Appendix B:
Biological Resources Supporting Information

THIS PAGE INTENTIONALLY LEFT BLANK

Biological Resources Assessment

JUNIPER AVENUE CANNABIS FACILITY PROJECT
SANTA ROSA, SONOMA COUNTY, CALIFORNIA

Prepared For:

Shannon Masonry Construction
3100 Dutton Avenue, Suite 223
Santa Rosa, CA 95407

Prepared By:

WRA, Inc.
2169-G East Francisco Boulevard
San Rafael, California 94901

Contact:

Doug Spicher, Principal
spicher@wra-ca.com

Date:

December 2017

WRA Project No:

15179-2

This Page Intentionally Left Blank.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

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
CTS	California tiger salamander
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
PBO	Programmatic Biological Opinion
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.

1.0 INTRODUCTION

WRA, Inc. (WRA) prepared this biological resources assessment (BRA) report on behalf of Shannon Masonry Construction for a proposed medical cannabis facility project (Project). The proposed Project requires a permit application for a cannabis facility based on City of Santa Rosa Ordinance. The project is on an approximately 2.05-acre property located at 3192 Juniper Avenue, Santa Rosa, CA (APN 134-072-004), Sonoma County, California (Study Area; Figure 1). The purpose of the assessment was to gather information necessary to complete a biological resources assessment as required by City of Santa Rosa (which also requires compliance with other local and regional agency permit requirements, such as Sonoma County, Corps of Engineers, Regional Water Quality Control Board).

This report describes the updated results of information gathered about the property over several years involving previous development proposals and a recent site visit conducted on November 17, 2017. The Study Area was assessed for biological resources, including: (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. However, this biological assessment provides general information on the potential presence of sensitive species and habitats. The assessment is not an official protocol-level survey for listed species that may be required for project approval by the City of Santa Rosa or other local, state, or federal agencies. This assessment is based on evaluation of past information gathered and information available at the time of this updated study and on site conditions that were observed on the date of the most recent site visit.

2.0 REGULATORY BACKGROUND

The following sections explain the regulatory context of the biological assessment, 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. The CDFW ranks sensitive communities and keeps records of their occurrences in its California Natural Diversity Database (CNDDB; CDFW 2017). In the CNDDB, vegetation alliances are ranked 1 through 5 based on NatureServe's (2016) 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, or designated as critical habitat under the Endangered Species Act.

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 Study Area is located within the Santa Rosa Plain, an ecoregion which supports habitat for several 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). This 2007 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. The PBO outlines the compensatory mitigation and habitat conservation 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. The property at 3192 Juniper Avenue is located within designated critical habitat of California tiger salamander.

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.

3.0 METHODS

On November 17, 2017, the Study Area was traversed on foot to determine (1) plant communities present within the Study Area, (2) whether existing conditions provide suitable habitat for any special-status plant or wildlife species, and (3) whether sensitive habitats are present. All plant and wildlife species encountered were recorded and are summarized in Appendix A. Plant

nomenclature follows Baldwin et al. (2012) and subsequent revisions by the Jepson Flora Project (2017), 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.

Information from previous studies was also reviewed for either replacement or updating with current information.

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 (USDA 2017) were examined concerning unique soil types that could support sensitive plant communities and/or aquatic features were present in the Study Area. Biological communities present in the Study Area were classified based on existing plant community descriptions described in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) or *California Vegetation Manual* (Sawyer et. al. 2009, CNPS 2017a). 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

The Study Area was surveyed to determine if any wetlands and waters potentially subject to jurisdiction by the Corps, RWQCB, or CDFW were present. The assessment was based primarily on the presence of wetland plant indicators, but may also include any observed indicators of wetland hydrology or wetland soils. Any potential wetland areas were identified as areas dominated by plant species with a wetland indicator status[1] of OBL, FACW, or FAC as given on the U.S. Army Corps of Engineers National Wetlands Plant List (Lichvar et al. 2016). Evidence of wetland hydrology can include direct evidence (primary indicators), such as visible inundation

[1] OBL = Obligate, always found in wetlands (> 99% frequency of occurrence); FACW = Facultative wetland, usually found in wetlands (67-99% frequency of occurrence); FAC = Facultative, equal occurrence in wetland or non-wetlands (34-66% frequency of occurrence).

or saturation, algal mats, and oxidized root channels, or indirect (secondary) indicators, such as saturation visible on aerial imagery. Some indicators of wetland soils include dark colored soils, soils with a sulfidic odor, and soils that contain redoximorphic features as defined by the Corps Manual (Environmental Laboratory 1987) and Field Indicators of Hydric Soils in the United States (NRCS 2016).

Other Sensitive Biological Communities

The Study 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 2017a) were reviewed to assess the potential for sensitive biological communities to occur in the Study Area. All alliances within the Study 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 Study Area was evaluated by first determining which special-status species occur in the vicinity of the Study 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 Study Area:

- CNDDB records (CDFW 2017)
- USFWS Information for Planning and Conservation Report (IPaC; USFWS 2017)
- CNPS Rare and Endangered Plant Inventory (CNPS 2017b)
- 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)
- *A Flora of Sonoma County* (Best et al. 1996)
- *Marin Flora* (Howell et al. 2007)
- *A Field Guide to Western Reptiles and Amphibians* (Stebbins 2003)
- *Sonoma County Breeding Bird Atlas* (Madrone Audubon Society 1995)
- Santa Rosa Plain Conservation Strategy (USFWS 2005)
- Santa Rosa Plain Programmatic Biological Opinion (USFWS 2007)
- Final Recovery Plan for the Santa Rosa Plain (USFWS 2016)

3.2.2 Site Assessment

A site visit was made to the Study Area 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 Study 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 Study 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 Study Area and the results of the site assessment are provided in the following sections. A list of plant and wildlife species observed on the Study Area is included as Appendix A. The assessment of the potential for special-status plant and wildlife species to occur in the Study Area is provided as Appendix B. Recent photographs of the Study Area are provided as Appendix C.

4.1 Study Area Description

The Study Area consists of approximately 2.05-acres of predominantly developed land with areas of open non-native grassland, seasonal wetland, and unpaved patches. Development in the

Study Area includes a single-family residence and several storage facilities and workshops along with associated driveways, hardscape, and an engineered septic mound. The parcel is zoned for general industrial (IG) purposes. The Study Area is bordered by rural residential development to the south and west and industrial development to the north and east.

Current land use has been for light industrial operations by Shannon Masonry Construction with activities carried out by employees daily in the various buildings that are present and throughout the yard. Undeveloped portions of the Study Area are routinely and continuously maintained by mowing.

Topography and Soils

The topography in the Study Area is level, with elevations ranging approximately 110 feet above mean sea level (amsl). SoilWeb (USDA 2017) indicates that the Study Area contains two native soil types including: Wright loam, wet, 0 to 2 percent slopes in the middle and southeastern portion and Clear Lake clay, ponded, 0 to 2 percent slopes in the northwestern third. Generally, observed soils within undeveloped portions of the Study Area were native with no suspected areas of imported soil. Soil that make up the soil mapping units are described below.

Wright Loam: The Wright series consists of somewhat poorly drained and moderately well drained loams that have a clay subsoil. These soils are underlain by old valley plain alluvium of mixed origin such as volcanic and marine sediment. Within Sonoma County these soils are mostly undulating, and are on low terraces, mainly on the central Santa Rosa Plain, and south of the town of Sonoma. In a typical profile, the surface layer is very dark grayish brown (10YR 3/2) loam with common medium prominent strong brown mottles (7.5YR 5/6), about 15 inches thick. This is underlain by a strongly acidic dark grayish brown (10YR 4/2) sandy clay loam. This is underlain by various clay loam to clay layers to a depth of 98 inches. Wright loam, wet, 0 to 2 percent slopes is listed as a hydric soil.

Clear Lake Clay: The Clear Lake series consists of clays that formed under poorly drained conditions and are underlain by alluvium from basic and sedimentary rock occurring on plains and flat basin areas. In a typical profile, the surface layer is black (N 4/0) or very dark gray (10YR 3/1) clay, about 39 inches thick. This is underlain by a dark-gray moderately alkaline clay that has light gray mottles, black (10YR 2/1) when moist. At a depth of about 46 inches, it is gray and light brownish-gray, moderately alkaline clay. At a depth of about 60 inches, it is light gray to white, mildly alkaline sandy clay loam. Clear Lake clay, ponded, 0 to 2 percent slopes is listed as a hydric soil.

Climate and Hydrology

Average annual precipitation for Santa Rosa is 25 inches, with the majority falling as rain in the winter months (December through March). The mean daily high temperatures in degrees Fahrenheit range from 56 in December to 81 in September. The mean daily low temperatures in degrees Fahrenheit range from 42 in December to 53 in September (WRCC 2017). Sources of hydrology within the Study Area include direct precipitation and surface runoff from adjacent lands.

4.2 Previous Studies, Determinations, and Permits

Previous studies completed for a residential development on the property approximately eight years ago included the following:

Jurisdictional Wetlands Determination. The Corps of Engineers and Regional Water Quality Control Board confirmed a seasonal wetland covering 0.016 acre as being jurisdictional on the property in 2008. Follow up assessments in 2015 and 2017 confirmed conditions have not changed and that the seasonal wetland is still present.

Special-status Plant Assessment. Protocol surveys for the three listed endangered species and other special-status plants with moderate or higher potential to be present were conducted in 2008 and 2017 with negative results (none observed).

California Tiger Salamander Assessment. A habitat assessment was conducted on the property in 2006 by WRA, and a report was prepared as part of the federal section 404 wetlands permitting and section 7 consultation process. The conclusion of the assessment was that the property was not considered suitable habitat for CTS because: (1) lack of upland and aquatic habitat would make the Study Area unsuitable for habitation by CTS, (2) barriers to dispersal, including roads, residential and commercial developments, likely preclude CTS from dispersing to and from the Study Area, (3) the Study Area is mostly developed and mostly disturbed, (4) no suitable breeding habitat is located in the Study Area, (5) the seasonal wetland and drainage ditch along the side of the road are not expected to pond water long enough for CTS larval development, and (6) there is limited estivation habitat available due to the lack of ground squirrel burrows and expansion cracks and presence of man-made structures and graveled roads (hardscape).

Biological Opinion. In May 2010, U.S. Fish and Wildlife Service issued a Biological Opinion (81420-2008-F-1787) for the property in Section 7 consultation with the Corps of Engineers regarding a Section 404 permit. Measures in the BO were provided that protected California tiger salamander and three listed plants by requiring compensatory mitigation and minimizing risk of take through conservation measures. The BO did provide for potential incidental take.

Consistency Determination. In September 2010, the California Department of Fish and Game (now Fish and Wildlife) issued a Consistency Determination (2080-2010-046-03), under the California Endangered Species Act and 2080.1 Fish and Game Code, that concurred with the opinions and measures for protecting California tiger salamander and three listed plants in the Biological Opinion, and determined that the opinions, conclusions and incidental take were consistent with the Biological Opinion.

Section 404 Corps of Engineers Permit. In May 2010 the Corps authorized a section 404 permit (2006-400155-N) to allow filling of the seasonal wetland on the property, a jurisdictional feature under the Clean Water Act.

Section 401 Water Quality Certification. The North Coast Regional Water Quality Control Board issued a section 401 water quality certification (WDID No. 1B08123WNSO), with conditions, that certified the project would meet California state water quality standards.

4.3 Biological Communities

Table 2 summarizes the area of each biological community type observed in the Study Area and developed area. Biological communities observed in the Study Area include: non-native grassland and seasonal wetland depression. Descriptions for each biological community are contained in the following sections and depicted in Figure 2.

Table 2. Summary of Biological Communities in the Study Area

Community Type	**Area (acres)**
Non-native grassland	0.79
Other undeveloped open area	0.13
Seasonal wetland depression	0.02 (0.016)
Developed/landscaped	1.11
Total	**2.05**

4.3.1 Non-Sensitive Biological Communities

Non-Native Grassland and Other Undeveloped Open Area

Approximately 0.79-acre of non-native annual grassland and 0.13-acre of other undeveloped open area is present within the Study Area. Holland (1986) describes non-native grassland as a dense to sparse cover of annual grasses, often associated with numerous species of showy-flowered, native and non-native annual forbs. Non-native grasslands within the Study Area were heavily disturbed by repeated mowing and contained relatively low floristic diversity. Non-native grasslands in the Study Area are dominated by a mix of non-native grasses, such as ripgut grass (*Bromus diandrus*), wild oat (*Avena* sp.), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), and soft chess (*Bromus hordeaceus*). Forbs in the herbaceous layer included non-native field bindweed (*Convolvulus arvensis*), English plantain *Plantago lanceolata*), and scarlet pimpernel (*Anagalilis arvensis*). Individual ornamental trees have been planted on the parcel, including several within non-native grassland, however none were considered to meet species or size requirements warranting protection under ordinance.

