
Biological Resources Technical Report

NAPA CREEKSIDE HOUSING PROJECT NAPA, NAPA COUNTY, CALIFORNIA

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LIST OF ACRONYMS

BCC	USFWS Birds of Conservation Concern
BIOS	Biogeographic Information and Observation System
BMP	Best Management Practice
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPPA	California Native Plant Protection Act
CNPS	California Native Plant Society
Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
ESA	Federal Endangered Species Act
MBTA	Migratory Bird Treaty Act
NMFS	National Marine Fisheries Service
NWI	National Wetland Inventory
OHWM	Ordinary High Water Mark
Rank	California Rare Plant Rank
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
TOB	Top of Bank
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group
WRA	WRA, Inc.

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1.0 INTRODUCTION

1.1 Purpose of Assessment

On June 28, 2018, WRA, Inc. (WRA) performed an assessment of biological resources at the site of the proposed Napa Creekside Housing Project (Project) located in the City of Napa, Napa County, California (Appendix A, Figure 1). An approximately 3.27-acre Study Area was assessed, which includes the proposed limits of work and additional areas along the stream corridor (Appendix A, Figures 3a and 3b). The purpose of the assessment was to develop and gather information on potential sensitive biological communities and special-status plant and wildlife species to support an evaluation of the Project under the California Environmental Quality Act (CEQA). This report describes the results of the site visit, which assessed the Study Area for: (1) the potential presence of sensitive biological communities; (2) the potential for biological communities on the site to support special-status plant and wildlife species; and (3) the potential presence of any other sensitive natural resources protected by local, state, or federal laws and regulations. Special-status species observed during the site assessment were documented and their presence is discussed herein. Specific findings on the habitat suitability or presence of special-status species or sensitive habitats may require that protocol-level surveys or other studies be conducted; recommendations for additional studies are provided.

A biological resources assessment provides general information on the presence, or potential presence, of sensitive species and habitats. This assessment is based on information available at the time of the study and on site conditions that were observed on the date of the site visit.

WRA also conducted a tree survey in the Study Area. Results of the tree survey are provided in a separate report (WRA 2019); however, information from that report is summarized in this report.

1.2 Project Summary

The Project involves the use of the 3.27-acre Study Area for the renovation and new construction of two publicly funded, affordable, multi-family apartment communities. The two buildings will be on separate parcels and funded independently, but will have agreements in place to share access to the public street, parking, and utility points of entry.

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 impacts analysis. Table 1 provides a regulatory crosswalk between sensitive resources and applicable agencies, regulations, questions in the Environmental Checklist Form (Appendix G) of the CEQA guidelines.

Table 1. Regulatory Crosswalk

Feature	Laws and Regulations	Regulatory Agency	CEQA Assessment Category ¹ IV. Biological Resources	Examples
Natural Communities				
Sensitive Terrestrial Communities	Local plans and ordinances	California Department of Fish and Wildlife (CDFW) Local agencies	Question B. Sensitive Natural Communities Question F.	Vegetation Alliances Ranked G1-G3, S1-S3
Waters of the U.S.	Clean Water Act (CWA) Section 404 Rivers and Harbors Act Section 10	US Army Corps of Engineers (Corps) / Environmental Protection Agency	Question C. State or federally protected wetlands	Wetlands Open Waters ²
Waters of the State	Porter-Cologne Act CWA Section 401	Regional Water Quality Control Board (RWQCB)	Question C. State or federally protected wetlands	Wetlands Open Waters Riparian Areas
Streams, Lakes, and Riparian Habitat	California Fish and Game Code (CFGC) Section 1602	CDFW / RWQCB	Question B. Riparian Habitat	Open Waters Riparian Areas
Special-Status Species				
Special-Status Plants	Endangered Species Act (ESA) Section 7 or 10 California Endangered Species Act (CESA) California Native Plant Protection Act (CNPPA) Local plans and ordinances	U.S. Fish and Wildlife Service (USFWS) CDFW Local agencies	Question A. Special-status Species Question E. Local Policies	ESA Listed Plants CESA Listed Plants CNPPA Listed Plants California Native Plant Society (CNPS) Rank 1, 2, & 3 Plants CNPS Rank 4 Plants (sometimes, analysis required) Locally Listed Plants (sometimes, analysis required) Locally Listed Trees (local ordinance)

¹ Descriptions have been summarized; see Section 6.2 for details.

² Includes, but not limited to: streams, creeks, rivers, ponds, lakes

Table 1. Regulatory Crosswalk

Feature	Laws and Regulations	Regulatory Agency	CEQA Assessment Category ¹ IV. Biological Resources	Examples
Special-status Wildlife	ESA CESA CFGC Migratory Bird Treaty Act (MBTA) Bald and Golden Eagle Protection Act Local plans and ordinances	USFWS National Marine Fisheries CDFW Local agencies	Question A. Special-status Species Question E. Local Policies	ESA Listed Wildlife CESA Listed Wildlife CDFW Fully Protected Species CDFW Species of Special Concern Nesting birds (few exceptions) Bald and Golden Eagles
Critical Habitat	ESA	USFWS	Question A. Special-status Species Question F. Conservation Plans	Critical Habitat is only designated for ESA listed species: e.g., California red-legged frog, Marbled murrelet etc.

2.1 Natural Communities

2.1.1 Terrestrial Natural Communities

Non-sensitive terrestrial natural communities include California Department of Fish and Wildlife (CDFW) terrestrial natural communities (vegetation alliances and associations) with a rarity ranking of S4 or S5, as well as other non-sensitive land use designations such as agriculture, developed areas, etc. These communities and land uses are not protected by federal, state, or local laws and are not considered sensitive under CEQA.

Sensitive terrestrial natural communities include habitats that fulfill special functions, have special values, such as wetlands, streams, or riparian habitat, have limited distribution, or are dominated by special-status plant species. These habitats are protected under federal regulations such as the Clean Water Act (CWA); state regulations such as the Porter-Cologne Act, the California Fish and Game Code (CFGC), and CEQA; or local ordinances or policies such as the City of Napa Zoning Ordinance.

Natural communities considered sensitive by the CDFW must be considered under CEQA. CDFW ranks terrestrial natural communities (vegetation alliances and associations) based on NatureServe's (NatureServe 2018) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Communities ranked 4 or 5 are not considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by 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; the City of Napa specifically protects streams.

2.1.2 *Aquatic Natural Communities*

Waters of U.S.

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” and are often characterized by an ordinary high water mark (OHWM). Other 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 CWA.

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 CWA 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.

Lakes, Streams, and Riparian Habitat

Streams and lakes, as habitat for fish and wildlife species, are subject to jurisdiction by CDFW under Sections 1600-1616 of CFGC. Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term “stream”, which includes creeks and rivers, is defined in the CCR as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life [including] watercourses having a surface or subsurface flow that supports or has supported riparian vegetation” (14 CCR 1.72). In addition, the term “stream” can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFG 1994). “Riparian” is defined as “on, or pertaining to, the banks of a stream.” Riparian vegetation is defined as “vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself”

(CDFG 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFW.

Relevant Local Policies, Ordinances, Regulations

City of Napa Municipal Ordinance: Streambed and Creek Protection

The purpose of Section 17.52.110. (Creeks and Other Watercourses) of the City of Napa Municipal Code is to implement general plan policies pertaining to stream bank safety and protection and enhancement of riparian habitat corridors. The ordinance requires that development shall comply with public works streambank stabilization requirements for setbacks from banks of watercourses and riparian habitat. These standards require a structure setback of 20 feet, except for an accessory structure less than 500 square feet in area, from the top of the creek, stream, or riverbank. Where the average depth of the bank is 8 feet or greater, the required setback from “the toe of the stream bank shall be two times the depth of the bank plus 20 feet unless special provisions for bank stabilization are installed as approved by the Public Works Director.” Riparian setbacks are not quantified and depend on site-specific conditions. The ordinance also specifies that waivers may be issued by the decision making body if plans are approved by the City after review by public wildlife agencies.

City of Napa Municipal Ordinance: Native Tree Protection

The City of Napa recognizes the importance of maintaining a healthy urban forest that contributes to clean air, soil conservation, energy conservation, scenic beauty, enhanced property value, and a high quality of life. Chapter 12.45, “Trees on Private Property” of the City’s Tree Ordinance regulates the protection of certain trees on private properties within the city limits. The Tree Ordinance defines a “protected native tree” as any of the following native species that have a diameter at 4.5 feet above the natural grade as follows and that are located on private property over 1 acre in size zoned for residential or agricultural purposes:

- valley oak (*Quercus lobata*) (diameter = 12 inches or greater)
- coast live oak (*Quercus agrifolia*) (diameter = 12 inches or greater)
- black oak (*Quercus kelloggii*) (diameter = 12 inches or greater)
- blue oak (*Quercus douglasii*) (diameter = 6 inches or greater)
- coast redwood (*Sequoia sempervirens*) (diameter = 36 inches or greater)
- California bay (*Umbellularia californica*) (diameter = 12 inches or greater)
- black walnut (*Juglans hindsii*) (diameter = 12 inches or greater)

A protected native tree pruning and removal permit must be obtained by the property owner, or person authorized by the property owner, from the Director of Parks and Recreation prior to doing any of the following to a protected native tree on private property:

- Prune any branch or limb of a protected native tree greater than 4 inches in diameter or remove more than 10 percent of any live foliage in any 1-year period;
- Cut any root over 2 inches in diameter within the drip line area of a protected native tree;
- Change, by more than 2 feet, grade elevations within the drip line area of a protected native tree; or
- Place or allow to flow into or over the drip line area of any protected native tree any oil, fuel, concrete mix or other substance that could injure the tree.

The ordinance also specifies that each removed or damaged protected tree on private property must be replaced as follows.

- For each 6 inches or fraction thereof of the protected tree, two trees of the same species as the protected tree (or any other species with approval) and a minimum 15-gallon container or larger size as determined by the Director of Parks and Recreation shall be planted on the project site.
- If the project site is inadequate in size to accommodate the replacement trees, with the recommendation of the Director of Parks and Recreation, the trees shall be planted on public property. The Director of Parks and Recreation may accept an in-lieu fee, per 15-gallon replacement tree with the moneys to be used for tree-related educational projects and/or planting programs. In lieu fees shall be set by the City Council resolution and adjusted on an annual basis as necessary and include the cost of planting.
- Each protected native tree approved for removal shall be replaced within 60 days or at a reasonable time approved by the Director of Parks and Recreation or according the conditions of any discretionary permit allowing removal of a protected native tree.

2.2 Special-Status Species

2.2.1 Special-Status Plants

Special-status species include those plant 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. Plant species on the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory with California Rare Plant Ranks (Rank) of 1, 2, and 3 are also considered special-status plant species and must be considered under CEQA. Rank 4 species may be afforded lesser protection under CEQA but generally must still be considered. A description of the CNPS Ranks is provided below in Table 2.

Table 2. CNPS Ranking List

California Rare Plant Ranks	
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

California Native Plant Protection Act

The California Native Plant Protection Act (CNPPA) affords protection to plant species designated rare or endangered by the Fish and Game Commission through prohibition of “take,” with some exceptions. Plants designated as rare or endangered through CNPPA are subject to review through CEQA.

Locally Rare

Locally rare species are those species that are considered sensitive or unique or that occur at the limits of their natural range within a specific region. Locally rare plant species can include species which are not formally listed nor have a CNPS Rank. *Categorizing Locally Rare Plant Taxa for Conservation Status* (Crain and White 2011) is a scientific paper published in the journal *Biodiversity and Conservation*, which used Napa County as a case study for determining locally rare plant taxa in a given region. The paper identified 89 plant taxa which are considered locally rare in Napa County. The paper categorizes locally rare taxa based on NatureServe’s (2018) methodology, using a local (L-rank) system. The paper identifies four L-rank categories, L-1 through 3, and L-H, where L-1 signifies “critically imperiled”, L-2 signifies “imperiled”, L-3 signifies “vulnerable to threat or extinction”, and L-H signifies “possibly extinct”. Species with an L-ranking may receive consideration under sections 15380 and 15125(c) of the CEQA and are considered “locally rare” for the purposes of this report. Any locally rare species observed in the Study Area are discussed in this report.

2.2.2 Special-Status Wildlife

Special-status wildlife species include those species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the ESA or CESA. These acts afford protection to both listed species and those that are formal candidates for listing. The federal Bald and Golden Eagle Protection Act also provides broad protections to both eagle species that in some regards are similar to those provided by ESA. Additionally, CDFW Species of Special Concern (SSC) or California Fully Protected Species, USFWS Birds of Conservation Concern (BCC), 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 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 under CEQA.

