

BIOLOGICAL RESOURCES ANALYSIS

UGI RIVERBEND

**CLOVER PROJECT SITE
CITY OF PETALUMA, CALIFORNIA**

March 15, 2019

Prepared for

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1. INTRODUCTION

Monk & Associates, Inc. (M&A) prepared this biological resources analysis for the proposed Clover Project site (herein referred to as the project site) located in the City of Petaluma, California (Figures 1 and 2). The purpose of our analysis is to provide a description of existing biological resources on the project site and to identify potentially significant impacts that could occur to sensitive biological resources from the construction of a proposed residential development.

Biological resources include common plant and animal species, and special-status plants and animals as designated by the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), National Marine Fisheries Service (NMFS), and other resource organizations including the California Native Plant Society. Biological resources also include waters of the United States and State, as regulated by the U.S. Army Corps of Engineers (Corps), California Regional Water Quality Control Board (RWQCB), and CDFW.

This biological resources analysis also provides mitigation measures for “potentially significant” and “significant” impacts that could occur to biological resources. Whenever possible, upon implementation, the prescribed mitigation measures would reduce impacts to levels considered less than significant pursuant to the California Environmental Quality Act (CEQA) (Pub. Resources Code §§ 21000 et seq.; 14 Cal. Code Regs §§ 15000 et seq). Accordingly, this report is suitable for review and inclusion in any review being conducted by the City of Petaluma for the proposed project pursuant to the CEQA.

2. PROPERTY LOCATION AND SETTING

The 3.36-acre project site is located near downtown Petaluma, west of Highway 101. It is located immediately northwest of the intersection of Madison Street and Edith Street (Figures 1 and 2). The project site is bordered to the southwest by a Clover-Stornetta Farms dairy facility and to the northwest by the Lynch Creek Trail and the Petaluma River. Beyond Edith Street to the northeast and Madison Street to the southeast is medium-density housing. Figure 3 provides an aerial photograph of the project site showing the land use on the site and surrounding area.

The project site is characterized as a highly disturbed, regularly mowed, open field. The northwestern portion of the project site is a raised pad that supports primarily ruderal (weedy) herbaceous species that have colonized the fill material deposited on the project site several decades ago. The southeastern portion of the project site also supports highly disturbed ruderal habitat along with several mature trees; this area is regularly used as a staging area for local construction and trucking operations. The project site does not provide any native habitats. The project site has been heavily used over the years. As shown in Google Earth, dating back to July of 1993, the project site has been regularly used for access to the dairy facility, truck turnaround, and storage.

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3. PROPOSED PROJECT

The applicant proposes to build 29 single-family homes on the 3.36-acre project site. The houses will range from 1,263 to 2,272 square feet in two-story building profiles on lots of varying widths. The development will also include the construction of associated parking, landscaping, utilities, access roads, and other necessary infrastructure, as well as construction of community amenities such as an open space park and a multi-use path that ties into existing pathway along Petaluma River.

A public water main is proposed to be constructed in the residential street and will connect to the existing public water systems located in Armstrong Drive and Sonoma Mountain Parkway. A public sanitary sewer main will also be constructed in the residential street. One sewer main will connect to the existing public system in Armstrong Drive. In addition, two public storm drains will be required in order to address the existing public drainage from the north and proposed drainage for the development. A 48-inch public main will connect the existing upslope runoff from the existing public system in Sonoma Mountain Parkway to the existing public system in Armstrong Drive. A second storm drain system will be constructed to collect runoff from the development. The development runoff will require detention for storm water quality and 100-year flood mitigations. Storm water quality mitigation measures include a low-flow permeable gutter pan that will direct flows to a street-side bio-retention structure with structural soil. This runoff along with high flows will be directed to a 36-inch storm detention structure located in Parcel "E" where it shall be metered out to the existing public 48-inch storm drain (Attachment A).

4. ANALYSIS METHODS

Prior to preparing this biological resource analysis report, M&A researched the most recent version of CDFW's Natural Diversity Database (CNDDDB) (RareFind 5 application). The application (CNDDDB 2018) for historic and recent records of special-status plant and animal species (that is, threatened, endangered, rare) known to occur in the region of the project site. All special-status species records were compiled in tables. M&A examined all known record locations for special-status species to determine if special-status species could occur on the project site or within an area of affect.

4.1 Site Reconnaissance Survey

M&A biologists conducted general surveys of the project site on October 14, 2014, January 7, 2015, and November 6, 2018 to record biological resources and to assess the likelihood of resource agency regulated areas on the project site. The survey involved searching all habitats on the site and recording all plant and wildlife species observed. M&A cross-referenced the habitats found on the project site against the habitat requirements of local or regionally known special-status species to determine if the proposed project could directly or indirectly impact such species.

4.2 Wetland Delineation

Ms. Jane Valerius conducted a wetland delineation of the project site on February 28, 2003 and the Corps confirmed the extent of the Corps' jurisdiction in a letter dated April 1, 2003 (File No.

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26123N). This jurisdictional determination expired on April 1, 2008. On October 14, 2014, M&A biologist Ms. Hope Kingma conducted a wetland delineation to re-verify the Corps' jurisdiction on the project site. M&A's reverification request submitted to the Corps deferred to the Corps' 2003 determination, recognizing the onsite wetland feature as a jurisdictional seasonal wetland. The draft wetland delineation map was submitted to the Corps along with a Request for a Reverification of Jurisdictional Determination on December 29, 2014. On May 27, 2015, issued a Preliminary Jurisdictional Determination as verified during a field investigation on March 19, 2015. Accordingly, the project site supports 0.04-acre (1,918 square feet) of waters of the U.S. (Attachment B: Sheet 1).

4.3 Special-Status Plant Surveys

The entire project site is highly disturbed, and as such, there are no native habitats onsite and little likelihood that special-status plants would be found on the project site. Nonetheless, special-status plant surveys were conducted by M&A biologist Ms. Hope Kingma on October 14, 2014 and by M&A biologist Ms. Christy Owens on March 2 and April 24, 2015. The special-status plant surveys were conducted during the appropriate flowering period for special-status plants known to occur in the region of the project site and in accordance with CDFW (2009), CNPS (2001), and USFWS (2000) published survey guidelines.

5. RESULTS OF RESEARCH AND PROJECT SITE ANALYSES

5.1 Topography

The elevation of the project site ranges from approximately 8 to 15 feet above sea level. While the topography of the project site is relatively level, deposition of fill material throughout the site has resulted in a rugged uneven surface. There is a slope in the middle of the site that divides the site into a higher terrace on the western side and a lower terrace on the eastern side. Multiple fill piles are located on the north-central portion of the project site. The project site drains to Petaluma River via a storm drain inlet located at the western corner of the project site (Attachment B).

5.2 Hydrology

A shallow, excavated swale occurs along the western edge of the project site. Although the northwestern portion of this swale is dominated by upland vegetation, the southwestern portion is largely unvegetated (<5%). This swale does not exhibit scour or any other hydrology indicators, or hydric soils. This swale receives surface runoff from both the raised portion of the project site and the adjacent parking area associated with the Clover-Stornetta farms dairy facility; however, this feature appears to be well drained and does not support standing water. Thus, the swale does not meet criteria for designation as either wetland or "other waters."

There is a seasonal wetland in the northeastern portion of the project site (see Attachment B: Sheet 1). This seasonal wetland collects rainwater and surface runoff that drains to this corner of the project site and inundates for short periods of time during the rainy season.

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5.3 Plant Communities and Associated Wildlife Habitats

A complete list of plant species observed on the project site is presented in Table 1. Nomenclature used for plant names follows *The Jepson Manual* Second Edition (Baldwin 2012) and changes made to this manual as published on the Jepson Interchange Project website (<http://ucjeps.berkeley.edu/interchange/index.html>). Table 2 is a list of wildlife species observed on the project site. Nomenclature for wildlife follows CDFW's *Complete list of amphibian, reptile, bird, and mammal species in California* (2016) and any changes made to species nomenclature as published in scientific journals since the publication of CDFW's list.

5.3.1 RUDERAL COMMUNITY

Ruderal habitats are dominated by introduced annual grasses and forbs that are highly adapted to disturbance and colonize sites with a history of high intensity, continual disturbance. The project site is dominated by non-native yellow starthistle (*Centaurea solstitialis*). Other common non-native forbs found on the project site include bristly ox-tongue (*Helminthotheca echioides*), common knotweed (*Polygonum aviculare*), cheeseweed (*Malva parviflora*), hairy catsear (*Hypochaeris radicata*), short-podded mustard (*Hirschfeldia incana*), Bermudagrass (*Cynodon dactylon*), bitter lettuce (*Lactuca virosa*), and prickly lettuce (*Lactuca serriola*).

Due to the long-term disturbance that has occurred on the project site, very few native, perennial taxa remain on the project site. A very small portion of the onsite vegetation is comprised of native species (<2%), including common spikeweed (*Centromadia pungens* ssp. *pungens*), California poppy (*Eschscholzia californica*), and common frog-fruit (*Phyla nodiflora*). Various trees, native and non-native, also occur on the project site, including coast live oak (*Quercus agrifolia* var. *agrifolia*), multiple pine species (*Pinus* ssp.), black walnut (*Juglans nigra*), and California sycamore (*Platanus racemosa*).

Ruderal habitats typically provide suitable environments for common animals that are adapted to living in association with humans. Common wildlife species observed using this ruderal community included black phoebe (*Sayornis nigricans*), western scrub jay (*Aphelocoma californica*), American crow (*Corvus brachyrhynchos*), California towhee (*Pipilo crissalis*), house finch (*Carpodacus mexicanus*), and Botta's pocket gopher (*Thomomys bottae*) (Table 2).

5.3.2 SEASONAL WETLAND

Seasonal wetlands are habitats that may be dry in the summer and fall months, but by the first significant rains of the year become saturated or inundated for periods of several weeks to months. The northeastern corner of the project site is characterized by a small seasonal wetland. This seasonal wetland is dominated by frog-fruit, Harding grass (*Phalaris aquatica*), curly dock (*Rumex crispus*), and English plantain (*Plantago lanceolata*).

5.4 Wildlife Corridors

Wildlife corridors are linear and/or regional habitats that provide connectivity to other natural vegetation communities within a landscape fractured by urbanization and other development. Wildlife corridors have several functions: 1) they provide avenues along which wide-ranging animals can travel, migrate, and breed, allowing genetic interchange to occur; 2) populations can move in response to environmental changes and natural disasters; and 3) individuals can

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recolonize habitats from which populations have been locally extirpated (Beier and Loe 1992). All three of these functions can be met if both regional and local wildlife corridors are accessible to wildlife. Regional wildlife corridors provide foraging, breeding, and retreat areas for migrating, dispersing, immigrating, and emigrating wildlife populations. Local wildlife corridors also provide access routes to food, cover, and water resources within restricted habitats.

The proposed project will not interfere with the movement of native wildlife. This project is truly an urban infill development: it is bordered to the southwest by a Clover-Stornetta Farms dairy facility, to the northeast and southeast by medium-density housing, and to the northwest by chain-link fencing which separates the project site from the Lynch Creek Trail and Petaluma River.

The Petaluma River provides a local wildlife corridor for mammals and birds. However, mammals that use the riparian woodland as a wildlife corridor have been precluded from using the project site owing to the chain-link fencing that separates the project site from the Petaluma River along the western project boundary.

The project site's stormwater management system will discharge treated stormwater into the Petaluma River via an existing storm drain inlet and outfall structure (see Attachment B: Sheet 1). The existing outfall structure is located well above ordinary high water mark (OHWM) of the Petaluma River, and is equipped with a tideflex valve which prevents backflow into the outfall pipe. If flood stage water levels reach the outfall pipe, the tideflex valve would allow water out of the pipe, while prohibiting water flows from the river from entering the pipe. This would minimize the likelihood of fish becoming trapped in the outfall pipe; hence, there should be no adverse effects to steelhead (*Oncorhynchus mykiss*) or Sacramento splittail (*Pogonichthys macrolepidotus*) movement along this creek. Similarly, medium and large mammal movements along this river will remain unaffected by the proposed project. Finally, the adjacent riparian woodland bordering the Petaluma River provides important avian habitat that is used seasonally by migrants and year-round by resident birds; this function will remain unaffected. The project as currently proposed would not adversely impact wildlife movement corridors.

6. SPECIAL-STATUS SPECIES DEFINITION

6.1 Definitions

For purposes of this analysis, special-status species are plants and animals that are legally protected under the California and Federal Endangered Species Acts (CESA and FESA, respectively) or other regulations, and species that are considered rare by the scientific community (for example, the CNPS). Special-status species are defined as:

- plants and animals that are listed or proposed for listing as threatened or endangered under the CESA (Fish and Game Code §2050 *et seq.*; 14 CCR §670.1 *et seq.*) or the FESA (50 CFR 17.12 for plants; 50 CFR 17.11 for animals; various notices in the Federal Register [FR] for proposed species);

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- plants and animals that are candidates for possible future listing as threatened or endangered under the FESA (50 CFR 17; FR Vol. 64, No. 205, pages 57533-57547, October 25, 1999); and under the CESA (California Fish and Game Code §2068);
- plants and animals that meet the definition of endangered, rare, or threatened under the CEQA (14 CCR §15380) that may include species not found on either CESA or FESA lists;
- Plants occurring on Ranks 1A, 1B, 2A, 2B, 3, and 4 of CNPS' electronic *Inventory* (CNPS 2001). The CDFW recognizes that Ranks 1A, 1B, 2A and 2B of the CNPS inventory contain plants that, in the majority of cases, would qualify for State listing, and CDFW requests their inclusion in EIRs. Plants occurring on CNPS Ranks 3 and 4 are "plants about which more information is necessary," and "plants of limited distribution," respectively (CNPS 2001). Such plants may be included as special-status species on a case by case basis due to local significance or recent biological information (more on CNPS Rank species below);
- migratory nongame birds of management concern listed by U.S. Fish and Wildlife Service (Migratory Nongame Birds of Management Concern in the United States: The list 1995; Office of Migratory Bird Management; Washington D.C.; Sept. 1995);
- animals that are designated as "species of special concern" by CDFW (2017);
- Animal species that are "fully protected" in California (Fish and Game Codes 3511, 4700, 5050, and 5515).
- Bat Species that are designated on the Western Bat Working Group's (WBWG) Regional Bat Species Priority Matrix as: "RED or HIGH." This priority is justified by the WBWG as follows: "Based on available information on distribution, status, ecology, and known threats, this designation should result in these bat species being considered the highest priority for funding, planning, and conservation actions. Information about status and threats to most species could result in effective conservation actions being implemented should a commitment to management exist. These species are imperiled or are at high risk of imperilment."

In the paragraphs below we provide further definitions of legal status as they pertain to the special-status species discussed in this report or in the attached tables.

Federal Endangered or Threatened Species. A species listed as Endangered or Threatened under the FESA is protected from unauthorized "take" (that is, harass, harm, pursue, hunt, shoot, trap) of that species. If it is necessary to take a federally-listed Endangered or Threatened species as part of an otherwise lawful activity, it would be necessary to receive permission from the USFWS prior to initiating the take.

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State Threatened Species. A species listed as Threatened under the CESA (§2050 of California Fish and Game Code) is protected from unauthorized “take” (that is, harass, pursue, hunt, shoot, trap) of that species. If it is necessary to “take” a state-listed Threatened species as part of an otherwise lawful activity, it would be necessary to receive permission from CDFW prior to initiating the “take.”

California Species of Special Concern. These are species in which their California breeding populations are seriously declining and extirpation from all or a portion of their range is possible. This designation affords no legally mandated protection; however, pursuant to the CEQA Guidelines (14 CCR §15380), some species of special concern could be considered “rare.” Pursuant to its rarity status, any unmitigated impacts to rare species could be considered a “significant effect on the environment” (§15382). Thus, species of special concern must be considered in any project that will, or is currently, undergoing CEQA review, and/or that must obtain an environmental permit(s) from a public agency.

CNPS Rank Species. The CNPS maintains an “Inventory” of special status plant species. This inventory has four lists of plants with varying rarity. These lists are: Rank 1, Rank 2, Rank 3, and Rank 4. Although plants on these lists have no formal legal protection (unless they are also state or federally-listed species), CDFW requests the inclusion of Rank 1 species in environmental documents. In addition, other state and local agencies may request the inclusion of species on other lists as well. The Rank 1 and 2 species are defined below:

- Rank 1A: Presumed extinct in California;
- Rank 1B: Rare, threatened, or endangered in California and elsewhere;
- Rank 2A: Plants presumed extirpated in California, but more common elsewhere;
- Rank 2B: Rare, threatened, or endangered in California, but more common elsewhere.

All of the plants constituting Rank 1B meet the definitions of Section 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (CESA) of the Fish and Game Code, and are eligible for state listing (CNPS 2001). Rank 2 species are rare in California, but more common elsewhere. Ranks 3 and 4 contain species about which there is some concern, and are reviewed by CDFW and maintained on “watch lists.”