Developed/landscaped

Approximately 1.11 acres of developed/landscaped areas were present within the Study Area. Developed/landscaped areas include residences, storage and workshop buildings, driveways, backyards, and associated hardscape and landscaping. Vegetation within the developed/disturbed areas consists of many of the species observed in the non-native grassland community, but also included planted ornamental trees and shrubs.

4.3.2 Sensitive Biological Communities

Seasonal Wetland Depression

Approximately 0.02 acre of potential seasonal wetland has been mapped within the Study Area (Figure 3), previously confirmed by the Corps of Engineers as being 0.016 acre in 2009, and observed to still be present during the site visit on November 17, 2017 (Photograph, Appendix C).

Seasonal wetland within the Study Area results from a relatively impermeable clay layer in the soil profile of Wright loan soils, which perches rainwater on the soil surface and creates wetland hydrology characteristics. The seasonal wetland has a prevalence of hydrophytic plants, so along with hydric soils and wetland hydrology it meets all three parameters the Corps requires for an area to be considered a wetland. The seasonal wetland and other areas of the parcel drain to a drainage ditch along Juniper Avenue. The drainage ditch slopes south and drains into a storm drain inlet. It is expected that the storm drain system trends south and west and likely eventually drains into Colgan Creek. Colgan Creek joins Laguna de Santa Rosa which flows to the Russian River, a navigable waters of the U.S. Therefore, the seasonal wetland's connectivity to a navigable waters of the U.S. establishes its jurisdiction and regulation by the Corps under Section 404 of the Clean Water Act.

Plant species present in the seasonal wetland included annual semaphore grass (*Pleuropogon californicus*, OBL), Mediterranean barley (*Hordeum brachyantherum*, FACW), and annual bludegrass (*Poa annua*, FACW), all wetland classified or hydophytic plants. The prevalence of hydrophytic vegetation, hydric soils, and wetland hydrology was sufficient to meet the requirements as jurisdictional wetland under Section 404 of the Clean Water Act.

Tiger Salamander Critical Habitat

California tiger salamander (*Amystoma californiense*) was listed as an endangered species (Sonoma County DPS) in 2005 under the Endangered Species Act. In 2011 critical habitat was designated, generally over the area known as the Santa Rosa Plain which contains features essential to the conservation of this species. As such, measures to protect the habitat may require special management or mitigation. California tiger salamander was also listed as a threatened species by California Department of Fish and Wildlife in 2011 under the California Endangered Species Act.

Wildlife Corridor

Wildlife corridors offer areas of undeveloped open space habitat through which wildlife are able to migrate from one habitat area to another, a benefit to wildlife provided the destination habitats have value for foraging, shelter, and gene flow. Corridors of particular widths are often considered to be needed for a species to be able to navigate, and narrower widths may not be effective. Closure of a corridor by development may lead to isolation of populations and/or habitat fragmentation.

The project site is in an area that is generally surrounded by existing development including ranchette home properties to the south and west and industrial development to the north and east. There is an open field to the east of the project which can be accessed through the project site, however the width of access passes between two large industrial buildings and is only approximately 200 feet wide. Access through this corridor is further hampered by a fence surrounding the project site. With no corridor possibility through the project site on a north-south axis and a relatively narrow access through development on an east-west axis that is blocked by an existing fence, the project site does not provide a high value movement corridor.

4.4 Special-Status Species

4.4.1 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 Study Area; special-status plant species documented from within 5 miles of the site are shown on Figure 4. Of the 90 special-status species known from the region, three were given a moderate potential to occur within the Study Area (Appendix B) because the Programmatic Biological Opinion and Santa Rosa Plain Conservation Strategy considers seasonal wetlands to be potential suitable habitat; however, based on data gathered and observations over several years, these species were considered unlikely to be present, along with the remaining species being unlikely or having no potential to be present, based on factors that include the following:

- The species has a very limited range of endemism and has never been observed in the vicinity of the Study Area;
- Vegetation communities commonly associated with the special-status species (e.g., vernal pools, chaparral, marshes and swamps) are absent from the Study Area;
- Specific edaphic characteristics, such as soil derived from serpentine or volcanics, are absent from the Study Area;
- Specific hydrologic characteristics, such as perennial saline, are absent from the Study Area;
- Very unique pH characteristics, such as alkali scalds or acidic bogs and fens, are absent from the Study Area;
- The disturbance regime (i.e., previous and continued plowing or discing) likely precludes the species from persisting in the Study Area;
- The species was not observed during protocol surveys or site visits, some of which were conducted during the documented bloom period of the species.

The three listed plant species given an automatic Moderate ranking for potential presence and covered by the Santa Rosa Plain Conservation strategy and the Programmatic Biological Opinion, Burke's goldfields, Sonoma sunshine, and Sebastopol meadowfoam, are unlikely to occur within the Study Area because of a lack of natural vernal pool habitat, lack of vernal pool or seasonal wetland habitat with suitable inundation duration, and high level of historic and continued disturbance (i.e., mowing) and active use of the property.

Congested-headed hayfield tarplant could have been considered a candidate for a moderate potential rating, however it was determined to be not present by a survey conducted during its blooming period in 2017 and had not been previously observed to be present during previous site visits over several years.

4.4.2 Special-Status Wildlife

Based upon a review of the resources and databases listed in Section 3.2.1, it was determined that 72 special-status wildlife species have been documented from within the Cotati, Kenwood, Sebastopol, Calistoga, Glen Ellen, Healdsburg, Mark West Springs, Two Rock, and Santa Rosa USGS 7.5-minute quadrangles. Appendix B summarizes the potential for each of these species

to occur in the Study Area. Special-status wildlife species that have been documented in CNDDB within a 5-mile radius of the Study Area are depicted in Figure 5.

Thirty-five special-status wildlife species listed in Appendix B were determined to have no potential and 36 are unlikely to occur within the Study Area. Only one species, Allen's hummingbird, was considered to have a Moderate potential for presence. The species with no potential to occur within the Study Area require habitat elements completely absent from the site, including streams, ponds, rivers, woodland, riparian, and serpentine habitats. For the species unlikely to occur within the Study Area, some elements of suitable habitat may be present (e.g., grassland or trees potentially suitable for nesting); however, the high disturbance levels near potential nest sites, urbanized nature of the site and surrounding areas, and/or the lack of ground squirrels (and their burrows) reduce the potential for these species to occur and may preclude their presence. Although the Study Area is within the Santa Rosa Plain, CTS is unlikely to occur within the Study Area based upon a lack of breeding and upland estivation habitat, high level of existing development and hardscape, and barriers to dispersal.

Although it is unlikely to occur within the Study Area, the California tiger salamander (*Ambystoma californiense*; CTS) is discussed in further detail below because the species' listed status and consideration within the Santa Rosa Plain geographic area (USFWS 2005, 2007). In addition, the one special-status wildlife species, Allen's hummingbird, with moderate potential to occur within the Study Area is discussed below.

Federally Listed Species that Occur in the Region Which are Unlikely to Occur in the Study Area

California Tiger Salamander (*Ambystoma californiense*); Federal Endangered, State Threatened. Unlikely. The California tiger salamander is restricted to grasslands and low-elevation foothill regions in California (generally under 1500 feet) where it uses seasonal aquatic habitats for breeding. The salamander breeds in natural ephemeral pools, or ponds that mimic ephemeral pools (e.g., stock ponds that go dry), and occupy substantial areas surrounding the breeding pool as adults (Stebbins 2003). California tiger salamanders spend most of their time in the grasslands surrounding breeding pools. They survive hot, dry summers by living underground in burrows such as those created by ground squirrels, gophers or other mammals (Holland et al. 1990). They may also use deep cracks or holes in the ground where the soil atmosphere remains near the water saturation point. During wet periods, the salamanders may emerge from refugia and feed in the surrounding grasslands.

CTS occurrences have been reported west of the Study Area (CDFW 2017) and an apparent erroneous occurrence immediately south of the Study Area reported on the 2007 Santa Rosa Conservation Strategy Enclosure 1 map (CDFG 2007) (Figure 6) has been removed, or never existed, as an occurrence from the CNDDB database Figure 5). Although seasonal wetland is present on-site, it is densely vegetated and dominated by non-native annual grasses, is regularly mowed and there is no evidence of extended ponding or water depths sufficient to support breeding by this species. Upland refugia is also extremely limited within the Study Area because there are no small mammal burrows typically used as upland aestivation habitat within the Study Area (WRA 2006).

The Study Area and land in the vicinity is located within a "core" habitat area for CTS as shown in the Final Recovery Plan for the Santa Rosa Plain (Figure 7) (USFWS 2016). As such, the USFWS will likely require mitigation for loss of potential suitable habitat according to the Conservation Strategy and Programmatic Biological Opinion even though it is unlikely that CTS are present. This mitigation would be provided at the time that regulatory agency permits are

authorized and would be determined during the Endangered Species Act Section 7 consultation process.

Species with a Moderate Potential to Occur in the Study Area

Allen's hummingbird (*Selasphorus sasin*). USFWS Bird of Conservation Concern. Moderate Potential. Allen's hummingbird, common in many portions of its range, is a summer resident along the majority of California's coast and a year-round resident in portions of coastal southern California and the Channel Islands. Breeding occurs in association with the coastal fog belt, and typical habitats used include coastal scrub, riparian, woodland and forest edges, and eucalyptus and cypress groves (Mitchell 2000). It feeds on nectar, as well as insects and spiders. The Study Area is primarily grassland with little foraging potential for this species; however adjacent residential development may provide foraging habitat. Trees present within the Study Area provide potential nesting habitat. Therefore, this species has a moderate potential to occur.

Migratory Birds

Migratory birds protected by the Migratory Bird Treaty Act consist of common and special-status bird species that cross state and/or international borders, and the birds as well as active nests are protected by this law. Almost all bird species are included in this category, and it is likely that one or more common species and one species with a moderate potential rating for presence could be present within the Study Area.

5.0 POTENTIAL IMPACTS AND RECOMMENDED AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

5.1 Project Description

The proposed project is a commercial medical cannabis facility with onsite uses including manufacturer (Type 6 non-volatile), indoor cultivation (Type 2A 5,001-10,000sf), nursery (Type 4, indoors), and distributor with transportation (Type 11). The parcel is approximately 2.05 acres, zoned general industrial (IG) and is located at 3192 Juniper Avenue, south of Bellevue Avenue and west of U.S. Highway 101, in the southwest Santa Rosa area. The site includes several existing structures, all of which will be used for initial medical cannabis operations proposed as Phase 1 (Figure 8). No direct impacts to land areas, such as tilling, filling, or construction upon, would result with Phase 1 because only the existing facilities would be utilized and there would be no new disturbance to undeveloped ground. Within two years of initial operation a second phase is proposed; this new development would result in permanent impacts to open land area, including potential CTS habitat areas and the seasonal wetland.

5.2 Potential Impacts

Potential adverse impacts to biological resources were evaluated separately for Phase 1 and Phase 2 of the described project. Phase 1 will use existing development and infrastructure and will not disturb any existing undeveloped areas while Phase 2 will expand the facility that may permanently cover some existing undeveloped areas.

Phase 1 Potential Impacts: Because only existing development and infrastructure will be used and no new ground will be disturbed, no impacts to biological resources will occur from the project.

Phase 2 Potential Impacts: With expansion of development on the Study Area, previously undisturbed ground would be permanently impacted. Therefore, construction will potentially cause the following adverse impacts to biological resources:

- Because no special-status plants have been observed or are expected to be present, no impacts to special-status plants will result from Phase 2 construction.
- Construction has potential to permanently fill existing seasonal wetland habitat
- Construction has potential to remove suitable habitat for three listed endangered species of plants by filling seasonal wetland
- Construction has potential to permanently remove designated critical habitat for California tiger salamander
- Construction has potential for adverse impacts to one wildlife species, Allen's hummingbird, determined to have a moderate potential to be present
- Construction has the potential for adverse impacts to migratory birds protected by the Migratory Bird Treaty Act.

