be finalized in consultation with CDFW and/or the USFWS. Permanent loss of CTS habitat shall be mitigated at a one to one ratio.

6.0 REFERENCES

Baldwin, BG, DH Goldman, DJ Keil, R Patterson, TJ Rosatti, and DH Wilken (eds.). 2012. The Jepson Manual: Vascular Plants of California, second edition. University of California Press, Berkeley, CA.

Best, C, JT Howell, W Knight, I Knight, and M Wells. 1996. A Flora of Sonoma County: Manual of the Flowering Plants and Ferns of Sonoma County, California. CNPS.

City of Santa Rosa. 2018. Chapter 17-24, Trees (Tree Ordinance, Ord. 2858 § 1, 1990). Online at: http://ci.santa-rosa.ca.us/departments/cityadmin/cityclerk/Pages/CityCode.aspx

[CalHerp] California Herps. A Guide to the Amphibians and Reptiles of California. 2022. Online at: http://www.californiaherps.com. Accessed: September 2022.

[CDFW] California Department of Fish and Wildlife. 2022. California Natural Diversity Database. Wildlife and Habitat Data Analysis Branch, Sacramento, CA. Most recently accessed: May 2022.

[CDFW] California Department of Fish and Wildlife. 2018. Background on the List of Vegetation Alliances and Associations (Natural Communities List), "Addressing High Priority Vegetation Types". Biogeographic Data Branch. Sacramento, CA. Available online at: https://www.dfg.ca.gov/biogeodata/vegcamp/natural_comm_background.asp. Accessed August 2018.

[CNPS] California Native Plant Society. 2022a. A Manual of California Vegetation, Online Edition. Sacramento, California. Online at: http://vegetation.cnps.org/; most recently accessed: May 2022.

[CNPS] California Native Plant Society. 2022b. Inventory of Rare and Endangered Plants (online edition, v8-02). Sacramento, California. Online at: http://rareplants.cnps.org/; most recently accessed: May 2022.

[CNPS] California Native Plant Society. 2022c. CNPS Rare Plant Ranks. Online at: https://www.cnps.org/rare-plants/cnps-rare-plant-ranks; most recently accessed: May 2022.

[CSRL] California Soil Resources Lab. 2022. Online Soil Survey. Available at: http://casoilresource.lawr.ucdavis.edu/drupal/ Most recently accessed: May 2022.

[CCH] Consortium of California Herbaria. 2022. Data provided by the participants of the Consortium of California Herbaria. Available at: http://ucjeps.berkeley.edu/consortium. Most recently accessed: May 2022.

[Corps] U.S. Army Corps of Engineers. 2008a. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. May 2008.

[Corps] U.S. Army Corps of Engineers. 2008b. A Field Guide to the Identification of the Ordinary High Water Mark (OWHM) in the Arid West Region of the Western United States. August 2008.

Design Workshop. 2021. Roseland Creek Community Park Master Plan. Prepared for the City of Santa Rosa. July 8.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Department of the Army, Waterways Experiment Station, Vicksburg, Mississippi 39180-0631.

Google Earth. 2022. Aerial Imagery 1985-2021. Most recently accessed: May 2022.

Holland, RF. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Prepared for the California Department of Fish and Game, Sacramento, CA.

Jepson Flora Project (eds.). 2022. Jepson eFlora. Online at: http://ucjeps.berkeley.edu/IJM.html; most recently accessed May 2022.

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X

Madrone Audubon Society. 1995. Sonoma County Breeding Bird Atlas. Madrone Audubon Society. Sonoma County, CA.

[NETR] Nationwide Environmental Title Research. 2022. Historic Aerials. Available online at: http://www.historicaerials.com/; most recently accessed: May 2022.

NatureServe. 2018. NatureServe Conservation Status. Available online at: http://explorer.natureserve.org/ranking.htm.

Nussbaum, R.A., E.D.J. Brodie, and R.M. Storm. 1983. Amphibians and Reptiles of the Pacific Northwest. Moscow, ID: University of Idaho Press. 332 pp.

Sawyer, JO, T Keeler-Wolf, and JM Evens. 2009. A Manual of California Vegetation, 2nd Edition. California Native Plant Society in collaboration with California Department of Fish and Game. Sacramento, CA.

Shuford, WD, and T Gardali (eds). 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, CA and CDFG, Sacramento, CA.

Sonoma County. 2022. 1942 Aerials – Central Sonoma County. Agricultural Preservation and Open Space District. Available online at: http://sonomaopenspace.maps.arcgis.com/home/index.html. Accessed May 2022.

Thomson, R.C., Wright, A.N., Shaffer, H.B. 2016. California Amphibian and Reptile Species of Special Concern. University of California Press and California Department of Fish and Wildlife. California.

Trenham, P.C. and D.G. Cook. 2008. Distribution of Migrating Adults Related to the Location of Remnant Grassland Around an Urban California Tiger Salamander (*Ambystoma cariforniense)* Breeding Pool. In: Urban Herpetology, J.C. Mitchell and R.E. Jung Brown, eds. Herpetological Conservation 3:33-40.

[USDA] U.S. Department of Agriculture, Soil Conservation Service. 1972. Soil Survey of Sonoma County, California. In cooperation with the University of California Agricultural Experiment Station.

[USFWS] United States Fish and Wildlife Service. 2005. Santa Rosa Plain Conservation Strategy.

[USFWS] United States Fish and Wildlife Service. 2020. Programmatic Biological Opinion for U.S. Army Corps of Engineers Permitted Projects that May Affect California Tiger Salamander and Three Endangered Plant Species on the Santa Rosa Plain, California (Corps File No. 223420N).

[USFWS] U.S. Fish and Wildlife Service. 2011. Endangered and Threatened Wildlife and Plants: Revised Designation of Critical Habitat for the Sonoma County Distinct Population Segment of California Tiger Salamander; Final Rule. Federal Register, Vol. 76, No. 169. August 31, 2011. Begins page 54346.

[USFWS] United States Fish and Wildlife Service. 2016. Recovery Plan for the Santa Rosa Plain. Region 8 U.S. Fish and Wildlife Service, Sacramento, California.

[USFWS] U. S. Fish and Wildlife Service. 2022. Information for Planning and Conservation Report (iPAC), Sacramento Fish and Wildlife Office. Online at: http://www.fws.gov/sacramento. Accessed: May 2022.

[USFWS] U. S. Fish and Wildlife Service. 2022. National Wetlands Inventory. Available at: http://www.fws.gov/wetlands/index.html. Accessed: May 2022.

[WBWG] Western Bat Working Group. 2022. Species Accounts. Available online at: http://wbwg.org/western-bat-species/; Accessed May 2022.

[WRA] WRA, Inc. 2019. Tree Survey Report, Roseland Creek Community Park. Prepared for David J. Powers & Associates, San Jose, CA. February.

[WRCC] Western Regional Climate Center. Online Climatic Data. Available online at: www.wrcc.dri.edu; most recently accessed: May 2022.

Zeiner, DC, WF Laudenslayer, Jr., KE Mayer, and M White. 1990. California's Wildlife, Volume I-III: Amphibians and Reptiles, Birds, Mammals. California Statewide Wildlife Habitat Relationships System, California Department of Fish and Game, Sacramento, CA.

APPENDIX A

PROJECT FIGURES

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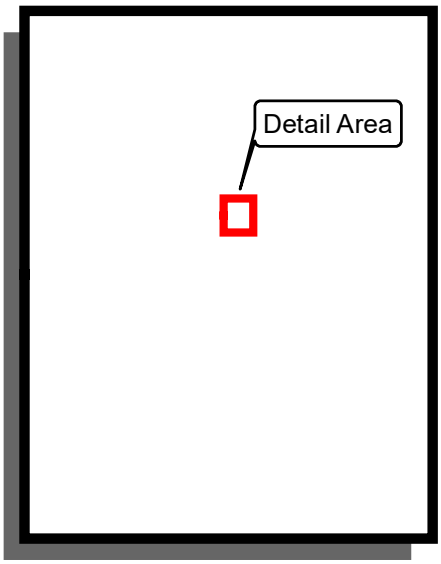

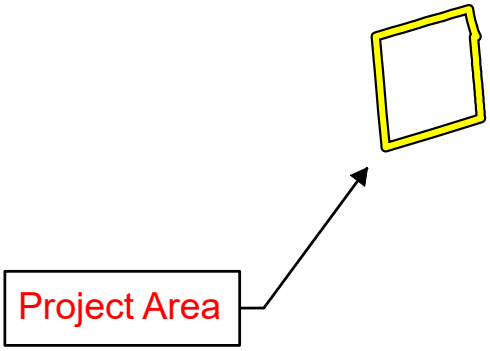

Figure 1. Regional Location Map

N
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S

0 0.25 0.5
Miles

Roseland Creek Community Park
Sonoma County, California

Map Prepared Date: 5/23/2017
Map Prepared By: czumwalt
Base Source: Esri Streaming - National Geographic
Data Source(s): WRA

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Figure 2. Biological Communities within the Project Area

N
W E
S

0 40 80 160
Feet

Roseland Creek Community Park
Sonoma County, California

wra
ENVIRONMENTAL CONSULTANTS

Map Prepared Date: 11/14/2018
Map Prepared By: pkobylarz
Base Source: Esri Streaming - Santa Rosa 2013
Data Source(s): WRA