In addition to regulations for species that carry a special designation, most native birds in the United States (including non-status species) have baseline protections under the federal Migratory Bird Treaty Act of 1918 (MBTA) and the CFGC under sections 3503, 3503.5 and 3513. In addition to prohibiting the unauthorized killing/collection of adult birds, these laws/codes also prohibit the destruction or collection of active nests, including eggs and young. Recently, the U.S. Department of the Interior (USDOI; 2017) issued guidance clarifying that the MBTA only applies to the intentional/deliberate killing, harm or collection of covered species, and that unintentional impacts to birds/nests that occur within the context of otherwise lawful activities are not violations of the MBTA.

Critical Habitat

Critical habitat is a term defined in the ESA as a specific and designated 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.

Wildlife Corridors

Wildlife movement between suitable habitat areas typically occurs via wildlife movement corridors. The primary function of wildlife corridors is to connect two larger habitat blocks, also referred to as core habitat areas (Beier 1992, Soulé and Terbough. 1999). Core habitat areas are important for wildlife that may travel between different types of habitat in order to complete various stages of their lifecycle. Wildlife corridors must be considered under CEQA.

3.0 ENVIRONMENTAL SETTING

3.1 Soils and Topography

3.1.1 Soils

The U.S. Department of Agriculture *Soil Survey of Napa County* (USDA 1978) and California Soils Resources Lab SoilWeb (CSRL 2018) indicates the Study Area is composed of one soil series: Haire loam, 2 to 9 percent slopes (Appendix A, Figure 2). This soil series is described below.

Haire series. The Haire series consists of moderately well-drained clay loams that have a clay subsoil, and are underlain by old terrace-alluvium from mixed sedimentary and basic rock sources. These soils are on terraces and rolling hills. Slopes are 0 to 30 percent. Elevation ranges from 100 to 800 feet. Annual rainfall is 25 to 45 inches, annual temperature is 58 to 60 degrees Fahrenheit, and the frost-free season is 250 to 275 days. In most places, the vegetation is chiefly annual and perennial grasses and scattered oaks, but some areas have a cover of pasture or hay. The Haire soils are associated with Arbuckle, Clear Lake, Diablo, and Zamora soils. Haire soils are used mainly for dryland pasture, sheep, and cattle (USDA 1978).

3.1.2 Topography

The Study Area consists of a small, generally flat area as well as portions of the Salvador Creek channel. The Study Area slopes gently from southwest to northeast toward Salvador Creek, with elevations ranging from approximately 27 feet to 45 feet.

3.2 Climate and Hydrology

3.2.1 Climate

The Study Area is located in the Napa Valley, between the Mayacamas Mountains and the Vaca Mountains of the Coast Ranges. Winters are typically cool and summers warm. Average maximum temperatures range from 58 to 83 degrees Fahrenheit and average minimum temperatures range from 39 to 55 degrees Fahrenheit. Precipitation typically occurs during the

autumn and winter months, with little rainfall in the spring and summer. Average annual rainfall is 26 inches (USDA 2018).

3.2.2 *Hydrology*

The primary hydrological sources for the Study Area are precipitation, surface run-off from adjacent lands, and Salvador Creek. Salvador Creek runs from northwest to southeast along the northeastern boundary of the Study Area. This feature is classified as R4SBC (intermittent riverine, seasonally flooded) by USFWS National Wetlands Inventory (NWI) (USFWS 2018a). This feature was observed during the site assessment and is described in more detail in Section 5.1.

3.3 **Vegetation and Land Use**

3.3.1 *Vegetation*

Vegetation within the Study Area is comprised of ruderal vegetation and remnant ornamental trees in the northwestern portion; sparse vegetation in the southeastern portion where there is a vacant apartment building and associated paved roads and parking areas; and riparian vegetation associated with Salvador Creek along the northeastern boundary.

3.3.2 *Land Use*

Based on aerial imagery (Google Earth 2018, NETR 2018), the entirety of the Study Area, with the exception of Salvador Creek, was in agricultural production at least as early as 1948. By 1968, the agricultural crops were cleared, a house was built, and a bridge was constructed across Salvador Creek. This bridge appears to be the main access route to the site. By 1993, the apartment building and associated paved areas were built in the southern portion of the Study Area, where they remain to the present day. The northwestern portion of the Study Area continued to be used as a residence, which over time expanded to include a swimming pool and hardscape parking area, with the remainder staying undeveloped, with the exception of ornamental trees. This home remained on-site until it was demolished and removed sometime between May and October 2017. The removal of the house left an area that is highly disturbed, with hummocky terrain that is now a low spot on the landscape. The bridge spanning Salvador Creek is still present. The apartment building in the southeast portion of the Study Area is also still present, but is vacant.

The Study Area is surrounded on all sides by residential developments, with the exception of a small, undeveloped area to the northwest as well as Salvador Creek to the northwest and east.

4.0 **ASSESSMENT METHODOLOGY**

Prior to the site visit, WRA biologists reviewed the following literature and performed database searches to assess the potential for sensitive natural communities (e.g., wetlands) and special-status species (e.g., endangered plants):

- A Field Guide to Western Reptiles and Amphibians (Stebbins 2003);
- Aerial photographs (Google Earth 2018, NETR 2018);
- CNPS's Inventory of Rare and Endangered Plants of California (CNPS 2018a);
- California Natural Diversity Database (CNDDB, CDFW 2018a);
- CDFG publication "California's Wildlife, Volumes I-III" (Zeiner et al. 1990);

- CDFW and University of California Press publication *California Amphibian and Reptile Species of Special Concern* (Thomson et al. 2016);
- CDFW Publication, *California Bird Species of Special Concern in California* (Shuford and Gardali 2008);
- Consortium of California Herbaria (CCH 2018);
- eBird: a citizen-based bird observation network in the biological sciences (Sullivan et al 2018);
- National Marine Fisheries Service (NMFS) California Species List Tools (NMFS 2018a);
- NWI (USFWS 2018a);
- *Soil Survey of Napa County, California* (USDA 1978);
- USFWS Information for Planning and Consultation (USFWS 2018b); and
- WBWG, Species Accounts Region 5 (WBWG 2018).

Database searches (e.g. CNDDDB) focused on the Capell Valley, Cordelia, Cuttings Wharf, Mount George, Napa, Rutherford, Sears Point, Sonoma, Yountville U.S. Geological Survey (USGS) 7.5-minute quadrangles. Appendix A, Figure 4 and Figure 5 contain observations of special-status plant and wildlife species, respectively, documented in the CNDDDB within a 5-mile radius of the Study Area.

Following this literature and database review, biologists traversed the entire Study Area on foot to document: (1) terrestrial natural communities; (2) existing conditions and to determine if such provide suitable habitat for any special-status plant or wildlife species; (3) if and what type of aquatic natural communities (e.g., wetlands) are present; and (4) if special-status species are present.³

4.1 Natural Communities

4.1.1 Terrestrial Natural Communities

The Study Area's terrestrial natural communities were evaluated to determine if such areas have the potential to support special-status plants or wildlife. In most instances, communities are delineated based on distinct shifts in plant assemblage (vegetation), and follow the *California Natural Community List* (CDFW 2018b) and *A Manual of California Vegetation, Online Edition* (CNPS 2018b). In some cases it may be necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature; should an undescribed variant be used, it will be noted in the description.

Vegetation alliances (natural communities) with a CDFW Rank of 1 through 3 (globally critically imperiled (S1/G1), imperiled (S2/G2), or vulnerable (S3/G3), were considered as part of this evaluation

4.1.2 Aquatic Natural Communities

The Study Area was surveyed to determine if any wetlands or non-wetland 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 also included OHWM indicators. The preliminary assessment is presented in Section 4.4.2 below.

³ Due to the timing of the assessment, it may or may not constitute protocol-level species surveys; see Section 4.2 if the site assessment would constitute a formal or protocol-level species survey.

Other Waters

The assessment also evaluated the presence of “waters of the U.S.” other than wetlands potentially subject to Corps jurisdiction under Section 404 of the CWA. Other areas, besides wetlands, subject to Corps jurisdiction include lakes, rivers, and streams. Jurisdiction in non-tidal areas extends to the OHWM. Identification of the OHWM followed the Corps Regulatory Guidance Letter No. 05-05, *Ordinary High Water Mark Identification* (Corps 2005). The State Water Resource Control Board and RWQCB generally adhere to the same delineation protocol set forth by the Corps (Environmental Laboratory 1987). In addition to claiming jurisdiction over federal wetlands and non-wetland waters, under the pretext of protecting water quality under the Porter-Cologne Act, the RWQCB claims jurisdiction of non-wetland waters to the top of bank (TOB) or edge of riparian vegetation, whichever is greater in extent. Guidance on defining TOB and riparian boundaries is discussed below.

Riparian

As described above, Section 1602 of the CFGC protects streams that support plants and animals. As a part of the Section 1602 process, it is necessary to define the exact areas that qualify for this protection from CDFW. Standard guidance on these issues is provided in *A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607, California Fish and Game Code* (“handbook”; CDFG 1994). Field guidance for CDFW Section 1602 jurisdiction is typically understood to include all streams and to extend laterally to the TOB. If riparian vegetation is present within the TOB, then CDFW jurisdiction extends to the outer dripline of such vegetation.

4.2 Special-Status Species

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 review. Database searches for known occurrences of special-status species focused on the 7.5-minute USGS quadrangles mentioned above.

A site visit was made to the Study Area to search for suitable habitats for special-status species. Habitat conditions observed at the Study Area were used to evaluate the potential for presence of special-status wildlife 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. CNDDDB, other reports) on the site in the recent past.

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. If a more thorough assessment is required, a targeted or protocol-level assessment or survey was conducted. Methods for these assessments are described below. If a special-status species was observed during the site visit, its presence was 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.

City of Napa Protected Trees

An ISA-certified arborist traversed the Study Area on foot to evaluate, identify, and inventory “protected native trees” as defined by Chapter 12.45 (Trees on Private Property) of the City of Napa Municipal Code. Locations of surveyed trees within the Study Area were recorded using a handheld GPS unit with sub-meter accuracy, and each surveyed tree was given an aluminum tree tag with a unique identification number. Information including species and DBH was recorded. More detailed methods are discussed in the tree survey report prepared by WRA (WRA 2019).

Critical Habitat

During the search of background literature, prior to the site visit the USFWS Critical Habitat Mapper was referenced to determine if critical habitat for any species occurs within the Study Area (USFWS 2018c).

Wildlife Corridors

Prior to the site assessment, biologists reviewed maps from the California Essential Connectivity Project and associated habitat connectivity or mapping data available through the CDFW Biogeographic Information and Observation System (BIOS) (CDFW 2018c). In addition, aerial imagery (Google Earth 2018) for the local area was referenced to determine if core habitat areas were present within or connected to the Study Area.

5.0 ASSESSMENT RESULTS

On June 28, 2018, the Study Area was traversed on foot to determine: (1) natural communities present within the Study Area: (2) if existing conditions provided suitable habitat for any special-status plant or wildlife species: and (3) if sensitive habitats are present. All plant and wildlife species encountered were recorded and are summarized in Appendix A. Plant nomenclature follows the Jepson Flora Project (2018), 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. Appendix B lists all plant and wildlife species observed within and around the Study Area on the date of the site visit. Appendix C contains representative photographs of the Study Area.

5.1 Natural Communities

The Study Area includes a mix of ruderal vegetation, a developed area, and riparian vegetation along an intermittent stream. Much of the Study Area has experienced substantial alteration by historic and recent human activity.

Table 3 summarizes the area of each natural community type observed in the Study Area, including two non-sensitive communities and two sensitive communities. Natural communities and other land use designations mapped in the Study Area are shown in Appendix A, Figure 3. Descriptions for each natural community are contained in the following sections.

Table 3. Natural Communities within the Study Area

Natural Community	Acres within Study Area
Non-sensitive Communities	
Ruderal	0.92
Developed	1.71
Sensitive Communities	
Intermittent Stream	0.32
Riparian Woodland	0.32
Total	3.27

5.1.1 Non-sensitive Communities

Ruderal. No Rank. Ruderal is not described in the *California Natural Community List* (CDFW 2018b) or *A Manual of California Vegetation, Online Edition* (CNPS 2018b). As stated above, the northwestern portion of the Study Area was converted to residential use from its previous use as agricultural land sometime between 1948 and 1968. Because of the extended use as a residence, the vegetation in this portion of the Study Area is characterized by a mix of ornamental trees with occasional native volunteer trees and shrubs as well as non-native annual species typical of disturbed conditions. The former location of the house, which was removed approximately one year prior to the June 28, 2018, site visit, is now a hummocky, highly disturbed low spot in the landscape. Based on a preliminary inspection, evidence of shallow, short-duration ponding was present in a small area at the former site of the house. Sparse vegetation typical of disturbed, seasonally mesic to wet conditions was observed, including Italian ryegrass (*Festuca perennis*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), and tall cyperus (*Cyperus eragrostis*). Because of the small size of this area and the fact that such conditions are present only as a result of the very recent removal of the house, this area was not mapped as a potentially

jurisdictional feature. Elsewhere in the ruderal community, ornamental tree species observed include white mulberry (*Morus alba*), silver wattle (*Acacia dealbata*), cherry plum (*Prunus cerasifera*), and others. See the tree survey report for the full list of tree species (WRA 2019). Commonly observed herbaceous species include chicory (*Cichorium intybus*), common wheat (*Triticum aestivum*), slim oat (*Avena barbata*), and ripgut brome (*Bromus diandrus*).