5.3 Recommended Avoidance, Minimization, and Mitigation Measures

Phase 1 Recommendations:

- Because only existing development and infrastructure will be used and no new ground will be disturbed, no impacts to biological resources will occur from the project. Therefore, no further actions regarding biological resources will be necessary or are recommended.

Phase 2 Recommendations:

- No recommendations for special-status plants because none are expected to be present.
- Avoid filling the seasonal wetland, if practicable. If placing fill in the seasonal wetland is unavoidable, permits from regulatory agencies will be required. Compensatory mitigation to replace filled wetlands shall be provided at a minimum 1:1 ratio by purchase of mitigation bank credits from an approved wetlands mitigation bank or "turn-key" creation of off-site at another location, or in lieu fee payment (if available).
- Avoid filling the seasonal wetland, which is suitable habitat for three listed plants in the Santa Rosa Plain, if practicable. If filling the seasonal wetland and suitable habitat for three listed plants is unavoidable, compensatory mitigation and conservation measures for the three listed plants shall be provided, according to the Programmatic Biological Opinion (USFWS 2007) and/or a Biological Opinion prepared by USFWS for the project, and completed as part of the regulatory permitting process.
- Avoid removing areas considered suitable habitat for California tiger salamander that is designated critical habitat, if practicable. If removal of critical habitat is unavoidable, mitigation and conservation measures shall be provided, according to the Programmatic Biological Opinion (USFWS 2007) and/or a Biological Opinion prepared by USFWS for the project, and completed as part of the regulatory permitting process.
- Avoid disturbance to Allen's hummingbird breeding by conducting initial construction work outside of the breeding season (September 1 through January 31). If work is initiated during the breeding season, a qualified biologist shall conduct a breeding bird survey to determine if any active nests are present and establish a no-work buffer zone around the nest until young have fledged or the nest is no longer active. The survey shall be conducted no sooner than 14 days prior to start of work and must be repeated if work

ceases for longer than 14 days during the breeding bird season. Once a nest is no longer active, work may be conducted without restriction within the buffer zone.

- Avoid disturbance migratory bird breeding by conducting initial construction work outside of the breeding season (September 1 through January 31). If work is initiated during the breeding season, a qualified biologist shall conduct a breeding bird survey to determine if any active nests are present and establish a no-work buffer zone around the nest until young have fledged or the nest is no longer active. The survey shall be conducted no sooner than 14 days prior to start of work and must be repeated if work ceases for longer than 14 days during the breeding bird season. Once a nest is no longer active, work may be conducted without restriction within the buffer zone.

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. 2016. Chapter 17-24, Trees (Tree Ordinance, Ord. 2858 § 1, 1990). Online at: http://ci.santa-rosa.ca.us/departments/cityadmin/cityclerk/Pages/CityCode.aspx

[CDFG] California Department of Fish and Game. 2009. Protocols for Surveying and Evaluating Impacts to Special-status Native Plant Populations and Natural Communities. California Natural Resources Agency, California Department of Fish and Game. November 24, 2009.

[CDFW] California Department of Fish and Wildlife. 2017. California Natural Diversity Database. Wildlife and Habitat Data Analysis Branch, Sacramento, CA. Accessed: November 2017.

[CNPS] California Native Plant Society. 2017a. A Manual of California Vegetation, Online Edition. Sacramento, California. Online at: http://vegetation.cnps.org/; Accessed: November 2017.

[CNPS] California Native Plant Society. 2017b. Inventory of Rare and Endangered Plants (online edition, v8-02). Sacramento, California. Online at: http://rareplants.cnps.org/; Accessed: November 2017.

[CSRL] California Soil Resources Lab. 2017. Online Soil Survey. Available at: http://casoilresource.lawr.ucdavis.edu/drupal/ Accessed: November 2017.

[CCH] Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Available at: http://ucjeps.berkeley.edu/consortium. Accessed: November 2017.

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

[Corps] U.S. Army Corps of Engineers (Corps). 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.

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

Google Earth. 2017. Aerial Imagery 1993-2017. Accessed: November 2017.

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

Holland, DC, MP Hayes, and E McMillan. 1990. Late summer movement and mass mortality in the California Tiger Salamander (*Ambystoma californiense*). Southwestern Naturalist 35: 217-220.

Howell, JT, F Almeda, W Follette, and C Best. 2007. Marin Flora: An Illustrated Manual of the Flowering Plants, Ferns, and Conifers of Marin County, California. California Academy of Sciences (CAS), and CNPS Marin Chapter.

Jennings, MR. 2004. An Annotated Check List of Amphibians and Reptile Species of California and Adjacent Waters, third revised edition. California Department of Fish and Game, Sacramento, CA.

Jepson Flora Project (eds.). 2017. Jepson eFlora. Online at: http://ucjeps.berkeley.edu/IJM.html; Accessed: November 2017.

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

Lowther, Peter E. 2000. Nuttall's Woodpecker (*Picoides nuttallii*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online:http://bna.birds.cornell.edu/bna/species/555. Accessed: January 2017.

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

Mitchell, D.E. 2000. Allen's Hummingbird (*Selasphorus sasin*), The Birds of North America Online (A Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online:http://bna.birds.cornell.edu/bna/species/501. Accessed January 2017.

NatureServe. 2017. NatureServe Conservation Status. Available online at: http://explorer.natureserve.org/ranking.htm; Accessed: November 2017.

Philpott, W. L. 1996 (Year Approximate). Natural Histories of California Bats. U.S. Forest Service, 17 pages.

Pierson, ED and WE Rainey. 1998. Distribution, Status and Management of Townsend's Big-eared Bat (*Corynorhinus townsendii*) in California. Department of Fish and Game. BMCP Technical Report Number 96-7.

Safford, H.D., J.H. Viers, and S.P. Harrison. 2005. Serpentine Endemism in the California Flora: A Database of Serpentine Affinity. Madroño, vol52(4): pp. 222-257.

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.

Stebbins, RC. 2003. A Field Guide to Western Reptiles and Amphibians, third edition. The Peterson Field Guide Series, Houghton Mifflin Company, NY.

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.

[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.

[USDA] U.S. Department of Agriculture, Natural Resources Conservation Service. 2016. Web Soil Survey. Online at http://websoilsurvey.nrcs.usda.gov; most recently accessed December 2016.

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

[USFWS] United States Fish and Wildlife Service. 2007. 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] 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] United States Fish and Wildlife Service. 2017. Information for Planning and Conservation Report (iPAC), Sacramento Fish and Wildlife Office. Available online at: http://www.fws.gov/sacramento; Accessed: November 2017.

[WBWG] Western Bat Working Group. 2017. Species Accounts. Available online at: http://wbwg.org/western-bat-species/; Accessed January 2017.

[WRCC] Western Regional Climate Center. 2017. www.wrcc.dri.edu; Accessed: November.

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.

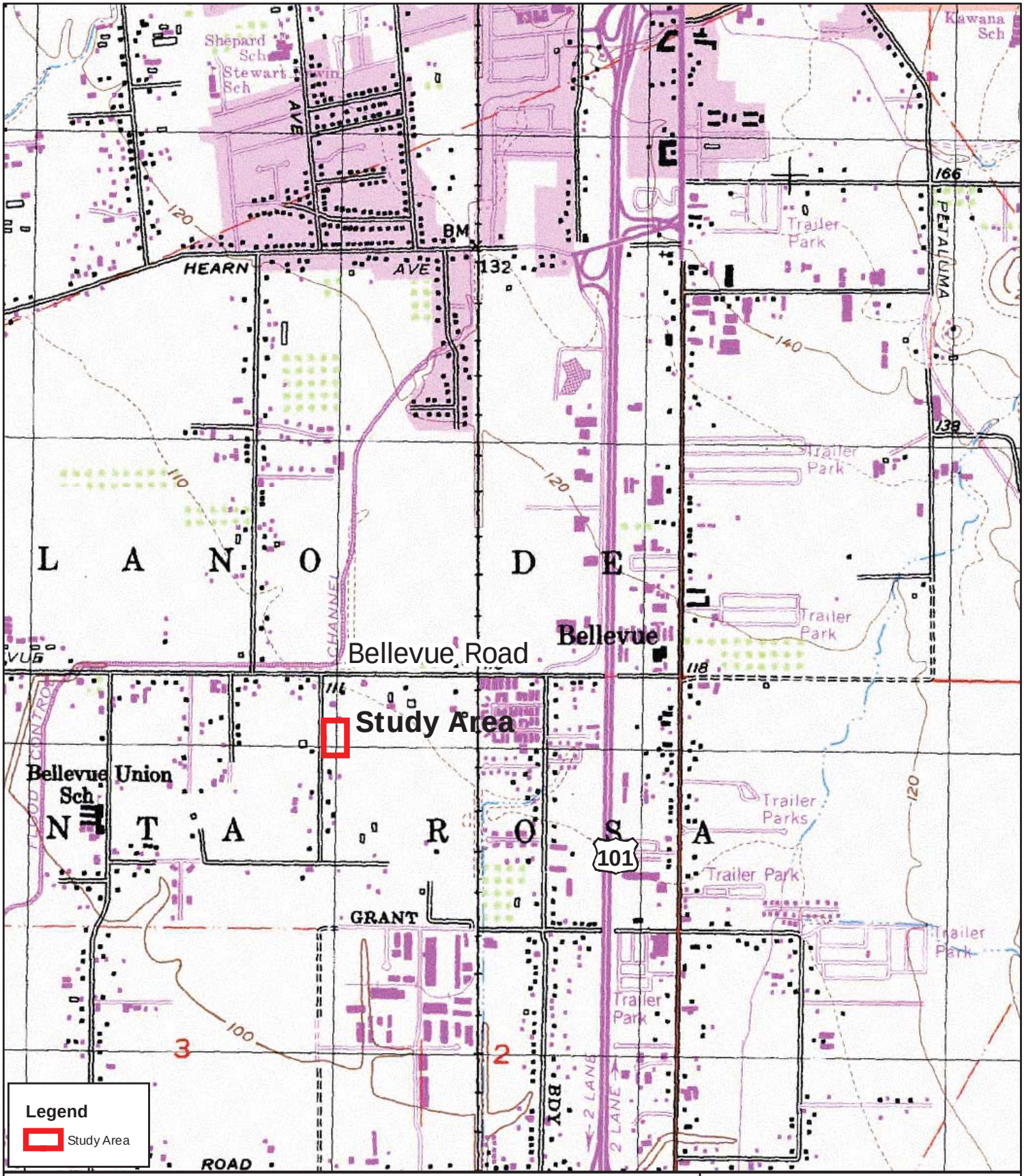


Figure 1. Topographic map showing the location of 3192 Juniper Avenue Study Area.

Santa Rosa, California

0 1,500 3,000 Feet

wra
ENVIRONMENTAL CONSULTANTS

Basemap: USGS Topo Quad
Map By: Sundaran Gillespie
Filepath: I:\Acad 2000\15000\15179\gis\ArcMap\Figure 1.mxd

Figure 2. The area represented by light green shading is undeveloped grassland area, totals approximately 0.79 acre, and includes an approximately 0.016 acre of seasonal wetland within it (see Figure 3). Darker green is other undeveloped open areas, approximately 0.13 acre. The remainder of the parcel is developed/landscaped and totals approximately 1.11 acres, including the yellow shading which is a septic mound.