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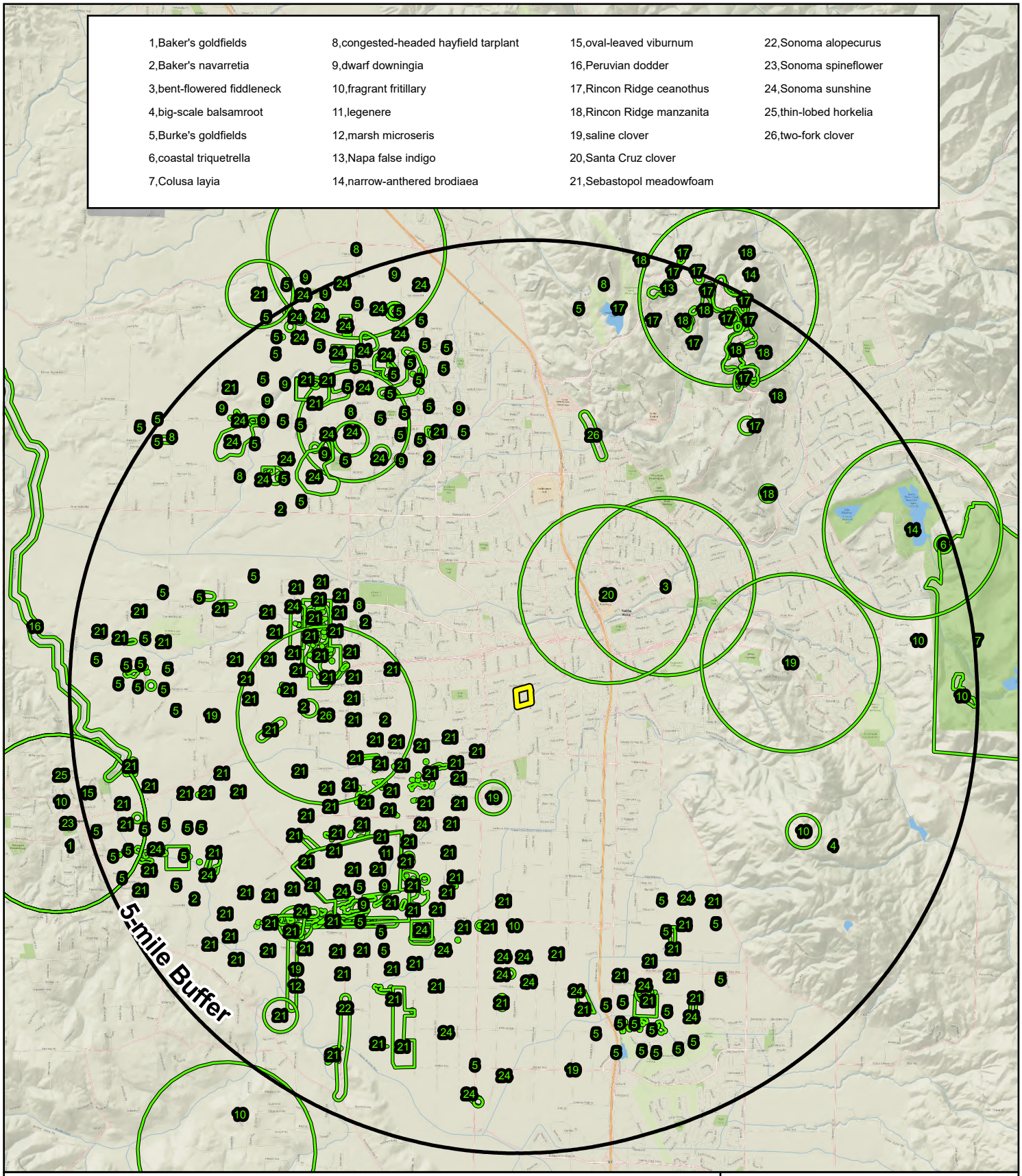

Figure 3. Special-status Plants Documented within 5 Miles of the Project Area

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Miles

wra
ENVIRONMENTAL CONSULTANTS

Roseland Creek Community Park
Sonoma County, California

Map Prepared Date: 11/9/2022
Map Prepared By: kobylarz
Base Source: National Geographic
Data Source(s): CNDDB October 2022

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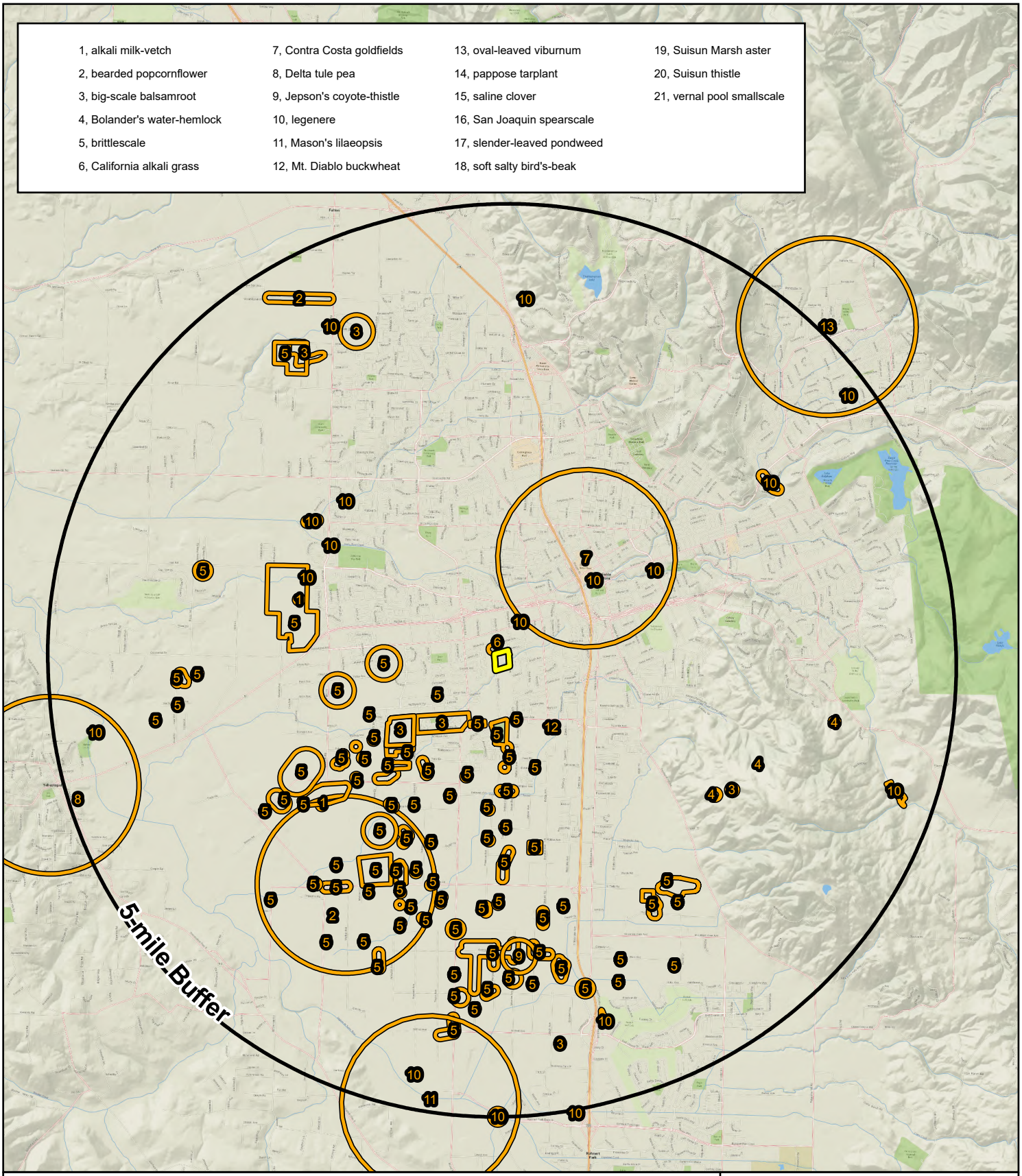

Figure 4. Special-status Wildlife Documented within 5 Miles of the Project Area

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Miles

wra
ENVIRONMENTAL CONSULTANTS

Roseland Creek Community Park
Sonoma County, California

Map Prepared Date: 11/9/2022
Map Prepared By: kobylarz
Base Source: National Geographic
Data Source(s): CNDDB October 2022

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Project Area (19.49 ac.)

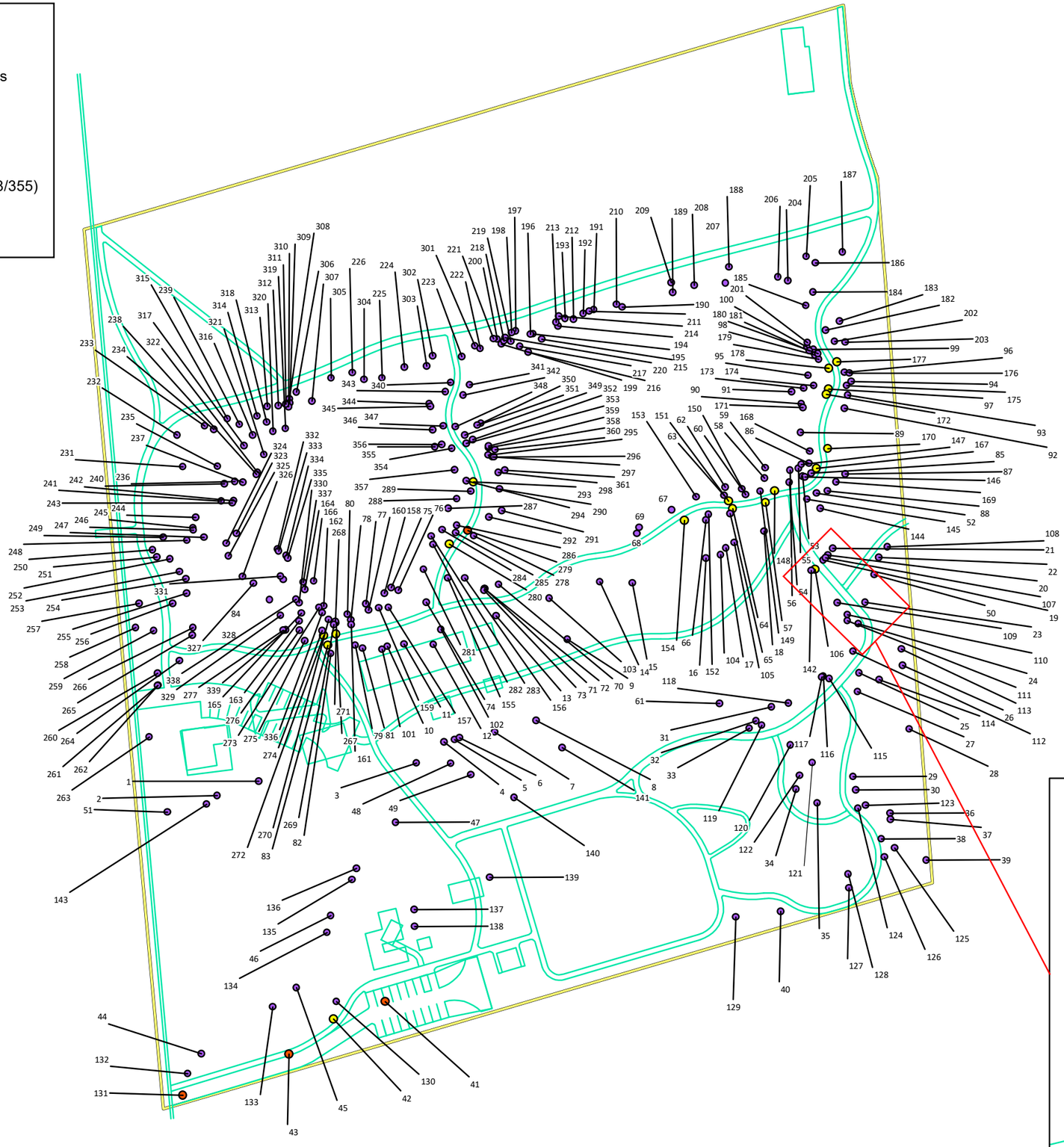
Proposed Park Improvements

Tree Survey

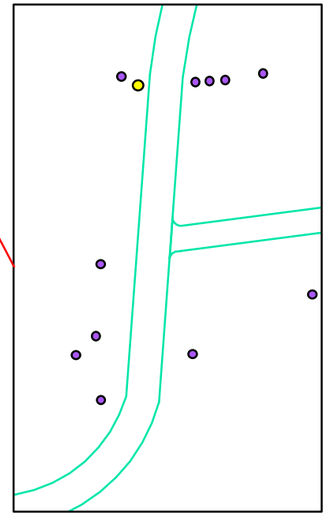
Tree to be removed (4/355)

Potential rootzone impact (18/355)

No Impact (333/355)