Additionally, in 2006 CNPS updated their lists to include “threat code extensions” for each list. For example, Rank 1B species would now be categorized as Rank 1B.1, Rank 1B.2, or Rank 1B.3. These threat codes are defined as follows:

- .1 is considered “seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)”;
- .2 is “fairly endangered in California (20-80% of occurrences threatened)”;
- .3 is “not very endangered in California (less than 20% of occurrences threatened or no current threats known).”

Under the CEQA review process only CNPS Rank 1 and 2 species are considered since these are the only CNPS species that meet CEQA’s definition of “rare” or “endangered.” Impacts to Rank 3 and 4 species are not regarded as significant pursuant to CEQA.

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Fully Protected Birds. Fully protected birds, such as the white-tailed kite and golden eagle, are protected under California Fish and Game Code (§3511). Fully protected birds may not be “taken” or possessed (i.e., kept in captivity) at any time.

6.2 Potential Special-Status Plants on the Project Site

Figure 4 provides a graphical illustration for CNDDDB special-status species occurrences within three (3) miles of the project site and helps readers visually understand the number of sensitive species that occur in the vicinity of the project site. No special-status plants have been mapped on or adjacent to the project site. However, according to the CDFW’s CNDDDB, a total of 14 special-status plant species are known to occur in the region of the project site (Table 3). Ten of these plants occur in specialized habitats that do not occur on the project site such as coastal prairie, meadows, seeps, marshes, swamps, vernal wet grassland, mesic grassland, cismontane woodland, coastal prairie, chaparral, serpentine soils, and coastal scrub. The ruderal community present on the project site provides only marginal habitat for special-status plant species.

M&A conducted special-status plant surveys on the project site on October 14, 2014 and March 2 and April 24, 2015. The surveys were conducted by qualified biologists in accordance with CDFW (2009), CNPS (2001), and USFWS (2000) published survey guidelines. No special-status plants were observed during appropriately-timed special-status plant surveys conducted in 2014 and 2015. *Accordingly, special-status plants will not be impacted by the proposed project.*

6.3 Potential Special-Status Animals on the Project Site

Figure 4 provides a graphical illustration of the closest known records for special-status species within three (3) miles of the project site and helps readers visually understand the number of sensitive species that occur in the vicinity of the project site. No special-status animal records have ever been mapped on or adjacent to the project site. However, a total of 15 special-status animal species are known to occur in the region of the project site (Table 4). Many of these species require specialized habitat such as vernal pools, marshes, ponds, coastal scrub, or other habitats that are not found on the project site. Accordingly, species occurring in these specialized habitats were summarily dismissed from consideration in Table 4. Due to the sensitivity of some of the special-status wildlife species known to occur in the area, and/or the potential presence of some of the species on or immediately adjacent to the project site, we discuss ten (10) of these species further below.

6.3.1 STEELHEAD TROUT – CENTRAL CALIFORNIA COAST ESU

There are 15 distinct groups, or evolutionarily significant units (ESUs), of steelhead trout (*Oncorhynchus mykiss*) in Washington, Oregon, Idaho, and California. The Central California Coast ESU was listed as a threatened species on August 18, 1997, and its threatened status was reaffirmed on January 5, 2006. Critical habitat was designated for the Central California Coast ESU September 2, 2005. The Petaluma River falls within designated steelhead – Central California Coast ESU critical habitat; however, the proposed project will not result in direct impacts to the Petaluma River and will not affect critical habitat. This steelhead does not have any special state status.

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The Central California Coast ESU includes all naturally spawned anadromous steelhead populations below natural and man-made impassable barriers in California streams from the Russian River (inclusive) to Aptos Creek (inclusive), and the drainages of San Francisco, San Pablo, and Suisun Bays eastward to Chipps Island at the confluence of the Sacramento and San Joaquin Rivers. Also included in the ESU are populations in tributary streams to Suisun Marsh including Suisun Creek, Green Valley Creek, and an unnamed tributary to Cordelia Slough (commonly referred to as Red Top Creek), excluding the Sacramento-San Joaquin River Basin.

Steelhead are the anadromous form (i.e., fish species born in the stream that migrate to the ocean for their adult phase) of rainbow trout, a salmonid species native to western North America and the Pacific Coast of Asia. Steelhead are similar to some Pacific salmon in their life cycle and ecological requirements. They are born in fresh water streams, where they spend their first 1-3 years of life. They then migrate to the ocean where most of their growth occurs. After spending between one to four growing seasons in the ocean, steelhead return to their native fresh water stream to spawn. Unlike Pacific salmon, steelhead do not necessarily die after spawning, and are able to spawn more than once. In California, most steelhead spawn from December through April in small streams and tributaries where cool, well oxygenated water is available year-round.

According to Leidy et. al (2003), salmonids have been documented in the Petaluma River since 1962. Four adult Chinook salmon (*Oncorhynchus tshawytscha*) were identified in the Petaluma River during a flood control sampling study of the Petaluma River between Lynch Creek and Lakeville Street (this section of the Petaluma River bisects the project site) that was conducted from November 1990 through February 1991 (Levy 1993 *In* Leidy 2003). The closest CNDDDB record for steelhead (Central California Coast ESU) is located approximately 2.3 miles east of the project site in Adobe Creek, a tributary of the Petaluma River (CNDDDB Occurrence No. 1).

While the Petaluma River provides steelhead habitat, the proposed project will not result in any impacts below the river's tops-of-banks or any significant impacts to the riparian canopy which shades the actively flowing portion of the river; hence, there will be no adverse impacts to steelhead habitat associated with construction of the project or the clear span bridge. The proposed project will not construct any additional stormwater outfalls into the river and will primarily utilize the existing City storm drain system that currently services the areas surrounding the project site. *As such, the proposed project will not result in impacts to the steelhead - Central California Coast ESU or its critical habitat.*

6.3.2 CHINOOK SALMON – CALIFORNIA COASTAL ESU

There are at least 17 distinct runs of Chinook salmon (*Oncorhynchus tshawytscha*) that are recognized in California; these runs have been categorized into six ESUs. The California Coastal ESU was listed as a federally threatened species in 1999. Critical habitat was designated for the California Coastal ESU on September 2, 2005. The chinook salmon - California Coastal ESU includes all naturally spawned populations of Chinook salmon from rivers and streams south of the Klamath River to the Russian River, California, as well as seven artificial propagation programs.

Chinook salmon are known to occur in the Petaluma River; however, this particular population does not fall within any ESU (Leidy et. al. 2003). Regardless, the Petaluma River is designated

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chinook salmon critical habitat. Since the proposed project will not result in direct impacts to the Petaluma River, this project will not affect critical habitat.

While the Petaluma River provides Chinook salmon habitat, the proposed project will not result in any impacts below the river's tops-of-banks or in significant impacts to the riparian canopy which shades the actively flowing portion of the river; hence, there will be no adverse impacts to Chinook salmon habitat associated with construction of the project or the clear span bridge. The proposed project will not construct any additional stormwater outfalls into the river and will primarily utilize the existing City storm drain system that currently services the areas surrounding the project site. *As such, the proposed project will not result in impacts to Chinook salmon or its critical habitat.*

6.3.3 NORTH AMERICAN GREEN STURGEON

The North American green sturgeon (*Acipenser medirostris*) is found in coastal waters from Ensenada, Mexico, to Southeast Alaska; however, this anadromous species spawns in several west coast rivers. There are two Distinct Population Segments (DPSs) of green sturgeon. The northern DPS consists of populations in coastal watersheds northward of and including the Eel River. The southern DPS consists of coastal and Central Valley populations south of the Eel River (the only known population occurs in the Sacramento River). The Southern DPS was listed as federally threatened on April 6, 2005; critical habitat was designated for the Southern DPS in 2009.

While there are no CNDDDB records for green sturgeon in the vicinity of the project site, the Petaluma River falls within designated green sturgeon – Southern DPS critical habitat. Regardless, the proposed project will not result in direct impacts to the Petaluma River and will not affect critical habitat.

While the Petaluma River provides suitable green sturgeon habitat, the proposed project will not result in any impacts below the river's top-of-banks or in any significant impacts to the riparian canopy which shades the actively flowing portion of the river; hence, there will be no adverse impacts to green sturgeon habitat associated with construction of the project or the clear span bridge. The proposed project will not construct any additional stormwater outfalls into the river and will primarily utilize the existing City storm drain system that currently services the areas surrounding the project site. *As such, the proposed project will not result in impacts to the green sturgeon or its critical habitat.*

6.3.4 SACRAMENTO SPLITTAIL

Sacramento splittail (*Pogonichthys macrolepidotus*) is a California "species of special concern." While the state designation "species of special concern" does not provide any legally mandated protection, species of special concern must be considered in any project undergoing a CEQA review. In 1999 the splittail was listed by the USFWS as a threatened species, however, in 2003 it was delisted. This delisting was challenged by the Center for Biological Diversity in 2009 but was upheld in 2010 when the USFWS published its determination that the Sacramento Splittail did not warrant protection under the FESA. Thus, this fish has no special federal status.

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Sacramento splittail is a large minnow native to the freshwater ecosystems of the upper San Francisco Estuary and the California Central Valley. Splittail appear to prefer shallow water habitat in slow-moving sections of rivers and sloughs, spawning in flooded vegetation. Splittail are diurnal opportunistic feeders, feeding primarily on benthic crustaceans, clams, insect larvae, and other invertebrates. The once extensive range of this minnow has been greatly reduced due to water diversion projects and the resultant alteration and reduction of spawning and rearing habitat.

Results from surveys conducted in 2002 and 2003 revealed that the Petaluma River and Napa River contain a distinct population of Sacramento splittail that is much smaller in size relative to the Central Valley population; differences between the populations also include geographic distribution and spawning habitat (Baerwald 2006). Sampling and genetic analysis conducted in 2010 confirmed the previous results and showed that Sacramento splittail population was present in the Petaluma River (Sommer 2010).

The closest record for Sacramento splittail is located approximately 0.12 mile north of the project site in the Petaluma River (CNDDDB Occurrence No. 8). While the Petaluma River provides Sacramento splittail habitat, the proposed project will not result in any impacts below the river's tops-of-banks or significant impacts to the riparian canopy which shades the actively flowing portion of the river; hence, there will be no adverse impacts to Sacramento splittail habitat associated with construction of the clear span bridge. The proposed project will not construct any additional stormwater outfalls into the river and will primarily utilize existing City storm drain systems that currently service the areas surrounding the project site. *As such, the proposed project will not result in impacts to the Sacramento splittail.*

6.3.5 CALIFORNIA TIGER SALAMANDER

The project site is located within the known range of the Sonoma County "Distinct Population Segment" (DPS) of the California tiger salamander (*Ambystoma californiense*) (CTS). Under the FESA, the USFWS emergency listed the Sonoma County DPS as endangered on July 22, 2002. The USFWS formalized the listing of the Sonoma County DPS of the CTS as endangered on March 19, 2003 (USFWS 2003). The USFWS determined that this population is significantly and immediately imperiled by a variety of threats including habitat destruction, degradation, and fragmentation due to urban development, road construction, pesticide drift, collection, and inadequate regulatory mechanisms. In addition, it was determined that this population could face extinction as a result of naturally occurring events (e.g., fires, droughts) due to the small and isolated nature of the remaining breeding sites combined with the small number of individuals in the population. On August 31, 2011, the Revised Designation of Critical Habitat for the Sonoma County Distinct Population of California Tiger Salamander; Final Rule was published (76 FR 54346 54372) (USFWS 2011). *The project site is located outside of mapped critical habitat.* The project site is also located outside (south of) the Santa Rosa Plain Conservation Strategy Area. Finally, the project site is located one mile south of the Santa Rosa Plain. On March 4, 2010, the CTS was also state-listed as a threatened species under the CESA.

CTS occur in grasslands and open oak woodlands that provide suitable aestivation and/or breeding habitats. M&A has worked with populations that are almost at sea level (Catellus Site in the City of Fremont) to almost 2,900 feet above sea level (Kammerer Ranch, East Santa Clara

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County). CTS spend the majority of their lives underground. They typically only emerge from their subterranean refugia for a few nights each year during the rainy season to migrate to breeding ponds. CTS have been documented travelling up to 1.3 miles from their underground refugia to breeding ponds (USFWS 2003). As such, unobstructed migration corridors are an important component of CTS habitat.

In Sonoma County, CTS emerge during the first heavy, warm rains of the year, typically in late November and early December. CTS typically will migrate to their breeding pools after dark during rainfall events. In most instances, large numbers of CTS will not migrate to breeding pools unless there has been significant rainfall prior to migration and then only provided it has been raining hard and continuously for several hours that extends from daytime well into nightfall. Heavy, continuous precipitation that causes local flooding of refugia will effectively push large numbers of CTS from their refugia to the ground surface (observed by G. Monk in Springtown, east Alameda County in 1997). Typically, for CTS to migrate to breeding pools, nighttime temperatures also must be above 40° F (G. Monk and S. Lynch pers. Observations

During the spring, summer, and fall months, most known populations of the CTS throughout this species range in California predominately use California ground squirrel (*Otospermophilus beechyi*) burrows as over summering habitat (G. Monk personal observation). However, in Sonoma County where California ground squirrel populations are scarce to non-existent, subterranean refugia likely include Botta's pocket gopher burrows, deep fissures in desiccated clay soils, and debris piles (e.g., downed wood, rock piles).

Stock ponds, seasonal wetlands, and deep vernal pools typically provide most of the breeding habitat used by CTS. In such locations, CTS attach their eggs to rooted, emergent vegetation, and other stable filamentous objects in the water column. Eggs are gelatinous and are laid singly or occasionally in small clusters. Eggs range in size from about $\frac{3}{4}$ the diameter of a dime to the full diameter of a dime.

Occasionally CTS are found breeding in slow moving streams or ditches. In 1997, Mr. G. Monk observed CTS breeding in large, still ditches in Fremont, California. Similarly, in 2001/2002, Mr. D. Wooten observed CTS breeding in a roadside ditch in Cotati, California (D. Wooten, the USFWS, pers. comm. w/ Mr. G. Monk). Ditches and/or streams that are subject to rapid flows, even if only on occasion, typically will not support or sustain CTS egg attachment through hatching, and thus, are not usually used successfully by CTS for breeding (G. Monk and S. Lynch, pers. observations). Similarly, streams and/or ditches that support predators of CTS or their eggs and larvae such as fish, bullfrogs (*Rana catesbeiana*), red swamp crayfish (*Procambarus clarkii*), or signal crayfish (*Pacifastacus leniusculus*), almost never constitute suitable breeding habitat.

In most of the range of the CTS, seasonal wetlands that are used for breeding typically must hold water into the month of May to allow enough time for larvae to fully metamorphose. Typically, in Sonoma County pools that are 16 inches or deeper in the peak winter months will remain inundated long enough to provide good breeding conditions for CTS. In dry years, seasonal wetlands, especially shallower pools, may dry too early to allow enough time for CTS larvae to successfully metamorphose. Under such circumstances, desiccated CTS larvae are often found in

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dried pools. In addition, as pools dry down to very small areas of inundation, CTS larvae become concentrated and are very susceptible to predation. In Cotati, Mr. Monk observed drying pool predation by red-sided garter snakes (*Thamnophis sirtalis infernalis*) and ducks (various spp.). In the South Bay east of Fremont, Mr. Monk observed CTS larval predation in drying pools by wild pigs (*Sus scrofa*) and raccoons (*Procyon lotor*). Mr. Monk has observed 10 and 12-inch deep pools in Cotati that were not used in dry years by CTS for breeding, and/or where CTS failed to metamorphose successfully from these pools. However, in years exhibiting wet springs, these same drier (shallower) pools would remain hydrated long enough through continual rewetting to allow CTS larvae ample time to successfully metamorphose.

The project site provides no breeding habitat for the CTS. It is an urban infill project that is isolated within a highly developed region in central, downtown Petaluma. While CTS is a listed species known to occur in Sonoma County, it is not known to occur in the region of the project site. There are no known CTS records within 3 miles of the project site. The closest CTS occurrence to the project site was recorded in 1856 in “Petaluma” (CNDDDB Occurrence No. 1135) and is based on historic collections held by the Smithsonian Institute. The CNDDDB states that this record is possibly extirpated. According to this 1856 CNDDDB occurrence record, there are no other “documented detections” of CTS “within 5 miles of Petaluma.” It is believed that this 1856 collection was likely from the Santa Rosa Plain and not from what is known today as Petaluma. Recent research by B. Shaffer (UC Davis CTS expert) found no CTS within 8 miles of this “Petaluma” record.