Developed. No Rank. Developed is not described in the *California Natural Community List* (CDFW 2018b) or *A Manual of California Vegetation, Online Edition* (CNPS 2018b). In the Study Area, developed was mapped in the southeastern portion, where the vacant apartment building and associated paved areas (parking spaces and roadways) are located. This area is generally unvegetated, with the exception of the occasional ornamental species or species typical of disturbed conditions. Tree species observed include mayten (*Maytenus boaria*) and coast live oak. Herbaceous species include slim oat and ripgut brome.

5.1.2 Sensitive Natural Communities

Intermittent Stream. No Rank. Intermittent stream is not described in the *California Natural Community List* (CDFW 2018b) or *A Manual of California Vegetation, Online Edition* (CNPS 2018b). A single intermittent stream—Salvador Creek—is present along the northeastern boundary of the Study Area. Within the Study Area, most of Salvador Creek has a dense riparian tree canopy, but small portions are fully or partially outside of tree canopy. Areas where the tree canopy is located directly above the creek are mapped as intermittent stream for the purposes of this report. Areas where the tree canopy is adjacent to creek but not directly above it are mapped as riparian for the purposes of this report and discussed below. The tree canopy is a mix of species and contains elements of several vegetation alliances that are too small to map separately, including red willow thickets (*Salix laevigata* Woodland Alliance), Oregon ash groves (*Fraxinus latifolia* Forest Alliance), coast live oak woodland (*Quercus agrifolia* Woodland Alliance). Other tree species include silver wattle and Lombardy poplar (*Populus nigra*). The understory is typically sparse and includes Himalayan blackberry (*Rubus armeniacus*) and poison oak (*Toxicodendron diversilobum*). Where canopy cover is open or absent, water primrose (*Ludwigia* sp.) was observed in the channel bottom, and Himalayan blackberry was often dense.

Salvador Creek is a tributary to Napa Creek, which drains to the San Francisco Bay, a navigable waters of the U.S.; therefore, the portion of Salvador Creek within the Study Area is potentially jurisdictional by the Corps. In addition, this feature is also potentially jurisdictional by the RWQCB and CDFW.

Riparian. No Rank. Riparian is not described in the *California Natural Community List* (CDFW 2018b) or *A Manual of California Vegetation, Online Edition* (CNPS 2018b). As described above, riparian was mapped within the Study Area where the tree canopy is adjacent to, but not directly above, Salvador Creek. The tree canopy is typically dense and comprised of a mix of species as described above. The understory is also as described above.

Riparian, non-wetland areas above OHWM are not considered jurisdictional by the Corps. However, riparian within the Study Area is potentially jurisdictional by the RWQCB and CDFW.

5.2 Special-Status Species

Appendix B lists all plant and wildlife species observed within the Study Area.

5.2.1 *Special-Status Plants*

Based upon a review of the resources and databases listed above, 81 special-status plant species have been documented in the vicinity of the Study Area. All of these species are unlikely or have no potential to occur in the Study Area because of the highly disturbed nature of the Study Area and/or because of one or more of the following reasons:

- Hydrologic conditions (e.g. marsh habitat) necessary to support the special-status plant(s) are not present in the Study Area;
- Edaphic (soil) conditions (e.g. serpentine, volcanic, alkaline) necessary to support the special-status plant(s) are not present in the Study Area;
- Topographic positions (e.g. north-facing slopes) necessary to support the special-status plant(s) are not present in the Study Area;
- Associated vegetation communities (e.g. chaparral, lower montane coniferous forest) necessary to support the special-status plant(s) are not present in the Study Area;
- The Study Area is outside of the known elevation and/or localized distribution of the special-status plant(s) (e.g. coastal sites).

No special-status plant species, including locally rare species, were observed during the assessment site visit. Special-status plant species documented in the CNDDDB within 5 miles of the Study Area are shown in Appendix A, Figure 4.

5.2.2 *Special-Status Wildlife*

Nuttall's woodpecker, a USFWS Bird of Conservation Concern, was observed within the Study Area. No other special-status wildlife was observed within the Study Area during the site assessment.

Potential

Based upon a review of the resources and databases listed above, 56 special-status wildlife species have been documented in the vicinity of the Study Area. All but those listed in the Table 4 were determined to be unlikely or have no potential to occur within the Study Area due to the following reasons:

- Suitable fresh or brackish water features are absent;
- Suitable soils to support host plants are absent;
- Vernal pools are absent from the Study Area;
- Historic rookery sites are absent;
- Continuous anthropomorphic disturbances are present;
- Suitable burrows, burrow surrogates, or burrowing mammals are absent;
- Species specific habitat (e.g. salt marsh, open grassland) is not present;
- The Study Area is outside of the species known range; and/or
- There is no connectivity between known occurrences in the area, and the Study Area.

Table 4 outlines special-status wildlife species determined to have potential to occur within the Study Area.

Table 4. Potential Special-Status Wildlife

SCIENTIFIC NAME	COMMON NAME	CONSERVATION STATUS	POTENTIAL
Formally Listed Species (FESA, CESA)			
<i>Onorhynchus mykiss irideus pop. 8</i>	steelhead – central California coast DPS	FT	Moderate Potential. This species has been documented in Salvador Creek (Leidy et al., 2005).
Other Special-status Wildlife (CEQA, other)			
<i>Antrozous pallidus</i>	pallid bat	SSC	High Potential. This species has a moderate potential to utilize the existing structures within the Study Area for roosting, as well as the larger trees within the riparian area.
<i>Lasiurus blossevillii</i>	western red bat	SSC	Moderate Potential. The Study Area contains broad-leaved tree species typically associated with this species. Riparian habitats along Salvador Creek provide foraging habitat for this species.
<i>Picoides nuttallii</i>	Nuttall's woodpecker	BCC	Present. Oak trees within the Study Area may provide suitable nesting habitat for this species. This species has been observed both in the local area as well as within the Study Area.

One special-status wildlife species, Nuttall's woodpecker (*Picoides nuttallii*), was observed in the Study Area during the site assessment. Four special-status wildlife species have a high or moderate potential to occur in the Study Area. Special-status wildlife species documented in the CNDDDB within 5 miles of the Study Area are shown in Appendix A, Figure 5. Special-status wildlife species that are present within or have moderate or high potential to occur in the Study Area are discussed below.

Present

Nuttall's woodpecker (*Picoides nuttallii*). **USFWS Bird of Conservation Concern.** Nuttall's Woodpecker, common in much of its range, is a year-round resident throughout most of California west of the Sierra Nevada. Typical habitat is oak or mixed woodland, and riparian areas (Lowther 2000). Nesting occurs in tree cavities, principally those of oaks and larger riparian trees. Nuttall's woodpecker also occurs in older residential settings and orchards where trees provide suitable foraging and nesting habitat. This species forages on a variety of arboreal invertebrates.

Trees within the Study Area have suitable cavities and complex structures that are likely to support nesting by this species. In addition, this species is fairly common in oak woodlands throughout this portion of California (Lowther 2000). Therefore, because the species was observed within the Study Area, and suitable habitat is present, the species is considered Present.

Moderate or High Potential

Steelhead - Central California Coast DPS (*Oncorhynchus mykiss irideus*), Federal Threatened. The Central California Coast (CCC) Distinct Population Segment of Steelhead includes all naturally spawned populations of steelhead (and their progeny) in California streams from the Russian River to Aptos Creek, and the drainages of San Francisco and San Pablo Bays eastward to the Napa River (inclusive), excluding the Sacramento-San Joaquin River Basin. Two artificial propagation programs are considered to be part of the CCC Distinct Population Segment: the Kingfisher Flat Hatchery/Scott Creek and the Don Clausen Fish Hatchery (NMFS 2007).

The life history patterns for steelhead are both highly variable and flexible (Moyle 2002). While similar to most Pacific Salmonids (*Oncorhynchus* sp.) in their anadromous life history, steelhead exhibit a greater variation in timing for each component of their life history (NMFS 2007). Steelhead typically migrate to marine waters after spending two years in freshwater, though they may stay up to seven. They then reside in marine waters for two or three years prior to returning to their natal stream to spawn as four or five year-olds. In addition to the anadromous life history, a resident freshwater life history known as rainbow trout exists for the species. Both of these life history types often exist in the same populations, and genetically these types are indistinct from each other with resident rainbow trout capable of producing steelhead and Steelhead progeny sometimes becoming resident rainbow trout (Moyle 2002).

Steelhead are generally classified into two groups based on their timing in returning from the ocean to freshwater systems and their state of sexual maturity at that time (NMFS 2007). "Summer-run" steelhead are sexually immature when they enter freshwater in the spring and early summer. They then hold in suitable freshwater habitat, preferring deep (three meters or more) cold (10 to 15° Celsius) pools, for several months while they sexually mature. "Winter-run" steelhead enter freshwater systems during late fall or early winter and are either at or near sexual maturity.

Steelhead adults typically return to their natal streams to spawn between December and June. Unlike other Pacific salmonids, steelhead are iteroparous, meaning adults do not always die after spawning (NMFS 2007). Spawning redds or nests generally occur in gravel substrate ranging from 0.5 to six inches and are dominated by two to three inch gravels (CDFG 1998). Steelhead can spawn in relatively small pockets of gravel, with redd surface areas ranging from 2.4 to 11.2 square meters (Gallagher and Gallagher 2005). Redds usually are found in pool tail-outs or riffles, where water velocities range from 20 to 155 centimeters/second and at depths of 10 to 150 centimeters (Moyle 2002).

Eggs deposited in redds lie within interstitial spaces in the gravel where flowing water brings in dissolved oxygen, helps to regulate the temperature of the eggs, and removes waste products from the redd (USDA 1979). The amount of time for eggs to hatch and fry to emerge from the gravel is dependent upon water temperature, habitat, and spawning season (USFWS 1986). When temperatures range from 10 to 15° Celsius, eggs typically hatch in three to four weeks, and fry emerge from the gravel two to three weeks later (Moyle 2002).

Juvenile steelhead prefer to rear in eddies and along velocity breaks where they can exert minimal energy holding in one position while being in close proximity to forage on terrestrial and aquatic invertebrates washed downstream. Instream cover such as large woody debris and undercut banks in deep pools, along with sufficient riparian cover form important rearing habitat (USFWS 1986). Growth rate varies based on temperature, with optimal growth thought to occur between 15 and 19 degrees Celsius (Hayes et al 2008). Ephemeral floodplain habitat has been shown to be particularly important foraging and refuge for juvenile Salmonids (Jeffres et al 2008). Sommer

(2001) found significantly higher growth rates for Salmonids rearing in floodplain habitat than with those rearing in adjacent stream habitat. Survival rates for juveniles and smolts is higher for larger and older steelhead, which demonstrates the importance of productive juvenile rearing habitat for the survival of the species (USFWS 1986).

Smolting occurs when juvenile Steelhead outmigrate to the ocean. A process of morphological, behavioral, and biochemical changes occur that prepares the individual for a pelagic life in the ocean (USFW 1986). While in the ocean, a rapid growth phase occurs where individuals feed on the nutrient rich marine ecosystem and become much larger than resident Rainbow Trout.

The primary driving factor identified in the decline of CCC Steelhead is the loss and degradation of natural habitat and flow conditions (NMFS 2007). Factors contributing to this include urbanization, changes in watershed drainage, agriculture, forestry, channel realignment, water withdrawal, diversions, and fish passage barriers. Critical areas identified by NMFS (2007) for the recovery of CCC Steelhead include:

- *freshwater spawning sites* with good water quality and quantity, and suitable substrate for spawning;
- *freshwater rearing sites* with good water quality and quantity, forage, and natural cover;
- *freshwater migration corridors* that are unobstructed, have good water quality and quantity, natural cover, and affords safe passage conditions for migration.

Salvador Creek, which runs through the eastern side of the Study Area, and is a tributary of the Napa River which flows to San Pablo Bay. Steelhead have previously been identified in Salvador Creek (Leidy et al., 2005). A survey conducted in 2007 on Salvador Creek revealed very little suitable habitat for steelhead, as a significant portion of Salvador Creek is channelized and contained in culverts (Koehler and Edwards 2009). However, Salvador Creek provides intermittent aquatic habitat which is often present when smaller headwater streams within the Napa River are no longer passable or accessible to steelhead. As a result, steelhead may use Salvador Creek during these low flow periods, when access to more suitable habitat upstream is not available (Baracco 1977). Considering these conditions, returning adult steelhead may hold in Salvador Creek when migrating upstream to spawning grounds (outside of Salvador Creek) and would have a moderate potential to occur at these times of year.