Detail Area



[redacted]

Roseland Creek Community Park

Sonoma County, California

Figure 5. Heritage Tree Survey

N

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0 100 200

Feet

Map Prepared Date: 2/21/2019
Map Prepared By: smortensen
Base Source: Esri - Santa Rosa 2015
Data Source(s): WRA

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Figure 6.Potential Impact Areas

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ENVIRONMENTAL CONSULTANTS

Roseland Creek Community Park
Sonoma County, California

0 35 70 140
Feet

Map Prepared Date: 11/14/2022
Map Prepared By: kobylarz
Base Source: Esri Streaming - Santa Rosa 2013
Data Source(s): WRA

Path: L:\Acad 2000 Files\26000\26067\GIS\ArcMap\26067Base\26067Base.aprx

APPENDIX B

LIST OF OBSERVED PLANT AND WILDLIFE SPECIES

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Table B-2. Wildlife Species Observed in the Project Area on May 2, 2017 and April 25, 2022

Common Name (status if applicable)	**Species**
BIRDS	
Anna's hummingbird	*Calypte anna*
wild turkey	*Meleagris gallopavo*
black phoebe	*Sayornis nigricans*
turkey vulture	*Cathartes aura*
great-horned owl	*Bubo virginianus*
hooded oriole	Icterus cucullatus
merlin	Falco columbarius
rufous hummingbird	*Selasphorus rufus*
California towhee	Melozone crissalis
spotted towhee	Pipilo maculatus
oak titmouse	*Baeolophus inornatus*
European starling	Sturnus vulgaris
great egret	*Ardea alba*
red-tailed hawk	*Buteo jamaicensis*
bushtit	*Psaltriparus minimus*
house finch	*Haemorhous mexicanus*
acorn woodpecker	*Melanerpes formicivorus*
Nuttall's woodpecker	Dryobates nuttallii
northern flicker	*Colaptes auratus*
hairy woodpecker	*Dryobates villosus*
American crow	*Corvus brachyrhynchos*
lesser goldfinch	Spinus psaltria
California scrub jay	Aphelocoma californica
mourning dove	*Zenaida macroura*
Bewick's wren	*Thryomanes bewickii*
white-breasted nuthatch	*Sitta carolinensis*
northern mockingbird	*Mimus polyglottos*
dark-eyed junco	*Junco hyemalis*
American robin	*Turdus migratorius*
chestnut-backed chickadee	*Poecile rufescens*
violet-green swallow	*Tachycineta thalassina*
tree swallow	*Tachycineta bicolor*
Reptiles	
western fence lizard	*Sceloporus occidentalis*
MAMMALS	
domestic cat	*Felis catus*
eastern grey squirrel	*Scirius carloniensis*
domestic dog	*Canis familiarus*

Appendix B-1. Plant Species Observed in the Project Area on May 2, and July 19, 2017, and March 16, April 10, May 10, and July 2018, and May 6, 2022.

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]
Alismataceae	*Alisma triviale*	Northern water plantain	native	perennial herb (aquatic)	-	-
Alliaceae	*Allium triquetrum*	White flowered onion	non-native (invasive)	perennial herb (bulb)	-	-
Anacardiaceae	*Toxicodendron diversilobum*	Poison oak	native	vine, shrub	-	-
Apiaceae	*Conium maculatum*	Poison hemlock	non-native (invasive)	perennial herb	-	Moderate
Apiaceae	*Daucus carota*	Carrot	non-native (invasive)	perennial herb	-	-
Apiaceae	*Foeniculum vulgare*	Fennel	non-native (invasive)	perennial herb	-	High
Apocynaceae	*Vinca major*	Vinca	non-native (invasive)	perennial herb	-	Moderate
Araceae	*Arum italicum*	Italian lords and ladies	non-native	perennial herb	-	-
Araliaceae	*Hedera helix*	English ivy	non-native (invasive)	vine, shrub	-	-
Asteraceae	*Artemisia douglasiana*	California mugwort	native	perennial herb	-	-
Asteraceae	*Carduus pycnocephalus* ssp. *pycnocephalus*	Italian thistle	non-native (invasive)	annual herb	-	Moderate

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]
Asteraceae	*Helminthotheca echioides*	Bristly ox-tongue	non-native (invasive)	annual, perennial herb	-	Limited
Asteraceae	*Hypochaeris radicata*	Hairy cats ear	non-native (invasive)	perennial herb	-	Moderate
Asteraceae	*Matricaria discoidea*	Pineapple weed	native	annual herb	-	-
Asteraceae	*Taraxacum officinale*	Red seeded dandelion	non-native (invasive)	perennial herb	-	-
Asteraceae	*Tragopogon porrifolius*	Salsify	non-native	perennial herb	-	-
Brassicaceae	*Raphanus sativus*	Jointed charlock	non-native (invasive)	annual, biennial herb	-	Limited
Caprifoliaceae	*Symphoricarpos albus* var. *laevigatus*	Snowberry	native	shrub	-	-
Convolvulaceae	*Convolvulus arvensis*	Field bindweed	non-native (invasive)	perennial herb, vine	-	-
Cyperaceae	*Carex barbarae*	Valley sedge	native	perennial grasslike herb	-	-
Cyperaceae	*Carex praegracilis*	Field sedge	native	perennial grasslike herb	-	-
Cyperaceae	*Cyperus eragrostis*	Tall cyperus	native	perennial grasslike herb	-	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]
Dipsacaceae	*Dipsacus sativus*	Indian teasel	non-native (invasive)	biennial herb	-	Moderate
Dryopteridaceae	*Dryopteris arguta*	Wood fern	native	fern	-	-
Fabaceae	*Acacia melanoxylon*	Blackwood acacia	non-native (invasive)	tree	-	Limited
Fabaceae	*Acmispon americanus* var. *americanus*	Spanish lotus	native	annual herb	-	-
Fabaceae	*Genista monspessulana*	French broom	non-native (invasive)	shrub	-	High
Fabaceae	*Trifolium dubium*	Shamrock	non-native	annual herb	-	-
Fabaceae	*Trifolium glomeratum*	Clustered clover	non-native	annual herb	-	-
Fabaceae	*Trifolium hirtum*	Rose clover	non-native (invasive)	annual herb	-	Limited
Fabaceae	*Vicia sativa*	Spring vetch	non-native	annual herb, vine	-	-
Fagaceae	*Quercus agrifolia*	Coast live oak	native	tree	-	-
Fagaceae	*Quercus lobata*	Valley oak	native	tree	-	-
Geraniaceae	*Geranium dissectum*	Wild geranium	non-native (invasive)	annual herb	-	Limited
Juglandaceae	*Juglans hindsii*	Northern California black walnut	native	tree	Rank 1B.1*	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]
Juncaceae	*Juncus bufonius*	Common toad rush	native	annual grasslike herb	-	-
Juncaceae	*Juncus patens*	Rush	native	perennial grasslike herb	-	-
Lamiaceae	*Stachys* sp.	-	-	-	-	-
Lythraceae	*Lythrum hyssopifolia*	Hyssop loosestrife	non-native	annual, perennial herb	-	-
Malvaceae	*Malva* sp.	-	-	-	-	-
Myrtaceae	*Eucalyptus camaldulensis*	Red gum	non-native (invasive)	tree	-	Limited
Myrtaceae	*Eucalyptus globulus*	Blue gum	non-native (invasive)	tree	-	Limited
Oleaceae	*Fraxinus latifolia*	Oregon ash	native	tree	-	-
Oleaceae	*Ligustrum lucidum*	Glossy privet	non-native (invasive)	tree, shrub	-	-
Orobanchaceae	*Parentucellia viscosa*	Yellow parentucellia	non-native (invasive)	annual herb	-	Limited
Papaveraceae	*Eschscholzia californica*	California poppy	native	annual, perennial herb	-	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]
Papaveraceae	*Fumaria* sp.	-	-	-	-	-
Pinaceae	*Pinus radiata*	Monterey pine	native	tree	Rank 1B.1*	-
Plantaginaceae	*Plantago lanceolata*	Ribwort	non-native (invasive)	perennial herb	-	Limited
Poaceae	*Avena barbata*	Slim oat	non-native (invasive)	annual, perennial grass	-	Moderate
Poaceae	*Briza maxima*	Rattlesnake grass	non-native (invasive)	annual grass	-	Limited
Poaceae	*Briza minor*	Little rattlesnake grass	non-native	annual grass	-	-
Poaceae	*Bromus catharticus*	Rescue grass	non-native	annual, perennial grass	-	-
Poaceae	*Bromus diandrus*	Ripgut brome	non-native (invasive)	annual grass	-	Moderate
Poaceae	*Bromus hordeaceus*	Soft chess	non-native (invasive)	annual grass	-	Limited
Poaceae	*Bromus racemosus*	Smooth brome	non-native	perennial grass	-	-
Poaceae	*Danthonia californica*	California oatgrass	native	perennial grass	-	-
Poaceae	*Elymus glaucus*	Blue wildrye	native	perennial grass	-	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]
Poaceae	*Festuca arundinacea*	Reed fescue	non-native (invasive)	perennial grass	-	Moderate
Poaceae	*Festuca bromoides*	Brome fescue	non-native	annual grass	-	-
Poaceae	*Festuca myuros*	Rattail sixweeks grass	non-native (invasive)	annual grass	-	-
Poaceae	*Festuca perennis*	Italian rye grass	non-native	annual, perennial grass	-	-
Poaceae	*Hordeum brachyantherum*	Meadow barley	native	perennial grass	-	-
Poaceae	*Hordeum marinum* ssp. *gussoneanum*	Mediterranean barley	non-native (invasive)	annual grass	-	Moderate
Poaceae	*Phalaris aquatica*	Hardinggrass	non-native (invasive)	perennial grass	-	Moderate
Poaceae	*Poa annua*	Annual blue grass	non-native	annual grass	-	-
Poaceae	*Stipa pulchra*	Purple needlegrass	native	perennial grass	-	-
Polygonaceae	*Rumex crispus*	Curly dock	non-native (invasive)	perennial herb	-	Limited
Ranunculaceae	*Ranunculus muricatus*	Buttercup	non-native	annual, perennial herb	-	-
Rosaceae	*Cotoneaster pannosus*	Woolly cotoneaster	non-native (invasive)	shrub	-	Moderate

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]
Rosaceae	*Crataegus monogyna*	Hawthorn	non-native (invasive)	shrub	-	Limited
Rosaceae	*Prunus cerasifera*	Cherry plum	non-native (invasive)	tree	-	Limited
Rosaceae	*Rosa californica*	California wild rose	native	shrub	-	-
Rosaceae	*Rosa* sp.	-	-	-	-	-
Rosaceae	*Rubus armeniacus*	Himalayan blackberry	non-native (invasive)	shrub	-	High
Rubiaceae	*Galium aparine*	Cleavers	native	annual herb	-	-
Salicaceae	*Populus nigra*	Lombardy poplar	non-native	tree	-	-
Salicaceae	*Salix lasiolepis*	Arroyo willow	native	tree, shrub	-	-
Sapindaceae	*Acer macrophyllum*	Bigleaf maple	native	tree	-	-
Sapindaceae	*Aesculus californica*	Buckeye	native	tree	-	-

*Monterey pine, and Northern California black walnut are not native to the Project Area. Both species has been widely planted and naturalized outside of their native ranges. CNPS rarity status only applies to native occurrences which are not found in the Project Area (CDFW 2017).