M&A biologist Ms. Kingma carries a federal 10(a)(1)(A) recovery permit from the USFWS that allows M&A to work directly with the CTS. M&A biologists have conducted many, greater than 30, CTS drift fence studies and larval trapping studies in Sonoma County over the last 20-plus years. M&A has identified CTS on multiple occasions within the Santa Rosa Plain, and therefore, understand the types of habitats this animal is directly associated with. Based on these years of professional experience, M&A biologists do not believe that the project site supports CTS. Reasons include that the project site is isolated from the current records by intervening high density development (the project site is an urban infill project), heavily trafficked roads and highways, and the considerable distance the project site is from the Santa Rosa Plain where the Sonoma County DPS of CTS occurs. There are no undeveloped overland migration routes between the extant record locations and the project site. The densely urbanized landscape between extant CTS records and the project site constitutes an effective geographic barrier to CTS movements to/from the project and extant CTS populations or other potential breeding habitats within several miles of the project site. *Hence, no impacts to CTS are expected from the project and consultation with the USFWS and/or CDFW is therefore not warranted.*

6.3.6 CALIFORNIA RED-LEGGED FROG

The California red-legged frog (*Rana draytonii*) was federally-listed as threatened on May 23, 1996 (Federal Register 61: 25813-25833) and as such is protected pursuant to the FESA. California red-legged frog Critical Habitat was last redesignated on March 17, 2010 (Federal Register 75:12815). *The project site is located outside of mapped Critical Habitat Units SON-2 and SON-3* (Figure 5). *It is not within mapped critical habitat.* The California red-legged frog is also a state “species of special concern.”

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The California red-legged frog is typically found in ponds, slow-flowing portions of ephemeral, perennial, and intermittent streams that maintain water in the summer months. This frog is also found in hillside seeps that maintain pool environments or saturated soils throughout the summer months (M&A personal observations). Populations probably cannot be maintained if all surface water disappears (i.e., no available surface water for egg laying and larval development habitat). Larval California red-legged frogs require 11-20 weeks of permanent water to reach metamorphosis (i.e., to change from a tadpole into a frog). Riparian vegetation such as willows and emergent vegetation such as cattails are preferred red-legged frog habitats, though not necessary for this species to be present. Populations of California red-legged frog will be reduced in size or eliminated from ponds supporting non-native species such as bullfrog, Centrarchid fish species (such as sunfish, bluegill, or large-mouth bass), and signal and red swamp crayfish (*Pacifastacus leniusculus* and *Procambarus clarkii*, respectively), all of which are known California red-legged frog predators. However, the presence of these non-native species does not preclude the presence of the California red-legged frog.

California red-legged frogs also use upland habitats for migration and dispersal. The USFWS Recovery Plan for the California Red-Legged Frog states that frog overland excursions via uplands can vary between 0.25-mile up to 3 miles during the course of a wet season, and that frogs “have been observed to make long-distance movements that are straight-line, point to point migrations rather than using corridors for moving in between habitats” (USFWS 2002).

The closest record for California red-legged frog occurs approximately 1.5 miles south of the project site (CNDDDB Occurrence No. 840). This 2005 record documents one adult and two juveniles observed in two separate pools along a perennial, almost-shaded portion of Kelly Creek. This frog species is not known to occur in the Petaluma River adjacent to the project site since this river supports too many predators to provide suitable habitat.

M&A biologists hold a federal 10(a)(1)(A) Recovery Permit to work with the California red-legged frog and are very familiar with this frog species and its habitat requirements. Since there are no aquatic habitats on the project site it does not provide suitable breeding habitat for the California red-legged frog. Similarly, the project site does not provide suitable upland migration habitat due its isolated location surrounded by development. The project site is an isolated urban infill site that does not have any hydrologic or landscape connectivity to any known California red-legged frog occurrences or established critical habitat. Finally, there is a densely urbanized landscape between the closest California red-legged frog records and the project site, constituting an effective geographic barrier to California red-legged frog movements to/from the project site from the known record locations. Accordingly, based on all the available information, the project site does not provide suitable breeding or migration habitat for the California red-legged frog. This species is not expected to occur on or near the project site, and as such, *the proposed project will not result in impacts to the California red-legged frog.*

6.3.7 WESTERN POND TURTLE

The western pond turtle (*Actinemys marmorata*) is a state “species of special concern.” In April of 2015, the USFWS issued 90-day findings on a petition to list this species under FESA. The 90-day findings concluded that listing this species under FESA is warranted; however, as of this writing there has been no update to its federal status.

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The western pond turtle is a habitat generalist, inhabiting a wide range of fresh and brackish, permanent and intermittent water bodies from sea level to about 4,500 feet above sea level (USFWS 1992). Typically, this species is found in ponds, marshes, ditches, streams, and rivers that have rocky or muddy bottoms. This turtle is most often found in aquatic environments with plant communities dominated by watercress, cattail, and other aquatic vegetation. It is a truly aquatic turtle that usually only leaves the aquatic site to reproduce and to overwinter. Recent field work has demonstrated that western pond turtles may overwinter on land or in water or may remain active in water during the winter season; this pattern may vary considerably with latitude, water temperature, and habitat type and remains poorly understood (Jennings and Hayes 1994).

The pond turtle also requires upland areas for burrowing habitat where it digs nests and buries its eggs. These nests can extend from 52 feet to 1,219 feet from watercourses (Jennings and Hayes 1992), however most pond turtles nest in uplands within 250 meters of water (Bury, unpublished). Upland nest sites are usually found in areas with sparse vegetation. Sunny, barren, and undisturbed (not disked) land provides optimal habitat, while shady riparian habitat and planted agricultural fields do not provide suitable habitat (op. cit.). Eggs are typically laid from March to August (Zeiner et. al. 1988), with most eggs being laid in May and June. Hatchlings will stay in the nest until the following April (Bury, unpublished). Predators of juvenile pond turtles include the non-native bullfrog (*Rana catesbeiana*) and Centrarchid fish (sunfish). This turtle is most visible between April and July when it can be observed basking in the sun. In areas where the water is very warm during these months, however, it will bask in the warm water and will be more difficult to observe. It eats plants, insects, worms, fish and carrion (Stebbins 2003).

The closest record for western pond turtle is located approximately 2.1 miles west of the project site (CNDDDB Occurrence No. 183). Nine adults and one juvenile were observed at this location in 2001 in habitat consisting of a flooded channel with sandy loam banks 5 to 7 feet high and water filled with emergent grasses and duckweed. The Petaluma River provides suitable habitat for western pond turtles, and the banks along the Petaluma River adjacent to the project site provide suitable western pond turtle nesting habitat; however, the highly disturbed uplands of the project site do not provide suitable nesting habitat. Furthermore, the chain-link fence that surrounds the project site precludes this species from entering the site. Finally, the wildlife exclusion fencing proposed as part of the project will prevent any western pond turtles residing in the Petaluma River or on its banks from entering the project construction zone. *As such, the proposed project will not result in impacts to the western pond turtle.*

6.3.8 SALTMARSH COMMON YELLOWTHROAT

The saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) is a California species of special concern. It has no special federal status. This warbler is found in freshwater marshes, coastal swales, riparian thickets, brackish marshes, salt marshes, and the edges of disturbed weed fields and grasslands that border these wet habitats. In the San Francisco Bay region, about 60 percent of the population breeds in brackish marsh, 20 percent breeds in riparian woodland, 10 percent in freshwater marsh, 5 percent in salt marsh, and 5 percent in upland vegetation (Hobson et al. 1986). Nests are well concealed, mostly on or near the ground in grass tussocks, low herbaceous vegetation, cattails, rushes, and bushes generally to about five feet above the ground, though many are below six inches (Shuford 1993).

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The closest known record for this species is from 1985 and was located 1.5 miles southeast of the project site along the Petaluma River (CNDDDB Occurrence No. 58). This species could nest in the marsh vegetation along the Petaluma River adjacent to the project site. Since the proposed project will not result in impacts to Petaluma River, implementation of the proposed project is not expected to result in direct impacts to this species. Regardless, preconstruction surveys will be conducted prior to site grading or bridge construction work to ensure that if this species is nesting near the project site, that it will not be affected by the proposed project. Impacts to saltmarsh common yellowthroat are regarded as potentially significant pursuant to the CEQA. **With implementation of the avoidance and mitigation measures listed in the “Impacts and Mitigations” section below, impacts to saltmarsh common yellowthroat can be mitigated to a level considered less than significant pursuant to the CEQA.**

6.3.9 SAN PABLO SONG SPARROW

The San Pablo song sparrow (*Melospiza melodia samuelis*) is a California species of special concern. It has no federal status. This subspecies of song sparrow is restricted to wetland habitats near San Pablo Bay where it nests in emergent wetland vegetation (e.g., cattails, bulrushes) or dense riparian thickets. An overstory of trees may be present but is not required (Zeiner et al. 1990).

There is a 1940 record for this species approximately 0.6 mile southeast of the project site in the “vicinity of Petaluma” (CNDDDB Occurrence No. 25). This species could nest along the Petaluma River adjacent to the project site. Since the proposed project will not result in impacts to Petaluma River, implementation of the proposed project is not expected to result in impacts to this species. Regardless, preconstruction surveys will be conducted prior to site grading or bridge construction work to ensure that if this species is nesting near the project site, that it will not be affected by the proposed project. Impacts to San Pablo song sparrow are regarded as potentially significant pursuant to the CEQA. **With implementation of the avoidance and mitigation measures listed in the “Impacts and Mitigations” section below, impacts to San Pablo song sparrow can be mitigated to a level considered less than significant pursuant to the CEQA.**

6.3.10 PALLID BAT

The pallid bat (*Antrozous pallidus*) is a California “species of special concern.” It has no federal status. This bat is a locally common species of low elevations in California. It occurs throughout California except for the high Sierra Nevada from Shasta to Kern Counties, and the northwestern corner of the state from Del Norte and western Siskiyou counties to northern Mendocino County. While it occurs in a wide variety of habitats, it is most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures, and as such, typical day roosts occur in caves, crevices, mines, and occasionally in hollow trees and buildings. Night roosts may be in more open sites such as porches and open buildings. The pallid bat is a social species, roosting in groups of 20 or more.

The closest record for this species is located approximately 1.6 miles south of the project site (CNDDDB Occurrence No. 50). This 1997 record documents a single bat that was found and killed by a roofing contractor during re-roofing a two story Victorian house. There are several trees with crevices on the project site that provide potential roosting habitat for this special-status

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bat. Accordingly, impacts to the pallid bat are regarded as potentially significant pursuant to the CEQA. **With implementation of the avoidance and mitigation measures listed in the “Impacts and Mitigations” section below, impacts to the pallid bat can be mitigated to a level considered less than significant pursuant to the CEQA.**

7. REGULATORY FRAMEWORK FOR NATIVE WILDLIFE, FISH, AND PLANTS

This section provides a discussion of those laws and regulations that are in place to protect native wildlife, fish, and plants. Under each law we discuss its relevance to the proposed project.

7.1 Federal Endangered Species Act

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

Section 4 (16 USCA §1533): Species listing, Critical Habitat Designation, and Recovery Planning: outlines the procedure for listing endangered plants and wildlife.

Section 7 (§1536): Federal Consultation Requirement: imposes limits on the actions of federal agencies that might impact listed species.

Section 9 (§1538): Prohibition on Take: prohibits the "taking" of a listed species by anyone, including private individuals, and State and local agencies.

Section 10: Exceptions to the Take Prohibition: non-federal agencies can obtain an incidental take permit through approval of a Habitat Conservation Plan.

In the case of salt water fish and other marine organisms, the requirements of FESA are enforced by the NMFS. The USFWS enforces all other cases. Below, Sections 9, 7, and 10 of FESA are discussed since they are the sections most relevant to the proposed project.

Section 9 of FESA as amended, prohibits the "take" of any fish or wildlife species listed under FESA as endangered. Under federal regulation, "take" of fish or wildlife species listed as threatened is also prohibited unless otherwise specifically authorized by regulation. "Take," as defined by FESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." "Harm" includes not only the direct taking of a species itself, but the destruction or modification of the species' habitat resulting in the potential injury of the species. As such, "harm" is further defined to mean "an act which actually kills or injures wildlife; such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR 17.3). A December 2001 decision by the 9th Circuit Court of Appeals (Arizona Cattle Growers' Association, Jeff Menges, vs. the U.S. Fish and Wildlife Service and Bureau of Land Management, and the Southwest Center for Biological Diversity) ruled that the USFWS must show that a threatened or endangered species is present on a project site and that it would be taken by the project activities. According to this ruling, the USFWS can no longer require mitigation based on the probability that the species could use the site. Rather, they must show that it is actually present.

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Section 9 applies to any person, corporation, federal agency, or any local or State agency. If "take" of a listed species is necessary to complete an otherwise lawful activity, this triggers the need to obtain an "incidental take permit" either through a Section 7 Consultation as discussed further below (for federal actions or private actions that are permitted or funded by a federal agency such as the Corps), or through Section 10 of FESA which requires preparation of a Habitat Conservation Plan (HCP) (for state and local agencies, or individuals, and projects without a federal "nexus"; for example, projects that do not need a Corps permit).

Section 7(a)(2) of the Act requires that each federal agency consult with the USFWS to ensure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of critical habitat for listed species. Critical habitat designations mean: (1) specific areas within a geographic region currently occupied by a listed species, on which are found those physical or biological features that are essential to the conservation of a listed species and that may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by a listed species that are determined essential for the conservation of the species.

The Section 7 consultation process only applies to actions taken by federal agencies that are considering authorizing discretionary projects. Section 7 is by and between the NMFS and/or the USFWS and the federal agency contemplating a discretionary approval (that is, the "federal nexus agency," for example, the Corps or the federal Highway Administration). Private parties, cities, counties, etc. (i.e., applicants) may participate in the Section 7 consultation *at the discretion of the federal agencies conducting the Section 7 consultation*. The Section 7 consultation process is triggered by a determination of the "action agency" – that is, the federal agency that is carrying out, funding, or approving a project - that the project "may affect" a listed species or critical habitat. If an action is likely to adversely affect a listed species or designated critical habitat, formal consultation between the nexus agency and the USFWS/NMFS is required. As part of the formal consultation, the USFWS/NMFS may resolve any issues informally with the nexus agency or may prepare a formal Biological Opinion assessing whether the proposed action would be likely to result in "jeopardy" to a listed species or if it could adversely modify designated critical habitat. If the USFWS/NMFS prepares a Biological Opinion it will contain either a "jeopardy" or "non-jeopardy" decision. If the USFWS/NMFS concludes that a proposed project would result in adverse modification of critical habitat or would jeopardize the continued existence of a federally-listed species (that is, it will issue a jeopardy decision), the nexus federal agency would be most unlikely to authorize its discretionary permit. If the USFWS/NMFS prepares a "non-jeopardy" Biological Opinion, the nexus federal agency may authorize the discretionary permit making all conditions of the Biological Opinion conditions of its discretionary permit. A non-jeopardy Biological Opinion constitutes an "incidental take" permit that allows applicants to "take" federally-listed species while otherwise carrying out legally sanctioned projects.

For non-federal entities, for example private parties, cities, counties that are considering a discretionary permit, Section 10 provides the mechanism for obtaining take authorization. Under Section 10 of FESA, for the applicant to obtain an "incidental take permit," the applicant is required to submit a "conservation plan" to the USFWS or NMFS that specifies the impacts that

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are likely to result to federally-listed species, and the measures the applicant will undertake to minimize and mitigate such impacts, and the funding that will be available to implement those steps. Conservation plans under FESA have come to be known as HCPs. The terms incidental take permit, Section 10 permit, and Section 10(a)(1)(B) permit are used interchangeably by the USFWS. Section 10(a)(2)(B) of FESA provides statutory criteria that must be satisfied before an incidental take permit can be issued.

7.1.1 RESPONSIBLE AGENCY

FESA gives regulatory authority to the USFWS for federally-listed terrestrial species and non-anadromous fish. The NMFS has regulatory authority over federally-listed marine mammals and anadromous fish.

7.1.2 APPLICABILITY TO THE PROPOSED PROJECT

While federally-listed anadromous fish species are known to occur in the Petaluma River, which is located adjacent to the project site, the proposed project is not expected to result in impacts to listed anadromous species under the regulatory authority of the NMFS. Accordingly, consultation with the NMFS is not warranted for the proposed project.

The project site does not support habitat for any of the regionally known federally-listed animals. Thus, no animal species that are protected pursuant to the FESA are known or expected to occur on the project site (Table 4). Accordingly, consultation with the USFWS is not warranted for the proposed project.

7.2 Federal Migratory Bird Treaty Act

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

Executive Order 13186 for conservation of migratory birds (January 11, 2001) requires that any project with federal involvement address impacts of federal actions on migratory birds. The order is designed to assist federal agencies in their efforts to comply with the MBTA and does not constitute any legal authorization to take migratory birds. The order also requires federal agencies to work with the USFWS to develop a memorandum of understanding (MOU). Protocols developed under the MOU must promote the conservation of migratory bird populations through the following means:

- avoid and minimize, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions;
- restore and enhance habitat of migratory birds, as practicable; and prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

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7.2.1 APPLICABILITY TO THE PROPOSED PROJECT

The project site provides suitable nesting habitat for raptors (birds of prey) and common passerine birds (song birds). These birds are protected pursuant to the MBTA. As long as there is no direct mortality of species protected pursuant to this Act caused by the proposed project, there would be no constraints to the proposed project with respect to this Act. To comply with the MBTA, and as necessary to ensure that the project will not result in "take" of birds protected pursuant to this Act, all active nest sites would have to be protected while birds were nesting. Please review specific requirements for avoidance of nest sites for potentially occurring species in the Impacts and Mitigations section below.