Pallid bat (*Antrozous pallidus*). CDFW Species of Special Concern, WBWG High Priority. The pallid bat is broadly distributed throughout much of western North America and typically occurs in association with open, rocky areas. Occupied habitats are highly variable and range from deserts to forests in lowland areas, and include higher-elevation forests. Roosting may occur singly or in groups of up to hundreds of individuals. Roosts must offer protection from high temperatures and are typically in rock crevices, mines, caves, or tree hollows; manmade structures are also used, including buildings (both vacant and occupied) and bridges. Pallid bats are primarily insectivorous, feeding on large prey that is usually taken on the ground but sometimes in flight (WBWG 2018).

The existing structure on the south side of the Study Area may provide suitable roosting habitat for this species. During the site visit, the existing structure was observed to have multiple egress points, although the majority of the windows and doors had been boarded shut. Some of the larger oak trees within the Study Area may have cavities that also provide suitable roosting habitat. This species may also forage for insects over Salvador Creek, the adjacent field in Salvador Creek Park, and vegetated portions of the Study Area. The nearest documented occurrence of this species is within 2.1 miles of the Study Area (CDFW 2018). Based on the

proximity of documented occurrences, the presence of potential roost structures, as well as watering and foraging opportunities, there is a high potential for this species to occur within the Study Area.

Western red bat (*Lasiurus blossevillii*), CDFW Species of Special Concern, WBWG High Priority. This species is highly migratory and broadly distributed, ranging from southern Canada through much of the western United States. Western red bats are believed to make seasonal shifts in their distribution, although there is no evidence of mass migrations (Pierson et al. 2006). They are typically solitary, roosting primarily in the foliage of broad-leafed trees or shrubs. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas possibly in association with riparian trees (particularly willows, cottonwoods, and sycamores; Pierson et al. 2006). It is believed that males and females maintain different distributions during pupping, where females take advantage of warmer inland areas and males occur in cooler areas along the coast.

The riparian vegetation on either side of Salvador creek may contain potential roosting habitat for this species. The nearest documented occurrence of this species is within 7.5 miles of the Study Area (CDFW 2018). Western red bats may also forage over Salvador Creek, as well as over the adjacent field in Salvador Creek Park. Due to the potential presence of roosting trees, water and foraging grounds, but considering the distance from known occurrences, there is a moderate potential for this species to occur within the Study Area.

Species Unlikely to Occur

Federal or state listed, as well as other special-status species which have been found unlikely to occur, but have been recorded in the vicinity are discussed in more detail below.

California red-legged frog (*Rana draytonii*), Federal Threatened Species, CDFW Species of Special Concern. The California red-legged frog is dependent on suitable aquatic, estivation, and upland habitat. During periods of wet weather, starting with the first rainfall in late fall, red-legged frogs disperse away from their estivation sites to seek suitable breeding habitat. Aquatic and breeding habitat is characterized by dense, shrubby, riparian vegetation and deep, still or slow-moving water. Breeding occurs between late November and late April. California red-legged frogs estivate (period of inactivity) during the dry months in small mammal burrows, moist leaf litter, incised stream channels, and large cracks in the bottom of dried ponds.

The habitat within the Study Area does not connect upstream to known occurrences of this species, and the nearest documented occurrence of this species is over 9 miles southeast of the Study Area. Additionally, the Study Area is isolated from nearby occurrences by urban development which surrounds the Study Area. Therefore, it is unlikely that this species would occur within the Study Area because the Study Area cannot sustain a breeding population as no ponds are present, and no connectivity exists between the Study Area and known populations.

California freshwater shrimp (*Syncaris pacifica*) Federal Endangered, State Endangered Species. California freshwater shrimp are detritus feeders found in low-elevation and low-gradient streams where banks are structurally diverse, containing undercut banks, exposed roots, overhanging woody debris, or overhanging vegetation. Historically the shrimp is assumed to have been common in perennial freshwater streams in Marin, Sonoma, and Napa counties.

The Study Area is outside the area of known occurrences for this species (CDPR 2009). The closest known occurrence of California freshwater shrimp is approximately 6.5 miles southwest of the Study Area and is associated with Huichica Creek. This population is restricted from

upstream movement by barriers (CNDDDB 2018). Given the distance between known occurrences and the Study Area, as well as the presence of barriers, it is unlikely that this species would occur.

California giant salamander (*Dicamptodon ensanatus*). CDFW Species of Special Concern.

The California giant salamander is endemic to the north-central California Coast Ranges, and occurs in two discrete areas north and south of San Francisco Bay respectively. This species primarily occupies moist coniferous and mixed forests, but is also found along streams in coastal woodland and chaparral areas. Adults are largely terrestrial and fossorial, but similar to other fossorial amphibians, can be active at or near the surface in wet conditions such as high humidity or rain events (Thomson et al. 2016). Discoveries of this species at burrows are restricted to wet, shaded along streams, stream banks, and moist road cuts, and only above ground during fall and winter rain events (Fellers et al 2010, Thomson et al 2016). Observations of this species underground come from work in streams and all individuals were always within refugia in proximity to creek or spring features (Feller et al 2010). Breeding occurs in cold, permanent or semi-permanent streams, often in headwater reaches. Larvae typically remain aquatic for over a year before metamorphosing (Thomson et al. 2016). Some larvae never undergo metamorphosis, and become reproductively mature while remaining aquatic. Prey consists of a variety of invertebrates and small vertebrates.

The nearest documented occurrence is approximately 3.8 miles west of the Study Area, and is associated with riparian redwood habitat (CDFW 2018). Salvador Creek does not connect upstream to any known occurrences of this species. Additionally, the Study Area is isolated from nearby occurrences by highly developed urban infrastructure. Given the barriers to movement, and highly developed urban area surrounding the Study Area, it is unlikely that this species would occur.

Foothill yellow-legged frog (*Rana boylei*). State Candidate, CDFW Species of Special Concern.

The foothill yellow-legged frog historically occurred in coastal and mountain streams from southern Oregon to Los Angeles County, but has declined in many parts of this range. This species is strongly associated with rivers and creeks, and prefers shallow, flowing water with a rocky substrate. Individuals do not typically move overland and are rarely observed far from a source of permanent water. In northern California, it was observed adults were on average within ten feet and rarely over 40 feet from the stream (Bourque 2008). Although upland habitat usage is not well studied, the data suggest that movements away from water are related to flood events (Kupferberg 1996, Bourque 2008, Thomson et al. 2016). Frogs in intermittent drainages may move more than those in perennial but movements are within the creek corridors (Kupferberg 1996, Bourque 2008, Gonsolin 2010). There were opportunistic observations that coastal yellow-legged frogs may use upland habitats in winter (Nussbaum et al. 1983, Welsh, H. per. comm. as reported in Bourque 2008); however, this has not been supported by data and these movements away from water into terrestrial habitat are likely in response to high flows and flood events (Kupferberg 1996, Bourque 2008). Aquatic breeding sites are often near stream confluences, with egg masses typically deposited behind or sometimes under rocks in low-flow areas with cobble and/or gravel (Thomson et al. 2016).

The nearest documented occurrence of this species to the Study Area is approximately 3.6 miles northwest (CDFW 2018). In the vicinity of the Study Area, this species has only been documented in higher elevation, woodland streams, none of which are present within the Study Area (CDFW 2018). Additionally, the Study Area is isolated from nearby occurrences by highly developed urban infrastructure. Given the lack of suitable habitat, isolated nature of the creek, and highly developed urban area surrounding the Study Area, it is unlikely that this species would occur.

Swainson's hawk (*Buteo swainsoni*). State Threatened, USFWS Bird of Conservation Concern. Swainson's hawk is a summer resident and migrant in California's Central Valley and scattered portions of the southern California interior. Nests are constructed of sticks and placed in trees located in otherwise largely open areas. Areas typically used for nesting include the edge of narrow bands of riparian vegetation, isolated patches of oak woodland, lone trees, and also planted and natural trees associated with roads, farmyards and sometimes adjacent residential areas. Foraging occurs in open habitats, including grasslands, open woodlands, and agricultural areas. While breeding, adults feed primarily on rodents (and other vertebrates); for the remainder of the year, large insects (e.g., grasshoppers, dragonflies) comprise most of the diet. In many areas, Swainson's hawks have adapted to foraging primarily in and around agricultural plots (particularly alfalfa, wheat and row crops), as prey is both numerous and conspicuous at harvest and/or during flooding or burning (Bechard et al. 2010).

The nearest documented occurrence of this species to the Study Area is approximately 5.9 miles southeast and is associated with farmland surrounding the Napa County Airport (CDFW 2018). There are no open fields or appropriate foraging habitat for Swainson's hawk within or near to the Study Area.

Critical Habitat

The Study Area is approximately 0.5 miles west of designated steelhead (*Oncorhynchus mykiss*) Critical Habitat. This nearby Critical Habitat is associated with the Napa River. There are no documented barriers to fish passage between the Napa River and Salvador Creek, which runs through the Study Area, and the species is presumed extant within this section of Salvador Creek (UC Davis 2018).

Essential Fish Habitat

The Study Area contains general Essential Fish Habitat for Salmonids, specifically Chinook (*Oncorhynchus tshawytscha*) and Coho salmon (*O. kisutch*).

Wildlife Corridors

A review of the California Essential Connectivity Project (CDFW 2018c) showed that the Study Area is not located within areas previously identified as an essential connectivity area, core reserve or corridor, landscape block, or general wildlife corridors identified in the BIOS system. There is an identified essential connectivity area approximately 2 miles to the east of the Study Area; however, the Study Area is surrounded by highly developed urban infrastructure, limiting the possibility for wildlife to treat it as a corridor for movement. Although the Study Area and surrounding lands are highly developed, there is the potential for common, urban adapted wildlife to pass through the Study Area.

5.3 Protected Trees

A total of 109 trees that meet the definition of "protected native tree" as defined by Chapter 12.45 of the City of Napa Municipal Code (Trees on Private Property) were documented within the Study Area. Protected trees appeared to be naturally occurring and were present along the northern, eastern, and western boundaries of the Study Area. Species that met the definition of "protected native tree" on private property within the Study Area include coast live oak (*Quercus agrifolia*), valley oak (*Q. lobata*), and black walnut (*Juglans hindsii*). More detailed results are included in the Tree Survey Report (WRA 2019).

6.0 PROJECT ANALYSIS AND RECOMMENDATIONS

6.1 Project Description

The Project involves renovation and new construction of two publicly funded, affordable, multi-family apartment communities. Heritage House is proposed as an adaptive re-use of a vacant assisted living facility (originally 74 bedrooms) into 66 units of permanent supportive housing for low-income individuals. Valle Verde is proposed as 24 units of new family housing. The two buildings will be on separate parcels and funded independently but will have agreements in place to share access to the public street, parking, and utility points of entry.

In order to stabilize the Salvador Creek channel slope and protect existing improvements for the Heritage House portion of the Project, a concrete retaining wall will be installed around the existing parking area in the northeast portion of the Study Area. The new retaining wall would be located no closer to the creek channel than the existing back of curb at the existing driveway/parking area. All construction activity could likely be accomplished in the existing paved driveway/parking area, with no grading or other construction activity occurring beyond the back of the existing curb. However, a 5-foot buffer beyond the wall is assumed as the limit of work for this area.

Two alternatives are being considered for the existing bridge that spans Salvador Creek within the Study Area, as summarized below.

- Alternative 1: Leave as is (no impact), as shown on Figure 3a (Appendix A).
- Alternative 2: Remove the bridge decking, the western abutment, and two piles. The eastern abutment would be sawcut and remain in place. A 5-foot buffer will encompass the limit of work around the bridge. Heavy equipment, such as cranes, will be stationed above top of bank, and there may be a catchment under the bridge to catch debris. The limit of work including bridge removal work is shown on Figure 3b (Appendix A).

6.2 CEQA Analysis Methodology

Pursuant to Appendix G, Section IV of the State CEQA Guidelines, a project would have a significant impact on biological resources if it would:

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

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

This report utilizes these thresholds in the analysis of impacts and determination of the significance of those impacts. The assessment of impacts under CEQA is based on the changes caused by the Project relative to the existing conditions in the Study Area. The existing conditions in the Study Area are described above, based on surveys conducted in 2018. In applying CEQA Appendix G, the terms “substantial” and “substantially” are used as the basis for significance determinations in many of the thresholds, but are not defined qualitatively or quantitatively in CEQA or in technical literature. In some cases, such as direct impacts to special-status species listed under the CESA or ESA, the determination of a substantial impact may be relatively straightforward. In other cases, the determination is less clear, and requires application of best professional judgment based on knowledge of site conditions as well as the ecology and physiology of biological resources present in a given area. Determinations of whether or not Project activities will result in a substantial adverse effect to biological resources are discussed in the following sections for sensitive biological communities, special-status plant species, and special-status wildlife species.