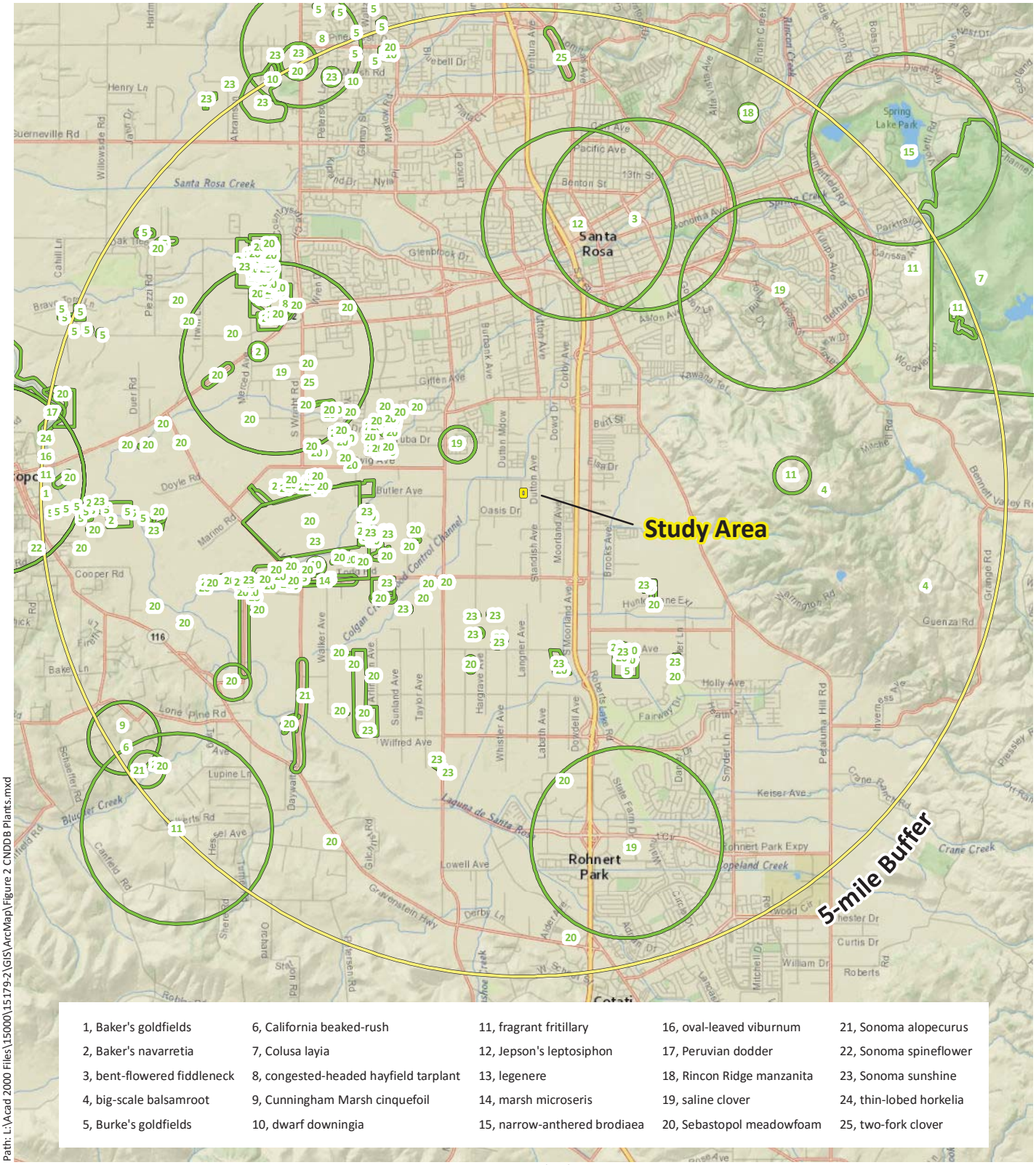
Figure 3. Juniper Avenue Project Wetland Delineation. Seasonal wetland as mapped in 2007 and approved by the Corps of Engineers in 2008.

Santa Rosa, California

0 100 200 Feet

wra
ENVIRONMENTAL CONSULTANTS

Date: March 2007
Basemap: USGS Topo Quad
Map By: Sundaran Gillespie and Michael Rochelle
Filepath: I:\Acad 2000\15000\15179\gis\ArcMap\Site Map.mxd



1, Baker's goldfields	6, California beaked-rush	11, fragrant fritillary	16, oval-leaved viburnum	21, Sonoma alopecurus
2, Baker's navarretia	7, Colusa layia	12, Jepson's leptosiphon	17, Peruvian dodder	22, Sonoma spineflower
3, bent-flowered fiddleneck	8, congested-headed hayfield tarplant	13, legenere	18, Rincon Ridge manzanita	23, Sonoma sunshine
4, big-scale balsamroot	9, Cunningham Marsh cinquefoil	14, marsh microseris	19, saline clover	24, thin-lobed horkelia
5, Burke's goldfields	10, dwarf downingia	15, narrow-anthered brodiaea	20, Sebastopol meadowfoam	25, two-fork clover

Path: L:\Acad 2000 Files\15000\15179-2\GIS\ArcMap\Figure 2 CNDDB Plants.mxd

Sources: National Geographic, CNDDB Nov. 2017, WRA | Prepared By: pkobylarz, 11/22/2017

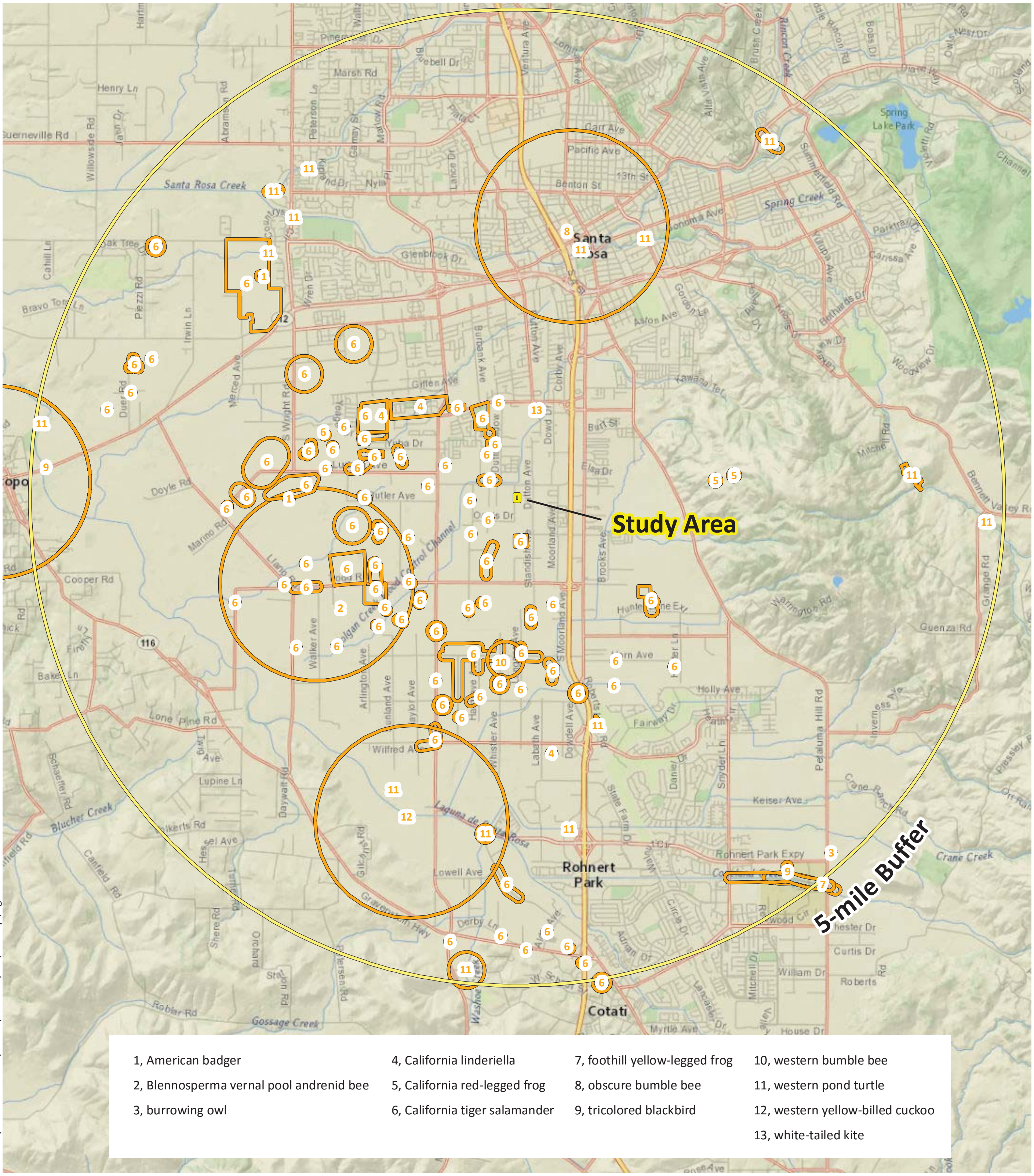
Figure 4. Special-Status Plant Species Documented within 5-miles of the Study Area

3192 Juniper Avenue
Santa Rosa, California

0 1 2 Miles

N

wra
ENVIRONMENTAL CONSULTANTS



Path: L:\Acad 2000 Files\15000\15179-2\GIS\ArcMap\Figure 3 CNDDB Wildlife.mxd

Sources: National Geographic, CNDDB Nov. 2017, WRA | Prepared By: pkobylarz, 11/22/2017

Figure 5. Special-Status Wildlife Species Documented within 5-miles of the Study Area

3192 Juniper Avenue
Santa Rosa, California

0 1 2 Miles

wra ENVIRONMENTAL CONSULTANTS

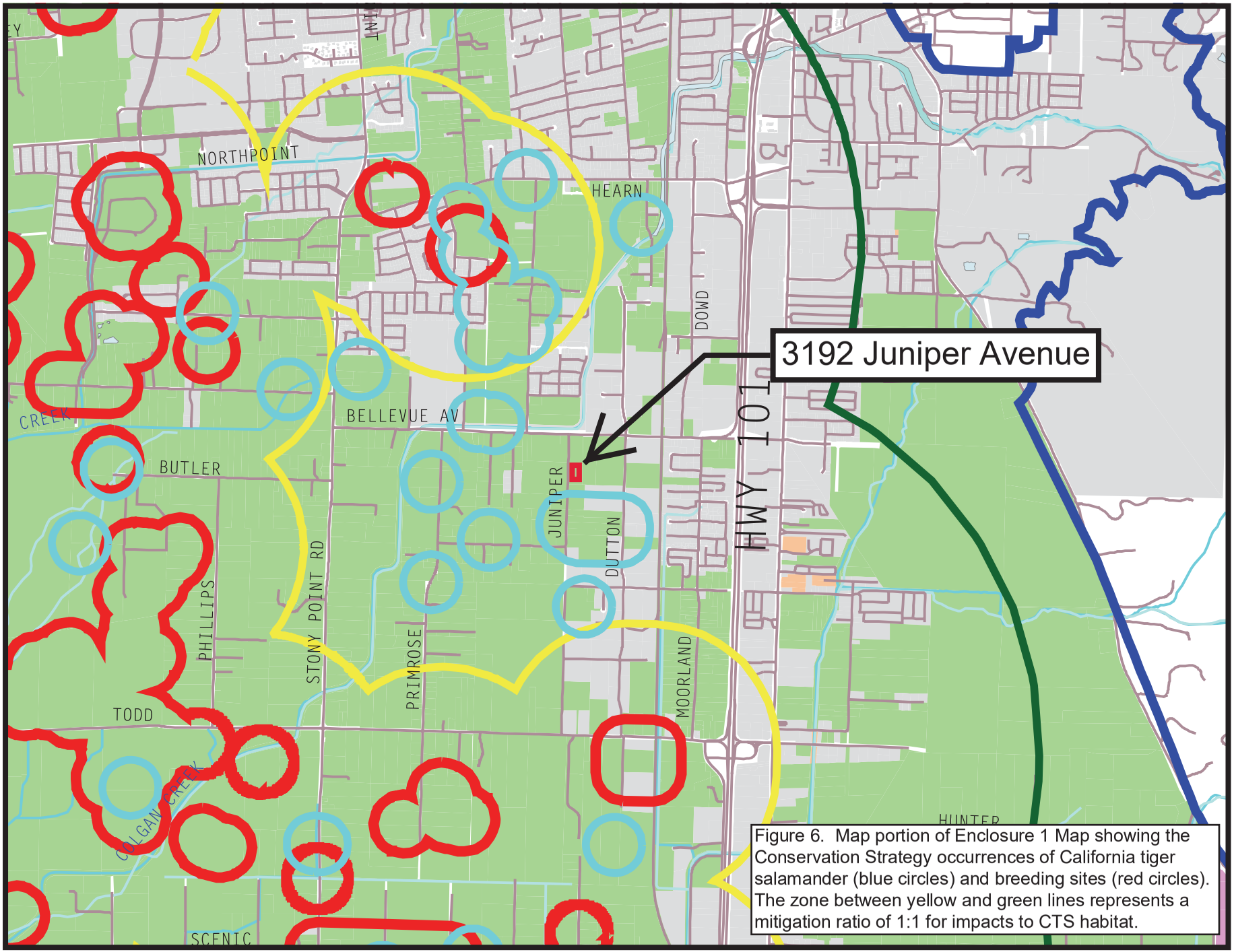


Figure 6. Map portion of Enclosure 1 Map showing the Conservation Strategy occurrences of California tiger salamander (blue circles) and breeding sites (red circles). The zone between yellow and green lines represents a mitigation ratio of 1:1 for impacts to CTS habitat.