All species identified using the *Jepson Manual II: Vascular Plants of California* (Baldwin et al. 2012), *A Flora of Sonoma County* (Best et al. 1996) and *Jepson eFlora* (Jepson Flora Project [eds.] 2017); Nomenclature follows *Jepson eFlora*.

[1]Rare Status: The CNPS Inventory of Rare and Endangered Plants (CNPS 2017a)

FE: Federal Endangered
FT: Federal Threatened
SE: State Endangered
ST: State Threatened

SR: State Rare
Rank 1A: Plants presumed extirpated in California and either rare or extinct elsewhere
Rank 1B: Plants rare, threatened, or endangered in California and elsewhere
Rank 2A: Plants presumed extirpated in California, but more common elsewhere
Rank 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3: Plants about which we need more information – a review list
Rank 4: Plants of limited distribution – a watch list

[2]Invasive Status: California Invasive Plant Inventory (Cal-IPC 2017)
High: Severe ecological impacts; high rates of dispersal and establishment; most are widely distributed ecologically.
Moderate: Substantial and apparent ecological impacts; moderate-high rates of dispersal, establishment dependent on disturbance; limited-moderate distribution ecologically
Limited: Minor or not well documented ecological impacts; low-moderate rate of invasiveness; limited distribution ecologically
Assessed: Assessed by Cal-IPC and determined to not be an existing current threat

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APPENDIX C

POTENTIAL FOR SPECIAL-STATUS PLANT AND WILDLIFE SPECIES TO OCCUR IN THE PROJECT AREA

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Appendix C. Potential Special-Status Plant and Wildlife Species Table. Special- status plant and wildlife species table with the potential to occur within the vicinity of the Project Area (Santa Rosa, Healdsburg, Sebastopol, Two Rock, Cotati, Glen Ellen, Kenwood, Calistoga, and Mark West Springs USGS 7.5' topographic quadrangles) Results include database searches of California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (2022), California Natural Diversity Database (CNDDB, CDFW 2022) as well as U.S. Fish and Wildlife Service Threatened and Endangered Species Lists and Santa Rosa Plain Conservation Strategy (2005), Santa Rosa Plain Programmatic Biological Opinion (2020).