6.3 Impacts Assessment and Mitigation Measures

Using the CEQA analysis methodology outlined in Section 6.2 above, the following section describes potential significant impacts to sensitive resources within the Study Area as well as suggested mitigation measures which are expected to reduce impacts to less than significant.

As summarized in Table 5, the Project will only have minimal permanent and temporary impacts to sensitive aquatic natural communities. Alternative 1 will avoid Salvador Creek entirely. With Alternative 2, temporary disturbance may occur within Salvador Creek related to deck, pile, and abutment removal. The end result will ultimately be an improvement to the creek because it will be restored a more natural condition. However, to further reduce the potential for impacts to sensitive communities and special-status species, the following general best management practices (BMPs) are recommended. Implementation of these general BMPs, in combination with the species- and habitat-specific measures provided in the subsequent sections, will reduce potential for construction-related impacts such that the Project is not anticipated to have a significant impact to any sensitive communities or special-status species.

- Erosion control measures shall be utilized throughout all phases of operation where sediment runoff from exposed slopes threatens to enter aquatic natural communities. At no time shall silt laden runoff be allowed to enter Salvador Creek or its riparian corridor or directed to where it may enter these areas. Erosion control structures shall be monitored for effectiveness and repaired or replaced as needed. Appropriate erosion control measures shall be installed around any stockpiles of soil or other materials which could be mobilized by rainfall or runoff.
- No fueling, cleaning, or maintenance of vehicles or equipment shall take place within any areas where an accidental discharge to Salvador Creek may occur.
- All equipment including excavators, trucks, hand tools, etc., that may have come into contact with invasive plants or the seeds of these plants, shall be carefully cleaned before arriving on the site and also carefully cleaned before removal from the site to prevent spread of these plants.
- Construction disturbance or removal of riparian vegetation shall be restricted to the minimum footprint necessary to complete the work. The work area shall be delineated

where necessary with construction fencing to minimize impacts to habitat beyond the work limit.

- Staging and storage areas for equipment, materials, fuels, lubricants and solvents, shall be located outside of the stream channel banks.
- Stationary equipment such as motors, pumps, and generators, located adjacent to aquatic features shall be positioned over drip pans. Stationary heavy equipment shall have suitable containment to handle a spill or leak. All activities performed near aquatic features shall have absorbent materials designated for spill containment and cleanup activities on-site for use in an accidental spill.
- Any equipment or vehicles operated adjacent to aquatic features shall be checked and maintained daily to prevent leaks of materials that could be deleterious to wildlife or habitat.
- Stockpiles of soil or other materials that can be blown by wind shall be covered when not in active use. All trucks hauling soil, sand, and other loose materials shall be covered.
- No other debris, rubbish, creosote-treated wood, soil, silt, sand, cement, concrete or washings thereof, or other construction-related materials or wastes shall be allowed to enter into or be placed where they may be washed by rainfall or runoff into the aquatic features. All such waste shall be picked-up daily and properly disposed of at an appropriate facility.
- An environmental awareness training program shall be conducted for all crews working on the site to include education on sensitive resources such as protected wildlife with the potential to occur within the Study Area, water quality, and environmental protection measures.
- All temporary flagging, fencing, and/or barriers shall be removed upon completion of Project construction.
- Areas of temporary ground disturbance shall be revegetated using an appropriate erosion control seed mix or covered with rock, wood chips, or other suitable erosion control materials as appropriate.

6.3.1 *Sensitive Natural Communities*

BIO IMPACT 1: Aquatic Natural Communities

An intermittent stream (Salvador Creek) and associated riparian vegetation are present along the northeastern boundary of the Study Area. Alternative 1 (no bridge removal) would only impact riparian woodland associated with Salvador Creek (and avoid impacts to the creek itself). Alternative 2 (bridge removal) would result in impacts to Salvador Creek and associated riparian habitat. Intermittent stream is potentially subject to Corps, RWQCB, and CDFW jurisdiction. Riparian habitat is potentially subject to RWQCB and CDFW jurisdiction. Table 5 outlines the area of potential impacts to aquatic natural communities from ground-disturbing activities within the Study Area under Alternatives 1 and 2

Table 5. Impacts to Aquatic Natural Communities within the Study Area Under Alternatives 1 and 2

Feature Type	Impacts Under Alternative 1 (acres/linear feet)	Impacts Under Alternative 2 (acres/linear feet)
Potential Corps Jurisdiction		
Intermittent Stream	N/A	0.01 acre 23 linear feet
Total		0.01 acre 23 linear feet
Potential RWQCB & CDFW Jurisdiction		
Intermittent Stream	N/A	0.02 acre 23 linear feet
Riparian	0.12 acre	0.13 acre
Total	0.12 acre	0.15 acre 23 linear feet

BIO MM 1.1

Prior to ground disturbing activities, relevant permits through the Corps, RWQCB, and CDFW shall be acquired prior to impacts to potentially jurisdictional areas. Depending on which alternative is implemented, permits may not be required from all of these agencies. Additional mitigation measures may be required through the agency permit process for impacts to these features.

BIO MM 1.2

Approval from the City of Napa shall be acquired prior to impacts to Salvador Creek, riparian vegetation, or the associated setbacks. Additional mitigation measures may be required through the City approval process for impacts to these features.

With the implementation of the mitigation measures listed under BIO MM 1.1 and BIO MM 1.2, adverse effects to sensitive aquatic natural communities will be mitigated to less than significant.

6.3.2 Special-Status Plants

No candidate, sensitive, or special-status plant species were determined to have moderate or high potential to occur within the Study Area. Therefore, no impacts to special-status plant species will occur as a result of the Project, and no mitigation is necessary.

6.3.3 Special-Status Wildlife

Table 6 outlines the special-status wildlife that may be directly or indirectly impacted by the Project. No other special-status wildlife were determined to have a moderate or high potential to occur and therefore impacts to special-status wildlife are limited to those included below.

Table 6. Potential Special-Status Wildlife

SCIENTIFIC NAME	COMMON NAME
Formally Listed Species (FESA, CESA)	
<i>Onorhynchus mykiss irideus pop. 8</i>	steelhead – central California coast DPS
Other Special-status Wildlife (CEQA, other)	
<i>Picoides nuttallii</i>	Nuttall’s woodpecker
<i>Antrozous pallidus</i>	pallid bat
<i>Lasiurus blossevillii</i>	western red bat

BIO IMPACT 2: Special-Status Birds

The Project may affect the special-status bird Nuttall’s woodpecker. In addition to special-status species, non-special-status native birds that are protected by CFGC may also be impacted. Potential impacts to these species and their habitats could occur during the removal of vegetation, during building renovation or during ground-disturbing activities. These activities could result in the direct removal or destruction of active nests or may create audible, vibratory, and/or visual disturbances that cause birds to abandon active nests.

No other candidate, sensitive, or special-status bird species were determined to have a moderate or high potential to occur within the Study Area.

While current guidance from the USDOJ indicates that only intentional/deliberate impacts to covered species constitute violations under the MBTA, native nesting birds are still protected through the CFGC, with similar measures required to minimize effects under both laws. Therefore, avoidance of nesting birds is considered a general biological resources “best practice” in California, and avoids potential enforcement action by CDFW. Nesting bird pre-construction survey obligations are a common component of various permits and authorizations, including CEQA documents and even local grading permits, and such may be deemed applicable to Project activities within the Study Area.

For these reasons, WRA recommends implementation of BIO MM 2, as detailed below.

BIO MM 2: Special-Status Birds

A survey for active bird nests shall be conducted by a qualified biologist no more than 14 days prior to the start of Project activities (vegetation removal, grading, or other initial ground-disturbing activities) if ground disturbing activities commence during the nesting season (February 1 through August 31). The survey shall be conducted in a sufficient area around the Study Area to identify the location and status of any nests that could potentially be directly or indirectly affected by vegetation removal, or grading activities. Based on the results of the pre-construction breeding bird survey, the following measure shall apply.

- If active nests of protected species are found within the Study Area or close enough to the area to affect nesting success, a work exclusion zone shall be established around each nest. Established exclusion zones shall remain in place until all young in the nest have fledged or the nest otherwise becomes inactive (e.g. due to predation). Appropriate exclusion zone sizes vary dependent upon bird species, nest location, existing visual buffers, ambient sound levels, and other factors. An exclusion zone radius may be as

small as 25 feet (for common, disturbance-adapted species) or as large as 250 feet or more for raptors. Exclusion zone size may also be reduced from established levels if supported with nest monitoring by a qualified biologist indicating that work activities are not significantly impacting the nest.

With the implementation of the mitigation measures listed under BIO MM 2, adverse effects to candidate, sensitive, or special-status birds will be mitigated to less than significant.

BIO IMPACT 3: Bats

There is potential for two special-status bat species to occur within Study Area. Direct impacts to special-status bat species could occur due to the removal or modification of trees, snags, and/or buildings. The destruction or injury of special-status bats, or loss of a maternity roost would constitute a potentially significant impact under CEQA and a violation of the CFGC. Indirect impacts to roosting bat species may include roost abandonment due to noise, increased nighttime lighting and/or other human disturbances during construction and would constitute a potentially significant impact under CEQA.

To avoid impacts to roosting bats, the following measures are recommended.

BIO MM 3: Bats

- A pre-construction survey shall be conducted of the existing structures, bridge, and trees within 100 feet of the work areas to determine if any suitable roost habitat is present and the potential for occupancy.
- If an active maternity roost is located within features scheduled for removal, then consultation with CDFW would be required.
- If any large trees are identified during the preconstruction survey which contain potential roosting features, the tree shall be felled outside of the maternity season (September 1 through April 30) and shall be allowed to lay on the ground for one night to allow any undetected bats to leave the tree before it is processed.
- If no roosts or potential bat roosting substrates are located, then work may proceed without further measure.

With the implementation of the mitigation measures listed under BIO MM 3, adverse effects to special-status bat species will be mitigated to less than significant.

BIO IMPACT 4: Steelhead

There is a moderate potential for steelhead to occur in the portion of Salvador Creek within the Study Area. Proposed work related to the existing bridge spanning Salvador Creek has the potential to impact steelhead. Before work on the bridge or within the top of bank occurs, any applicable permits would be obtained. Depending on the project description and extent of work, the Corps may initiate consultation with NMFS if there is a potential for adverse effects to steelhead. Consultation would ultimately determine the appropriate avoidance, minimization, and mitigation measures (if any) for the proposed Project. Based on the two proposed alternatives pertaining to bridge work within the Study Area, the following avoidance and minimization measures are recommended to avoid potential significant impacts to steelhead.

In addition to the general BMPs listed at the beginning of Section 6.3, the following avoidance and minimization measures are recommended for each proposed alternative to work on the bridge within the Study Area.

BIO MM 4: Steelhead

Impacts to Steelhead within the Study Area: Alternative 1 (leave bridge as is)

The BMPs listed in Section 6.3 are sufficient to avoid impacts to the creek and steelhead, therefore no additional measures would be required for work above the top of bank.

Impacts to Steelhead within the Study Area: Alternative 2 (remove the bridge decking, piles and abutments)

The following avoidance and minimization measures are recommended for Alternative 2 for work on the bridge within the Study Area.

- For bridge removal work, (if feasible), a debris containment device (e.g. net, or tarp) shall be installed prior to work in order to prevent material from entering Salvador Creek.
- Riparian vegetation removed within the Study Area shall be the minimum amount needed for work to occur.
- The extent of disturbance shall be delineated with construction fencing or other high visibility marker to prevent disturbance to areas below TOB or outside of the construction footprint.

The appropriate Corps, CDFW, and RWQCB permits shall be obtained prior to conducting work within the active channel or below TOB within the Study Area. Once a final Project description is authored and permits sought, the Corps may initiate consultation with NMFS to determine if any additional impact avoidance, minimization, and mitigation measures would be required for the proposed Project in relation to steelhead. Any additional avoidance and minimization measures included in these permits shall be followed and will reduce the potential to impact steelhead and aquatic habitat to less than significant levels.

With the implementation of the mitigation measures listed under BIO MM 4, adverse effects to steelhead will be mitigated to less than significant.

6.3.4 Wildlife Corridors

BIO IMPACT 5: Wildlife Corridors

The Study Area is not located within areas previously identified as an essential connectivity area, core reserve or corridor, landscape block, or general wildlife corridors identified in the BIOS system. There is an identified essential connectivity area approximately 2 miles to the east of the Study Area; however, the Study Area is isolated from this essential connectivity area by highly developed urban infrastructure, limiting the possibility for wildlife to treat it as a corridor for movement. Although the Study Area and surrounding lands are highly developed, there is the potential for common, urban adapted wildlife to pass through the riparian portion of the Study Area, essentially using it as a local corridor.