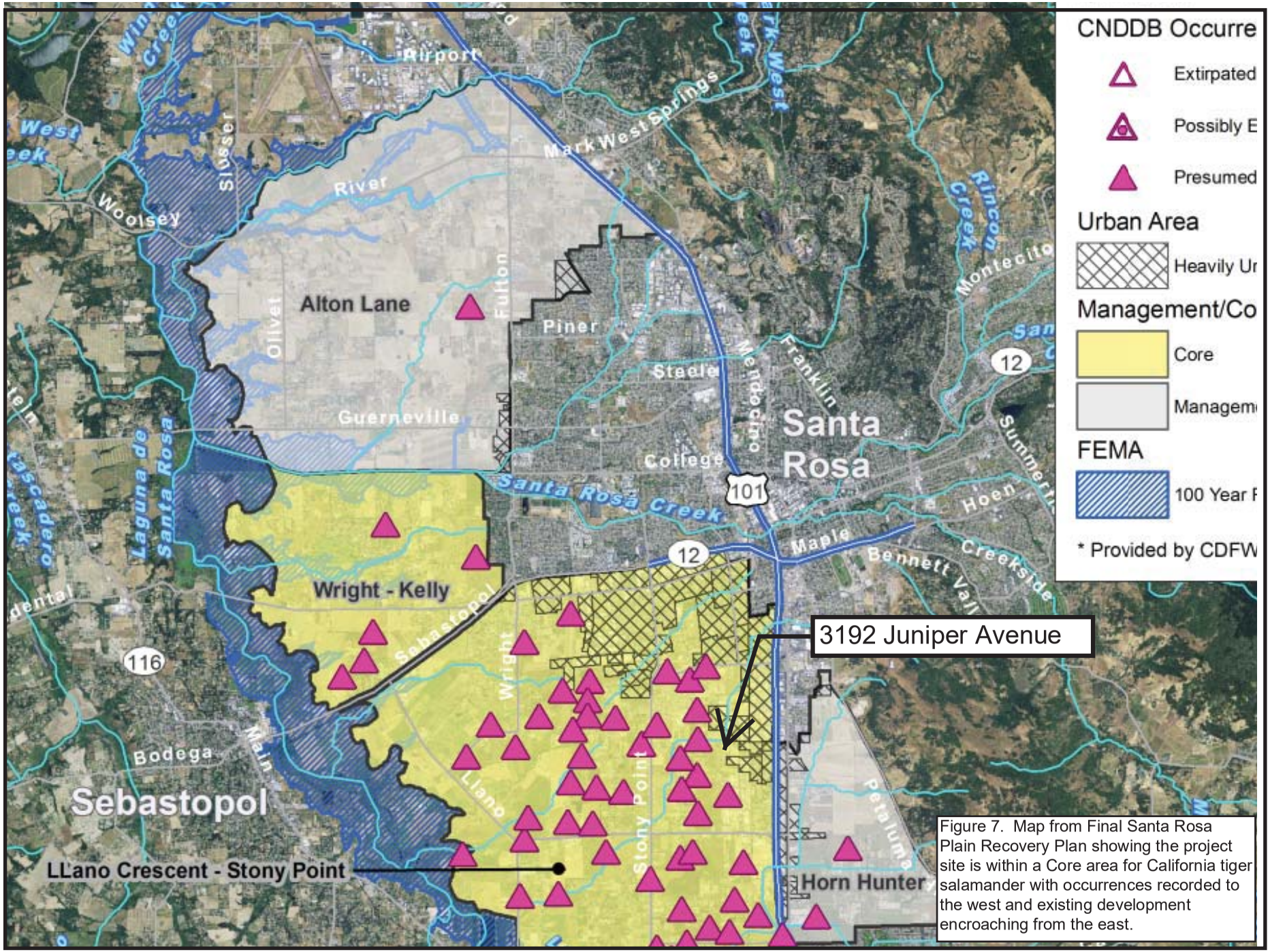


Figure 7. Map from Final Santa Rosa Plain Recovery Plan showing the project site is within a Core area for California tiger salamander with occurrences recorded to the west and existing development encroaching from the east.

Figure 8. Aerial photograph of 3192 Juniper Avenue existing conditions. The proposed project will use existing buildings and hardscape areas for Phase 1 and leave grassland areas (see Figure 2) undisturbed.

APPENDIX A

LIST OF OBSERVED PLANT AND WILDLIFE SPECIES

Appendix A. List of plant species observed in the 3192 Juniper Avenue Study Area.

Scientific Name	Common Name
Anagallis arvensis	scarlet pimpernel
Avena sp.	wild oats
Baccharis pilularis	coyote bush
Brassica nigra	wild mustard
Bromus hordeaceus	soft chess
Bromus diandrus	ripgut brome
Chamomilla suaveolens	pineapple weed
Convolvulus arvensis	bindweed
Cyperus eragrostis	nut sedge
Erodium botrys	stork's bill filaree
Eucalyptus sp.	Eucalyptus
Geranium dissectum	cut-leaf geranium
Hordeum marinum ssp. gussoneanum	Mediterranean barley
Hordeum brachyantherum	meadow barley
Hordeum leporinum	wild barley
Juncus bufonius	toad rush
Lactuca serriola	prickly lettuce
Limnanthes douglasii	common meadowfoam
Lolium multiflorum	Italian ryegrass
Lupinus sp.	lupine
Medicago polymorpha	bur clover
Picris echioides	bristly ox-tongue
Plagiobothrys bracteatus	bracted popcornflower
Plantago lanceolata	English plantain
Pleuropogon californicus	annual semaphore grass
Poa annua	bluegrass
Polygonum aviculare	common knotweed

Appendix A. List of plant species observed in the 3192 Juniper Avenue Study Area.

Polypogon monspeliensis	rabbitsfoot grass
Populus sp.	cottonwood, poplar
Raphanus sativa	wild radish
Rumex crispus	curly dock
Tragopogon sp.	salsify
Vulpia myuros	fescue
Vicia sativa	spring vetch

APPENDIX B

SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR IN STUDY AREA

Appendix B. 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 Study 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, California Natural Diversity Database (CNDDB, CDFW) 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 (2007).

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 (52 to 300 meters). Blooms (Apr), May-Jun.	**No Potential.** The Study Area lacks suitable habitat and serpentine or volcanic soils.	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.	**No Potential.** The Study Area lacks large, intact perennial marshes and swamps known to support this species.	No further recommendations for this species.
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.	**No Potential.** The Study Area lacks suitable habitat for this species.	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.** The disturbance regime (i.e. previous and continued plowing or discing) likely precludes the species from persisting in the Study Area.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
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 Study Area lacks suitable habitat for 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.	**Not Present.** The Study Area lacks chaparral and acidic marine sand substrate known to support this species. This perennial shrub species was not observed during the site visit.	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).	**Not Present.** The Study Area lacks chaparral and rhyolitic substrate known to support this species. This perennial shrub species was not observed during the site visit.	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 Study Area lacks gravelly soils derived from serpentine or volcanic substrate known 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 Study 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 Study Area lacks chaparral, cismontane woodland 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.	**Moderate Potential.** The Study Area lacks intact vernal pools typically associated with this species. Seasonal wetland within the Study Area is highly disturbed by previous and continued mowing and dominated by non-native annual grasses which likely outcompete many native annual forb species. However, the PBO for the Santa Rosa Plain considers all seasonal wetlands as suitable habitat for this species.	Protocol surveys of the seasonal wetland for this plant in 2008 produced negative results for presence and a follow up survey in 2015 indicated conditions have not changed and this plant is unlikely to be present. No further recommendations for this species. Mitigation may be required according to Santa Rosa Conservation Strategy and Programmatic Biological Opinion (USFWS 2007).