7.3 California Endangered Species Act

7.3.1 SECTION 2081 OF THE CALIFORNIA ENDANGERED SPECIES ACT

In 1984, the state legislated the CESA (Fish and Game Code §2050). The basic policy of CESA is to conserve and enhance endangered species and their habitats. State agencies will not approve private or public projects under their jurisdiction that would impact threatened or endangered species if reasonable and prudent alternatives are available. Because CESA does not have a provision for "harm" (see discussion of FESA, above), CDFW considerations pursuant to CESA are limited to those actions that would result in the direct take of a listed species.

If CDFW determines that a proposed project could impact a state-listed threatened or endangered species, CDFW will provide recommendations for "reasonable and prudent" project alternatives. The CEQA lead agency can only approve a project if these alternatives are implemented, unless it finds that the project's benefits clearly outweigh the costs, reasonable mitigation measures are adopted, there has been no "irreversible or irretrievable" commitment of resources made in the interim, and the resulting project would not result in the extinction of the species. In addition, if there would be impacts to threatened or endangered species, the lead agency typically requires project applicants to demonstrate that they have acquired "incidental take" permits from CDFW and/or USFWS (if it is a federally-listed species) prior to allowing/permitting impacts to such species.

If proposed projects would result in impacts to a state-listed species, an "incidental take" permit pursuant to §2081 of the Fish and Game Code would be necessary (versus a federal incidental take permit for federally-listed species). CDFW will issue an incidental take permit only if:

- 1) The authorized take is incidental to an otherwise lawful activity;
- 2) the impacts of the authorized take are minimized and fully mitigated;
- 3) measures required to minimize and fully mitigate the impacts of the authorized take:
 - a) are roughly proportional in extent to the impact of the taking on the species;
 - b) maintain the project applicant's objectives to the greatest extent possible; and,
 - c) capable of successful implementation; and,
- 4) adequate funding is provided to implement the required minimization and mitigation measures and to monitor compliance with, and the effectiveness of, the measures.

If an applicant is preparing a HCP as part of the federal 10(a) permit process, the HCP might be incorporated into the §2081 permit if it meets the substantive criteria of §2081(b). To ensure that

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an HCP meets the mitigation and monitoring standards in Section 2081(b), an applicant should involve CDFW staff in development of the HCP. If a final Biological Opinion (federal action) has been issued for the project pursuant to Section 7 of the FESA, it might also be incorporated into the §2081 permit if it meets the standards of §2081(b).

No §2081 permit may authorize the take of a species for which the Legislature has imposed strict prohibitions on all forms of “take.” These species are listed in several statutes that identify “fully protected” species and “specified birds.” *See* Fish and Game Code §§ 3505, 3511, 4700, 5050, 5515, and 5517. If a project is planned in an area where a “fully protected” species or a “specified bird” occurs, an applicant must design the project to avoid all take.

Fish and Game Code §2080.1 allows an applicant who has obtained a “non-jeopardy” federal Biological Opinion pursuant to Section 7 of the FESA, or who has received a federal 10(a) permit (federal incidental take permit) pursuant to the FESA, to submit the federal opinion or permit to CDFW for a determination as to whether the federal document is “consistent” with CESA. If after 30 days CDFW determines that the federal incidental take permit is consistent with state law, and that all state-listed species under consideration have been considered in the federal Biological Opinion, then no further permit or consultation is required under CESA for the project. However, if CDFW determines that the federal opinion or permit is not consistent with CESA, or that there are state-listed species that were not considered in the federal Biological Opinion, then the applicant must apply for a state CESA permit under Section 2081(b). Section 2081(b) is of no use if an affected species is state-listed, but not federally-listed.

State and federal incidental take permits are issued on a discretionary basis, and are typically only authorized if applicants are able to demonstrate that impacts to the listed species in question are unavoidable, and can be mitigated to an extent that the reviewing agency can conclude that the proposed impacts would not jeopardize the continued existence of the listed species under review. Typically, if there would be impacts to a listed species, mitigation that includes habitat avoidance, preservation, and creation of endangered species habitat is necessary to demonstrate that projects would not threaten the continued existence of a species. In addition, management endowment fees are usually collected as part of the agreement for the incidental take permit(s). The endowment is used to manage any lands set-aside to protect listed species, and for biological mitigation monitoring of these lands over (typically) a five-year period.

7.3.2 APPLICABILITY TO THE PROPOSED PROJECT

The project site does not provide suitable habitat for any state-listed plants or animals. As such, no state-listed plant or wildlife species would be impacted by the proposed project (Tables 3 and 4). *Consequently, the proposed project should not be required to obtain an Incidental Take Permit from the State of California.*

7.4 California Fish and Game Code § 3503, 3503.5, 3511, and 3513

California Fish and Game Code §3503, 3503.5, 3511, and 3513 prohibit the “take, possession, or destruction of birds, their nests or eggs.” Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered “take.” Such a take would also violate federal law protecting migratory birds (Migratory Bird Treaty Act).

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

7.4.1 APPLICABILITY TO THE PROPOSED PROJECT

The project site provides suitable nesting habitat for raptors (birds of prey) and common passerine birds (song birds). These birds are protected pursuant to the Fish and Game Codes that protect nesting birds. As long as there is no direct mortality of species protected pursuant to these codes caused by the proposed project, there would be no constraints to the proposed project with respect to these codes. Preconstruction surveys would have to be conducted for these species 14 days prior to the commencement of construction to ensure that there is no direct take of nesting birds including their eggs, or young. Any active nests that are found during pre-disturbance surveys would have to be avoided by the project until active nests are no longer in use. Suitable non-disturbance buffers should be established by a qualified avian biologist that would protect nest sites from construction/demolition activities until the nesting cycle is complete. Please see the Impacts and Mitigation Measures section below for specific requirements for avoidance of nest sites.

7.5 City of Petaluma General Plan

In May of 2008, the City of Petaluma adopted the General Plan 2025, (revised in 2009 and 2010) to replace the 1987 General Plan. The General Plan 2025 outlines proposed plans for physical and economic development and as well as resource conservation within the City of Petaluma. This plan went into effect on June 18, 2008.

7.5.1 THE NATURAL ENVIRONMENT

The Natural Environment element of the General Plan 2025 outlines policies related to the river, biological resources, air quality, energy, and solid waste. According to the Natural Environment element of the General Plan 2025, the following measures have applicability to the proposed project:

GOAL 4-G-1: Biology & Natural Resources

Protect and enhance biological and natural resources within the Urban Growth Boundary (UGB).

4-P-1 Protect and enhance the Petaluma River and its tributaries through a comprehensive river management strategy of the following programs:

- B. Institute and maintain public access to and along the entire length (on one or both sides), of the river while ensuring that natural resources and river dependent industry are protected.
- D. Create setbacks for all tributaries to the Petaluma River extending a minimum of 50 feet outward from the top of each bank, with extended buffers where significant

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habitat areas, vernal pools, or wetlands exist. Development shall not occur within this setback, except as part of greenway enhancement (for example, trails and bikeways). Where there is degradation within the zone, restoration of the natural creek channels and riparian vegetation is mandatory at time of adjacent development.

E. Facilitate compliance with Phase II standards of the National Pollutant Discharge Elimination System (NPDES) to improve the water quality and aesthetics of the river and creeks.

K. Prohibit placement of impervious surfaces in the Floodway (i.e. Parking lots, roadways, etc.) with the exception of pathways and emergency access improvements.

4-P-2 Conserve wildlife ecosystems and sensitive habitat areas in the following order of protection preference: 1) avoidance, 2) on-site mitigation, and 3) off-site mitigation.

4-P-3 Protect special status species and supporting habitats within Petaluma, including species that are state or federally-listed as endangered, threatened, or rare.

A. As part of the development review process, site-specific biological resource assessments may be required to consider the impacts on riparian and aquatic resources and the habitats they provide for invertebrates, fish, amphibians, reptiles, birds, mammals, and plants. If development is located outside these ecologically sensitive regions, no site-specific assessment of biological resources may be necessary. Appropriate mitigation measures to reduce impacts to sensitive habitats and special status species shall be imposed on a project-by-project basis according to Petaluma's environmental review process.

7.5.1.1 Applicability to the Proposed Project

Consistent with Goal 4-G-1, and Policy 4-P-1-B, the proposed project will maintain and enhance the portion of Lynch Creek Trail that runs along the site's western border, and adjacent to the Petaluma River channel.

Consistent with Goal 4-G-1 and Policy 4-P-1, the proposed project will not impact the Petaluma River. Per Policy 4-P-1-D, no structures will be built within 50 feet from the top of bank of the Petaluma River. Per Policy 4-P-1-E, all development activities will be in compliance with the NPDES permit requirements (please see the NPDES section below for further details) and *SUSMP, Storm Water Best Management Practices for New Development and Redevelopment for the Santa Rosa Area and Unincorporated Areas around Petaluma and Sonoma* policies (please see the SUSMP section below for further details). Finally, per Policy 4-P-1-K, no impervious surfaces will be constructed within the floodway.

Consistent with General Plan Goal 4-G-1 and Policy 4-P-2, wildlife habitats onsite will be conserved to the greatest extent practicable. Due to the excessive site disturbance, it is likely that only the trees provide valuable wildlife habitat. Because the trees will need to be removed as part of the proposed project, removal of these trees will be compensated via replanting of trees at the

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mitigation rates prescribed in the City's Tree Ordinance (see below). Per Policy 4-P-3, this report provides a site-specific assessment of the biological resources occurring on and near the project site.

7.5.2 WATER RESOURCES

The Water Resources element of the General Plan 2025 outlines policies related to water management and conservation both for the residents of Petaluma and the natural environment in which the City occurs. According to the Natural Environment element of the General Plan 2025, the following measures have applicability to the proposed project:

Goal 8-G-6: Groundwater Supply

Preserve and maintain the City's groundwater resources.

8-P-19

D. Preserve oak woodlands, upland native grassland, and wetland areas identified as contributing to groundwater recharge; at a minimum for areas identified within the Groundwater Feasibility Study, Technical Memo 4, dated February 2004 (Technical Appendix Volume 4).

8-P-20 Manage groundwater as a valuable and limited shared resource by protecting potential groundwater recharge areas and stream sides from urban encroachment within the Petaluma watershed.

1. Control construction of impervious surfaces in groundwater recharge areas. Potential recharge area protection measures at sites in groundwater recharge areas include, but are not limited to:
 - Restrict coverage by impervious materials
 - Limit building or parking footprints
 - Require construction of percolation ponds on site
 - Require surface drainage swales

Goal 8-G-8: Surface Water Management

Provide surface drainage and flood protection facilities to meet the community's needs of reducing flood hazards and potential property damage.

8-P-29 The City of Petaluma, SCWA, Sonoma County and other responsible agencies shall be encouraged to work together in order to create and adopt a flood management plan, or plan amendment to the Petaluma River Watershed Master Drainage Plan (SCWA, June 2003), for the Petaluma River watershed implementing the following regional surface water solutions; or a reasonable segment thereof:

- B. Work with Sonoma County to create interim development standards for that setback area until such time as studies are concluded and approved by Sonoma County, the SCWA, the City of Petaluma, and other responsible agencies. Thereafter all lands affected shall set aside the necessary river and/or creek corridor areas and, as development occurs, shall undertake the identified surface water containment

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enhancement improvements to accommodate improvements envisioned in Program A, above. The following components, at a minimum, shall be included in the interim development standards called for above:

- Compliance with No Net Fill.
- Elevation of finished floor at least two feet above Base Flood Elevation (BFE).
- Construction of a flood terrace in the setback area to convey the 1% (100-year) design storm, to the extent possible, in accordance with City and SCWA requirements.
- Payment of an hydraulic/hydrology model update fee for evaluating the proposed project, the cumulative impacts and the related mitigations, to the regional surface water conveyance system.
- Payment of a proportionate share of regional flood reduction mitigation costs.

8-P-30 Within a 200' setback from centerline of the Petaluma River, within the UGB, no additional development shall be permitted on lands within that 400' wide corridor, given natural and physical constraints, unless the proposed development fully complies with the interim development standards as defined in 8-P-29 B, until such time as the study referred to in Policy 8-P-29-B is concluded and approved by the SCWA and City of Petaluma. Thereafter all lands affected shall set aside the necessary river and/or creek corridor areas and, as development occurs, shall undertake the identified surface water containment enhancement improvements.

Goal 8-G-9: Surface Water Management

Preserve the design conveyance capacity of the surface water drainage system.

8-P-35 Protect private and public properties and capital investments including those designed to minimize flooding potential.

2. Work with regulatory and advisory agencies to facilitate preservation and environmental enhancement of the natural corridor for species of importance and native to the area.

8-P-36 Require development on sites greater than $\frac{1}{4}$ acre in size to demonstrate no net increase in peak day stormwater runoff, to the extent deemed practical and feasible.

Goal 8-G-10: Water Quality

Reduce pollutant load in surface water runoff, thereby improving water quality within the Petaluma River and its tributaries.

8-P-38 All development activities shall be constructed and maintained in accordance with Phase 2 National Pollutant Discharge Elimination System (NPDES) permit requirements.

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7.5.2.1 Applicability to the Proposed Project

There are no oak woodlands, upland native grasslands, or wetland areas that contribute to ground water recharging occurring on the project site. Accordingly, consistent with Goal 8-G-6 and Policy 8-P-19, these habitats will not be negatively impacted by the proposed project.

The project site is surrounded on three sides by residential and industrial development (i.e., it is an urban infill project) and would not constitute a valuable groundwater recharge area to be protected by Goal 8-G-6. Similarly, per Policy 8-P-20, the proposed project would restrict construction of impervious surfaces to greater than 50-feet from the top of bank (TOB) of the Petaluma River and develop suitable stormwater treatment areas in order to protect the stream sides from urban encroachment.

Consistent with Goal 8-G-8, Policies 8-P-29 and 8-P-30, Goal 8-G-9, Policies 8-P-35 and 8-P-36, and Goal 8-G-10, Policies 8-P-38, all interim development standards presented in 8-P-29 will be implemented in the design plans. In addition, all development activities will be in compliance with NPDES permit requirements (please see the see NPDES section below for further details) and SUSMP policies (please see the SUSMP section below for further details).

7.6 City of Petaluma Implementing Zoning Ordinance

In 2008, the City of Petaluma adopted the IZO (revised in 2009, 2010, 2011, 2013, and 2014) to replace the 1973 zoning ordinance. The IZO was developed with the intent of providing consistency between the updated General Plan (General Plan 2025) and the City's existing zoning regulations. The IZO includes zoning districts, development standards, tree and hillside preservation and protection ordinances, as well as other applicable regulations from the previous zoning ordinance.

7.6.1 FLOODWAY AND FLOOD PLAIN DISTRICTS

The City of Petaluma has delineated floodways and flood plain districts in order to establish specific restrictions on the use of those properties or portions of properties which are situated within the City of Petaluma and within the Petaluma River Basin Flood Plain and Floodway.

7.6.1.1 Flood Plain and Floodway Areas

The Petaluma River Basin Flood Plain and Floodway Areas are defined as those areas of Special Flood Hazard identified by the Federal Insurance Administration through a scientific and engineering report entitled "Flood Insurance Study for the City of Petaluma", dated August 1979, with accompanying Flood Boundary and Floodway Map; and accompanying Flood Insurance Rate Maps.

The flood hazard areas of the City of Petaluma are subject to periodic inundation which can result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, all of which adversely affect the public health, safety and general welfare. Uses that are inadequately flood proofed, elevated, or otherwise protected from flood damage also contribute to the flood loss. No structure or land shall be located, extended, converted or altered within FP-C (Flood Plain-Combining Zone) or within FW (Floodway Zone)

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lands without having first received a “development permit” in accordance with the provisions of this article; and for developments requiring use permits, with the provisions of Section 24.030.

7.6.1.2 Methods of Reducing Flood Losses

In order to reduce loss and damage associated with flooding, the City of Petaluma has the authority to regulate development via the following methods:

- Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities
- Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction
- Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters
- Controlling filling, grading, dredging, and other development which may increase flood damage
- Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas.

7.6.1.3 Applicability to the Proposed Project

The project site is located outside of the Special Flood Hazard areas identified by the Federal Insurance Administration. As such, the IZO does not require special development parameters be considered for this project.