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Franciscan onion *Allium peninsulare* var. *franciscanum*	Rank 1B.2	Cismontane woodland, valley and foothill grassland/clay, volcanic, often serpentine. Elevation ranges from 170 to 980 feet. Blooms (Apr), May-Jun.	**No Potential.** The Project Area lacks volcanic and serpentine substrates known to support this species.	No further recommendations for this species.
Sonoma alopecurus *Alopecurus aequalis* var. *sonomensis*	FE, Rank 1B.1	Marshes and swamps (freshwater), riparian scrub. Elevation ranges from 20 to 1200 feet. Blooms May-Jul.	**Not Present (initially assessed: Moderate Potential).** The Project Area contains riparian wetland habitat which could support this species.	This species was not observed during special-status plant surveys conducted in 2017, 2018, and 2022. No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Napa false indigo *Amorpha californica* var. *napensis*	Rank 1B.2	Broadleafed upland forest (openings), chaparral, cismontane woodland. Elevation ranges from 390 to 6560 feet. Blooms Apr-Jul.	**Unlikely.** The Project Area lacks commonly associated species and is below the documented elevation range of this species. This species is often associated with hillslopes and canyons within woodland and forest habitat. There are no documented occurrences of this species in the Santa Rosa Plain (CDFW 2018, CCH 2018).	No further recommendations for this species.
bent-flowered fiddleneck *Amsinckia lunaris*	Rank 1B.2	Coastal bluff scrub, cismontane woodland, valley and foothill grassland. Elevation ranges from 10 to 1640 feet. Blooms Mar-Jun.	**Unlikely.** Despite potentially suitable grassland habitat, previous and ongoing disturbance within the Project Area likely precludes this species. There is only one historic occurrence of this species within the Project Area vicinity from 1940 (CDFW 2018).	No further recommendations for this species.
slender silver moss *Anomobryum julaceum*	Rank 4.2	Broadleafed upland forest, lower montane coniferous forest, north coast coniferous forest/damp rock and soil on outcrops, usually on roadcuts. Elevation ranges from 330 to 3280 feet.	**No Potential.** The Project Area lacks suitable habitat for this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Twig like snapdragon *Antirrhinum virga*	Rank 4.3	Chaparral, lower montane coniferous forest, open, rocky, often serpentine. Elevation ranges from 330 to 2010 feet. Blooms Jun-Jul.	**No Potential.** The Project Area lacks chaparral and serpentine substrate necessary to support this species.	No further recommendations for this species.
Vine Hill manzanita *Arctostaphylos densiflora*	SE, Rank 1B.1	Chaparral (acid marine sand). Elevation ranges from 160 to 390 feet. Blooms Feb-Apr.	**No Potential.** The Project Area lacks chaparral and acidic marine sand substrate known to support this species.	No further recommendations for this species.
Rincon Ridge manzanita *Arctostaphylos stanfordiana* ssp. *decumbens*	Rank 1B.1	Chaparral (rhyolitic), cismontane woodland. Elevation ranges from 250 to 1210 feet. Blooms Feb-Apr (May).	**No Potential.** The Project Area lacks chaparral and rhyolitic substrate known to support this species.	No further recommendations for this species.
Brewer's milk-vetch *Astragalus breweri*	Rank 4.2	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland (open, often gravelly)/often serpentine, volcanic. Elevation ranges from 300 to 2400 feet. Blooms Apr-Jun.	**No Potential.** The Project Area lacks gravelly soils derived from serpentine or volcanic substrate necessary to support this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Clara Hunt's milk-vetch *Astragalus claranus*	FE, ST, Rank 1B.1	Chaparral (openings), cismontane woodland, valley and foothill grassland/serpentine or volcanic, rocky, clay. Elevation ranges from 250 to 900 feet. Blooms Mar-May.	**No Potential.** The Project Area lacks serpentine or volcanic substrates known to support this species	No further recommendations for this species.
big-scale balsamroot *Balsamorhiza macrolepis*	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland/sometimes serpentine. Elevation ranges from 300 to 5100 feet. Blooms Mar-Jun.	**Unlikely.** The Project Area lacks chaparral and serpentine substrates associated with this species.	No further recommendations for this species.
Sonoma sunshine *Blennosperma bakeri*	FE, SE, Rank 1B.1	Valley and foothill grassland (mesic), vernal pools. Elevation ranges from 30 to 360 feet (10 to 110 meters). Blooms Mar-May.	**Not Present (initially assessed: Unlikely).** The Project Area lacks vernal pools known to support this species. Riparian wetland within the Project Area is dominated by perennial wetland species, is completely shaded by surrounding overstory trees, and does not constitute potential habitat for this species.	This species was not observed during special-status plant surveys conducted during the species' bloom period in 2018. No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
narrow-anthered brodiaea *Brodiaea leptandra*	Rank 1B.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland/volcanic. Elevation ranges from 360 to 3000 feet. Blooms May-Jul.	**No Potential.** The Project Area lacks gravelly soils composed of volcanics.	No further recommendations for this species.
Bolander's reed grass *Calamagrostis bolanderi*	Rank 4.2	Bogs and fens, broadleafed upland forest, closed-cone coniferous forest, coastal scrub, meadows and seeps (mesic), marshes and swamps (freshwater), north coast coniferous forest/mesic. Elevation ranges from 0 to 1490 feet. Blooms May-Aug.	**Unlikely.** The Project Area lacks many of the biological communities associated with this species. This species is more closely associated with coastal environments (Jepson eFlora 2018).	No further recommendations for this species.
Thurber's reed grass *Calamagrostis crassiglumis*	Rank 2B.1	Coastal scrub (mesic), marshes and swamps (freshwater). Elevation ranges from 30 to 200 feet. Blooms May-Aug.	**No Potential.** The Project Area lacks coastal scrub and large intact marshes and swamps associated with this species.	No further recommendations for this species.
serpentine reed grass *Calamagrostis ophiditis*	Rank 4.3	Chaparral (open, often north-facing slopes), lower montane coniferous forest, meadows and seeps, valley and foothill grassland/serpentine, rocky. Elevation ranges from 300 to 3490 feet. Blooms Apr-Jul.	**No Potential.** The Project Area lacks serpentine substrate known to support this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
pink star-tulip *Calochortus uniflorus*	Rank 4.2	Coastal prairie, coastal scrub, meadows and seeps, north coast coniferous forest. Elevation ranges from 30 to 3510 feet. Blooms Apr-Jun.	**No Potential.** The Project Area lacks coastal prairie, coastal scrub, meadows and seeps, and north coast coniferous forest known to support this species.	No further recommendations for this species.
Mt. Saint Helena morning-glory *Calystegia collina* ssp. *oxyphylla*	Rank 4.2	Chaparral, lower montane coniferous forest, valley and foothill grassland/serpentine. Elevation ranges from 920 to 3310 feet. Blooms Apr-Jun.	**No Potential.** The Project Area lacks serpentine substrates known to support this species.	No further recommendations for this species.
swamp harebell *Campanula californica*	Rank 1B.2	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, marshes and swamps (freshwater), north coast coniferous forest/mesic. Elevation ranges from 0 to 1330 feet. Blooms Jun-Oct.	**No Potential.** The Project Area lacks the biological communities associated with this species. This species is more closely associated with coastal environments (Jepson eFlora 2018).	No further recommendations for this species.
johnny-nip *Castilleja ambigua* ssp. *ambigua*	Rank 4.2	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pools margins. Elevation ranges from 0 to 1430 feet. Blooms Mar-Aug.	**Unlikely.** Despite potentially suitable grassland habitat, grasslands within the Project Area have been previously and repeatedly disturbed by mowing, likely precluding many annual native forbs such as this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Pitkin Marsh paintbrush *Castilleja uliginosa*	SE, Rank 1A	Marshes and swamps (freshwater). Elevation ranges from 790 to 790 feet (240 to 240 meters). Blooms Jun-Jul.	**No Potential.** The Project Area lacks large intact marshes and swamps known to support this species. This species was only known from Pitkin Marsh in Sebastapol, and is now presumed extinct (CNPS 2018).	No further recommendations for this species.
Rincon Ridge ceanothus *Ceanothus confusus*	Rank 1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland/volcanic or serpentine. Elevation ranges from 250 to 3490 feet. Blooms Feb-Jun.	**No Potential.** The Project Area lacks coniferous forest, chaparral, and substrates known to support this species.	No further recommendations for this species.
Calistoga ceanothus *Ceanothus divergens*	Rank 1B.2	Chaparral (serpentine or volcanic, rocky). Elevation ranges from 560 to 3120 feet. Blooms Feb-Apr.	**No Potential.** The Project Area lacks chaparral and substrates known to support this species.	No further recommendations for this species.
Vine Hill ceanothus *Ceanothus foliosus* var. *vineatus*	Rank 1B.1	Chaparral. Elevation ranges from 150 to 1000 feet. Blooms Mar-May.	**No Potential.** The project area lacks chaparral habitat necessary to support this species.	No further recommendations for this species.
glory brush *Ceanothus gloriosus* var. *exaltatus*	Rank 4.3	Chaparral. Elevation ranges from 100 to 2000 feet. Blooms Mar-Jun (Aug).	**No Potential.** The Project Area lacks chaparral habitat.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
holly-leaved ceanothus *Ceanothus purpureus*	Rank 1B.2	Chaparral, cismontane woodland/volcanic, rocky. Elevation ranges from 390 to 2100 feet. Blooms Feb-Jun.	**No Potential.** The Project Area lacks volcanic substrates necessary to support this species.	No further recommendations for this species.
Sonoma ceanothus *Ceanothus sonomensis*	Rank 1B.2	Chaparral (sandy, serpentine or volcanic). Elevation ranges from 710 to 2620 feet. Blooms Feb-Apr.	**No Potential.** The Project Area lacks chaparral and substrates known to support this species.	No further recommendations for this species.
pappose tarplant *Centromadia parryi* ssp. *parryi*	Rank 1B.2	Chaparral, coastal prairie, meadows and seeps, marshes and swamps (coastal salt), valley and foothill grassland (vernally mesic)/often alkaline. Elevation ranges from 0 to 1380 feet. Blooms May-Nov.	**No Potential.** The Project Area lacks alkaline soils known to support this species.	No further recommendations for this species.
Sonoma spineflower *Chorizanthe valida*	FE, SE, Rank 1B.1	Coastal prairie (sandy). Elevation ranges from 30 to 1000 feet (10 to 305 meters). Blooms Jun-Aug.	**No Potential.** The Project Area lacks coastal prairie and sandy soils.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Brewer's clarkia *Clarkia breweri*	Rank 4.2	Chaparral, cismontane woodland, coastal scrub/often serpentine. Elevation ranges from 710 to 3660 feet (215 to 1115 meters). Blooms Apr-Jun.	**No Potential.** The Project Area lacks chaparral, scrub, and serpentine soils associated with this species.	No further recommendations for this species.
Vine Hill clarkia *Clarkia imbricata*	FE, SE, Rank 1B.1	Chaparral, valley and foothill grassland/acidic sandy loam. Elevation ranges from 160 to 250. Blooms Jun-Aug.	**No Potential.** The Project Area lacks chaparral and acidic sandy loam soils. This species is only known from two extant occurrences in the Vine Hill area north of Graton (CNPS 2018).	No further recommendations for this species.
serpentine bird's-beak *Cordylanthus tenuis* ssp. *brunneus*	Rank 4.3	Closed-cone coniferous forest, chaparral, cismontane woodland/usually serpentine. Elevation ranges from 1560 to 3000 feet. Blooms Jul-Aug.	**No Potential.** The Project Area lacks the associated vegetation communities and serpentine substrates.	No further recommendations for this species.
Peruvian dodder *Cuscuta obtusiflora* var. *glandulosa*	Rank 2B.2	Marshes and swamps (freshwater). Elevation ranges from 50 to 920 feet. Blooms Jul-Oct.	**No Potential.** The Project Area lacks marsh habitat known to support this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
mountain lady's-slipper *Cypripedium montanum*	Rank 4.2	Broadleafed upland forest, cismontane woodland, lower montane coniferous forest, north coast coniferous forest. Elevation ranges from 610 to 7300 feet. Blooms Mar-Aug.	**No Potential.** The Project Area is well below the documented elevation of this species.	No further recommendations for this species.
golden larkspur *Delphinium luteum*	FE, SR, Rank 1B.1	Chaparral, coastal prairie, coastal scrub/rocky. Elevation ranges from 0 to 330 feet. Blooms Mar-May.	**No Potential.** The Project Area lacks the associated vegetation communities and rocky substrates.	No further recommendations for this species.
dwarf downingia *Downingia pusilla*	Rank 2B.2	Valley and foothill grassland (mesic), vernal pools. Elevation ranges from 0 to 1460 feet. Blooms Mar-May.	**Unlikely.** The Project Area lacks vernal pools associated with this species.	No further recommendations for this species.
streamside daisy *Erigeron biolettii*	Rank 3	Broadleafed upland forest, cismontane woodland, north coast coniferous forest/rocky, mesic. Elevation ranges from 100 to 3610 feet. Blooms Jun-Oct.	**No Potential.** The Project Area rocky sites associated with this species.	No further recommendations for this species.
bay buckwheat *Eriogonum umbellatum* var. *bahiiforme*	Rank 4.2	Cismontane woodland, lower montane coniferous forest, rocky, often on serpentine. Elevation ranges from 2295 to 7220 feet. Blooms Jul-Sep	**No Potential.** The Project Area lacks serpentine substrate, and is well below the documented elevation range.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
slender cottongrass *Eriophorum gracile*	Rank 4.3	Bogs and fens, meadows and seeps, upper montane coniferous forest/acidic. Elevation ranges from 4200 to 9510 feet Blooms May-Sep.	**No Potential.** The Project Area lacks acidic soils known to support this species (CDFW 2018), and is well below the documented elevation range.	No further recommendations for this species.
Loch Lomond button-celery *Eryngium constancei*	FE, SE, Rank 1B.1	Vernal pools. Elevation ranges from 1510 to 2805. Blooms Apr-Jun.	**No Potential.** The Project Area lacks vernal pools necessary to support this species and is well below the documented elevation range.	No further recommendations for this species.
fragrant fritillary *Fritillaria liliacea*	Rank 1B.2	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland/often serpentine. Elevation ranges from 10 to 1350 feet. Blooms Feb-Apr.	**Unlikely.** Despite potentially suitable grassland habitat underlain by clay soils, the Project Area lacks serpentine influence often associated with this species. The historic and current disturbance regime also likely precludes this species.	No further recommendations for this species.
Purdy's fritillary (*Fritillaria purdyi*)	Rank 4.3	Chaparral, cismontane woodland, lower montane coniferous forest, usually on serpentine. Elevation ranges from 575 to 7400 feet. Blooms Mar-Jun.	**No Potential.** The Project Area lacks serpentine substrate necessary to support this species and is well below the documented elevation range.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Boggs Lake hedge-hyssop *Gratiola heterosepala*	SE, Rank 1B.2	Marshes and swamps (lake margins), vernal pools/clay. Elevation ranges from 30 to 7790 feet. Blooms Apr-Aug.	**No Potential.** The Project Area lacks large intact marshes and swamps, or vernal pools associated with this species.	No further recommendations for this species.
nodding harmonia *Harmonia nutans*	Rank 4.3	Chaparral, cismontane woodland, gravelly, rocky, volcanic. Elevation ranges from 30 to 7790 feet. Blooms Mar-May.	**No Potential**. The Project Area lacks volcanic substrate necessary to support this species.	No further recommendations for this species.
congested-headed hayfield tarplant *Hemizonia congesta* ssp. *congesta*	Rank 1B.2	Valley and foothill grassland/sometimes roadsides. Elevation ranges from 70 to 1840 feet. Blooms Apr-Nov.	**Not Present (initially assessed: Moderate Potential).** The Project Area contains potentially suitable grassland habitat that may support this species. This species is relatively disturbance-tolerant and may not be precluded by historic and current disturbance regime in the Project Area.	This species was not observed during special-status plant surveys conducted in 2017, 2018, and 2022. No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
hogwallow starfish *Hesperevax caulescens*	Rank 4.2	Valley and foothill grassland (mesic, clay), vernal pools (shallow)/sometimes alkaline. Elevation ranges from 0 to 1660 feet. Blooms Mar-Jun.	**No Potential.** The Project Area lacks vernal pools and alkaline soils associated with this species. This species was included in the CNPS inventory database as a checklist for the Healdsburg quadrangle. However, this species is not documented in Sonoma or Marin counties (CCH 2018, Jepson eFlora 2018, CNPS 2018, Best et. al. 1996, Howell et. al. 2007).	No further recommendations for this species.