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 Study 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 Study Area lacks the biological communities associated with this species. This species is more closely associated with coastal environments (Jepson eFlora 2017).	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 Study Area lacks coastal scrub and large intact marshes and swamps associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
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 Study Area lacks serpentine substrate known to support this species.	No further recommendations for this species.
Brewer's calandrinia *Calandrinia breweri*	Rank 4.2	Chaparral, coastal scrub on sandy or loamy soil; disturbed sites and burns. Elevation ranges from 30 to 3660 feet (10-1220 meters). Blooms January-June	**No Potential.** The Study Area does not contain chaparral or coastal scrub and is not recently burned.	No further recommendations for this species.
pink star-tulip *Calochortus uniflorus*	Rank 4.2	Coastal prairie, coastal scrub, meadows and seeps, north coast coniferous forest. Elevation ranges from 30 to 3510 feet. Blooms Apr-Jun.	**Unlikely.** The Study Area lacks suitable habitat for this species. The disturbance regime (i.e., previous and continued mowing) likely precludes the species from persisting in the Study Area.	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 Study Area lacks serpentine substrates known to support this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
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 Study Area lacks the biological communities associated with this species. This species is more closely associated with coastal environments (Jepson eFlora 2017).	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.** The disturbance regime (i.e., previous and continued mowing) likely precludes the species from persisting in the Study Area.	No further recommendations for this species.
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 Study 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 2016b).	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
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.	**Not Present.** The Study Area lacks the vegetation communities and substrates known to support this species. This perennial shrub species was not observed during the site visit.	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.	**Not Present.** The Study Area lacks the vegetation communities and substrates known to support this species. This perennial shrub species was not observed during the site visit.	No further recommendations for this species.
Vine Hill ceanothus *Ceanothus foliosus* var. *vineatus*	Rank 1B.1	Chaparral on uplifted marine sediments. Elevation ranges from 150 to 1000 feet. Blooms Mar-May.	**Not Present.** The Study Area lacks the vegetation communities and substrates known to support this species. This perennial shrub species was not observed during the site visit.	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).	**Not Present.** The Study Area lacks chaparral habitat. This perennial shrub species was not observed during the site visit.	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.	**Not Present.** The Study Area lacks the vegetation communities and substrates known to support this species. This perennial shrub species was not observed during the site visit.	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.	**Not Present.** The Study Area lacks the vegetation communities and substrates known to support this species. This perennial shrub species was not observed during the site visit.	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 Study Area lacks alkaline soils and coastal salt marshes typically associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
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 Study Area lacks coastal prairie and sandy soils.	No further recommendations for this species.
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 Study Area lacks the vegetation communities 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 Study 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 2017b).	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 Study Area lacks the associated vegetation communities and serpentine substrates.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Pennell's bird's-beak *Cordylanthus tenuis* ssp. *capillaris*	FE, SR, Rank 1B.2	Closed-cone coniferous forest, chaparral/serpentine. Elevation ranges from 150 to 1000 feet. Blooms Jun-Sep.	**No Potential.** The Study 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 Study Area lacks large intact marsh habitat. There is only one occurrence in the Study Area vicinity from 1946 (CDFW 2017).	No further recommendations for this species.
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 Study Area lacks the vegetation communities associated with this species.	No further recommendations for this species.
Baker's larkspur *Delphinium bakeri*	FE, SE, Rank 1B.1	Broadleafed upland forest, coastal scrub, valley and foothill grassland/decomposed shale, often mesic. Elevation ranges from 260 to 1000 feet. Blooms Mar-May.	**No Potential.** The Study Area lacks the associated vegetation communities and decomposed shale substrates.	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 Study Area lacks the associated vegetation communities and rocky substrates.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
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 Study 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 Study Area lacks the vegetation communities associated with this species.	No further recommendations for this species.
serpentine daisy *Erigeron serpentinus*	Rank 1B.3	Chaparral (serpentine, seeps). Elevation ranges from 200 to 2200 feet. Blooms May-Aug.	**No Potential.** The Study Area lacks serpentine seeps associated with this species.	No further recommendations for this species.
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 Study Area lacks acidic soils known to support this species (CDFW 2017), and is well below the documented elevation range.	No further recommendations for this species.
Loch Lomond button celery *Eryngium constancei*	Rank 1B.1, FE, CE	Vernal pools. Elevation ranges from 1380 to 2565 feet. Blooms April-June	**No Potential.** The Study Area lacks vernal pool habitat necessary to support this species is not present.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
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.** The disturbance regime (i.e., previous and continued mowing) likely precludes the species from persisting in the Study Area.	No further recommendations for this species.
woolly-headed gilia *Gilia capitata* ssp. *tomentosa*	Rank 1B.1	Coastal bluff scrub, valley and foothill grassland/serpentine, rocky, outcrops. Elevation ranges from 30 to 720 feet. Blooms May-Jul.	**No Potential.** The Study Area lacks serpentine soils and rocky outcrops associated with this species.	No further recommendations for this species.
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 Study Area lacks large intact marshes and swamps, or vernal pools associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
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.** This species is often seen in fallow or grazed fields within grasslands dominated by non-native species and is relatively disturbance tolerant. Despite potentially suitable disturbed grassland habitat, this species was not observed during the site visit which was conducted during the bloom period of the species.	No further recommendations for this species.
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 Study Area lacks vernal pools 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 2017, Jepson eFlora 2017, CNPS 2017b, 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 or gravelly. Elevation ranges from 160 to 1640 feet. Blooms May-Jul (Aug).	**No Potential.** The Study Area lacks sandy or gravelly 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.** The disturbance regime (i.e. previous and continued plowing or discing) likely precludes the species from persisting in the Study Area.	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.** The disturbance regime (i.e., previous and continued mowing) likely precludes the species from persisting in the Study Area.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
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.	**Moderate Potential.** The Study Area lacks intact vernal pools typically associated with this species. Seasonal wetland within the Study Area is highly disturbed by previous and continued mowing and is dominated by non-native annual grasses which likely outcompete many native annual forb species. However, the PBO for the Santa Rosa Plain considers all seasonal wetlands as suitable habitat for this species.	Protocol surveys of the seasonal wetland for this plant in 2008 produced negative results for presence and a follow up survey in 2015 indicated conditions have not changed and this plant is unlikely to be present. No further recommendations for this species. Mitigation may be required according to Santa Rosa Conservation Strategy and Programmatic Biological Opinion (USFWS 2007).
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.** The disturbance regime (i.e., previous and continued mowing) likely precludes the species from persisting in the Study Area. There is only one documented occurrence of this species in the vicinity of the Study Area from 1899 (CDFW 2016b). 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.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Contra Costa goldfields *Lasthenia conjugens*	FE, Rank 1B.1	Cismontane woodland, playas (alkaline), valley and foothill grassland, vernal pools/mesic. Elevation ranges from 0 to 1540 feet Blooms Mar-Jun.	**No Potential.** The Study Area lacks vernal pools and alkaline substrates associated with this species.	No further recommendations for this species.
Colusa layia *Layia septentrionalis*	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland/sandy, serpentine. Elevation ranges from 330 to 3590 feet. Blooms Apr-May.	**No Potential.** The Study 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 Study 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 Study 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 Study Area lacks the vegetation communities and volcanic soils associated with this species.	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 Study 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 Study Area lacks large intact marsh habitat and sandy soils associated with this species.	No further recommendations for this species.
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 Study Area lacks the vegetation communities associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
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.	**Moderate Potential.** The Study Area lacks intact vernal pools typically associated with this species. Seasonal wetland within the Study Area is highly disturbed by previous and continued mowing, and is dominated by non-native annual grasses which likely outcompete many native annual forb species. However, the PBO for the Santa Rosa Plain considers all seasonal wetlands as suitable habitat for this species.	Protocol surveys of the seasonal wetland for this plant in 2008 produced negative results for presence and a follow up survey in 2015 indicated conditions have not changed and this plant is unlikely to be present. No further recommendations for this species. Mitigation may be required according to Santa Rosa Conservation Strategy and Programmatic Biological Opinion (USFWS 2007).
Napa Lomatium *Lomatium repostum*	Rank 4.3	Chaparral, cismontane woodland/serpentine. Elevation ranges from 300 to 2720 feet. Blooms Mar-Jun.	**No Potential.** The Study Area lacks the vegetation communities and serpentine substrate known to support this species.	No further recommendations for this species.
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 Study Area lacks the associated vegetation communities and is well below the documented elevation range of the species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
Mt. Diablo cottonweed *Micropus amphibolus*	Rank 3.2	Broadleafed upland forest, chaparral, cismontane woodland, valley and foothill grassland/rocky. Elevation ranges from 150 to 2710 feet. Blooms Mar-May.	**Unlikely.** The Study Area lacks rocky substrates known to support this 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.** The disturbance regime (i.e., previous and continued mowing) likely precludes the species from persisting in the Study Area.	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 Study Area lacks the vegetation communities associated with this species.	No further recommendations for this species.
cotula navarretia *Navarretia cotulifolia*	Rank 4.2	Chaparral, cismontane woodland, valley and foothill grassland/adobe. Elevation ranges from 10 to 6000 feet. Blooms May-Jun.	**Unlikely.** The disturbance regime (i.e., previous and continued mowing) likely precludes the species from persisting in the Study Area.	No further recommendations for this species.
Tehama navarretia *Navarretia heterandra*	Rank 4.3	Vernal pools, valley and foothill grasslands (mesic). Elevations range from 90 to 3030 feet. Blooms April-June	**Unlikely.** The disturbance regime (i.e., previous and continued mowing) likely precludes the species from persisting in the Study Area.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
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 Study Area lacks vernal pools and alkaline soils associated with this species (CDFW 2017).	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 Study Area lacks vernal pools and volcanic ash flow substrates associated with this species.	No further recommendations for this species.
Sonoma beardtongue *Penstemon newberryi* var. *sonomensis*	Rank 1B.3	Chaparral (rocky). Elevation ranges from 2300 to 4490 feet. Blooms Apr-Aug.	**No Potential.** The Study 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.** The disturbance regime (i.e., previous and continued mowing) likely precludes the species from persisting in the Study Area.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
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 2016b)	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.	**No Potential.** The Study Area lacks forested habitats known to support this species.	No further recommendations for this species.
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.	**No Potential.** The Study Area lacks forested habitats known to support this species.	No further recommendations for this species.
Napa blue grass *Poa napensis*	Rank 1B.1	Meadows and seeps, valley and foothill grasslands; alkaline, near thermal springs. Elevations range from 300 to 600 feet. Blooms May-Aug.	**No Potential.** This species is known only from thermal springs in the Calistoga areas.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS***
Plants				
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 Study Area lacks permanent oligotrophic wetlands. This species is presumed extinct.	No further recommendations for this species.
California alkali grass *Puccinellia simplex*	Rank 1B.2	Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools/alkaline, vernally mesic; sinks, flats, and lake margins. Elevation ranges from 10 to 3050 feet (2 to 930 meters). Blooms Mar-May.	**No Potential.** The Study 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 Study 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.	**No Potential.** The Study 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				
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.	**No Potential.** The Study Area lacks large intact bogs, marshes and swamps associated with this species.	No further recommendations for this species.
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.	**No Potential.** The Study Area lacks large intact bogs, marshes and swamps 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.	**No Potential.** The Study 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 Study 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.	**No Potential.** The Study Area lacks large intact marshes and swamps associated with 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.** The disturbance regime (i.e. previous and continued plowing or discing) likely precludes the species from persisting in the Study Area.	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 Study 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 Study 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 Study Area lacks coastal scrub 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.** The Study Area lacks the vegetation communities associated with this species.	No further recommendations for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Mammals				
long-eared myotis *Myotis evotis*	WBWG: Medium	Occurs in semiarid shrublands, sage, chaparral, and agricultural areas, but is usually associated with coniferous forests from sea level to 9000 feet. Individuals roost under exfoliating tree bark, and in hollow trees, caves, mines, cliff crevices, and rocky outcrops on the ground. This species may roost in buildings and under bridges.	**Unlikely.** Continuous human presence and working activities would deter bats from being present. Foraging may occur over the parcel at times.	Work windows and/or pre-construction surveys.
fringed myotis *Myotis thysanodes*	WBWG: High	Associated with a wide variety of habitats including dry woodlands, desert scrub, mesic coniferous forest, grassland, and sage-grass steppes. Buildings, mines and large trees and snags are important day and night roosts.	**Unlikely.** Continuous human presence and working activities would deter bats from being present. Foraging may occur over the parcel at times.	Work windows and/or pre-construction surveys.
long-legged myotis *Myotis volans*	WBWG: High	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.	**Unlikely.** Continuous human presence and working activities would deter bats from being present. Foraging may occur over the parcel at times.	Work windows and/or pre-construction surveys.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
silver-haired bat *Lasionycteris noctivagans*.	WBWG: Medium	Primarily a forest dweller, feeding over streams, ponds, and open brushy areas. Summer habitats include a variety of forest and woodland types, both coastal and montane. Roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark.	**Unlikely.** Continuous human presence and working activities would deter bats from being present. Foraging may occur over the parcel at times.	No further actions are recommended for this species.
hoary bat *Lasiurus cinereus*	WBWG: High	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.	**Unlikely.** Continuous human presence and working activities would deter bats from being present. Foraging may occur over the parcel at times.	No further actions are recommended for this species.
pallid bat *Antrozous pallidus*	SSC; WBWG: High	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.	**Unlikely.** Continuous human presence and working activities would deter bats from being present. Foraging may occur over the parcel at times.	Work windows and/or pre-construction surveys.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Townsend's big-eared bat *Corynorhinus townsendii*	SSC; WBWG: High	Associated with a wide variety of habitats from deserts to mid-elevation mixed coniferous-deciduous forest. Females form maternity colonies in buildings, caves and mines and males roost singly or in small groups. Foraging occurs in open forest habitats where they glean moths from vegetation.	**Unlikely.** Continuous human presence and working activities would deter bats from being present. Foraging may occur over the parcel at times.	No further actions are recommended for this species.
western mastiff bat *Eumops perotis*	SSC, WBWG: High	Found in a wide variety of open, arid and semi-arid habitats. Distribution appears to be tied to large rock structures which provide suitable roosting sites, including cliff crevices and cracks in boulders.	**No Potential.** Continuous human presence and working activities would deter bats from being present. Foraging may occur over the parcel at times. Moreover, the Study Area does not contain large rock structures to supporting roosting for this species.	No further actions are recommended for this species.
western red bat *Lasiurus blossevillii*	SSC, WBWG: High	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.	**Unlikely.** Continuous human presence and working activities would deter bats from being present. Foraging may occur over the parcel at times.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Sonoma tree vole *Arborimus pomo*	SSC	North coast fog belt from Oregon border to Sonoma County. Occurs In Douglas fir, redwood and montane hardwood-conifer forests. Feeds almost exclusively on Douglas fir needles. Will occasionally take needles of grand fir, hemlock or spruce.	**No Potential.** The Study Area does not contain Douglas fir or hardwood-conifer forest habitat this species needs for foraging and nesting. Redwood trees within the Study Area are regularly maintained and not part of a coniferous forest.	No further actions are recommended for this species.