7.7 **Tree Preservation Ordinance**

Chapter 17 of the Implementing Zoning Ordinance (IZO) provides protection, preservation, and maintenance guidelines for mature trees within the City of Petaluma. Through this ordinance, the City’s objective is “to establish regulations that will result in no net loss of tree canopy in the community. It is also the intent of this Chapter to promote and perpetuate the urban forest through the replacement of trees removed as a result of a new development.”

7.7.1.1 Protected Trees

A protected tree is any of the following:

4-inch Diameter at Breast Height (DBH) or greater

- black oak (*Quercus kelloggii*)
- valley oak (*Quercus lobata*)
- blue oak (*Quercus douglasii*)
- interior live oak (*Quercus wislizenii*)
- coast live oak (*Quercus agrifolia*)
- oracle oak (*Quercus x morehus*)
- Oregon oak (*Quercus garryana*)

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- other native California oaks (*Quercus* spp.)

6-inch DBH or greater

- California buckeye (*Aesculus californica*)

12-inch DBH or greater

- California Bay (*Umbellularia californica*)

18-inch DBH or greater

- California or coast redwood (*Sequoia sempervirens*)

Other

- heritage trees as approved by Council resolution per Title 8 of the Petaluma Municipal Code
- significant groves or stands of trees
- trees located in riparian corridors
- any tree required to be planted or preserved as environmental mitigation or condition of approval for a discretionary development application or other development permit
- trees in the public rights of way
- smaller trees may also be protected under special circumstances and would be considered on a case by case basis during the development review process

7.7.1.2 Preservation of Existing Trees

Protected trees should be preserved to the greatest extent possible. The design of the proposed development shall address preservation of the most desirable and significant of the healthy trees. Grading and site improvements should demonstrate consideration of the following measures to ensure that trees designated for preservation will have a good chance of long-term survival:

- provision of sufficient growing areas as required by individual species
- no disruption or removal of structural roots or majority loss of feeder roots
- fencing of trees at or beyond their drip lines during grading and construction activities
- no ornamental landscape, filling, cutting, development, or compaction of soils within the drip line
- other measures required by the particular species of tree(s) to be preserved as recommended by the consulting arborist, horticulturist, or landscape architect

An arborist report and/or Tree Preservation and Protection Plan shall be required to accompany all development applications that potentially affect protected trees. The locations of all protected trees must be indicated on the grading and landscaping plans by the number of the tree as described in the City-approved arborist report.

7.7.1.3 Tree Removal

A permit must be issued by the Community Development Department in order to remove, cut down, or otherwise destroy a protected tree. A Tree Removal Permit can be denied if:

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- 1) removal or damage of a healthy tree could be avoided by either reasonable redesign of the site plan prior to construction or by trimming, thinning, or conducting tree surgery, or other reasonable treatment.; or
- 2) adequate provisions for drainage, erosion control, land stability, windscreen buffers along the road and between neighbors have not been made where these problems are anticipated as a result of the removal.

7.7.1.3.1 Tree Replacement

Development Projects

If a project applicant chooses to remove trees from a development site the project applicant will be required to replace the tree or trees. Removal of protected trees must be mitigated per the City of Petaluma “Tree Technical Manual”.

- A. All protected trees, determined by the project arborist to be in good (4) or excellent (5) health, and/or with moderate (3) to good (4) structure, shall be replaced on a 1:1 trunk diameter basis. (Example: A 24-inch protected tree in good or excellent condition must be replaced with new trees totaling 24 inches in trunk diameters.)
- B. All protected trees, determined by the project arborist to have fair (3) or marginal (2) health, and/or with marginal (2) structure, shall be replaced on a 2:1 trunk diameter basis. (Example: A 24-inch protected tree in fair-to-marginal condition must be replaced with new trees totaling 12 inches in trunk diameter.
- C. All protected trees, determined by the project arborist to have poor (1) health or poor (1) structure, are not required to be replaced.
- D. If the City authorizes the removal of a protected tree(s) because it is dead, dangerous, or a nuisance, no tree replacement is required. In all other cases, the tree(s) must be replaced, with the exception of protected trees approved for removal by the approving body in relation to a development application.

All trees to be replaced shall be the same native species as those removed, unless specific approval has been granted, by the Director or the appropriate approval authority. Trees will be replaced on the development site or in reasonable proximity as required by the approving authority. Tree mitigation may be in the form of in-kind replacement, in-lieu replacement, and/or a combination of both. Replacement trees shall be at least 24-inch box size, and replacement ratios shall be as follows:

- A 24-inch box replacement tree will equate to 2 inches of replacement trunk diameter value
- A 36-inch box replacement tree will equate to 3 inches of replacement trunk diameter value
- A 48-inch box replacement tree will equate to 4 inches of replacement trunk diameter value

In-Lieu Replacement

In the event that a development site is insufficient in size or use to plant any or all of replacement trees, the City may accept payment of in-lieu fees by the applicant. Replacement tree costs for

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the purposes of satisfying in-lieu fees shall be based on the typical northern California wholesale tree cost plus average installation cost. In-lieu fees for replacement trees shall be based on a minimum 24-inch box size.

Where an applicant proposes to remove one or more protected trees, the Community Development Director may require a tree protection and preservation plan. The Community Development Director shall determine, consistent with the “Tree Technical Manual” and any applicable conditions a discretionary development approval or other development permit approval, whether and to what extent measures will be required to protect the existing trees during construction. This decision shall be based upon the proximity of the area of construction activity to existing protected trees. Tree protection includes setting up fencing at a Tree Protection Zone. Only hand tools and small hand-held power tools, above a depth that could cause root damage, shall be allowed in the Tree Protection Zone.

7.7.2 APPLICABILITY TO THE PROPOSED PROJECT

As required prior to issuance of a Tree Removal Permit, an Arborist Report was prepared and submitted on November 9, 2015 by Becky Duckles Consulting Arborist and Landscape Advisor. In addition, a Tree Preservation and Protection Plan (Steven J. LaFranchi & Associates, Inc., dated November 6, 2015) was prepared showing the locations of all protected trees on the grading and landscaping plans by the number of the tree as described in the City-approved Arborist Report. All impacts to trees will be mitigated at the ratio prescribed in the City of Petaluma Tree Preservation Ordinance and are further discussed in the Impacts and Mitigation section below.

8. REGULATORY REQUIREMENTS PERTAINING TO WATERS OF THE UNITED STATES AND STATE

This section presents an overview of the criteria used by the Corps, the RWQCB, the State Water Resources Control Board, and CDFW to determine those areas within a project area that would be subject to their regulation.

8.1 U.S. Army Corps of Engineers Jurisdiction and General Permitting

8.1.1 SECTION 404 OF THE CLEAN WATER ACT

Congress enacted the Clean Water Act (CWA) “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters” (33 U.S.C. §1251(a)). Pursuant to Section 404 of the CWA (33 U.S.C. 1344), the Corps regulates the disposal of dredged or fill material into “waters of the United States” (33 CFR Parts 328 through 330). This requires project applicants to obtain authorization from the Corps prior to discharging dredged or fill materials into any water of the United States.

In the Federal Register “waters of the United States” are defined as, “...all interstate waters including interstate wetlands...intrastate lakes, rivers, streams (including intermittent streams), wetlands, [and] natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce...” (33 CFR Section 328.3).

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Limits of Corps' jurisdiction:

(a) Territorial Seas. The limit of jurisdiction in the territorial seas is measured from the baseline in a seaward direction a distance of three nautical miles. (See 33 CFR 329.12)

(b) Tidal Waters of the United States. The landward limits of jurisdiction in tidal waters:

- (1) Extends to the mean high tide line, or
- (2) When adjacent non-tidal waters of the United States are present, the jurisdiction extends to the limits identified in paragraph (c) of this section.

(c) Non-Tidal Waters of the United States. The limits of jurisdiction in non-tidal waters:

- (1) In the absence of adjacent wetlands, the jurisdiction extends to the OHWM, or
- (2) When adjacent wetlands are present, the jurisdiction extends beyond the OHWM to the limit of the adjacent wetlands.
- (3) When the water of the United States consists only of wetlands the jurisdiction extends to the limit of the wetland.

Section 404 jurisdiction in "other waters" such as lakes, ponds, and streams, extends to the upward limit of the OHWM or the upward extent of any adjacent wetland. The OHWM on a non-tidal water is:

- the "line on shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas" (33 CFR Section 328.3[e]).

Wetlands are defined as: "...those areas that are inundated or saturated by surface or ground water at a frequency and duration to support a prevalence of vegetation adapted for life in saturated soil conditions" (33 CFR Section 328.8 [b]). Wetlands usually must possess hydrophytic vegetation (i.e., plants adapted to inundated or saturated conditions), wetland hydrology (e.g., topographic low areas, exposed water tables, stream channels), and hydric soils (i.e., soils that are periodically or permanently saturated, inundated or flooded) to be regulated by the Corps pursuant to Section 404 of the CWA.

8.1.1.1 Clean Water Rule 2015

In 2015, the Environmental Protection Agency (EPA) and the Corps published the Clean Water Rule: Definition of "Waters of the United States"; Final Rule which defines the scope of waters protected under the CWA. This Final Rule was published in light of the statute, science, Supreme Court decisions in *U.S. v. Riverside Bayview Homes*, *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers (SWANCC)*, and *Rapanos v. United States (Rapanos)*, and the agencies' experience and technical expertise. The Clean Water Rule reflects consideration of the extensive public comments received on the proposed rule. The Clean Water Rule was stayed in federal court shortly after it was adopted in 2015. In August 2018, the stay

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was lifted and the Clean Water Rule (Rule) became effective once again and remains in effect today. The Rule ensures protection for the nation's public health and aquatic resources and increases CWA program predictability and consistency by clarifying the scope of "waters of the United States" protected under the Act.

The Rule only protects waters that have been historically covered by the CWA. A tributary, or upstream water, must show physical features of flowing water – a bed, bank, and OHWM – to warrant protection. The Rule provides protection for headwaters that have these features and have a significant connection to downstream waters. Adjacent waters are defined by three qualifying circumstances established by the Rule. These can include wetlands, ponds, impoundments, and lakes which can impact the chemical, biological or physical integrity of neighboring waters. All existing exclusions from longstanding agency practices are officially established for the first time. Waters used in normal agricultural, ranching, or silvicultural activities, as well as certain defined ditches, prior converted cropland, and waste treatment systems continue to be excluded from CWA protection.

8.1.1.2 Permitting Corps Jurisdictional Areas

To remain in compliance with Section 404 of the CWA, project proponents and property owners (applicants) are required to be permitted by the Corps prior to discharging or otherwise impacting waters of the United States. In many cases, the Corps must visit a proposed project area (to conduct a "jurisdictional determination") to confirm the extent of area falling under their jurisdiction prior to authorizing any permit for that project area. Typically, at the time the jurisdictional determination is conducted, applicants (or their representative) will discuss the appropriate permit application that would be filed with the Corps for permitting the proposed impact(s) to "waters of the United States."

Pursuant to Section 404 of the CWA, the Corps normally provides two alternatives for permitting impacts to the type of "waters of the United States" found in the project area. The first alternative would be to use Nationwide Permit(s) (NWP). The second alternative is to apply to the Corps for an Individual Permit (33 CFR Section 235.5(2)(b)). The application process for Individual Permits is extensive and includes public interest review procedures (i.e., public notice and receipt of public comments) and must contain an "alternatives analysis" that is prepared pursuant to Section 404(b) of the CWA (33 U.S.C. 1344(b)). The alternatives analysis is also typically reviewed by the federal EPA and thus brings another resource agency into the permitting framework. Both the Corps and EPA take the initial viewpoint that there are practical alternatives to the proposed project if there would be impacts to waters of the U.S., and the proposed permitted action is not a water dependent project (e.g. a pier or a dredging project). Alternative analyses therefore must provide convincing reasons that the proposed permitted impacts are unavoidable. Individual Permits may be available for use in the event that discharges into regulated waters fail to meet conditions of NWP(s).

NWPs are a type of general permit administered by the Corps and issued on a nationwide basis that authorize minor activities that affect Corps regulated waters. Under NWP, if certain conditions are met, the specified activities can take place without the need for an individual or regional permit from the Corps (33 CFR, Section 235.5[c][2]). In order to use NWP(s), a project

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must meet 27 general nationwide permit conditions, and all specific conditions pertaining to the NWP being used (as presented at 33 CFR Section 330, Appendices A and C). It is also important to note that pursuant to 33 CFR Section 330.4(e), there may be special regional conditions or modifications to NWPs that could have relevance to individual proposed projects. Finally, pursuant to 33 CFR Section 330.6(a), Nationwide permittees may, and in some cases must, request from the Corps confirmation that an activity complies with the terms and conditions of the NWP intended for use (*i.e.*, must receive “verification” from the Corps).

Prior to finalizing design plans, the applicant needs to be aware that the Corps maintains a policy of “no net loss” of wetlands (waters of the United States) from project area development. Therefore, it is incumbent upon applicants that propose to impact Corps regulated areas to submit a mitigation plan that demonstrates that impacted regulated areas would be recreated (*i.e.*, impacts would be mitigated). Typically, the Corps requires mitigation to be “in-kind” (*i.e.*, if a stream channel would be filled, mitigation would include replacing it with a new stream channel), and at a minimum of a 1:1 replacement ratio (*i.e.*, one acre or fraction thereof of recreated for each acre or fraction thereof lost). Often a 2:1 replacement ratio is required. Usually the 2:1 ratio is met by recreation or enhancement of an equivalent amount of wetland as is impacted, in addition to a requirement to preserve an equivalent amount of wetland as is impacted by the project. In some cases, the Corps allows “out-of-kind” mitigation if the compensation site has greater value than the impacted site. For example, if project designs call for filling an intermittent drainage, mitigation should include recreating the same approximate jurisdictional area (same drainage widths) at an offsite location or on a set-aside portion of the project area. Finally, there are many Corps approved wetland mitigation banks where wetland mitigation credits can be purchased by applicants to meet mitigation compensation requirements. Mitigation banks have defined service areas and the Corps may only allow their use when a project would have minimal impacts to wetlands.

8.1.2 APPLICABILITY TO THE PROPOSED PROJECT

Ms. Jane Valerius conducted a wetland delineation of the project site on February 28, 2003 and the Corps confirmed the extent of the Corps’ jurisdiction in a letter dated April 1, 2003 (File No. 26123N). This jurisdictional determination expired on April 1, 2008. On October 14, 2014, M&A biologist, Ms. Kingma, conducted a wetland delineation to re-verify the Corps’ jurisdiction on the project site. M&A’s reverification request submitted to the Corps deferred to the Corps’ 2003 determination, recognizing the onsite wetland feature as a jurisdictional seasonal wetland. The draft wetland delineation map was submitted to the Corps along with a Request for a Reverification of Jurisdictional Determination on December 29, 2014. On May 27, 2015, issued a Preliminary Jurisdictional Determination as verified during a field investigation on March 19, 2015 (Attachment B: Sheet 1). Accordingly, the project site supports approximately 0.04-acre (1,918 square feet) of waters of the U.S. Consequently, any impacts to the wetland previously identified on the project site will require appropriate mitigation.

The applicant proposes to purchase mitigation credits from a Corps-approved mitigation bank to satisfy the mitigation requirements. In lieu of purchasing wetland mitigation credits, the applicant may create, preserve, and manage new seasonal wetlands at an appropriate offsite location at a 2:1 mitigation ratio (acres created and preserved: acre impacted). A project-specific Wetland Mitigation and Monitoring Plan prepared by a qualified restoration ecologist that

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includes the following information will be provided to the City/Corps/RWQCB prior to conducting any activity that would result in the placement of any fill material into a water of the U.S. or water of the State:

- 1) a description of the impacted water;
- 2) a map depicting the location of the mitigation site(s) and a description of existing site conditions;
- 3) a detailed description of the mitigation design that includes: (i) the location of the new seasonal wetlands; (ii) proposed construction schedule; (iii) a planting/vegetation plan; (iv) specific monitoring metrics, and objective performance and success criteria, such as delineation of created area as jurisdictional waters using Corps published methods; and (v) contingency measures if the created wetlands do not achieve the specified success criteria; and
- 4) short-term and long-term management and monitoring methods.

The applicant will grant a conservation easement to a qualified entity, as defined by Section 81.5.3 of the California Civil Code, preserving the created seasonal wetland(s) in perpetuity, and establish an endowment fund to provide for the long-term management, maintenance, and monitoring of the created seasonal wetland(s).

8.2 California Regional Water Quality Control Board (RWQCB)

8.2.1 SECTION 401 OF THE CLEAN WATER ACT

The SWRCB and RWQCB regulate activities in "waters of the State" (which includes wetlands) through Section 401 of the CWA. While the Corps administers a permitting program that authorizes impacts to waters of the United States, including wetlands and other waters, any Corps permit authorized for a proposed project would be inoperative unless it is a NWP that has been certified for use in California by the SWRCB, or if the RWQCB has issued a project specific certification of water quality. Certification of NWPs requires a finding by the SWRCB that the activities permitted by the NWP will not violate water quality standards individually or cumulatively over the term of the permit (the term is typically for five years). Certification must be consistent with the requirements of the federal CWA, the CEQA, the CESA, and the SWRCB's mandate to protect beneficial uses of waters of the State. Any denied (i.e., not certified) NWPs, and all Individual Corps permits, would require a project specific RWQCB certification of water quality.