Work within the Study Area may affect migration through adjacent habitats used by various species of common wildlife by creating disturbance, light pollution, and general disruption during periods when wildlife may be present.

Although the portion of Salvador Creek within the Study Area does not represent suitable spawning habitat for steelhead, and there is no suitable spawning habitat upstream, the creek has potential to be utilized as a holding area for adult steelhead during low flow periods. Measures outlined in BIO MM 4, including obtaining any necessary permits and complying with any measures pursuant to those permits, would assure that impacts to migrating steelhead would be less than significant.

In addition to the aforementioned measures regarding steelhead, the following measures are recommended to assure use of the surrounding areas by migrating wildlife are less than significantly impacted.

BIO MM 5: Wildlife Corridors

- Hours for initial phases of work shall be limited to 30 minutes after sunrise to 30 minutes before sunset in order to avoid causing disturbance when wildlife are most likely to migrate through surrounding habitats.
- Any lighting used for the Project shall be kept to the minimum necessary to safely operate. Those lights shall also be directed inward toward the Study Area, and not into surrounding habitats.
- All work shall occur only within designated work areas.

With implementation of BIO MM 5, adverse effects to wildlife corridors will be mitigated to less than significant.

6.3.5 Local Policies or Ordinances

BIO IMPACT 6: Aquatic Natural Communities

Salvador Creek and riparian vegetation are within the Study Area. Installation of the retaining wall in the northeast portion of the Study Area in order to stabilize the creek bank may temporarily impact riparian areas. In addition, Alternative 2 may temporarily impact riparian and/or Salvador Creek in order to remove existing bridge infrastructure. For a waterbody with the dimensions of Salvador Creek (i.e. a channel less than 8 feet deep), a 20-foot setback from TOB is required. In addition, a case-specific riparian setback is also required. Work within these setbacks may be considered significant under City Municipal Code Section 17.52.110 (Streambed and Creek Protection) and be subject to permits or mitigation measures.

With the implementation of mitigation measures listed under BIO MM 1.2, adverse effects related to the City of Napa Streambed and Creek Ordinance will be mitigated to less than significant.

BIO IMPACT 7: Protected Trees

The City of Napa has a native tree Preservation ordinance that requires a protected native tree pruning and removal permit be obtained prior to doing any of the following to a “protected native tree” per Chapter 12.45 of the Tree Ordinance (Trees on Private Property):

- Prune any branch or limb of a protected native tree greater than 4 inches in diameter or remove more than 10 percent of any live foliage in any 1-year period;

- Cut any root over 2 inches in diameter within the drip line area of a protected native tree;
- Change, by more than 2 feet, grade elevations within the drip line area of a protected native tree; or
- Place or allow to flow into or over the drip line area of any protected native tree any oil, fuel, concrete mix or other substance that could injure the tree.

The Project proposes to remove up to 13 “protected native trees” per Chapter 12.45 of the Tree Ordinance (Trees on Private Property). Of this total, seven trees are associated with the bike trail improvements, and one tree is associated with the bridge removal.

BIO MM 7: Protected Trees

In order to satisfy the requirements of the City of Napa Tree Protection Ordinance, a protected native tree pruning and removal permit application shall be submitted to the City of Napa for any protected native trees. Protected native trees that will be removed or damaged as a result of the Project shall be replaced as required pursuant to the Tree Ordinance. The City may require a higher mitigation standard for larger diameter protected trees that will be impacted by the Project.

With the implementation of the mitigation measures listed under BIO MM 7, adverse effects to native protected trees will be mitigated to less than significant.

6.3.6 Habitat Conservation Plans or Natural Community Conservation Plans

The Study Area is not located in an area that is covered by any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, the Project does not pose any impacts on a local or regional level. No additional mitigation related to local or regional conservation plans is necessary.

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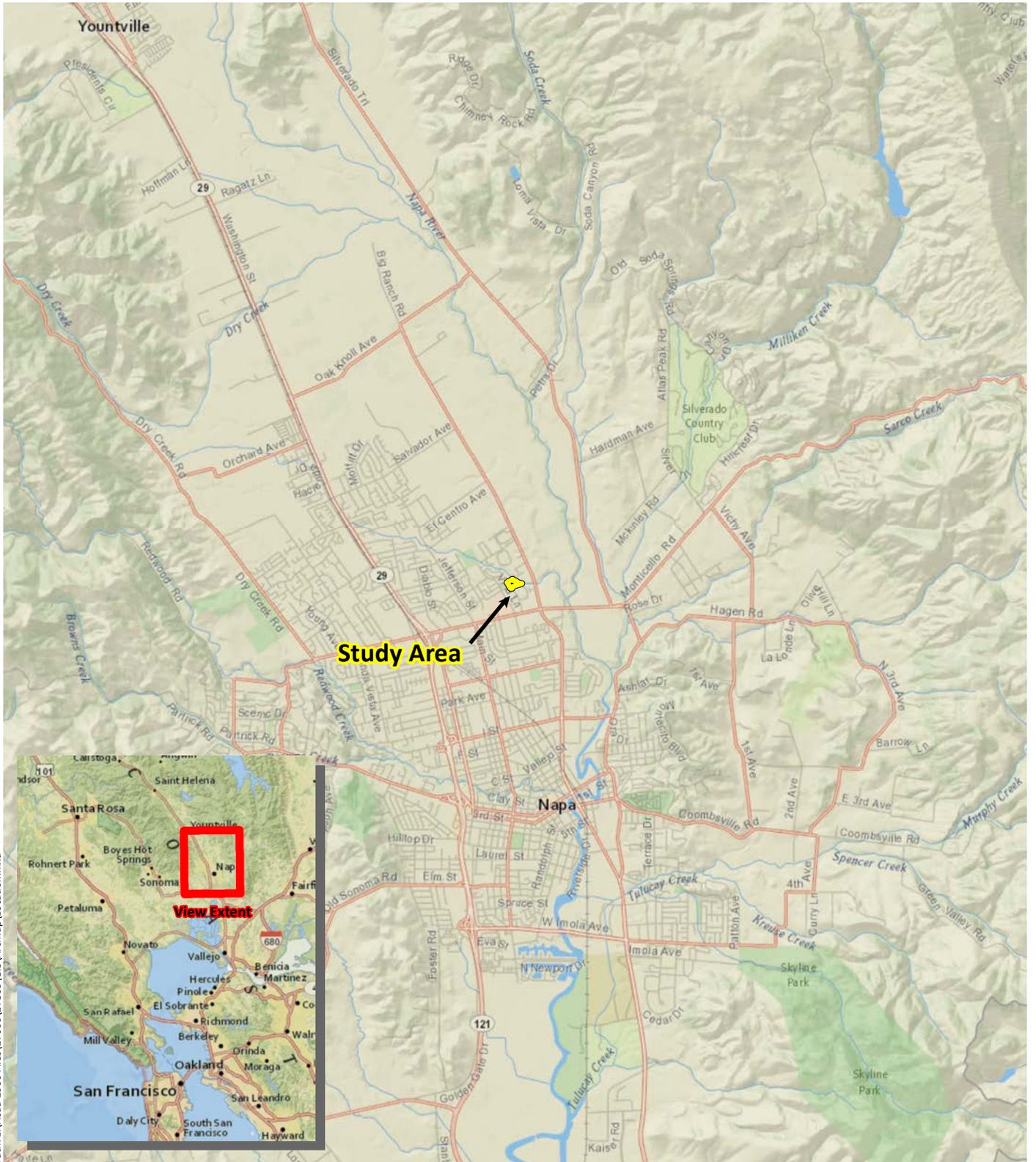
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Appendix A

Figures

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Sources: National Geographic, WRA | Prepared By: mrochelle, 5/6/2019

Figure 1. Study Area Location

Napa Creekside Housing Project
Napa, California

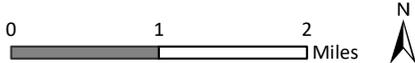
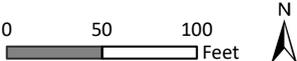




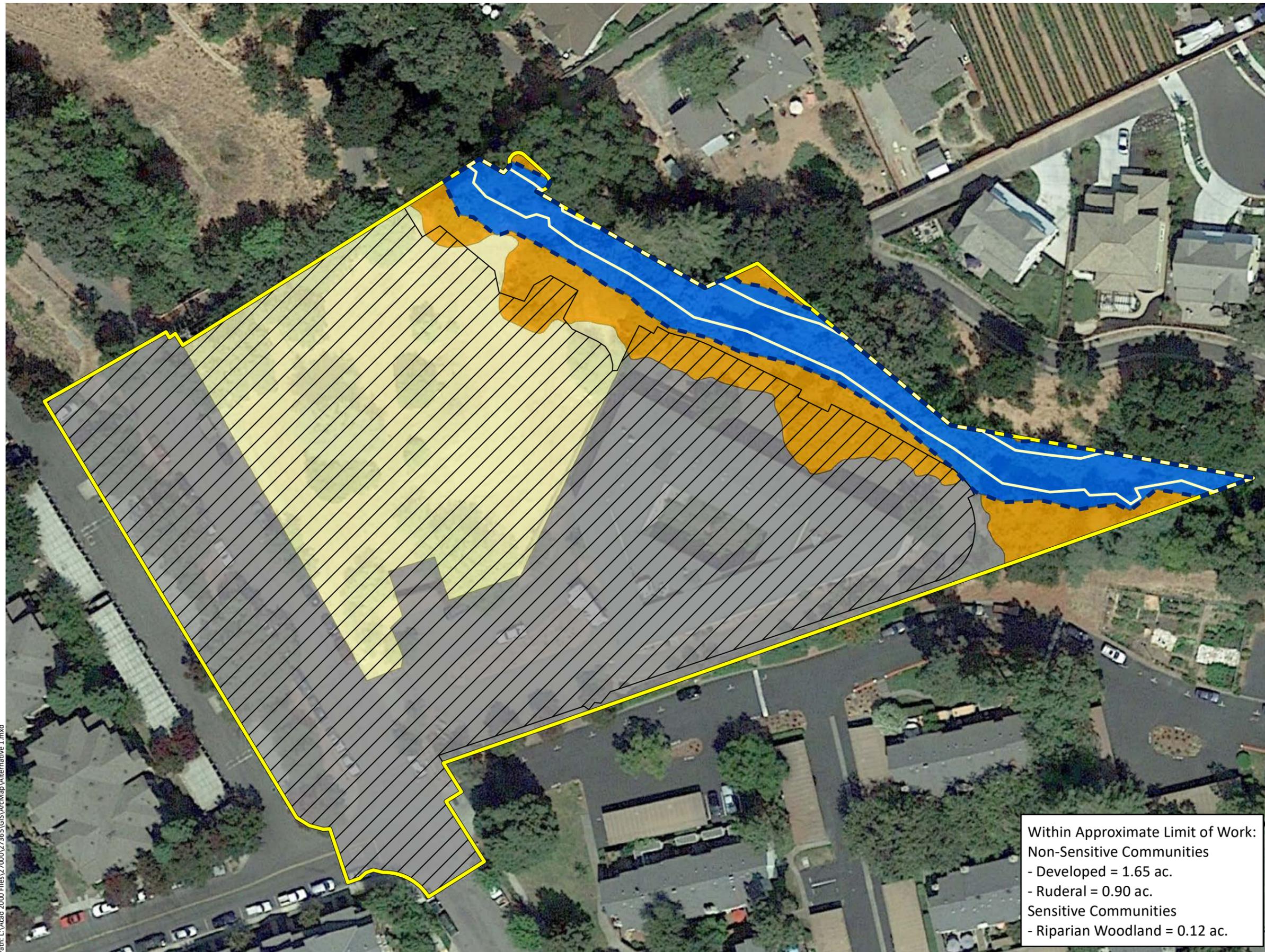
Figure 2. Soils Map

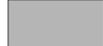
Napa Creekside Housing Project
 Napa, California



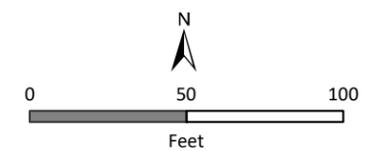
**Figure 3a.
Alternative 1
No Bridge Removal**

Napa Creekside Housing Project
Napa, California



-  Study Area - 3.27 ac.
-  Approximate Limit of Work - 2.67 ac.
-  Ordinary High Water Mark (OHWM) - 0.20 ac. & 508 LF
-  Top of Bank (TOB) - 0.34 & 508 LF
- Non-Sensitive Communities**
-  Developed - 1.71 ac.
-  Ruderal - 0.92 ac.
- Sensitive Communities**
-  Intermittent Stream - 0.34 ac. & 508 LF
-  Riparian Woodland - 0.30 ac.