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.	**Unlikely.** The Study Area is surrounded by residential development, and is not contiguous with typical open grassland habitat required to support denning and foraging for this species. Burrows suitable for denning were not observed. Additionally, ground squirrels are not present within the Study Area or the immediate vicinity. The nearest suitable foraging habitat is over 2.0 - miles west of the Study Area (CDFW 2017).	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
ringtail *Bassariscus astutus*	CFP	Widely distributed throughout most of California; absent from some portions of the Central Valley and northeastern California. Found in a variety of habitats including riparian areas, semi-arid country, deserts, chaparral, oak woodlands, pinyon pine woodlands, juniper woodlands and montane conifer forests usually under 4,600 ft. elevation. Typically uses cliffs or large trees for shelter.	**Unlikely.** The historical disturbance of the Study Area and surrounding development does not provide suitable refugia for this species.	No further actions are recommended for this species.
fisher, west coast DPS *Martes pennanti (formerly Martes pennant pacifica)*	SC (threatened), SSC	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest.	**No Potential.** The Study Area does not provide habitat that this species requires for cover or foraging. The Study Area does not contain large rocks, logs or riparian habitat with high percent canopy closure.	No further actions are recommended for this species.
Birds				
ferruginous hawk *Buteo regalis*	BCC	Winter visitor to open habitats, including grasslands, sagebrush flats, scrub, and low foothills surrounding valleys. Preys on mammals. Does not breed in California.	**No Potential.** This species may winter within the Study Area or in adjacent areas; however this species does not breed in California.	No further actions are recommended for this species.
golden eagle *Aquila chrysaetos*	CFP, BCC, EPA	Occurs year-round in rolling foothills, mountain areas, sage-juniper flats, and deserts. Cliff-walled canyons provide nesting habitat in most parts of range; also nests in large trees, usually within otherwise open areas.	**Unlikely.** The Study Area does not contain deep canyons with large trees suitable for nesting. This species may forage within the Study Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
bald eagle *Haliaeetus leucocephalus*	SE, CFP, BCC, EPA	Occurs year-round in California, but primarily a winter visitor. Nests in large trees in the vicinity of larger lakes, reservoirs and rivers. Wintering habitat somewhat more variable but usually features large concentrations of waterfowl or fish.	**No Potential.** The Study Area does not contain large trees adjacent to large water bodies of water to support foraging or nesting of this species.	No further actions are recommended for this species.
white-tailed kite *Elanus leucurus*	CFP	Year-round resident in coastal and valley lowlands with scattered trees and large shrubs, including grasslands, marshes and agricultural areas. Nests in trees, of which the type and setting are highly variable. Preys on small mammals and other vertebrates.	**Unlikely.** Continuous human presence and working activities would deter these birds from being present. The nearest documented breeding occurrence is 0.7 - miles south (CDFW 2017).	Work windows and/or pre-construction surveys.
prairie falcon *Falco mexicanus*	BCC	Year-round resident and winter visitor. Inhabits dry, open terrains, including foothills and valleys. Breeding sites located on steep cliffs. Forages widely.	**Unlikely.** The Study Area does not contain suitable nesting or foraging habitat to support this species.	No further actions are recommended for this species.
American peregrine falcon *Falco peregrinus anatum*	SD, CFP, BCC	Year-round resident and winter visitor. Occurs in a wide variety of habitats, though often associated with coasts, bays, marshes and other bodies of water. Nests on protected cliffs and also on man-made structures including buildings and bridges. Preys on waterbirds.	**Unlikely.** No cliff, ledge or anthropogenic structures suitable for nesting are present within the Study Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT, SE, BCC	Summer resident, breeding in dense riparian forests and jungles, typically with early successional vegetation present. Utilizes densely-foliaged deciduous trees and shrubs. Eats mostly caterpillars. Current breeding distribution within California very restricted.	**No Potential.** The Study Area does not contain sufficient contiguous riparian habitat necessary for this species. Additionally, the Study Area is outside this species known range (CDFW 2017).	No further actions are recommended for this species.
burrowing owl *Athene cunicularia*	SSC, BCC	Year-round resident and winter visitor. Occurs in open, dry grasslands and scrub habitats with low-growing vegetation, perches and abundant mammal burrows. Preys upon insects and small vertebrates. Nests and roosts in old mammal burrows, most commonly those of ground squirrels.	**Unlikely.** Open habitat within the Study Area is extremely disturbed and does not contain burrows suitable for nesting. The nearest documented occurrence is 6.0 - miles south of the Study Area within an open field (CDFW 2017).	No further actions are recommended for this species.
northern spotted owl *Strix occidentalis caurina*	FT, ST, SSC	Year-round resident in dense, structurally complex forests, primarily those with old-growth conifers. Nests on platform-like substrates in the forest canopy, including in tree cavities. Preys on mammals.	**No Potential.** The Study Area and immediately adjacent areas lack old-growth coniferous forest habitat this species requires for nesting and foraging.	No further actions are recommended for this species.
short-eared owl *Asio flammeus*	SSC	Occurs year-round, but primarily as a winter visitor, breeding is very restricted in most of California. Found in open, treeless areas (e.g., marshes, grasslands) with elevated sites for foraging perches and dense herbaceous vegetation for roosting and nesting. Preys mostly on small mammals, particularly voles.	**No Potential.** The Study Area does not contain open treeless areas to provide suitable nesting or foraging habitat for this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
long-eared owl *Asio otus*	SSC	Occurs year-round in California. Nests in trees in a variety of woodland habitats, including oak and riparian, as well as tree groves. Requires adjacent open land with rodents for foraging, and the presence of old nests of larger birds (hawks, crows, magpies) for breeding.	**Unlikely.** Human presence on the parcel and residential development in the surrounding area reduce the potential of supporting this species. Suitable habitat is located over 3.0 - miles west of the Study Area along the Laguna de Santa Rosa.	No further actions are recommended for this species.
California black rail *Laterallus jamaicensis coturniculus*	ST, CFP	Year-round resident in marshes (saline to freshwater) with dense vegetation within four inches of the ground. Prefers larger, undisturbed marshes that have an extensive upper zone and are close to a major water source. Extremely secretive and cryptic.	**No Potential.** The Study Area does not contain brackish marsh habitat necessary to support this species. Known occurrences are in the southern portions of Sonoma County along the Petaluma River.	No further actions are recommended for this species.
black oystercatcher *Haematopus bachmani*	BCC	Year-round resident of rocky coast habitats along the Pacific coast. Also occurs on coastal and lower estuarine mud-flats. Forages primarily on intertidal invertebrates.	**No Potential.** The Study Area does not contain rocky coast or estuarine mud-flats to support this species.	No further actions are recommended for this species.
western snowy plover *Charadrius nivosus (alexandrines) nivosus*	FT, SSC, BCC, RP	Federal listing applies only to the Pacific coastal population. Year-round resident and winter visitor. Occurs on sandy beaches, salt pond levees, and the shores of large alkali lakes. Nests on the ground, requiring sandy, gravelly or friable soils.	**No Potential.** The Study Area does not contain sandy beaches or shores along large bodies of water. Suitable habitat is over 19.0 - miles west of the Study Area along the coast.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
marbled murrelet *Brachyramphus marmoratus*	FT, SE	Predominantly coastal marine. Nests in old-growth coniferous forests up to 30 miles inland along the Pacific coast, from Eureka to the Oregon border, and in Santa Cruz/San Mateo Counties. Nests are highly cryptic, and typically located on platform-like branches of mature redwoods and Douglas firs. Forages on marine invertebrates and small fishes.	**No Potential.** The Study Area does not contain coastal marine habitat this species requires for foraging. Additionally the Study Area does not contain mature coniferous trees to support nesting by this species.	No further actions are recommended for this species.
short-tailed albatross *Phoebastria albatrus*	FE, SSC	Highly pelagic; comes to land only when breeding. Nests on remote Pacific islands. A rare non-breeding visitor to the eastern Pacific.	**No Potential.** Suitable nesting habitat is not present in or near the Study Area. This species is not known to breed in Sonoma County.	No further actions are recommended for this species.
long-billed curlew *Numenius americanus*	BCC	(Nesting) breeds in upland shortgrass prairies and wet meadows in northeastern California. Habitats on gravelly soils and gently rolling terrain are favored over others.	**Unlikely.** This species does not breed in the region, but may occasionally occur within or adjacent to the Study Area during the winter months.	No further actions are recommended for this species.
loggerhead shrike *Lanius ludovicianus*	SSC, BCC	Year-round resident in open woodland, grassland, savannah and scrub. Prefers areas with sparse shrubs, trees, posts, and other suitable perches for foraging. Preys upon large insects and small vertebrates. Nests are well-concealed in densely-foliaged shrubs or trees.	**Unlikely.** The Study Area does not contain open grassland habitat this species requires for nesting and foraging. Additionally, the Study Area is surrounded by residential development.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Lewis's woodpecker *Melanerpes lewis*	BCC	Uncommon resident in California occurring on open oak savannahs, broken deciduous and coniferous habitats. Breeds primarily in ponderosa pine forests, riparian woodlands and disturbed pine forests, but is also known to nest in orchards and oak woodlands. Rare nester in the San Francisco Bay Area.	**Unlikely.** Sonoma County is not within this species breeding range, however this species may be observed foraging within the oak trees in the Study Area during the non-nesting season.	No further actions are recommended for this species.
Nuttall's woodpecker *Picoides nuttallii*	BCC	Year-round resident in lowland woodlands throughout much of California west of the Sierra Nevada. Typical habitat is dominated by oaks; also occurs in riparian woodland. Nests in tree cavities.	**Unlikely.** Suitable habitat is not present and continuous human presence and working activities would deter these birds from being present.	Work windows and/or pre-construction surveys.
purple martin *Progne subis*	SSC	Inhabits woodlands and low elevation coniferous forests. Nests in old woodpecker cavities and man-made structures. Nests are often located in tall, isolated trees or snags.	**Unlikely.** The Study Area and adjacent areas do not contain woodland or coniferous forest habitat. Although the Study Area does contain trees to support cavity nesting, suitable foraging habitat is not within 5.0 - miles of the Study Area.	No further actions are recommended for this species.
black swift *Cyseloides niger*	SSC, BCC	Summer resident with a fragmented breeding distribution; most occupied areas in California either montane or coastal forests. Breeds in small colonies on cliffs behind or adjacent to waterfalls, in deep canyons, and sea-bluffs above the surf. Forages aerially over wide areas.	**Unlikely.** No suitable breeding or foraging habitat consisting of coastal forests is present within the Study Area. The nearest suitable habitat is 9.0 - miles west of the Study Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Vaux's swift *Chaetura vauxi*	SSC	Summer resident, breeding primarily in forested areas. Nests in tree cavities, favoring those with a large vertical extent; also uses chimneys and other man-made substrates. Forages aerially for insects.	**Unlikely**. The Study Area and immediately adjacent areas do not contain suitable aquatic habitat this species requires for foraging. Additionally, the Study Area lacks large tree cavities or chimneys to support nesting.	No further actions are recommended for this species.
Allen's hummingbird *Selasphorus sasin*	BCC	Summer resident along the California coast, breeding in a variety of woodland and forest habitats, including parks and gardens with abundant nectar sources. Nests in shrubs and trees with dense vegetation.	**Moderate Potential**. The Study Area contains suitable trees to support nesting of this species. Additionally, this species has been documented to breed in the area (Burridge 1995).	Work windows and/or pre-construction surveys.
rufous hummingbird *Selasphorus rufus*	BCC	Summer resident, with breeding in California restricted to the northwest corner of the state. Favors habitats rich in nectar-producing flowers. Nests in berry tangles, shrubs, deciduous forests and conifers. Occurs widely during migration.	**Unlikely.** Sonoma County is not within this species breeding range. This species may be seen within the Study Area during migration.	No further actions are recommended for this species.
oak titmouse *Baeolophus inornatus*	BCC	Occurs year-round in woodland and savannah habitats where oaks are present, as well as riparian areas. Nests in tree cavities.	**Unlikely.** Lack of suitable habitat and continuous human presence and working activities would deter these birds from being present.	Work windows and/or pre-construction surveys.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
olive-sided flycatcher *Contopus cooperi*	SSC, BCC	Summer resident. Typical breeding habitat is montane coniferous forests. At lower elevations, also occurs in wooded canyons and mixed forests and woodlands. Often associated with forest edges. Arboreal nest sites located well off the ground.	**Unlikely.** The Study Area lacks montane woodland or forested habitat typical for nesting by this species.	No further actions are recommended for this species.
(Brester's) yellow warbler *Setophaga (= Dendroica) petechia brewsteri*	SSC, BCC	Summer resident throughout much of California. Breeds in riparian vegetation close to water, including streams and wet meadows. Microhabitat used for nesting variable, but dense willow growth is typical. Occurs widely on migration.	**Unlikely.** The Study Area does not contain riparian habitat to support this species. The nearest suitable habitat is 5.0 - miles west along the Laguna de Santa Rosa.	No further actions are recommended for this species.
yellow-breasted chat *Icteria virens*	SSC	Summer resident, occurring in riparian areas with an open canopy, very dense understory, and trees for song perches. Nests in thickets of willow, blackberry, and wild grape.	**No Potential.** The Study Area does not contain riparian habitat necessary to support this species.	No further actions are recommended for this species.
Bell's sage sparrow *Amphispiza belli belli*	BCC	Year-round resident, though shows seasonal movements. Prefers dense chaparral and scrub habitats for breeding; strongly associated with chamise. Also occurs in more open habitats during winter.	**No Potential.** Suitable chaparral habitat is not present within the Study Area or adjacent areas.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
grasshopper sparrow *Ammodramus savannarum*	SSC	Summer resident. Breeds in open grasslands in lowlands and foothills, generally with low- to moderate-height grasses and scattered shrubs. Well-hidden nests are placed on the ground.	**Unlikely.** Grasslands within the Study Area is regularly nowed, and therefore reduces the value of this habitat. This species may be in seen foraging within the Study Area or in immediately adjacent areas.	No further actions are recommended for this species.
Samuels (San Pablo) song sparrow *Melospiza melodia samuelis*	BCC, SSC	Year-round resident of tidal marshes along the north side of San Francisco and San Pablo Bays. Typical habitat is dominated by pickleweed, with gumplant and other shrubs present in the upper zone for nesting. May forage in areas adjacent to marshes.	**No Potential.** The Study Area does not contain marsh habitat to support the type of vegetation that this species requires for nesting.	No further actions are recommended for this species.
San Francisco common yellowthroat *Geothlypis trichas sinuosa*	BCC, SSC	Resident of the San Francisco Bay region, in fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	**Unlikely.** This species prefers willow thicket habitats and emergent vegetation, which the Study Area and immediately adjacent areas lack.	No further actions are recommended for this species.
tricolored blackbird *Agelaius tricolor*	SSC, BCC	Nearly endemic to California, where it is most numerous in the Central Valley and vicinity. Highly colonial, nesting in dense aggregations over or near freshwater in emergent growth or riparian thickets. Also uses flooded agricultural fields. Abundant insect prey near breeding areas essential.	**No Potential.** The Study Area does not support dense marsh vegetation necessary for nesting. The nearest documented occurrence is 5.0 - miles west of the Study Area (CDFW 2017).	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Lawrence's goldfinch *Carduelis lawrencei*	BCC	Summer resident, primarily in southern California; generally uncommon and local. Also found in large open areas in Contra Costa and Alameda Counties. Typically found in arid open woodlands, including oak savannah. Breeding distribution is erratic from year to year.	**Unlikely.** The Study Area does not contain suitable open woodland or oak savannah to support nesting of the species.	No further actions are recommended for this species.
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 cliffs or banks to support nesting. This species has not recently been documented to breed within Sonoma County (Burridge 1995).	No further actions are recommended for this species.
Reptiles and Amphibians				
green sea turtle *Chelonia mydas*	FT (west coast population)	Found in fairly shallow waters inside reefs, bays and inlets with marine grass and algae. Open beaches with a sloping platform and minimal disturbance are required for nesting. This species exhibits high site fidelity.	**No Potential.** This species is uncommon along the California coast. The Study Area does not contain marine habitat to support this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Pacific (western) pond turtle *Actinemys marmorata*	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Requires basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying.	**Unlikely.** The Study Area does not contain aquatic habitat such as deep ponds, creeks, or pools of sufficient depth to support this species. The wetland depression within the Study Area cannot support this species.	No further actions are recommended for this species.
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 Study Area does not contain forested or stream habitat necessary for this species.	No further actions are recommended for this species.
California tiger salamander *Ambystoma californiense*	FE, ST, SSC	Populations in Santa Barbara and Sonoma counties currently listed as endangered; threatened in remainder of range. Inhabits grassland, oak woodland, ruderal and seasonal pool habitats. Adults are fossorial and utilize mammal burrows and other subterranean refugia. Breeding occurs primarily in vernal pools and other seasonal water features.	**Unlikely**. Assessments in this region of the Santa Rosa Plain have yielded no CTS occurrence within the Study Area. Although, suitable habitat is designated on maps, presence is unlikely because no aquatic breeding habitat, estivation habitat is limited, past and existing development and level of land use, barriers to dispersal in adjacent and surrounding areas.	No further actions are recommended for this species. Mitigation may be required according to Santa Rosa Conservation Strategy and Programmatic Biological Opinion (USFWS 2007).