8.2.2 APPLICABILITY TO THE PROPOSED PROJECT

The Corps has taken jurisdiction over 0.4-acre of waters of the U.S. on the project site. Since the RWQCB does not have a formal method for technically defining what constitutes waters of the State, M&A expect that the RWQCB should remain consistent with the Corps' determination. Therefore, the RWQCB will likely concur with the Corps. Any Section 404 permit authorized by the Corps for the project would be inoperative without also obtaining authorization from the RWQCB pursuant to Section 401 of the CWA (i.e., without obtaining a certification of water quality).

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Any impacts to waters of the State would have to be mitigated to the satisfaction of the RWQCB prior to the time this resource agency would issue a permit for impacts to such features. The RWQCB requirements for issuance of a “401 Permit” typically parallel the Corps requirements for permitting impacts to Corps regulated areas pursuant to Section 404 of the CWA. Please refer to the Corps Applicability Section above for likely mitigation requirements for impacts to RWQCB regulated wetlands. Also, please refer to the applicability section of the Porter-Cologne Water Quality Control Act below for other applicable actions that may be imposed on the project by the RWQCB prior to the time any certification of water quality is authorized for the project. Please note that any isolated wetlands or other waters that are determined to be on the project site that are not regulated by the Corps pursuant to the SWANCC decision, would still be regulated by the RWQCB pursuant to the Porter-Cologne Water Quality Control Act (see below).

8.2.3 PORTER-COLOGNE WATER QUALITY CONTROL ACT

The uncontrolled discharge of pollutants into impaired water bodies is considered particularly detrimental. According to the U.S. Environmental Protection Agency (USEPA), sediment is one of the most widespread pollutants contaminating U.S. rivers and streams. Sediment runoff from construction sites is 10 to 20 times greater than from agricultural lands and 1,000 to 2,000 times greater than from forest lands (EPA 2005). Consequently, the discharge of stormwater from large construction sites is regulated by the RWQCB under the federal CWA and California’s Porter-Cologne Water Quality Control Act.

The Porter-Cologne Water Quality Control Act, Water Code § 13260, requires that “any person discharging waste, or proposing to discharge waste, that could affect the waters of the State to file a report of discharge” with the RWQCB through an application for waste discharge (Water Code Section 13260(a)(1)). The term “waters of the State” is defined as any surface water or groundwater, including saline waters, within the boundaries of the State (Water Code § 13050(e)). It should be noted that pursuant to the Porter-Cologne Water Quality Control Act, the RWQCB also regulates “isolated wetlands,” or those wetlands considered to be outside of the Corps’ jurisdiction pursuant to the SWANCC decision (see Corps Section above).

The RWQCB generally considers filling in waters of the State to constitute “pollution.” Pollution is defined as an alteration of the quality of the waters of the state by waste that unreasonably affects its beneficial uses (Water Code §13050(1)). The RWQCB litmus test for determining if a project should be regulated pursuant to the Porter-Cologne Water Quality Control Act is if the action could result in any “threat” to water quality.

The RWQCB requires complete pre- and post-development Best Management Practices Plan (BMPs) of any portion of the project site that is developed. This means that a water quality treatment plan for the pre- and post-developed project site must be prepared and implemented. Preconstruction requirements must be consistent with the requirements of the NPDES. That is, a *Stormwater Pollution Prevention Plan* (SWPPP) must be developed prior to the time that a site is graded (see NPDES section below). In addition, a post construction BMPs plan, or a Stormwater Management Plan (SWMP) must be developed and incorporated into any site development plan.

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8.2.4 APPLICABILITY TO THE PROPOSED PROJECT

Since the Corps has taken jurisdiction over 0.4-acre of waters of the U.S. on the project site, the RWQCB would have jurisdiction over this area pursuant to the Porter-Cologne Water Quality Control Act. Since any “threat” to water quality could conceivably be regulated pursuant to the Porter-Cologne Water Quality Control Act, care will be required when constructing the proposed project to be sure that adequate pre-and post-construction BMPs are incorporated into the project implementation plans. Please note that any isolated wetlands defined by the Corps on the project site, that are not regulated by the Corps pursuant to the SWANCC decision, would still be regulated by the RWQCB pursuant to the Porter-Cologne Water Quality Control Act.

All stormwater runoff currently flows into a storm drain that outfalls into the Petaluma River. The project redevelopment will utilize the existing storm drain system; however, pre-treatment of stormwater in accordance with Provision C.3 (discussed in the section below) prior to release into the Petaluma River will be necessary. Additionally, during project construction it is important for the project proponent to have the components of a SWPPP and a SWMP in place; these documents are typically prepared by the project civil engineer. Please see the sections below for further discussion on site disturbance (grading) and storm water management.

8.2.5 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

In 1972, the CWA was amended to state that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with an NPDES permit. The 1987 amendments to the CWA added Section 402(p) which establishes a framework for regulating municipal and industrial stormwater discharges under the NPDES Program.

While federal regulations allow two permitting options for stormwater discharges (individual permits and General Permits), the SWRCB has elected to adopt only one statewide Construction General Permit at this time that will apply to all stormwater discharges associated with construction activity, except from those on Tribal Lands, in the Lake Tahoe Hydrologic Unit, and those performed by the California Department of Transportation (CalTrans). The Construction General Permit requires all dischargers where construction activity disturbs greater than one acre of land or those sites less than one acre that are part of a common plan of development or sale that disturbs more than one acre of land surface to:

1. Develop and implement a SWPPP which specifies BMPs that will prevent all construction pollutants from contacting stormwater with the intent of keeping all products of erosion from moving off site into receiving waters.
2. Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation.
3. Perform inspections of all BMPs.

This General Permit is implemented and enforced by the nine California RWQCBs.

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Types of Construction Activity Covered by the Construction General Permit

Construction activity subject to this General Permit includes clearing, grading, and disturbances to the ground such as stockpiling, or excavation that results in soil disturbances of at least one acre or more of total land area. Construction activity that results in soil disturbances to a smaller area would still be subject to this General Permit if the construction activity is part of a larger common plan of development that encompasses greater than one acre of soil disturbance, or if there is significant water quality impairment resulting from the activity. Construction activity does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility, nor does it include emergency construction activities required to protect public health and safety. Project proponents (landowners) should confirm with the local RWQCB whether or not a particular routine maintenance activity is subject to this General Permit.

8.2.6 2009 CHANGES TO THE NPDES PROGRAM AND USE OF THE GENERAL PERMIT

In 2009, the California State Water Resources Control Board (“State Water Board”) adopted a NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (“Construction General Permit”). The Construction General Permit which was issued pursuant to the federal CWA and is enforceable through citizens’ suits, represents a dramatic shift in the State Water Board’s approach to regulating new and redevelopment sites, imposing new affirmative duties and fixed standards on builders and developers. Changes to use of the General Permit became effective on July 1, 2010.

The Construction General Permit does not completely carry forward the former qualitative and self-selected compliance approach based on preparation of a SWPPP. Instead, developers and construction contractors must implement specific BMPs, achieve quantitatively-defined (i.e., numeric) pollutant-specific discharge standards, and conduct much more rigorous monitoring based on the project’s projected risk level.

The State Water Board’s new quantitative standards take a two-tiered approach, depending on the risk level associated with the site in question. Exceedance of a benchmark Numeric Action Level (“NAL”) measured in terms of pH and turbidity (a measure related to both the amount of sediment in and the velocity of site runoff) triggers an additional obligation to implement additional BMPs and corrective action to improve SWPPP performance. New minimum BMPs include Active Treatment Systems, which may be necessary where traditional erosion and sediment controls do not effectively control accelerated erosion; where site constraints inhibit the ability to construct a correctly-sized sediment basin; where clay and/or highly erosive soils are present; or where the site has very steep or long slope lengths.

In addition, the Construction General Permit includes several “post-construction” requirements. These requirements entail that site designs provide no net increase in overall site runoff and match pre-project hydrology by maintaining runoff volume and drainage concentrations. To achieve the required results where impervious surfaces such as roofs and paved surfaces are being increased, developers must implement non-structural off-setting BMPs, such as landform grading, site design BMPs, and distributed structural BMPs (bioretention cells, rain gardens, and rain cisterns). This “runoff reduction” approach is essentially a State Water Board-imposed

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regulatory requirement to implement Low Impact Development (“LID”) design features. Volume that cannot be addressed using non-structural BMPs must be captured in structural BMPs that are approved by the Regional Water Board.

Finally, the Construction General Permit requires electronic filing of all Permit Registration Documents, NOIs, SWPPPs, annual reports, Notices of Termination, and NAL/NEL Exceedance Reports. This information will be readily available to the Water Boards and citizen enforcers who can then determine whether to initiate enforcement actions—actions which can result in significant penalties and legal fees.

8.2.7 APPLICABILITY TO THE PROPOSED PROJECT

On September 2, 2009, the State Water Resources Control Board adopted Order No. 2009-0009-DWQ, which reissued the Construction General Permit (CGP) for projects disturbing one or more acres of land surface, or those sites less than one acre that are part of a common plan of development or sale that disturbs more than one acre of land surface. Effective July 1, 2010, the requirements of this order replaced and superseded State Water Board Orders No. 99-08-DWQ.

It is the responsibility of the applicant to obtain coverage under the General Permit prior to commencement of construction activities that disturb greater than one acre of area. As the process of receiving coverage under the General Permit became considerably more involved in July 2010, the project engineer should start this permitting loop with the RWQCB at least 6 months in advance of the commencement of the proposed project.

8.3 RWQCB Municipal Storm Water Permitting Program

The Municipal Storm Water Permitting Program regulates storm water discharges from municipal separate storm sewer systems (MS4s). MS4 permits were issued in two phases. Under Phase I, which started in 1990, the RWQCBs have adopted NPDES storm water permits for medium (serving between 100,000 and 250,000 people) and large (serving 250,000 people) municipalities. Most of these permits are issued to a group of co-permittees encompassing an entire metropolitan area. These permits are reissued as the permits expire.

As part of Phase II, the SWRCB adopted a General Permit for the Discharge of Storm Water from Small MS4s (WQ Order No. 2003-0005-DWQ) to provide permit coverage for smaller municipalities, including non-traditional Small MS4s, which are governmental facilities such as military bases, public campuses, and prison and hospital complexes.

The MS4 permits require the discharger to develop and implement a SWMP with the goal of reducing the discharge of pollutants to the maximum extent practicable (MEP). MEP is the performance standard specified in Section 402(p) of the CWA. The management programs specify what BMPs will be used to address certain program areas. The program areas include public education and outreach; illicit discharge detection and elimination; construction and post-construction; and good housekeeping for municipal operations. In general, medium and large municipalities are required to conduct chemical monitoring, though small municipalities are not.

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8.3.1 RWQCB PHASE II PROGRAM REQUIREMENTS

The federal CWA provides that NPDES permits for Municipal Separate Storm Sewer Systems (MS4) must require municipalities to reduce pollutants in their storm water discharges to the “maximum extent practicable” (CWA §402(p)(3)(B).) MS4 permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods.” Under the Phase II Requirements implemented by the RWQCB, permittees that operate an MS4 that serves 50,000 people or more, or that serve an area of high growth (which is defined as more than 25% over 10 years), must comply with the Supplemental Provisions contained in Attachment 4 of the Small MS4 General Permit.

The General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer Systems WQO No. 2003-0005-DWQ (Small MS4 General Permit) requires that dischargers develop and implement a SWMP that describes the BMPs, measurable goals, and time schedules of implementation as well as assigns responsibility of each task. Also, as required by the Small MS4 General Permit, the SWMP must be available for public review and must be approved by the appropriate RWQCB, or its Executive Officer (EO), prior to permit coverage commencing. This information is provided to facilitate the process of an MS4 obtaining Small MS4 General Permit coverage.

The General Permit requires all Permittees to develop and implement a SWMP designed to reduce the discharge of pollutants through their MS4s to the maximum extent practicable. The General Permit requires the SWMP to be fully implemented by the end of the permit term (or five years after designation for those designated subsequent to General Permit adoption).

Permittees must have a Post Construction SWMP for new developments and redevelopment projects. The maximum extent practicable standard involves applying BMPs that are effective in reducing the discharge of pollutants in storm water runoff. In discussing the maximum extent practicable standard, the State Board has said the following: "There must be a serious attempt to comply, and practical solutions may not be lightly rejected. If, from the list of BMPs, a permittee chooses only a few of the least expensive methods, it is likely that the maximum extent practicable has not been met. On the other hand, if a permittee employs all applicable BMPs, except those that are demonstrated to be not technically feasible in the locality, or whose cost would exceed any benefit to be derived, it would have met the standard.

The MS4 municipality is required to develop and implement a program that provides local oversight of construction projects within the municipality to ensure that pollutants being discharged from construction sites into the MS4 are reduced. The program must include adopting an ordinance requiring storm water quality controls at construction sites, reviewing site plans, receiving comments from the public regarding the discharge of pollutants from construction sites, inspecting construction sites to ensure that pollutants are not being discharged in storm water runoff, and taking enforcement when necessary. In contrast, the General Construction Permit requires projects to have a site specific SWPPP and to implement BMPs specific to activities at the construction site. The General Construction Permit directly regulates landowners engaged in construction involving land disturbance of 10,000 square feet or more.

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8.3.2 STANDARD URBAN STORM WATER MITIGATION PLAN (SUSMP)

To comply with their MS4 permit, the City of Santa Rosa, Sonoma Water Agency and County prepared *Guidelines for the Standard Urban Storm Water Mitigation Plan (SUSMP), Storm Water Best Management Practices for New Development and Redevelopment for the Santa Rosa Area and Unincorporated Areas around Petaluma and Sonoma* were released by Sonoma County on June 3, 2005. The SUSMP guidelines were developed to assist project sponsors and municipal staff to implement the Santa Rosa Area requirements that were adopted by the North Coast RWQCB in June 2003. Since the SUSMP requirements apply to both privately sponsored projects and public capital improvement projects, these Guidelines are required to be used by development project applicants, municipal development project review staff, and municipal staff responsible for capital improvement projects. The SUSMP requirements are part of the Storm Water Management Plan that has become an enforceable part of the reissued municipal storm water NPDES permit for the City of Petaluma. The SUSMP guidelines also have been created to comply with the municipal storm water NPDES permit requirement for the City of Petaluma and County of Sonoma to develop a SUSMP Guidance Document.

The SUSMP goals for new and redevelopment projects are to manage, as close to the point of origin as possible, 1) storm water quality, 2) storm water quantity, and 3) to conserve natural areas of the development site. These three goals are described further below. It should be noted that the concept of “maximum extent practical” (MEP) applies to each of the goals. The MEP requirement is a technology-based standard established by Congress in the CWA U.S.C.S 1342 (p)(3)(B)(iii) that municipal dischargers of storm water must meet. To achieve the maximum extent practicable standard, municipalities must employ whatever BMPs are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the maximum extent practicable means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive.

The SUSMP goals for new and redevelopment projects are as follows:

Storm Water Quality. The first goal is to prevent pollutants generated at development and redevelopment projects from reaching storm drains. Projects covered by the SUSMP must be designed to minimize the introduction of pollutants.

Storm Water Quantity. The second goal is to prevent increases in storm water runoff from the two-year 24-hour storm event for Sonoma County. SUSMP projects should incorporate BMPs to limit the post-development runoff to pre-development conditions to the MEP. Best management practices are methods used to minimize pollutants in storm water and the quantity of runoff. One of the objectives of these guidelines is to provide more specific information about how MEP will be achieved.

Conserve Natural Areas. The third goal is to conserve natural areas of a development site. This goal supports the other two goals by preserving areas where storm water runoff can be purified naturally by infiltration into the soil and flow over vegetated areas. SUSMP projects should

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strive to maximize the amount of land left in a natural, undisturbed condition, preserve riparian areas and wetlands, limit clearing of native vegetation, and maximize trees and vegetation.

This SUSMP applies to applicable projects that require a discretionary permit, including any ministerial permits that are based on the discretionary permit. Source controls will be recommended for all discretionary projects.

Projects that must comply with the SUSMP include:

- a) Development projects that create one acre (43,560 square feet) or more of new impervious surface. This category includes development of any type on public or private land, which falls under the planning and building authority of Sonoma County or City of Petaluma, where one acre or more of new impervious surface, collectively over the entire project site, will be created.
- b) Streets, roads, highways and freeways that create one acre (43,560 square feet) or more of new impervious surface. This category includes any newly constructed impervious surface used for the transportation of pedestrians, bicycles, and motorized vehicles.
- c) Redevelopment projects that are located on an already developed site and result in the addition of and/or reconstruction of one acre (43,560 square feet) or more of new impervious surface. Only the additional and/or reconstructed portion(s) of the site must be included in treatment design. Excluded from this category are interior remodels and routine maintenance or repair, including roof or exterior surface replacement and resurfacing.
- d) Development and redevelopment projects located directly adjacent to a natural waterway, modified natural waterway, or constructed channel or that require a new storm drain outfall to such waterway, regardless of project size or impervious surface. This requirement is intended to protect environmentally sensitive areas. For redevelopment projects, excluded from this category are interior remodels and routine maintenance or repair, including roof or exterior surface replacement and resurfacing.