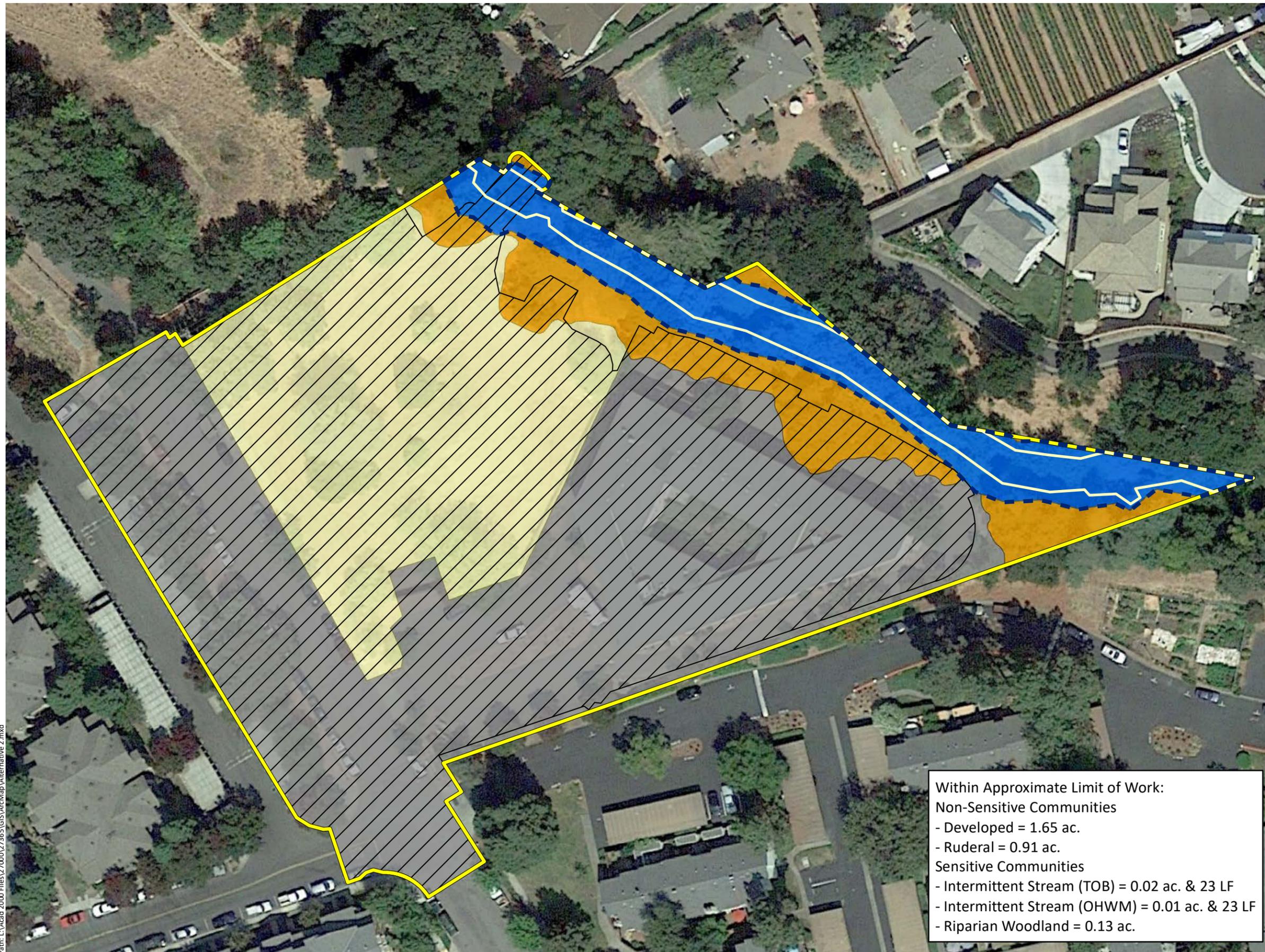
Within Approximate Limit of Work:
 Non-Sensitive Communities
 - Developed = 1.65 ac.
 - Ruderal = 0.90 ac.
 Sensitive Communities
 - Riparian Woodland = 0.12 ac.

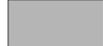


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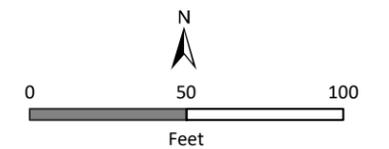
**Figure 3b.
Alternative 2
Bridge Removal**

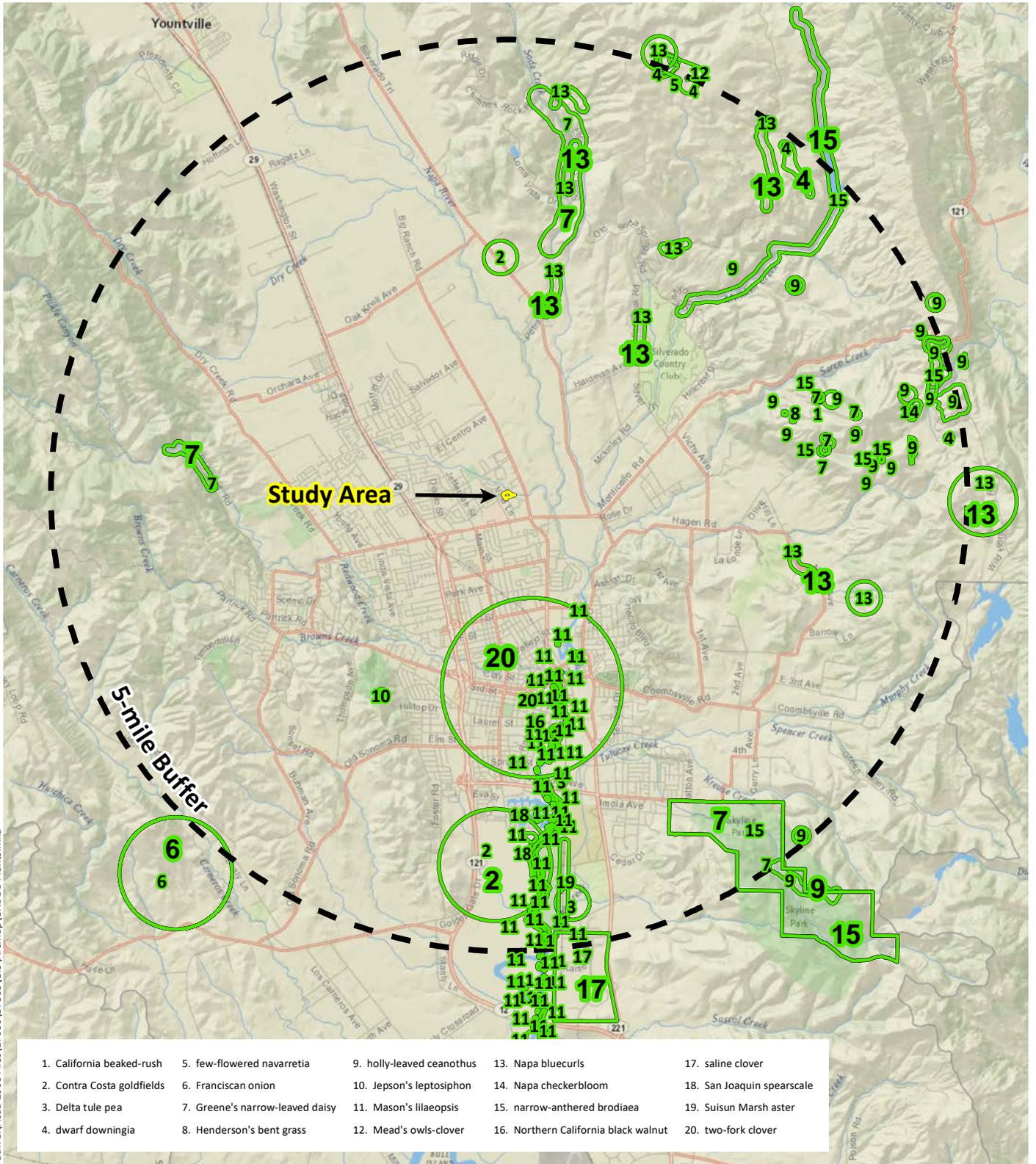
Napa Creekside Housing Project
Napa, California



-  Study Area - 3.27 ac.
-  Approximate Limit of Work - 2.71 ac.
-  Ordinary High Water Mark (OHWM) - 0.20 ac. & 508 LF
-  Top of Bank (TOB) - 0.34 & 508 LF
- Non-Sensitive Communities**
-  Developed - 1.71 ac.
-  Ruderal - 0.92 ac.
- Sensitive Communities**
-  Intermittent Stream - 0.34 ac. & 508 LF
-  Riparian Woodland - 0.30 ac.

Within Approximate Limit of Work:
 Non-Sensitive Communities
 - Developed = 1.65 ac.
 - Ruderal = 0.91 ac.
 Sensitive Communities
 - Intermittent Stream (TOB) = 0.02 ac. & 23 LF
 - Intermittent Stream (OHWM) = 0.01 ac. & 23 LF
 - Riparian Woodland = 0.13 ac.



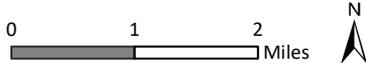


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Sources: National Geographic, CNDDDB April 2019, WRA | Prepared By: mrochelle, 5/6/2019

Figure 4. Special-Status Plant Species Documented in the CNDDDB within 5 Miles of the Study Area

Napa Creekside Housing Project
Napa, California



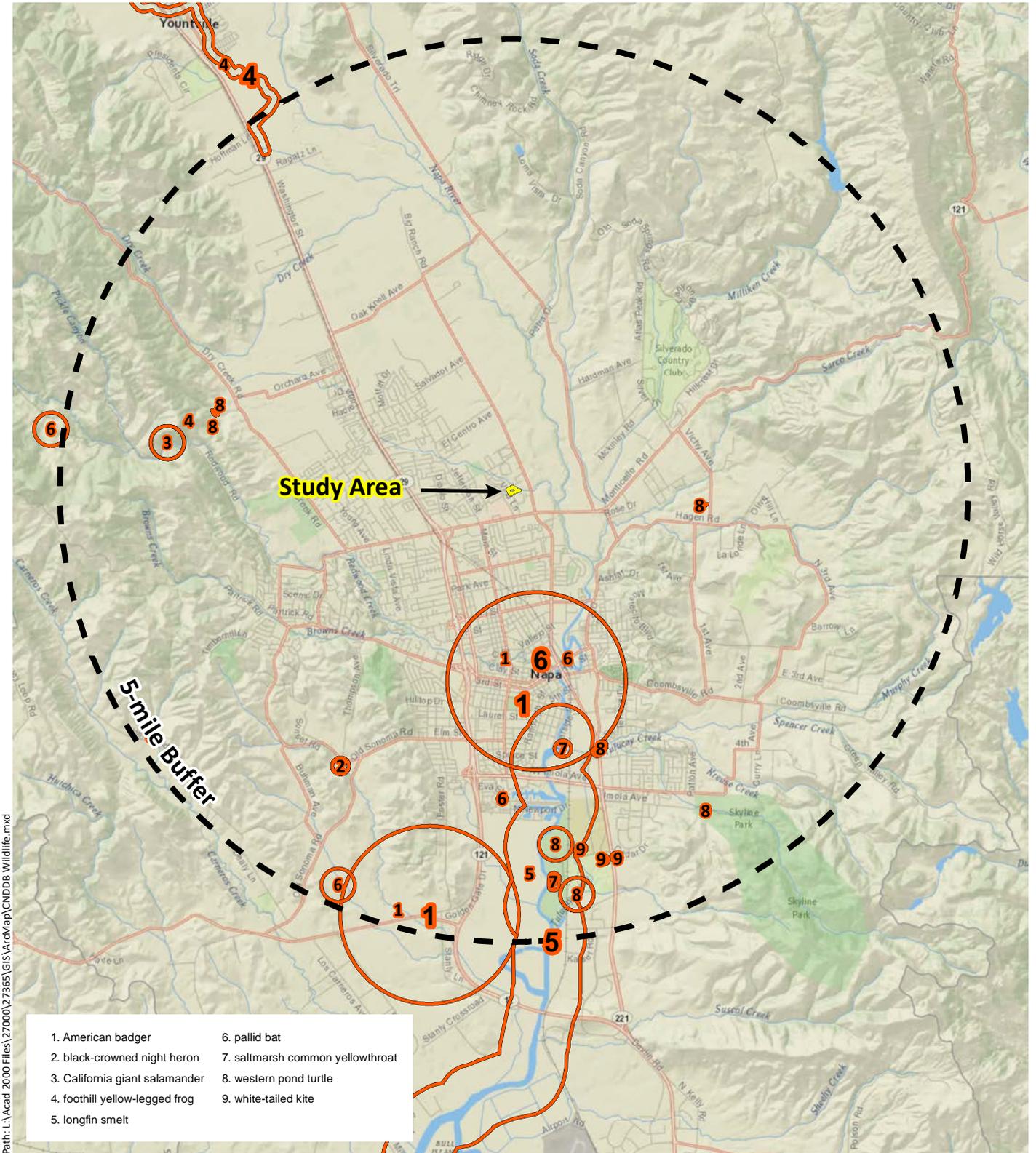


Figure 5. Special-Status Wildlife Species Documented in the CNDDDB within 5 Miles of the Study Area

Napa Creekside Housing Project
Napa, California



Appendix B

Plant and Wildlife Species Observed within the Study Area

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Appendix B. List of plant species observed in the Study Area on June 28, 2018.