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
red-bellied newt *Taricha rivularis*	SSC	Inhabits coastal forests from southern Sonoma County northward, with an isolated population in Santa Clara County. Redwood forest provides typical habitat; though other forest types are used. Adults are terrestrial and fossorial. Breeding occurs in streams, usually with relatively strong flow.	**Unlikely.** The Study Area and immediately adjacent areas do contain stream or redwood forest habitat. Additionally, the Study Area is not within the range of this species.	No further actions are recommended for this species.
California red-legged frog *Rana draytonii*	FT, SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11 to 20 weeks of permanent water for larval development. Associated with quiet perennial to intermittent ponds, stream pools and wetlands. Prefers shorelines with extensive vegetation. Disperses through upland habitats after rains.	**Unlikely.** No suitable aquatic breeding habitat is present within the Study Area. The nearest documented occurrence is 2.75 --miles west of the Study Area (CDFW 2017).	No further actions are recommended for this species.
foothill yellow-legged frog *Rana boylii*	SSC	Found in or near rocky streams in a variety of habitats. Prefers partly-shaded, shallow streams and riffles with a rocky substrate; requires at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Feeds on both aquatic and terrestrial invertebrates.	**No Potential.** No suitable rocky stream habitat is present within the Study Area, and no occurrences have been documented within 5-miles of Study Area (CDFW 2017).	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Fish				
Navarro roach *Lavinia symmetricus navarroensis*	SSC	This species is a habitat generalist. Found in warm intermittent streams as well as cold, well-aerated streams.	**No Potential.** The Study Area does not contain streams, rivers or other perennial waters to support this species.	No further actions are recommended for this species.
coho salmon - Central California Coast ESU *Oncorhynchus kisutch*	FE, SE, NMFS	Federal listing includes populations between Punta Gorda and San Lorenzo River. State listing includes populations south of San Francisco Bay only. Occurs inland and in coastal marine waters. Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen.	**No Potential.** The Study Area does not contain streams, rivers or other perennial waters to support this species.	No further actions are recommended for this species.
Chinook salmon - Central Valley spring-run ESU *Oncorhynchus tshawytscha*	FT,ST	Occurs in the Feather River and the Sacramento River and its tributaries, including Butte, Mill, Deer, Antelope and Beegum Creeks. Adults enter the Sacramento River from late March through September. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams from mid-August through early October. Juveniles migrate soon after emergence as young-of-the-year, or remain in freshwater and migrate as yearlings.	**No Potential.** The Study Area does not contain streams, rivers or other perennial waters to support this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Chinook salmon - California coastal ESU *Oncorhynchus tshawytscha*	FT, RP	California Coastal Chinook Salmon ESU includes all naturally spawned populations of Chinook salmon from rivers and streams south of the Klamath River (exclusive) to the Russian River (inclusive). Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temps >27 degrees C lethal to adults.	**No Potential.** The Study Area does not contain streams, rivers or other perennial waters to support this species.	No further actions are recommended for this species.
steelhead - central CA coast DPS *Oncorhynchus mykiss irideus*	FT, NMFS	Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	**No Potential.** The Study Area does not contain streams, rivers or other perennial waters to support this species.	No further actions are recommended for this species.
Russian River tule perch *Hysterocarpus traski pomo*	SSC	Occurs in low elevation streams of the Russian River system. Requires clear, flowing water with abundant cover and deep (> 1 m) pools.	**No Potential.** The Study Area does not contain streams, rivers or other perennial waters to support this species.	No further actions are recommended for this species.
river lamprey *Lampetra ayresi*	SSC	Lower Sacramento River, San Joaquin River and Russian River. May occur in coastal streams north of San Francisco Bay. Adults need clean, gravelly riffles, Ammocoetes need sandy backwaters or stream edges, good water quality and temps < 25 degrees C.	**No Potential.** The Study Area does not contain streams, rivers or other perennial waters to support this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
hardhead *Mylopharodon conocephalus*	SSC	Found in low to mid-elevation streams in the Sacramento-San Joaquin drainage; also occurs in the Russian River and tributaries. Favors clear, deep pools with sand-gravel-boulder bottoms and slow water velocity. Not found where exotic Centrarchids predominate.	**No Potential.** The Study Area does not contain streams, rivers or other perennial waters to support this species.	No further actions are recommended for this species.
Invertebrates				
California linderiella *Linderiella occidentalis*	SSI	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools has very low alkalinity, conductivity, and TDS.	**Unlikely.** The Study Area does not contain pool habitat with long enough duration to support this species.	No further actions are recommended for this species.
Behren's silverspot butterfly *Speyeria zerene behrensii*	FE, SSI	Restricted to the Pacific side of the coast ranges, from Point Arena to Cape Mendocino, Mendocino County. Inhabits coastal terrace prairie habitat. Foodplants are *Viola* species.	**No Potential.** The Study Area is not within the known range of this species. This species is known only from Mendocino County and coastal terrace habitats.	No further actions are recommended for this species.
Myrtle's silverspot butterfly *Speyeria zerene myrtleae*	FE, RP, SSI	Restricted to the fog belt of northern Marin and southernmost Sonoma County, including the Point Reyes peninsula; extirpated from coastal San Mateo County. Occurs in coastal prairie, dunes, and grassland. Larval foodplant is typically *Viola adunca*. Adult flight season may range from late June to early September.	**No Potential.** The Study Area does not contain coastal dune habitat to support this species host plant; *Viola adunca*.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
San Bruno elfin butterfly *Callophrys mossii bayensis*	FE, SSI	Limited to the vicinity of San Bruno Mountain, San Mateo County. Colonies are located on in rocky outcrops and cliffs in coastal scrub habitat on steep, north-facing slopes within the fog belt. Species range is tied to the distribution of the larval host plant, *Sedum spathulifolium*.	**No Potential.** The Study Area lacks rocky coastal outcrops and cliffs to support the larval host plant; *Sedum spathulifolium*. Additionally, the Study Area is outside the known range of this species.	No further actions are recommended for this species.
Blennosperma vernal pool andrenid bee *Andrena blennospermatis*	SSI	A solitary, ground-nesting bee found in upland areas near vernal pools. Its host plant is *Blennosperma* spp. and does not forage far from the host plant. Range is Contra Costa, El Dorado, Lake, Placer, Sacramento, San Joaquin, Solano, Sonoma, Tehama, and Yolo counties.	**No Potential.** The Study Area does not contain vernal pool habitat to support this species host plant; *Blennosperma spp.*	No further actions are recommended for this species.
Ricksecker's water scavenger beetle *Hydrochara rickseckeri*	SSI	Small aquatic beetle known only from pond habitats scattered around the San Francisco Bay area, including Marin, Sonoma, Alameda, Lake, and Contra Costa counties. Extensive surveys from 1988 failed to locate this species. The locations of existing populations remain unknown (Hafernick 1989).	**No Potential.** The disturbed nature and lack of suitable habitat within the Study Area preclude presence of this species. No pond habitat is present.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RESULTS AND RECOMMENDATIONS
WILDLIFE				
western bumblebee *Bombus occidentalis*	SSI	Formerly common throughout much of western North America; populations from southern British Columbia to central California have nearly disappeared (Xerces 2017). Occurs in a wide variety of habitat types. Nests are constructed annually in pre-existing cavities, usually on the ground (e.g. mammal burrows). Many plant species are visited and pollinated.	**Unlikely.** The Study Area contains few burrows that this species may use for nesting, regular mowing of the site reduces the quality to support nesting or foraging, and level of development and land use.	No further actions are recommended for this species.
California freshwater shrimp *Syncaris pacifica*	FE, SE, SSI	Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy. Shallow pools away from main stream flow. Winter: undercut banks with exposed roots. Summer: leafy branches touching water.	**No Potential.** The Study Area does not contain streams, rivers or other perennial waters to support this species.	No further actions are recommended for this species.

*** Key to status codes:**

BCC	Birds of Conservation Concern (U.S. Fish and Wildlife Service)
CFP	CDFW Fully Protected Animal
EPA	Eagle Protection Act Species
FE	Federal Endangered
FT	Federal Threatened
NMFS	Species under the Jurisdiction of the NMFS
RP	Species included in a USFWS Recovery Plan or Draft Recovery Plan
SC	State Candidate
SE	State Endangered
SD	State Delisted
ST	State Threatened
SSC	CDFW Species of Special Concern
SSI	CDFW Special-Status Invertebrate
WBWG	Western Bat Working Group (High or Medium) Priority species

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.

APPENDIX C

SITE PHOTOGRAPHS

Top: Most of the Study Area is developed with buildings or hardscape which precludes sensitive habitat or species.

Bottom: Undeveloped area is frequently maintained by mowing to reduce fire hazard. The area where a jurisdictional wetland was determined by the Corps of Engineers in 2008 is still present in the inundated area at center of photograph.

Photographs taken December 2017.

wra
ENVIRONMENTAL CONSULTANTS

THIS PAGE INTENTIONALLY LEFT BLANK