thin-lobed horkelia *Horkelia tenuiloba*	Rank 1B.2	Broadleafed upland forest, chaparral, valley and foothill grassland/mesic openings, sandy. Elevation ranges from 160 to 1640 feet. Blooms May-Jul (Aug).	**Unlikely.** The Project Area lacks sandy soils associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
harlequin lotus *Hosackia gracilis*	Rank 4.2	Broadleafed upland forest, coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal prairie, coastal scrub, meadows and seeps, marshes and swamps, north coast coniferous forest, valley and foothill grassland/wetlands, roadsides. Elevation ranges from 0 to 2300 feet. Blooms Mar-Jul.	**Unlikely.** Despite potentially suitable grassland habitat, grasslands within the Project Area have been previously and repeatedly disturbed by mowing, likely precluding many annual native forbs such as this species.	No further recommendations for this species.
coast iris *Iris longipetala*	Rank 4.2	Coastal prairie, lower montane coniferous forest, meadows and seeps/mesic. Elevation ranges from 0 to 1970 feet. Blooms Mar-May.	**Unlikely.** Despite potentially suitable grassland habitat, this species is more closely associated with coastal environments.	No further recommendations for this species.
Burke's goldfields *Lasthenia burkei*	FE, SE, Rank 1B.1	Meadows and seeps (mesic), vernal pools. Elevation ranges from 50 to 1970 feet. Blooms Apr-Jun.	**Unlikely.** The Project Area lacks vernal pools known to support this species. Riparian wetland within the Project Area is dominated by perennial wetland species, is completely shaded by surrounding overstory trees, and does not constitute potential habitat for this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Baker's goldfields *Lasthenia californica* ssp. *bakeri*	Rank 1B.2	Closed-cone coniferous forest (openings), coastal scrub, meadows and seeps, marshes and swamps. Elevation ranges from 200 to 1710 feet. Blooms Apr-Oct.	**No Potential.** There is only one documented occurrence of this species in the vicinity of the Project Area from 1899 (CDFW 2018). The majority of documented occurrences in Sonoma County are closer to the coast, and centered around the Bodega Bay area.	No further recommendations for this species.
Colusa layia *Layia septrionalis*	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland/sandy, serpentine. Elevation ranges from 330 to 3590 feet. Blooms Apr-May.	**No Potential.** The Project Area lacks sandy serpentine soils associated with this species.	No further recommendations for this species.
legenere *Legenere limosa*	Rank 1B.1	Vernal pools. Elevation ranges from 0 to 2890 feet. Blooms Apr-Jun.	**No Potential.** The Project Area lacks vernal pools associated with this species.	No further recommendations for this species.
bristly leptosiphon *Leptosiphon acicularis*	Rank 4.2	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation ranges from 180 to 4920 feet. Blooms Apr-Jul.	**Unlikely.** The Project Area lacks shallow rocky soils and sparsely vegetated areas known to support this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Jepson's leptosiphon *Leptosiphon jepsonii*	Rank 1B.2	Chaparral, cismontane woodland/usually volcanic. Elevation ranges from 330 to 1640 feet (100 to 500 meters). Blooms Mar-May.	**No Potential.** The Project Area lacks the vegetation communities and volcanic soils associated with this species.	No further recommendations for this species.
broad-lobed leptosiphon *Leptosiphon latisectus*	Rank 4.3	Broadleafed upland forest, cismontane woodland. Elevation ranges from 560 to 4920 feet. Blooms Apr-Jun.	**Unlikely.** The Project Area is well below the documented elevation range.	No further recommendations for this species.
woolly-headed Lessingia *Lessingia hololeuca*	Rank 3	Broadleafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland/clay, serpentine. Elevation ranges from 50 to 1000 feet. Blooms Jun-Oct.	**No Potential.** The Project Area lacks serpentine soils known to support this species.	No further recommendations for this species.
Pitkin Marsh lily *Lilium pardalinum* ssp. *pitkinense*	FE, SE, Rank 1B.1	Cismontane woodland, meadows and seeps, marshes and swamps (freshwater)/mesic, sandy. Elevation ranges from 110 to 210 feet. Blooms Jun-Jul.	**No Potential.** The Project Area lacks large intact marsh habitat and sandy soils associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
redwood lily *Lilium rubescens*	Rank 4.2	Broadleafed upland forest, chaparral, lower montane coniferous forest, north coast coniferous forest, upper montane coniferous forest/sometimes serpentine, sometimes roadsides. Elevation ranges from 100 to 6270 feet. Blooms Apr-Aug (Sep).	**No Potential.** The Project Area lacks the vegetation communities associated with this species.	No further recommendations for this species.
Sebastopol meadowfoam *Limnanthes vinculans*	FE, SE, Rank 1B.1	Meadows and seeps, valley and foothill grassland, vernal pools/vernally mesic. Elevation ranges from 50 to 1000 feet. Blooms Apr-May.	**Not Present** (initially assessed: **Unlikely).** The Project Area lacks vernal pools known to support this species. Riparian wetland within the Project Area is dominated by perennial wetland species, is completely shaded by surrounding overstory trees, and does not constitute potential habitat for this species.	This species was not observed during special-status plant surveys conducted during the species' bloom period in 2018. No further recommendations for this species.
Napa Lomatium *Lomatium repostum*	Rank 1B.2	Chaparral, cismontane woodland/serpentine. Elevation ranges from 300 to 2720 feet. Blooms Mar-Jun.	**No Potential.** The Project Area lacks the vegetation communities and serpentine substrate known to support this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Cobb Mountain lupine *Lupinus sericatus*	Rank 1B.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 900 to 5000 feet. Blooms Mar-Jun.	**No Potential.** The Project Area lacks the associated vegetation communities and is well below the documented elevation range of the species.	No further recommendations for this species.
marsh microseris *Microseris paludosa*	Rank 1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. Elevation ranges from 20 to 1160 feet (5 to 355 meters). Blooms Apr-Jun (Jul).	**Unlikely.** Despite potentially suitable grassland habitat, the historic and current disturbance regime (i.e. agricultural conversion, and mowing) within the Project Area and dense thatch accumulation from non-native annual grasses likely precludes this species.	No further recommendations for this species.
green monardella *Monardella viridis*	Rank 4.3	Broadleafed upland forest, chaparral, cismontane woodland. Elevation ranges from 330 to 3310 feet. Blooms Jun-Sep.	**No Potential.** The Project Area lacks the vegetation communities associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
cotula navarretia *Navarretia cotulifolia*	Rank 4.2	Chaparral, cismontane woodland, valley and foothill grassland/adobe. Elevation ranges from 10 to 6000 feet. Blooms May-Jun.	**Unlikely.** Despite potentially suitable grassland habitat and clay soils, the historic and current disturbance regime (i.e. agricultural conversion, and mowing) within the Project Area and dense thatch accumulation from non-native annual grasses likely precludes this species.	No further recommendations for this species.
Tehama navarretia *Navarretia heterandra*	Rank 4.3	Valley and foothill grassland, vernal pools, often volcanic substrates. Elevation ranges from 100 to 3315 feet. Blooms Apr-Jun.	**Unlikely.** The Project area lacks vernal pools and grassland underlain by volcanic substrate known to support this species.	No further recommendations for this species.
Baker's navarretia *Navarretia leucocephala* ssp. *bakeri*	Rank 1B.1	Cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, vernal pools/mesic. Elevation ranges from 20 to 5710 feet. Blooms Apr-Jul.	**No Potential.** The Project Area lacks vernal pools with associated vernal pool indicator species, and alkaline soils associated with this species (CDFW 2018).	No further recommendations for this species.
many-flowered navarretia *Navarretia leucocephala* ssp. *plieantha*	FE, SE, Rank 1B.2	Vernal pools (volcanic ash flow). Elevation ranges from 100 to 3120 feet (30 to 950 meters). Blooms May-Jun.	**No Potential.** The Project Area lacks vernal pools and volcanic ash flow substrates associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Sonoma beardtongue *Penstemon newberryi* var. *sonomensis*	Rank 1B.3	Chaparral (rocky). Elevation ranges from 2300 to 4490 feet. Blooms Apr-Aug.	**No Potential.** The Project Area lacks chaparral and is well below the documented elevation range of this species	No further recommendations for this species.
Gairdner's yampah *Perideridia gairdneri* ssp. *gairdneri*	Rank 4.2	Broadleafed upland forest, chaparral, coastal prairie, valley and foothill grassland, vernal pools/vernally mesic. Elevation ranges from 0 to 2000 feet (0 to 610 meters). Blooms Jun-Oct.	**Unlikely.** Despite potentially suitable grassland habitat, the historic and current disturbance regime (i.e. agricultural conversion, and mowing) within the Project Area and dense thatch accumulation from non-native annual grasses likely precludes this species.	No further recommendations for this species.
Calistoga popcornflower *Plagiobothrys strictus*	FE, ST, Rank 1B.1	Meadows and seeps, valley and foothill grassland, vernal pools/alkaline areas near thermal springs. Elevation ranges from 300 to 520 feet. Blooms Mar-Jun.	**No Potential.** This species is known from only two extant occurrences near Calistoga, where it is associated with hot springs (CNPS 2018)	No further recommendations for this species.
North Coast semaphore grass *Pleuropogon hooverianus*	ST, Rank 1B.1	Broadleafed upland forest, meadows and seeps, north coast coniferous forest/open areas, mesic. Elevation ranges from 30 to 2200 feet. Blooms Apr-Jun.	**Unlikely.** The Project Area lacks open wet meadows associated with this species (Best et al. 1996).	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
nodding semaphore grass *Pleuropogon refractus*	Rank 4.2	Lower montane coniferous forest, meadows and seeps, north coast coniferous forest, riparian forest/mesic. Elevation ranges from 0 to 5250 feet. Blooms (Mar), Apr-Aug.	**Unlikely.** The Project Area lacks coniferous forested habitats most often associated with this species. This species has not been documented within Sonoma County (CCH 2018, Best et al. 1996).	No further recommendations for this species.
Napa bluegrass *Poa napensis*	FE, SE, Rank 1B.1	Meadows and seeps, valley and foothill grassland, on alkaline, hot spring influenced substrate. Elevation ranges from 330 to 655 feet. Blooms May-Aug.	**No Potential.** The Project Area lacks alkaline hot springs influenced substates necessary to support this species.	No further recommendations for this species.
Cunningham Marsh cinquefoil *Potentilla uliginosa*	Rank 1A	Marshes and swamps/freshwater, permanent oligotrophic wetlands. Elevation ranges from 100 to 130. Blooms May-Aug.	**No Potential.** The Project Area lacks permanent oligotrophic wetlands. This species is presumed extinct.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
California alkali grass *Puccinellia simplex*	Rank 1B.2	Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools/alkaline, vernally mesic; sinks, flats, and lake margins. Elevation ranges from 10 to 3050 feet (2 to 930 meters). Blooms Mar-May.	**No Potential.** The Project Area lacks alkaline substrates associated with this species.	No further recommendations for this species.
Lobb's aquatic buttercup *Ranunculus lobbii*	Rank 4.2	Cismontane woodland, north coast coniferous forest, valley and foothill grassland, vernal pools/mesic. Elevation ranges from 50 to 1540 feet. Blooms Feb-May.	**Unlikely.** The Project Area lacks large seasonally ponded areas with standing water depths of 6 inches or greater necessary to support this species.	No further recommendations for this species.
white beaked-rush *Rhynchospora alba*	Rank 2B.2	Bogs and fens, meadows and seeps, marshes and swamps (freshwater). Elevation ranges from 200 to 6690 feet. Blooms Jul-Aug.	**Unlikely.** The Project Area lacks large intact bogs, marshes and swamps associated with this species.	No further recommendations for this species.
California beaked-rush *Rhynchospora californica*	Rank 1B.1	Bogs and fens, lower montane coniferous forest, meadows and seeps (seeps), marshes and swamps (freshwater). Elevation ranges from 150 to 3310 feet. Blooms May-Jul.	**Unlikely.** The Project Area lacks large intact bogs, marshes and swamps associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
brownish beaked-rush *Rhynchospora capitellata*	Rank 2B.2	Lower montane coniferous forest, meadows and seeps, marshes and swamps, upper montane coniferous forest/mesic. Elevation ranges from 150 to 6560 feet. Blooms Jul-Aug.	**Unlikely.** The Project Area lacks large intact bogs, marshes and swamps, and coniferous forest associated with this species.	No further recommendations for this species.
round-headed beaked-rush *Rhynchospora globularis*	Rank 2B.1	Marshes and swamps (freshwater). Elevation ranges from 150 to 200 feet. Blooms Jul-Aug.	**Unlikely.** The Project Area lacks large intact bogs, marshes and swamps associated with this species.	No further recommendations for this species.
Napa checkerbloom *Sidalcea hickmanii* ssp. *napensis*	Rank 1B.1	Chaparral/rhyolitic. Elevation ranges from 1360 to 2000 feet. Blooms Apr-Jun.	**No Potential.** The Project area lacks chaparral and rhyolitic substrates known to support this species.	No further recommendations for this species.
Kenwood Marsh checkerbloom *Sidalcea oregana* ssp. *valida*	FE, SE, Rank 1B.1	Marshes and swamps (freshwater). Elevation ranges from 380 to 490 feet. Blooms Jun-Sep.	**Unlikely.** The Project Area lacks marshes and swamps associated with this species.	No further recommendations for this species.
long-styled sand-spurrey *Spergularia macrotheca* var. *longistyla*	Rank 1B.2	Marshes and swamps, meadows and seeps, alkaline. Elevation ranges 0 to 835 feet. Blooms Feb-May.	**No Potential.** The Project Area lacks alkaline wetlands necessary to support this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
two-fork clover *Trifolium amoenum*	FE, Rank 1B.1	Coastal bluff scrub, valley and foothill grassland (sometimes serpentine). Elevation ranges from 20 to 1360 feet. Blooms Apr-Jun.	**Unlikely.** Despite potentially suitable grassland habitat present within the Project Area, grasslands within the Project Area are relatively disturbed. This species is only known from one natural extant occurrence in Marin County (CNPS 2018, USFWS 2012).	No further recommendations for this species.
Santa Cruz clover *Trifolium buckwestiorum*	Rank 1B.1	Broadleafed upland forest, cismontane woodland, coastal prairie/gravelly, margins. Elevation ranges from 340 to 2000 feet. Blooms Apr-Oct.	**No Potential.** The Project Area lacks gravelly substrates known to support this species.	No further recommendations for this species.
saline clover *Trifolium hydrophilum*	Rank 1B.2	Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools. Elevation ranges from 0 to 980 feet. Blooms Apr-Jun.	**No Potential.** The Project Area lacks alkaline marshes and swamps known to support this species.	No further recommendations for this species.
coastal triquetrella *Triquetrella californica*	Rank 1B.2	Coastal bluff scrub, coastal scrub/soil. Elevation ranges from 30 to 330 feet.	**No Potential.** The Project Area lacks coastal scrub habitats.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
dark-mouthed triteleia *Triteleia lugens*	Rank 4.3	Broadleafed upland forest, chaparral, coastal scrub, lower montane coniferous forest. Elevation ranges 330 to 3280 feet. Blooms Apr-Jun	**Unlikely.** The Project Area is below the documented elevation range, and lacks the majority of associated habitats.	No further recommendations for this species.
oval-leaved viburnum *Viburnum ellipticum*	Rank 2B.3	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 600 to 4200 feet. Blooms May-June.	**No Potential.** This species is commonly associated with chaparral, and yellow pine forest habitat on north facing slopes (Jepson eFlora 2018).	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Mammals				
fringed myotis *Myotis thysanodes*	WBWG: High Priority	Associated with a wide variety of habitats including mixed coniferous-deciduous forest and redwood/ sequoia groves. Roosts in caves, mines, buildings, and crevices. Separate day and night roosts may be used.	**Moderate Potential.** The Project Area contains features that could potentially provide a roosting structure for this species.	See Section 5.0 for recommended avoidance and minimization measures.
long-legged myotis *Myotis volans*	WBWG: High Priority	Primarily found in coniferous forests, but also occurs seasonally in riparian and desert habitats. Large hollow trees, rock crevices and buildings are important day roosts. Other roosts include caves, mines and buildings.	**Moderate Potential.** The Project Area contains features that could potentially provide a roosting structure for this species.	See Section 5.0 for recommended avoidance and minimization measures.