Scientific Name	Common Name	Origin	Form	Rarity Status ¹	CAL-IPC Status ²	Wetland Status ³
<i>Acacia dealbata</i>	Silver wattle	non-native (invasive)	tree, shrub	-	Moderate	-
<i>Acmispon americanus</i> var. <i>americanus</i>	Spanish lotus	native	annual herb	-	-	UPL
<i>Ammi visnaga</i>	Bisnaga	non-native	annual, biennial herb	-	-	-
<i>Arbutus menziesii</i>	Madrono	native	tree	-	-	-
<i>Avena barbata</i>	Slim oat	non-native (invasive)	annual, perennial grass	-	Moderate	-
<i>Baccharis pilularis</i> ssp. <i>consanguinea</i>	Coyote brush	native	shrub	-	-	-
<i>Bromus catharticus</i>	Rescue grass	non-native	annual, perennial grass	-	-	-
<i>Bromus diandrus</i>	Ripgut brome	non-native (invasive)	annual grass	-	Moderate	-
<i>Bromus hordeaceus</i>	Soft chess	non-native (invasive)	annual grass	-	Limited	FACU
<i>Cichorium intybus</i>	Chicory	non-native	perennial herb	-	-	FACU

Scientific Name	Common Name	Origin	Form	Rarity Status ¹	CAL-IPC Status ²	Wetland Status ³
<i>Cirsium vulgare</i>	Bullthistle	non-native (invasive)	perennial herb	-	Moderate	FACU
<i>Convolvulus arvensis</i>	Field bindweed	non-native	perennial herb, vine	-	-	-
<i>Cotoneaster pannosus</i>	Woolly cotoneaster	non-native (invasive)	shrub	-	Moderate	-
<i>Cynodon dactylon</i>	Bermuda grass	non-native (invasive)	perennial grass	-	Moderate	FACU
<i>Cyperus eragrostis</i>	Tall cyperus	native	perennial grasslike herb	-	-	FACW
<i>Elymus glaucus</i> ssp. <i>virescens</i>	Blue wildrye	native	perennial grass	-	-	FACU
<i>Epilobium brachycarpum</i>	Willow herb	native	annual herb	-	-	-
<i>Erodium cicutarium</i>	Red stemmed filaree	non-native (invasive)	annual herb	-	Limited	-
<i>Festuca perennis</i>	Italian rye grass	non-native (invasive)	annual, perennial grass	-	Moderate	FAC
<i>Foeniculum vulgare</i>	Fennel	non-native (invasive)	perennial herb	-	High	-

Scientific Name	Common Name	Origin	Form	Rarity Status ¹	CAL-IPC Status ²	Wetland Status ³
<i>Fraxinus latifolia</i>	Oregon ash	native	tree	-	-	FACW
<i>Gastridium phleoides</i>	Nit grass	non-native	annual grass	-	-	FACU
<i>Hedera helix</i>	English ivy	non-native (invasive)	vine, shrub	-	High	FACU
<i>Helenium puberulum</i>	Sneezeweed	native	perennial herb	-	-	FACW
<i>Helminthotheca echioides</i>	Bristly ox-tongue	non-native (invasive)	annual, perennial herb	-	Limited	FAC
<i>Hirschfeldia incana</i>	Short-podded mustard	non-native (invasive)	perennial herb	-	Moderate	-
<i>Hordeum marinum ssp. gussoneanum</i>	Mediterranean barley	non-native (invasive)	annual grass	-	Moderate	FAC
<i>Hordeum murinum</i>	Foxtail barley	non-native (invasive)	annual grass	-	Moderate	FACU
<i>Hypochaeris radicata</i>	Hairy cats ear	non-native (invasive)	perennial herb	-	Moderate	FACU
<i>Juglans hindsii</i>	Northern california black walnut	native	tree	Rank 1B.1*	-	FAC

Scientific Name	Common Name	Origin	Form	Rarity Status ¹	CAL-IPC Status ²	Wetland Status ³
<i>Juncus patens</i>	Rush	native	perennial grasslike herb	-	-	FACW
<i>Juniperus</i> sp.	Ornamental juniper	non-native	tree	-	-	-
<i>Kickxia elatine</i>	Sharp point fluellin	non-native	perennial herb	-	-	UPL
<i>Kickxia spuria</i>	Fluellin	non-native	perennial herb	-	-	-
<i>Lactuca serriola</i>	Prickly lettuce	non-native	annual herb	-	-	FACU
<i>Ludwigia</i> sp.	Water primrose	unknown	perennial herb	-	unknown	OBL
<i>Lysimachia arvensis</i>	Scarlet pimpernel	non-native	annual herb	-	-	FAC
<i>Malva neglecta</i>	Dwarf mallow	non-native	annual, perennial herb	-	-	-
<i>Marah fabacea</i>	California man-root	native	perennial herb, vine	-	-	-
<i>Maytenus boaria</i>	Mayten	non-native	tree, shrub	-	Watch	-
<i>Medicago polymorpha</i>	California burclover	non-native (invasive)	annual herb	-	Limited	FACU
<i>Melilotus indicus</i>	Annual yellow sweetclover	non-native	annual herb	-	-	FACU

Scientific Name	Common Name	Origin	Form	Rarity Status ¹	CAL-IPC Status ²	Wetland Status ³
<i>Morus alba</i>	Mulberry	non-native	tree	-	-	FACU
<i>Phalaris minor</i>	Mediterranean canarygrass	non-native	annual grass	-	-	-
<i>Phoradendron leucarpum</i>	American mistletoe	native	shrub (parasitic)	-	-	-
<i>Pinus radiata</i>	Monterey pine	native	tree	Rank 1B.1*	-	-
<i>Plantago lanceolata</i>	Ribwort	non-native (invasive)	perennial herb	-	Limited	FAC
<i>Polygonum aviculare</i>	Prostrate knotweed	non-native	annual, perennial herb	-	-	FAC
<i>Polypogon monspeliensis</i>	Annual beard grass	non-native (invasive)	annual grass	-	Limited	FACW
<i>Populus nigra</i>	Lombardy poplar	non-native	tree	-	-	-
<i>Prunus cerasifera</i>	Cherry plum	non-native (invasive)	tree	-	Limited	-
<i>Pseudognaphalium luteoalbum</i>	Jersey cudweed	non-native	annual herb	-	-	FAC
<i>Quercus agrifolia</i> var. <i>agrifolia</i>	Coast live oak	native	tree	-	-	-

Scientific Name	Common Name	Origin	Form	Rarity Status ¹	CAL-IPC Status ²	Wetland Status ³
<i>Quercus lobata</i>	Valley oak	native	tree	-	-	FACU
<i>Rhamnus alaternus</i>	Italian buckthorn	non-native	shrub	-	Watch	FACU
<i>Ribes sanguineum</i> var. <i>glutinosum</i>	Flowering currant	native	shrub	-	-	UPL
<i>Rosa</i> cf. <i>californica</i> .	California wild rose	native	shrub	-	-	FAC
<i>Rubus armeniacus</i>	Himalayan blackberry	non-native (invasive)	shrub	-	High	FAC
<i>Rubus ursinus</i>	California blackberry	native	vine, shrub	-	-	FAC
<i>Rumex crispus</i>	Curly dock	non-native (invasive)	perennial herb	-	Limited	FAC
<i>Rumex pulcher</i>	Fiddleleaf dock	non-native	perennial herb	-	-	FAC
<i>Salix laevigata</i>	Polished willow	native	tree	-	-	FACW
<i>Salix lasiolepis</i>	Arroyo willow	native	tree, shrub	-	-	FACW
<i>Sequoia sempervirens</i>	Coast redwood	native	tree	-	-	-
<i>Silybum marianum</i>	Milk thistle	non-native (invasive)	annual, perennial herb	-	Limited	-
<i>Sonchus oleraceus</i>	Sow thistle	non-native	annual herb	-	-	UPL

Scientific Name	Common Name	Origin	Form	Rarity Status ¹	CAL-IPC Status ²	Wetland Status ³
<i>Symphoricarpos albus</i> var. <i>laevigatus</i>	Snowberry	native	shrub	-	-	FACU
<i>Torilis arvensis</i>	Field hedge parsley	non-native (invasive)	annual herb	-	Moderate	-
<i>Toxicodendron diversilobum</i>	Poison oak	native	vine, shrub	-	-	FACU
<i>Trifolium hirtum</i>	Rose clover	non-native (invasive)	annual herb	-	Limited	-
<i>Trifolium tomentosum</i>	Woolly clover	non-native	annual herb	-	-	-
<i>Triticum aestivum</i>	Common wheat	non-native	annual grass	-	-	-
<i>Vicia villosa</i>	Hairy vetch	non-native	annual herb, vine	-	-	-
<i>Vinca major</i>	Vinca	non-native (invasive)	perennial herb	-	Moderate	-
<i>Vitis vinifera</i>	Cultivated grape	non-native	vine, shrub	-	-	-

▪ All species identified using the *Jepson eFlora* [Jepson Flora Project (eds.) 2018]; nomenclature follows *Jepson eFlora* [Jepson Flora Project (eds.) 2018]

*Special-status only at native occurrences. The Project Area does not contain a native occurrence of this species.

¹Rarity Status: The CNPS Inventory of Rare and Endangered Plants (CNPS 2018)

FE: Federal Endangered

FT: Federal Threatened

SE: State Endangered

ST: State Threatened

SR: State Rare

Rank 1A: Plants presumed extinct in California

- Rank 1B: Plants rare, threatened, or endangered in California and elsewhere
- Rank 2: Plants rare, threatened, or endangered in California, but more common elsewhere
- Rank 3: Plants about which we need more information – a review list
- Rank 4: Plants of limited distribution – a watch list

²Invasive Status: California Invasive Plant Inventory (Cal-IPC 2018)

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

³Wetland Status: National List of Plant Species that Occur in Wetlands, California – Arid West (Lichvar et al. 2016)

- OBL: Almost always found in wetlands; >99% frequency
- FACW: Usually found in wetlands; 67-99% frequency
- FAC: Equally found in wetlands and uplands; 34-66% frequency
- FACU: Usually not found in wetlands; 1-33% frequency
- UPL: Almost never found in wetlands; >1% frequency
- NL: Not listed, assumed almost never found in wetlands; >1% frequency
- NI: No information; not factored during wetland delineation

Appendix B. List of wildlife species observed in the Study Area on June 28, 2018.

Scientific name	Common Name	Status
<i>Felis catus</i>	domestic cat	-
<i>Corvus brachyrhynchos</i>	American crow	-
<i>Petrochelidon pyrrhonota</i>	cliff swallow	-
<i>Calypte anna</i>	Anna's hummingbird	-
<i>Zenaida macroura</i>	mourning dove	-
<i>Psaltriparus minimus</i>	bushtit	-
<i>Sitta carolinensis</i>	white-breasted nuthatch	-
<i>Cathartes aura</i>	turkey vulture (fly over)	-
<i>Aphelocoma californica</i>	California scrub jay	-
<i>Hesperoleucus symmetricus</i>	California roach	-
<i>Pacifastacus leniusculus</i>	signal crayfish	-
<i>Picoides nuttallii</i>	Nuttall's woodpecker	BCC
<i>Junco hyemalis</i>	dark-eyed junco	-
<i>Accipiter cooperii</i>	Cooper's hawk	-

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Appendix C

Representative Photographs of the Study Area

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Photograph 1. Image shows an example of the ruderal biological community in the northwestern portion of the Study Area. View facing northwest. Photograph taken June 28, 2018.



Photograph 2. Image shows the developed biological community in the southern portion of the Study Area. View facing east. Photograph taken June 28, 2018.



Photograph 3. Image shows Salvador Creek, the intermittent stream within the Study Area, and adjacent riparian canopy. View facing northwest (upstream). Photograph taken June 28, 2018.



Photograph 4. Image shows the existing bridge that crosses Salvador Creek in the northern portion of the Study Area. View facing southeast. Photograph taken June 28, 2018.