Regarding phased projects, new development or redevelopment activity that is part of a larger common plan of development that results in less than one acre of impervious surface must comply with SUSMP requirements. (For example, if 50% of a subdivision is constructed and results in 0.9-acre of impervious surface and the remaining 50% of the subdivision is to be developed at a future date, the property owner must comply with SUSMP requirements.)

8.3.2.1 Source and Treatment Control Requirements

Source control and treatment control BMPs are intended to reduce runoff and keep pollutants out of storm water throughout the life of the project. They may be described as post-construction BMPs or “post-development” control measures. Post-construction BMPs differ from construction BMPs, which are used during the construction phase to prevent erosion and keep construction-related pollutants from reaching storm water.

The SUSMP recognizes two types of post-development BMPs for storm water pollution control – source controls and treatment controls. Source controls include BMPs that are designed to prevent pollutants from reaching storm water runoff and minimize site runoff. Source controls

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include a large variety of BMPs that range from minimizing the amount of impervious surface used at a project site to specific pollution prevention BMPs such as providing a roof over waste storage areas. The municipal storm water NPDES permit characterizes source control as the first line of defense at a project site and storm water treatment as a backup or additional line of defense. Source controls will be recommended for all discretionary projects.

Storm water treatment controls are engineered systems that are designed to remove pollutants from storm water. The SUSMP and NPDES permit have specific hydraulic design criteria for sizing storm water treatment controls to assure that an optimum amount of storm water receives treatment. Examples of storm water treatment controls include vegetated swales, extended detention basins, and bioretention areas. These are described in more detail in Chapter 4.

Source and treatment controls require long-term maintenance to continue to function effectively and avoid the creation of nuisance conditions. The SUSMP requires the project applicant to provide to the City or County a signed statement accepting responsibility for maintenance until the responsibility is legally transferred. The SUSMP further requires property owners to conduct maintenance inspection of all source and treatment control BMPs at least once a year or as specified by the designer or manufacturer.

8.3.2.2 Post-Construction Sediment and Erosion Control

Sediment is an important pollutant of concern in the North Coast Region. During construction sediment and erosion control BMPs must be implemented in accordance with the Statewide Construction Activity NPDES General Permit and the City of Petaluma or County of Sonoma grading permit programs. The design of projects must also consider potential sedimentation and erosion issues during long-term project operations and incorporate appropriate sediment and erosion controls in the project design.

Source Controls includes the need to select and maintain vegetation in landscaped pervious areas to prevent runoff from contacting bare earth and conveying sediment into the storm drain system. Similarly, pervious paving materials must also be selected, designed and maintained to avoid sedimentation and erosion.

8.3.2.3 Enforceability

The Santa Rosa Area municipal storm water NPDES permit requires the City of Petaluma to implement legal authority to control pollutant discharges to their respective storm drain systems. At a minimum, this legal authority empowers the agencies to use enforcement mechanisms, including monetary fines, to require compliance by private entities within their jurisdictions. In the event that a project applicant fails to comply with the SUSMP requirements, the City or County may determine that it is necessary to undertake enforcement actions, which may include a monetary fine.

8.3.3 APPLICABILITY TO THE PROPOSED PROJECT

A majority of the project site would be converted to new impervious surface, as such, the project must comply with the SUSMP, and a complete SWMP would have to be provided to the City of Petaluma Department of Community Development prior to the time a grading permit would be

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authorized for the project. The RWQCB will also likely want to review the SUSMP prior to issuing a CWA Section 401 permit to be sure the proposed project is in compliance with the NPDES Phase I requirements.

8.4 California Department of Fish and Wildlife Protections

8.4.1 SECTION 1602 OF CALIFORNIA FISH AND GAME CODE

Pursuant to Section 1602 of the California Fish and Game Code: “An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, unless all of the following occur:

- (1) CDFW receives written notification regarding the activity in the manner prescribed by CDFW. The notification shall include, but is not limited to, all of the following:
 - (A) A detailed description of the project’s location and a map.
 - (B) The name, if any, of the river, stream, or lake affected.
 - (C) A detailed project description, including, but not limited to, construction plans and drawings, if applicable.
 - (D) A copy of any document prepared pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.
 - (E) A copy of any other applicable local, state, or federal permit or agreement already issued.
 - (F) Any other information required by CDFW” (Fish & Game Code 2014).

Please see Section 1602 of the current California Fish and Game Code for further details.

Please also note that while not stated in the regulations above, CDFW typically considers its jurisdiction to include riparian vegetation (that is, the trees and bushes growing along the stream). Thus, any proposed activity in a natural stream channel that would substantially adversely affect an existing fish and/or wildlife resource, including its riparian vegetation, would require entering into a Streambed Alteration Agreement (SBAA) with CDFW prior to commencing with work in the stream. However, prior to authorizing such permits, CDFW typically reviews an analysis of the expected biological impacts, any proposed mitigation plans that would be implemented to offset biological impacts and engineering and erosion control plans.

8.4.2 APPLICABILITY TO THE PROPOSED PROJECT

There are no streams or drainages that would likely be regulated by the CDFW located on the project site. The project site’s stormwater management system will discharge treated stormwater into the Petaluma River via the existing storm drain inlet and outfall structure, and no new structures are proposed within the Department’s jurisdiction. Hence, a SBAA with the CDFW would not be necessary for this project.

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9. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) REGULATIONS

A CEQA lead agency must determine if a proposed activity constitutes a project requiring further review pursuant to the CEQA. Pursuant to CEQA, a lead agency would have to determine if there could be significant adverse impacts to the environment from a proposed project. Typically, if within the city limits, the city would be the CEQA lead agency. If a discretionary permit (i.e., conditional use permit) would be required for a project (e.g. an occupancy permit must be issued), the lead agency typically must determine if there could be significant environmental impacts. This is usually accomplished by an “Initial Study.” If there could be significant environmental impacts, the lead agency must determine an appropriate level of environmental review prior to approving and/or otherwise permitting the impacts. In some cases, there are “Categorical Exemptions” that apply to the proposed activity; thus the activity is exempt from CEQA. The Categorical Exemptions are provided in CEQA. There are also Statutory Exemptions in CEQA that must be investigated for any proposed project. If the project is not exempt from CEQA, the lowest level of review typically reserved for projects with no significant effects on the environment would be for the lead agency to prepare a “Negative Declaration.” If a proposed project would have only minimal impacts that can be mitigated to a level of no significance pursuant to the CEQA, then a “Mitigated Negative Declaration” is typically prepared by the lead agency. Finally, those projects that may have significant effects on the environment, or that have impacts that can’t be mitigated to a level considered less than significant pursuant to the CEQA, typically must be reviewed via an Environmental Impact Report (EIR). All CEQA review documents are subject to public circulation, and comment periods.

Section 15380 of CEQA defines “endangered” species as those whose survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors. “Rare” species are defined by CEQA as those who are in such low numbers that they could become endangered if their environment worsens; or the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered “threatened” as that term is used in FESA. The CEQA Guidelines also state that a project will normally have a significant effect on the environment if it will “substantially affect a rare or endangered species of animal or plant or the habitat of the species.” The significance of impacts to a species under CEQA, therefore, must be based on analyzing actual rarity and threat of extinction to that species despite its legal status or lack thereof.

9.1.1 APPLICABILITY TO THE PROPOSED PROJECT

This report has been prepared as a Biology section that is suitable for incorporation by the CEQA lead agency (in this case Sonoma County) into a CEQA review document such as a Mitigated Negative Declaration or an Environmental Impact Report. This document addresses potential impacts to species that would be defined as endangered or rare pursuant to Section 15380 of the CEQA.

10. IMPACTS ANALYSIS

Below the criteria used in assessing impacts to Biological Resources is presented.

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10.1 Significance Criteria

A significant impact is determined using CEQA and CEQA Guidelines. Pursuant to CEQA §21068, a significant effect on the environment means a substantial, or potentially substantial, adverse change in the environment. Pursuant to CEQA Guideline §15382, a significant effect on the environment is further defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. Other federal, state, and local agencies' considerations and regulations are also used in the evaluation of significance of proposed actions.

Direct and indirect adverse impacts to biological resources are classified as “significant,” “potentially significant,” or “less than significant.” Biological resources are broken down into four categories: vegetation, wildlife, threatened and endangered species, and regulated “waters of the United States” and/or stream channels.

10.1.1 THRESHOLDS OF SIGNIFICANCE

10.1.1.1 Plants, Wildlife, Waters

In accordance with Appendix G (Environmental Checklist Form) of the CEQA Guidelines, implementing the project would have a significant biological impact if it would:

- 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.
- 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.
- Have a substantial adverse effect on federally protected “wetlands” as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

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10.1.1.2 Waters of the United States and State.

Pursuant to Section 404 of the CWA (33 U.S.C. 1344), the Corps regulates the discharge of dredged or fill material into waters of the United States, which includes wetlands, as discussed in the bulleted item above, and also includes “other waters” (stream channels, rivers) (33 CFR Parts 328 through 330). Substantial impacts to Corps regulated areas on a project site would be considered a significant adverse impact. Similarly, pursuant to Section 401 of the CWA, and to the Porter-Cologne Water Quality Control Act, the RWQCB regulates impacts to waters of the state. Thus, substantial impacts to RWQCB regulated areas on a project site would also be considered a significant adverse impact.

10.1.1.3 Stream Channels

Pursuant to Section 1602 of the California Fish and Game Code, CDFW regulates activities that divert, obstruct, or alter stream flow, or substantially modify the bed, channel, or bank of a stream which CDFW typically considers to include riparian vegetation. Any proposed activity that would result in substantial modifications to a natural stream channel would be considered a significant adverse impact.

11. IMPACT ASSESSMENT AND PROPOSED MITIGATION

In this section we discuss potential impacts to sensitive biological resources including trees, nesting raptors, nesting passerine birds, bats, and waters of the United States and/or State. We follow each impact with a mitigation prescription that when implemented would reduce impacts to the greatest extent possible. This impact analysis is based on site plans prepared by Steven J Lafranchi & Associates, Inc., on March 5, 2019.

11.1 Impact BIO-1. Development of the Project would have a significant adverse impact on trees (Significant)

Chapter 17 of the City’s Implementing Zoning Ordinance provides protection, preservation, and maintenance guidelines for mature trees within the City of Petaluma. According to this chapter, any native oak species (*Quercus* spp.) with a DBH or 4 inches (4”) or greater would be considered a “protected tree.” Native oaks are present on the project site. Under the current development plan the project would remove five (5) City protected trees. Removal of protected trees without prior authorization from the City of Petaluma’s Community Development Department would be a potentially significant adverse impact. This impact could be mitigated to a less than significant level pursuant to CEQA.

11.2 Mitigation Measure BIO-1. Trees.

The City’s Tree Preservation Ordinance requires preparation of an arborist report for all proposed development projects that could impact protected trees. The arborist report should identify all protected and non-protected trees occurring on the project site as well as the feasibility of preserving the protected trees onsite. In addition, the final development plan submitted to the City shall clearly designate all trees on the property by trunk location and shall indicate those trees which are proposed to be altered or removed and those trees proposed for preservation. Prior to tree alteration or removal, a tree permit shall be obtained from the City.

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According to the City's replacement schedule, tree mitigation may be in the form of in-kind replacement or in-lieu replacement. To remain in compliance with the City of Petaluma's Tree Preservation Ordinance, the following replacement schedule should be used for the proposed project:

11.2.1 TREE REPLACEMENT

If a project applicant chooses to remove trees from the development site, the project applicant will be required to replace the tree(s). Removal of protected trees must be mitigated per the City of Petaluma "Tree Technical Manual."

- A. All protected trees, determined by the project arborist to be in good (4) or excellent (5) health, and/or with moderate (3) to good (4) structure, shall be replaced on a 1:1 trunk diameter basis. (Example: A 24-inch protected tree in good or excellent condition must be replaced with new trees totaling 24 inches in trunk diameters.)
- B. All protected trees, determined by the project arborist to have fair (3) or marginal (2) health, and/or with marginal (2) structure, shall be replaced on a 2:1 trunk diameter basis. (Example: A 24-inch protected tree in fair-to-marginal condition must be replaced with new trees totaling 12 inches in trunk diameter.)
- C. All protected trees, determined by the project arborist to have poor (1) health or poor (1) structure, are not required to be replaced.
- D. If the City authorizes the removal of a protected tree(s) because it is dead, dangerous, or a nuisance, no tree replacement is required. In all other cases, the tree(s) must be replaced, with the exception of protected trees approved for removal by the approving body in relation to a development application.

All trees to be replaced shall be the same native species as those removed, unless specific approval has been granted by the Director or the appropriate approval authority. Trees will be replaced on the development site or in reasonable proximity as required by the approving authority. Tree mitigation may be in the form of in-kind replacement, in-lieu replacement, and/or a combination of both. Replacement trees shall be at least 24-inch box size, and replacement ratios shall be as follows:

- A 24-inch box replacement tree will equate to 2 inches of replacement trunk diameter value.
- A 36-inch box replacement tree will equate to 3 inches of replacement trunk diameter value.
- A 48-inch box replacement tree will equate to 4 inches of replacement trunk diameter value.

11.2.2 IN-LIEU REPLACEMENT

In the event that a development site is insufficient in size or use to plant any or all of replacement trees, the City may accept payment of in-lieu fees by the applicant. Replacement tree costs for the purposes of satisfying in-lieu fees shall be based on the typical northern California wholesale tree cost plus average installation cost. In-lieu fees for replacement trees shall be based on a minimum 24-inch box size.

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Where an applicant proposes to remove one or more protected trees, the Community Development Director may require a tree protection and preservation plan. The Community Development Director shall determine, consistent with the “Tree Technical Manual” and any applicable conditions a discretionary development approval or other development permit approval, whether and to what extent measures will be required to protect the existing trees during construction. This decision shall be based upon the proximity of the area of construction activity to existing protected trees. Tree protection includes setting up fencing at a Tree Protection Zone. Only hand tools and small hand-held power tools, above a depth that could cause root damage, shall be allowed in the Tree Protection Zone.

Implementation of the measures described above would reduce impacts to protected trees to a level considered less than significant pursuant to the CEQA.

11.3 Impact BIO-2. Development of The Project Would Have a Potentially Significant Adverse Impact on Nesting Birds (Potentially Significant)

Red-tailed hawk (*Buteo jamaicensis*), sharp-shinned hawk (*Accipiter striatus*), Cooper’s hawk (*A. cooperii*), and red-shouldered hawks (*Buteo lineatus*) are all known from the area and could nest on the project site. Common song birds (passerine birds) could also nest on the project site. All of these birds are protected under the Migratory Bird Treaty Act (50 CFR 10.13) and their eggs and young are protected under California Fish and Game Code Sections 3503, 3503.5. Any project-related impacts to these species would be considered a significant adverse impact. Potential impacts to these species from the proposed project include disturbance to nesting birds and possibly death of adults and/or young. In the absence of survey results, it must be concluded that impacts to nesting raptors and song birds from the proposed project would be **potentially significant pursuant to CEQA**.

This impact could be mitigated to a level considered less than significant pursuant to the CEQA.

11.4 Mitigation Measure BIO-2. Nesting Birds

To avoid impacts to nesting birds, a nesting survey shall be conducted 14 days prior to commencing with construction work or tree removal if this work would commence between February 1 and August 31. The nesting survey should include an examination of all buildings onsite and all trees onsite and within 200 feet of the entire project site (i.e., within a zone of influence of nesting birds), not just trees slated for removal. The zone of influence includes those areas outside the project site where birds could be disturbed by earth- moving vibrations and/or other construction-related noise.

If birds are identified nesting on or within the zone of influence of the construction project, a qualified biologist shall establish a temporary protective nest buffer around the nest(s). The nest buffer should be staked with orange construction fencing. The buffer must be of sufficient size to protect the nesting site from construction-related disturbance and shall be established by a qualified ornithologist or biologist with extensive experience working with nesting birds near and on construction sites. Typically, adequate nesting buffers are 50 feet from the nest site or nest tree dripline for small birds and up to 300 feet for sensitive nesting birds that include several

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raptor species known the region of the project site but that are not expected to occur on the project site. Upon completion of nesting surveys, if nesting birds are identified on or within a zone of influence of the project site, a qualified ornithologist/biologist that frequently works with nesting birds shall prescribe adequate nesting buffers to protect the nesting birds from harm while the project is constructed.