hoary bat *Lasiurus cinereus*	WBWG: Medium Priority	Prefers open forested habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	**Moderate Potential.** The Project Area contains trees with sufficient foliage for cover and potential roosting structure for this species. In addition Roseland Creek may provide adequate water for this species.	See Section 5.0 for recommended avoidance and minimization measures.
pallid bat *Antrozous pallidus*	SSC, WBWG: High Priority	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, forages along river channels. Roost sites include crevices in rocky outcrops and cliffs, caves, mines, trees and various human structures such as bridges, barns, and buildings (including occupied buildings). Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Moderate Potential.** The Project Area contains trees of sufficient size to potentially provide roosting structure for this species. In addition, Roseland Creek may provide adequate water for this species.	See Section 5.0 for recommended avoidance and minimization measures.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Townsend's big-eared bat *Corynorhinus townsendii*	SSC; WBWG: High Priority	Associated with a wide variety of habitats from deserts to mid-elevation mixed coniferous-deciduous forest. Females form maternity colonies in buildings, caves and mines and males roost singly or in small groups. Foraging occurs in open forest habitats where they glean moths from vegetation.	**Moderate Potential.** The Project Area contains features that could potentially provide a roosting structure for this species. In addition, Roseland Creek may provide adequate water for this species.	See Section 5.0 for recommended avoidance and minimization measures.
western red bat *Lasiurus blossevillii*	SSC	Highly migratory and typically solitary, roosting primarily in the foliage of trees or shrubs. Roosts are usually in broad-leaved trees including cottonwoods, sycamores, alders, and maples. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas.	**Moderate Potential.** The Project Area contains potentially suitable roosting habitat which may support this species. In addition, Roseland Creek may provide adequate water for this species.	See Section 5.0 for recommended avoidance and minimization measures.
Yuma myotis *Myotis yumanensis*	WBWG: Low-Medium Priority	Known for its ability to survive in urbanized environments. Also found in heavily forested settings. Day roosts in buildings, trees, mines, caves, bridges and rock crevices. Night roosts associated with man-made structures.	**Moderate Potential.** The Project Area contains features that could potentially provide a roosting structure for this species. In addition, Roseland Creek may provide adequate water for this species.	See Section 5.0 for recommended avoidance and minimization measures.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
American badger *Taxidea taxus*	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Requires friable soils and open, uncultivated ground. Preys on burrowing rodents.	**No Potential.** The Project Area is surrounded by residential and other development and does not contain the uninterrupted open spaces typically required by this species for breeding dens and foraging. Evidence of burrowing mammals e.g gophers was not detected during the 2017 or 2022 site visits, further reducing the site's potential to support the species.	No further surveys or mitigation measures are recommended.
Birds				
ferruginous hawk *Buteo regalis*	BCC	Frequents open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys and fringes of pinyon-juniper habitats.	**Unlikely.** This species may occasionally forage within the Project Area. However, habitat quality is greatly diminished due to small parcel size and surrounding residential development. Few trees within Project Area to support potential nesting.	No further surveys or mitigation measures are recommended.
golden eagle *Aquila chrysaetos*	CFP, BCC	Found in rolling foothills with open grasslands, scattered trees, and cliff-walled canyons.	**Unlikely.** This species may occasionally forage within the Project Area. However, habitat quality is greatly diminished due to small parcel size and surrounding residential development. Few trees within Project Area to support potential nesting.	No further surveys or mitigation measures are recommended.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
white-tailed kite *Elanus leucurus*	CFP	Year-long resident of coastal and valley lowlands, including agricultural areas. Preys on small diurnal mammals and occasional birds, insects, reptiles, and amphibians.	**Moderate Potential.** The Project Area contains potentially suitable foraging and nesting habitat for this species.	See Section 5.0 for recommended avoidance and minimization measures.
American peregrine falcon *Falco peregrinus anatum*	FD, SD, CFP, BCC	Winters throughout Central Valley. Requires protected cliffs and ledges for cover. Feeds on a variety of birds, and some mammals, insects, and fish.	**No Potential.** This species may occasionally forage within the Project Area, however the Project Area lacks sufficient nesting habitat for this species and habitat quality is further reduced due to the proximity of low-level residential development.	No further surveys or mitigation measures are recommended.
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FC, SE, BCC	Nests in riparian jungles of willow often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape. Species requires an average of 17 hectares per pair for foraging and nesting.	**No Potential.** The Project Area does not contain sufficient forested or aquatic habitat necessary for this species.	No further surveys or mitigation measures are recommended.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
burrowing owl *Athene cunicularia*	SSC, BCC	Frequents open grasslands and shrublands with perches and burrows. Preys upon insects, small mammals, reptiles, birds, and carrion. Nests and roosts in old burrows of small mammals.	**Unlikely.** Project Area lacks small mammal burrows essential for nesting and common in foraging habitat. No burrow analogues in suitable habitat (e.g. culverts in open areas near foraging habitat) are present. Breeding in Sonoma County is absent or rare. The site's potential for occupancy is further reduced by the presence of trees that can be used by raptors that would feed on burrowing owl and regular pedestrian and pet traffic.	No further surveys or mitigation measures are recommended.
black swift *Cyseloides niger*	SSC, BCC	Nesting sites are associated with sheer cliffs and waterfalls, either near the coast or in the mountains. Does not winter in California.	**No Potential.** The Project Area lacks sufficient cliff or waterfall habitat for this species.	No further surveys or mitigation measures are recommended.
Vaux's swift *Chaetura vauxi*	SSC	Forages high in the air over most terrain and habitats but prefers rivers/lakes. Requires large hollow trees for nesting.	**Unlikely**. The Project Area lacks the aquatic habitat preferred by this species. Few trees provide potential nesting habitat for this species, however its hollows are likely too small for use.	No further surveys or mitigation measures are recommended.
Allen's hummingbird *Selasphorus sasin*	BCC	Found in a wide variety of habitats that provide nectar-producing flowers.	**Moderate Potential.** The Project Area contains potentially suitable foraging and nesting habitat which could support this species.	See Section 5.0 for recommended avoidance and minimization measures.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
olive-sided flycatcher *Contopus cooperi*	SSC, BCC	Most often found in montane conifer forests where tall trees overlook canyons, meadows, lakes or other open terrain.	**No Potential.** The Project Area does not contain sufficient forested or aquatic habitat necessary for this species.	No further surveys or mitigation measures are recommended.
yellow warbler *Setophaga petechia*	SSC, BCC	Nests in riparian stands of willows, cottonwoods, aspens, sycamores, and alders. Also nests in montane shrubbery in open conifer forests.	**Unlikely.** The Project Area does not contain sufficient forested or riparian habitat necessary for this species. It has not been detected in the Project Area (eBird 2022).	No further surveys or mitigation measures are recommended.
yellow-breasted chat *Icteria virens*	SSC	Breeds in riparian thickets and woodlands, particularly those dominated by willows and cottonwoods.	**Moderate Potential.** The Project Area contains potentially suitable riparian habitat which could support this species.	See Section 5.0 for recommended avoidance and minimization measures.
grasshopper sparrow *Ammodramus savannarum*	SSC	Frequents dense tall, dry or well-drained grasslands, especially native grasslands with mixed grasses and forbs for foraging and nesting. Nests on ground at base of overhanging clumps of vegetation.	**Unlikely.** This species is not known to nest in the vicinity, and the Project Area does not provide well-drained grasslands typical of this species. This species is more common in the coastal hills and dry interior hills.	No further surveys or mitigation measures are recommended.
tricolored blackbird *Agelaius tricolor*	SSC, BCC	Usually nests over or near freshwater in dense cattails, tules, or thickets of willow, blackberry, wild rose or other tall herbs.	**Unlikely.** The Study Area is primarily oak woodland and does not contain dense riparian habitat such as cattails or tules typical for nesting by this species.	No further surveys or mitigation measures are recommended.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Lawrence's goldfinch *Carduelis lawrencei*	BCC	Inhabits oak woodlands, chaparral, pinyon-juniper associations, and weedy areas near water during the breeding season; highly erratic and localized in occurrence.	**Unlikely.** No suitable chaparral or xeric oak woodland is present to support nesting of the species within the Project Area. The species is also an extremely rare breeder in Sonoma County.	No further surveys or mitigation measures are recommended.
bank swallow *Riparia riparia*	ST	Summer resident in riparian and other lowland habitats near rivers, lakes and the ocean in northern California. Nests colonially in excavated burrows on vertical cliffs and bank cuts (natural and manmade) with fine-textured soils. Historical nesting range in southern and central areas of California has been eliminated by habitat loss. Currently known to breed in Siskiyou, Shasta, and Lassen Cos., portions of the north coast, and along Sacramento River from Shasta Co. south to Yolo Co.	**No Potential.** The Study Area does not contain the riparian cliff habitat necessary for this species.	No further recommendations for this species.
Nuttall's woodpecker *Picoides nuttalli*	BCC	Year-round resident in lowland woodlands throughout much of California west of the Sierra Nevada. Typical habitat is dominated by oaks; also occurs in riparian woodland. Nests in tree cavities.	**Present.** The Study Area contains oak woodland suitable habitat for nesting and foraging by this species. The species was detected during the 2022 site visit.	See Section 5.2 for recommended measures.
oak titmouse *Baeolophus inornatus*	BCC	Year-round resident in oak woodlands. Common species in many urban settings where sufficient nesting cavities are present.	**Present.** The Study Area contains trees with suitable nesting cavities for this species. It was observed during the site visit and nesting activity was observed.	See Section 5.2 for recommended measures.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Reptiles and Amphibians				
Northwestern pond turtle *Actinemys marmorata*	SSC, Proposed Federal Threatened (FP)	Occurs in perennial ponds, lakes, rivers and streams with suitable basking habitat (mud banks, mats of floating vegetation, partially submerged logs) and shelter.	**Moderate Potential.** The Study Area contains an intermittent stream which could support this species through part of the year. There are multiple recorded occurrences of this species within 5-miles of the Study Area (CDFW, 2022). Potential is somewhat reduced due to the limited extent of freshwater and poor connectivity to occupied adjacent areas.	See Section 5.2 for recommended measures
California giant salamander *Dicamptodon ensatus*	SSC	Occurs in the north-central Coast Ranges. Moist coniferous and mixed forests are typical habitat; also uses woodland and chaparral. Adults are terrestrial and fossorial, breeding in cold, permanent or semi-permanent streams. Larvae usually remain aquatic for over a year.	**No Potential.** The Project Area does not contain mesic coniferous forest habitat necessary for this species.	No further surveys or mitigation measures are recommended.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
California tiger salamander *Ambystoma californiense*	FE, ST, SSC	Inhabits annual grassland habitat and mammal burrows. Seasonal ponds and vernal pools crucial to breeding. Federal Endangered status limited to populations in Sonoma and Santa Barbara counties.	**Unlikely.** As per Trenham and Cook (2008), Hearn Avenue and directly associated infrastructure (e.g., storm drains) provides a barrier to CTS movement. The Project Area does not provide any wetlands or seasonal aquatic features suitable for CTS breeding. The Project Area lacks burrows necessary for CTS to use for upland refugia.	Despite this species being determined to be unlikely to occur on the site, due to its listing under both the Federal and State endangered species acts, see section 5 for recommendations.
red-bellied newt *Taricha rivularis*	SSC	Inhabits coastal redwood forests and occasionally other forest types. Adults remain in breeding stream drainages in the non-breeding season. Breeding habitats are often fast-moving streams. Stagnant water sources are often avoided.	**No Potential.** The Project Area does not contain sufficient aquatic breeding habitat for this species. The species has not been documented near the Project Area (CDFW 2022)	No further surveys or mitigation measures are recommended.
California red-legged frog *Rana draytonii*	FT, SSC	Associated with quiet perennial to intermittent ponds, stream pools and wetlands. Prefers shorelines with extensive vegetation. Documented to disperse through upland habitats after rains.	**Unlikely.** No suitable aquatic breeding, habitat is present within the Project Area. This species is mostly considered absent from the Santa Rosa Plain and there are no nearby documented occurrences (CDFW 2022).	No further surveys or mitigation measures are recommended.
foothill yellow-legged frog *Rana boylii*	SSC	Found in or near rocky streams in a variety of habitats. Feed on both aquatic and terrestrial invertebrates.	**Unlikely.** Roseland Creek provides only marginal habitat for this species and no occurrences have been documented within 5 miles of Project Area (CDFW 2022).	No further surveys or mitigation measures are recommended.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Fish				
Coho salmon - southern Oregon/northern California ESU *Oncorhynchus kisutch*	FT, ST, SSC	Occurs in inland and in coastal marine waters from the Cape Blanco, Oregon, through Punta Gorda, California. Adult coho salmon enter fresh water from September through January to spawn. Requires beds of medium to small gravel substrate and sufficient dissolved oxygen for spawning. Rearing habitat consists of riparian cover, cool water and sufficient dissolved oxygen.	**No Potential.** The Study Area does not contain suitable streams, rivers or other perennial waters to support this species.	No further recommendations for this species.
Navarro roach *Lavinia symmetricus navarroensis*	SSC	Habitat generalists. Found in warm intermittent streams as well as cold, well-aerated streams.	**No Potential.** The Study Area does not contain suitable streams, rivers or other perennial waters to support this species.	No further recommendations for this species.
Russian River tule perch *Hysterocarpus traski pomo*	SSC	Found in clear, flowing freshwater with abundant vegetation and overhanging cover. Confined to the Russian River and tributaries.	**No Potential.** The Study Area does not contain suitable streams, rivers or other perennial waters to support this species.	No further recommendations for this species.
steelhead - Central California Coast ESU *Oncorhynchus mykiss irideus*	FT	From Russian River south to Soquel Creek and Pajaro River. Also San Francisco and San Pablo Bay Basins.	**No Potential.** The Study Area does not contain suitable streams, rivers or other perennial waters to support this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Invertebrates				
California freshwater shrimp *Syncaris pacifica*	FE, SE, SSI	Endemic to Marin, Napa, and Sonoma Counties. Found in shallow pools away from streamflow in low gradient streams where riparian cover is moderate to heavy.	**Unlikely.** The Study Area does not contain perennial stream habitat with suitable shallow pools to support this species.	No further recommendations for this species.

*** Key to status codes:**

FE	Federal Endangered
FT	Federal Threatened
FP	Federal Proposed
SE	State Endangered
SD	State Delisted
ST	State Threatened
SR	State Rare
SSC	Species of Special Concern
SSI	Species of Special Interest
BCC	Bird of Conservation Concern
California Rare Plant Rank (CRPR)	
Rank 1A	CRPR 1A: Plants presumed extinct in California
Rank 1B	CRPR 1B: Plants rare, threatened or endangered in California and elsewhere
Rank 2A	CRPR 2A: Plants presumed extirpated in California, but more common elsewhere
Rank 2B	CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3	CRPR 3: Plants about which CNPS needs more information (a review list)
Rank 4	CRPR 4: Plants of limited distribution (a watch list)
Threat Ranks	
0.1	Seriously threatened in California
0.2	Moderately threatened in California
0.3	Not very threatened in California

****Potential to Occur:**

No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

Unlikely. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.

Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.

High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

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APPENDIX D

SITE PHOTOGRAPHS

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Photograph 1. Photograph depicting valley oak woodland composed of young, potentially planted trees in the northern portion of the Project Area.

Photograph 2. Photograph depicting remnant concrete pad within the Project Area.

Photograph 3. Photograph depicting Roseland Creek, an intermittent, USGS 'blue-line' stream within the central portion of the Project Area.

Photograph 4. Photograph depicting purple needlegrass grassland within the southern portion of the Project Area.

Photograph 5. Photo depicting riparian wetland adjacent to Roseland Creek within the western portion of the Project Area.

Photograph 6. Photograph depicting non-native annual grassland with dying black walnut (*Juglans hindsii*) in the northern portion of the Project Area.

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APPENDIX E

STATEMENT OF QUALIFICATIONS

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STATEMENT OF QUALIFICATIONS

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

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

Scott Yarger, BS, Associate Plant Biologist, Project Manager with WRA, has over ten years of experience in environmental consulting in California. Scott received a Bachelor of Science degree with High Distinction in Conservation and Resource Studies from University of California, Berkeley, where his studies focused on environmental policy and land management. He has worked in a wide variety of habitats throughout northern, central, and southern California, the Central Valley, and Sierra Nevada foothills and mountains. His interdisciplinary background includes training in botany, wetland ecology, forestry, arboriculture, and environmental policy. Scott has been trained on rare plant survey protocols, he has lead or participated in numerous rare plant surveys across the state. At WRA, Scott's work, in addition to rare plant surveys, includes biological resource assessments, arborist surveys, vegetation monitoring and mapping, and wetland delineation.

Brian Freiermuth, Senior Wildlife Biologist with WRA has more than 10 years of experience working as an environmental consultant in California, with the majority of his projects locatedin the Bay Area. He has both managed field crews and performed key technical roles in a variety of projects throughout California. Brian currently manages and plays technical roles in projects across phases, including initial environmental review, permitting, CEQA, construction environmental compliance and post-project performance monitoring. Brian received his Master's degree at San Francisco State, where his coursework focused on Ecology, Evolution and Conservation Biology. Brian's diverse project experience combined with his field and regulatory permitting experience, especially with California special-status amphibians and reptiles such as California red-legged frog, California tiger salamander, foothill yellow-legged frog, Sierra Nevada yellow-legged frog, arroyo toad, western pond turtle, and San Francisco garter snake, make him

a highly sought-after collaborator and project manager. In addition to his expertise with amphibians and reptiles, Brian regularly assists with technical tasks involving a variety of other species, including burrowing owl, nesting birds, salt marsh harvest mouse, marine mammals, nesting birds, rails, bats and more

Scott Batiuk, BS, Plant Biologist. Scott received a Bachelor of Science degree in Forest Resources from the University of Washington, where his studies focused on forest ecology. He has worked in a wide variety of habitats in California, the Pacific Northwest, Nevada, and Uruguay. His experience includes rare plant surveys, plant community mapping, invasive species management, forest plot mapping, post-fire recovery monitoring, native seed collection, restoration planting, and mitigation land monitoring. Before joining WRA, Scott worked for a variety of non-profit, academic, private, and government organizations including the CNPS. Scott is a California Certified Botanist (CCB), and at WRA, Scott's work includes protocol level rare plant monitoring, vernal pool vegetation and hydrology monitoring, vegetation type mapping, and wetland delineation.

Rhiannon Korhummel, BS, Plant Biologist with WRA, has seven years of experience performing vegetation and habitat mapping, rare plant surveys, botanical assessments, and wetland delineations. Her projects focus on coastal development, vineyard development, cannabis development, habitat mitigation and monitoring plans, mitigation banking, and single-family residence development in Sonoma, Mendocino, Napa, and Lake Counties. Ms. Korhummel's technical training includes flora of Northern California, vegetation mapping and data collection, plant ecology, and soil science. Additionally, she has completed the 40-hour Corps wetland delineation course. She is the rare plant chairperson for the Dorothy King Young (DKY) CNPS chapter. Ms. Korhummel received her Bachelor of Science in Botany from Humboldt State University.

Peter Kobylarz, Senior Spatial Data Science Professional and GIS Team Leader with WRA has over 15 years of experience in the public and private sector. Peter delivers a strong combination of Enterprise IT and Geographic Information Systems experience to provide WRA and our clients with valuable spatial data driven solutions and landscape scale problem solving. He has served as the lead GIS Analyst and GIS Project Manager on a number of superlative restoration and resiliency projects throughout California during his tenure with WRA. His work on wildfire recovery and response in the aftermath of the devastating 2017 and 2018 wildfires in Northern California has helped push the envelope of WRA's growing resiliency practice and has established Peter's reputation as a leader in environmental and resiliency GIS in California and beyond.