No construction or earth-moving activity shall occur within any established nest protection buffer prior to September 1 unless it is determined by a qualified ornithologist/biologist that the young have fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones, or that the nesting cycle is otherwise completed. In the region of the project site, most species complete nesting by mid-July. This date can be significantly earlier or later and would have to be determined by the qualified biologist. At the end of the nesting cycle, and fledging from the nest by its occupants, as determined by a qualified biologist, temporary nesting buffers may be removed and construction may commence in established nesting buffers without further regard for the nest site.

Implementation of these mitigation measures would reduce impacts to nesting birds to a level regarded as less than significant pursuant to CEQA.

11.5 Impact BIO-3. The Development Project Would Have a Potentially Significant Adverse Impacts on Bats.

The trees on the project site provide suitable roosting habitat for the pallid bat. This bat is designated by the State as a “species of special concern.” In accordance with the CEQA Guidelines (Section 15380) which protects “rare” and “endangered” species as defined by CEQA (species of special concern meet this CEQA definition), impacts to these bats resulting from the proposed project would be regarded as **potentially significant**.

These impacts could be mitigated to a level considered less than significant pursuant to the CEQA.

11.6 Mitigation Measure BIO-3. Bats

In order to avoid impacts to special-status bats, a biologist should conduct a preconstruction survey of trees that would be impacted by the project 15 days prior to removal or commencement of ground work. All bat surveys should be conducted by a biologist with experience surveying for bats. If no special-status bats are found during the surveys, then there would be no further regard for special-status bat species.

If special-status bat species are found roosting on the project site, the biologist should determine if there are young present (i.e., the biologist should determine if there are maternal roosts). If young are found roosting in any tree that will be impacted by the project, such impacts should be avoided until the young are flying and feeding on their own. A non-disturbance buffer installed with orange construction fencing should also be established around the maternity site. The size of the buffer zone should be determined by a qualified bat biologist at the time of the surveys. If adults are found roosting in a tree or building on the project site but no maternal sites are found, then the adult bats can be flushed or a one-way eviction door can be placed over the tree cavity (or building access opening) for a 48-hour period prior to the time the tree or building in question

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would be removed or disturbed. At that point, no other mitigation compensation would be required.

Implementation of these mitigation measures would ensure that impacts to bats remain at a level considered less than significant pursuant to the CEQA.

11.7 Impact BIO-4. Development of the proposed project would have a potentially significant impact on Waters of the United States and/or State (Potentially Significant)

The proposed project may result in impacts to areas that are within the Corps' and RWQCB's jurisdiction pursuant to Sections 404 and 401 of the CWA, respectively. Any impacts to the 1,918 square foot (0.04-acre) wetland previously identified on the project site will require prior authorization from the Corps and RWQCB. Impacts to waters of the United States and/or State would be regarded as **significant** pursuant to the CEQA.

Mitigation could be implemented to reduce these impacts to levels regarded as less than significant pursuant to the CEQA.

11.8 Mitigation Measure BIO-4. Impacts to Waters of the United States and/or State

The applicant proposes to purchase mitigation credits at a 1:1 mitigation ratio, or as otherwise required by the Corps and RWQCB. Wetland mitigation credits will be purchased from a Corps and RWQCB-approved mitigation bank to satisfy the mitigation requirement. The Burdell Ranch Wetland Conservation Bank Service Area covers this project site and purchase of wetland mitigation credits from this bank could satisfy the mitigation requirements.

In lieu of purchasing wetland mitigation credits, the applicant may create, preserve, and manage new seasonal wetlands at an appropriate offsite location at a 2:1 mitigation ratio (acres created and preserved: acre impacted). A project-specific Wetland Mitigation and Monitoring Plan prepared by a qualified restoration ecologist that will be provided to the City/Corps/RWQCB prior to conducting any activity that would result in the placement of any fill material into a water of the U.S. or water of the state. The Wetland Mitigation and Monitoring Plan will include the following information:

- 1) a description of the impacted water;
- 2) a map depicting the location of the mitigation site(s) and a description of existing site conditions;
- 3) a detailed description of the mitigation design that includes: (i) the location of the new seasonal wetlands; (ii) proposed construction schedule; (iii) a planting/vegetation plan; (iv) specific monitoring metrics, and objective performance and success criteria, such as delineation of created area as jurisdictional waters using Corps published methods; and (v) contingency measures if the created wetlands do not achieve the specified success criteria; and
- 4) short-term and long-term management and monitoring methods.

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The applicant will grant a conservation easement to a qualified entity, as defined by Section 81.5.3 of the California Civil Code, preserving the created seasonal wetland(s) in perpetuity, and establish an endowment fund to provide for the long-term management, maintenance, and monitoring of the created seasonal wetland(s).

Implementation of the measures described above would reduce significant impacts to waters of the United States/State to a level considered less-than-significant pursuant to the CEQA.

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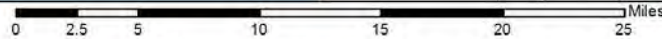
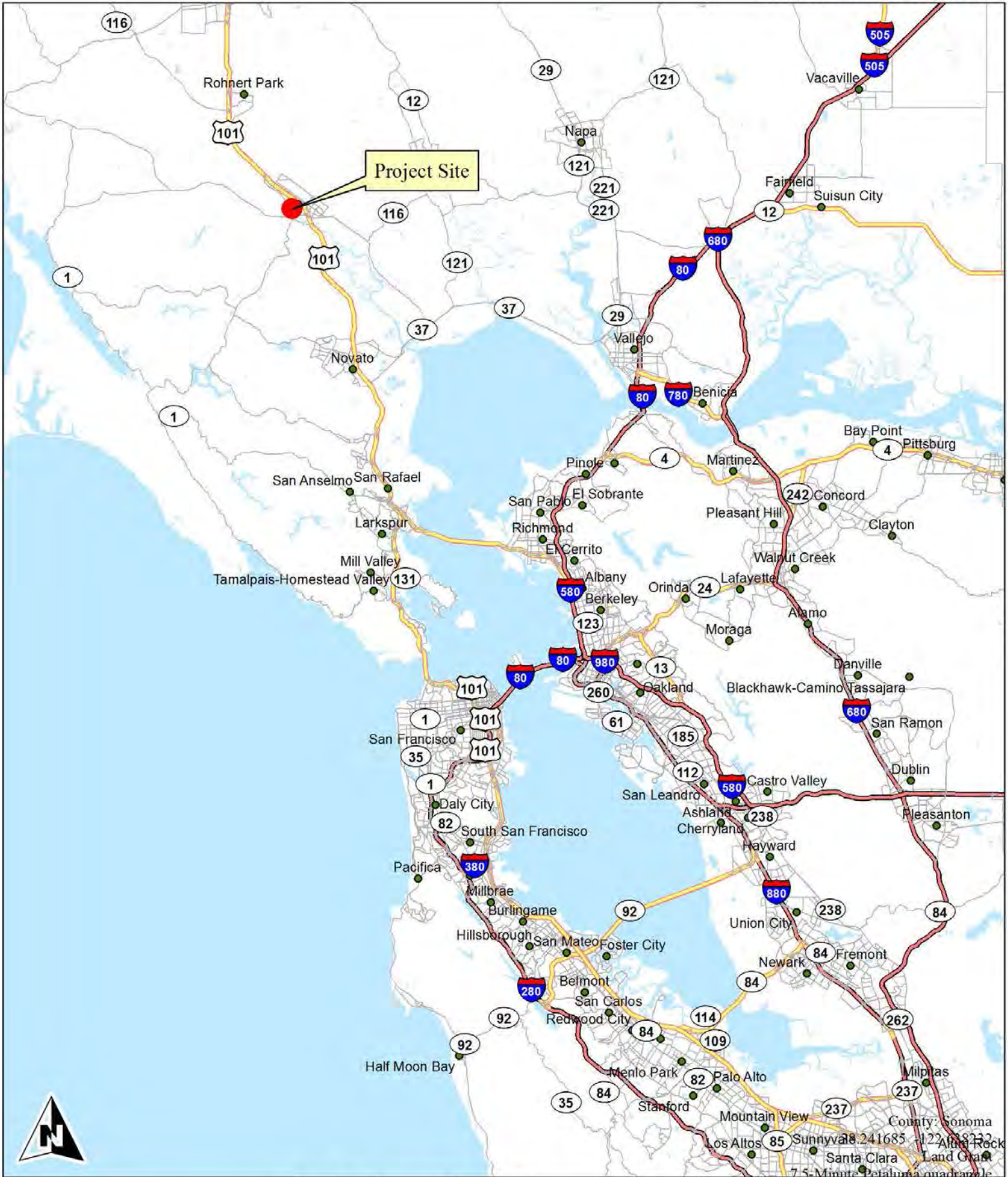
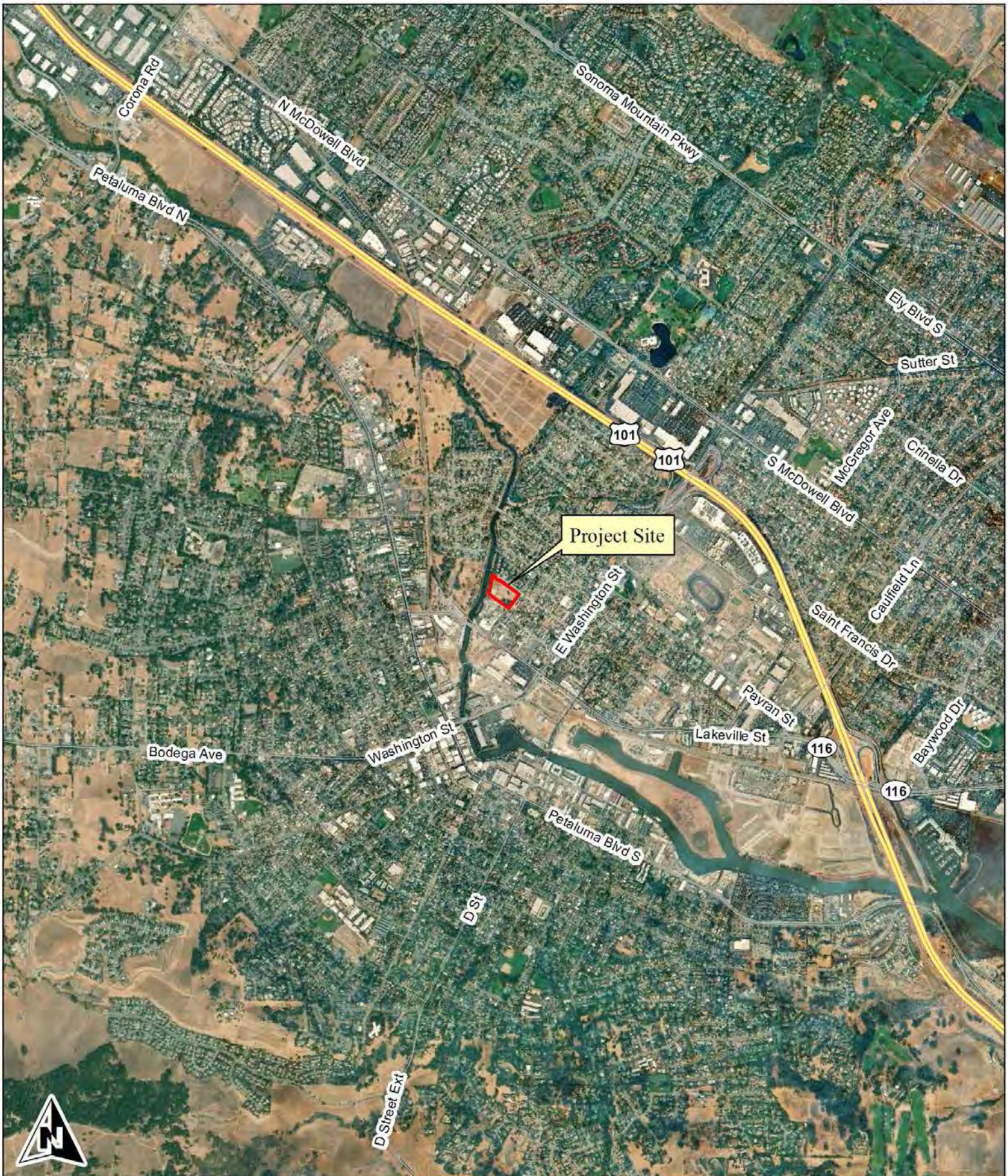


Figure 1. Clover Project Site
Regional Map
Petaluma, California

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HUC08 Watershed CA: San Pablo Bay
Topography Source: USGS
Map Preparation Date: November 6, 2018
3-Mile Radius
Source: CDFW, California
Natural Diversity Data Base, 2018



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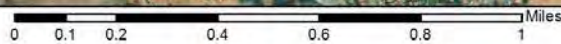


Figure 2. Clover Project Site
 Location Map
 Petaluma, California

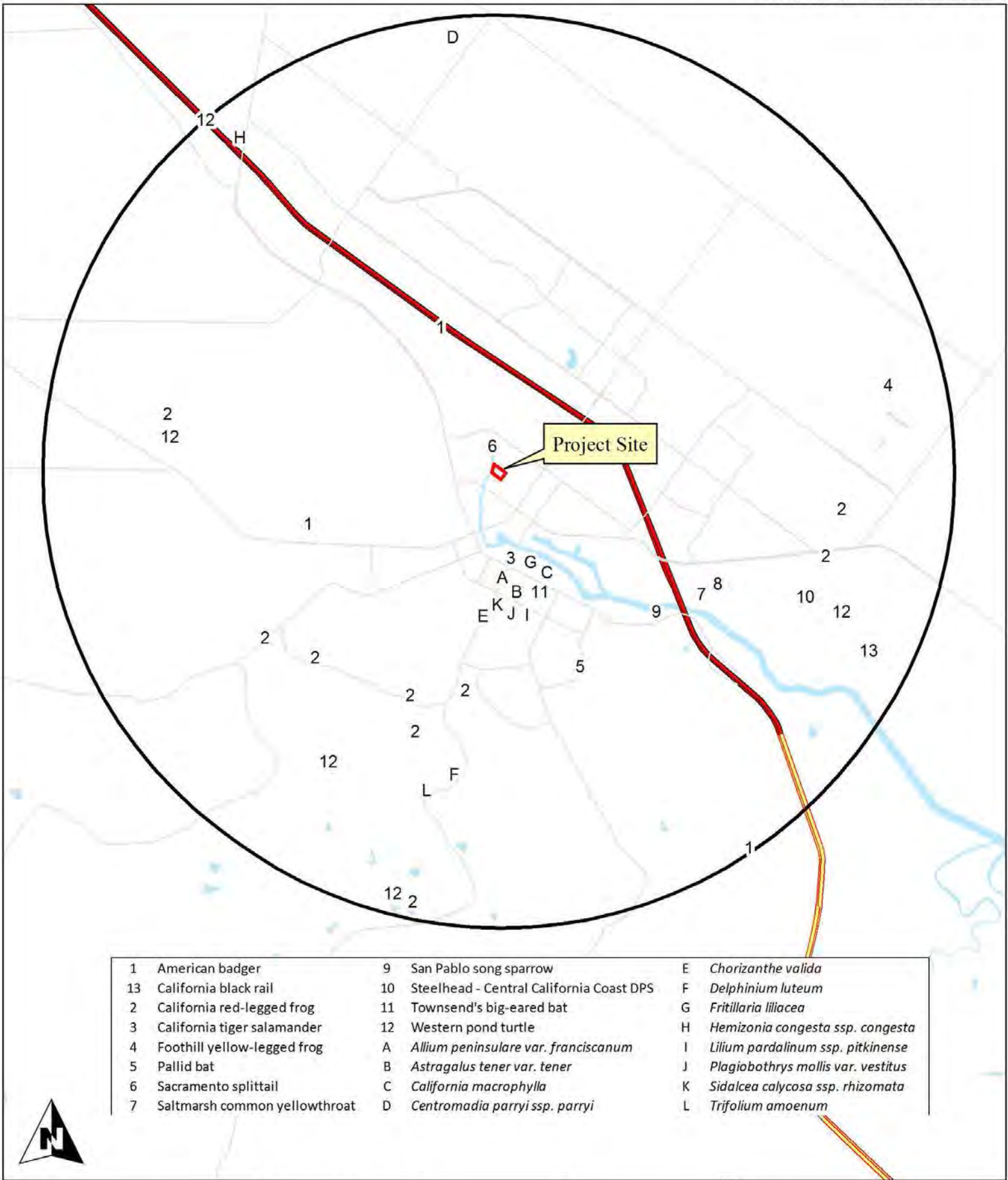
38.241685 -122.638232
 Land Grant
 7.5-Minute Petaluma quadrangle
 Aerial Photograph Source: ESRI
 Map Preparation Date: November 6, 2018



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Figure 3. Aerial Photograph of the
Clover Project Site
Petaluma, California

Aerial Photograph Source: ESRI
Map Preparation Date: November 6, 2018



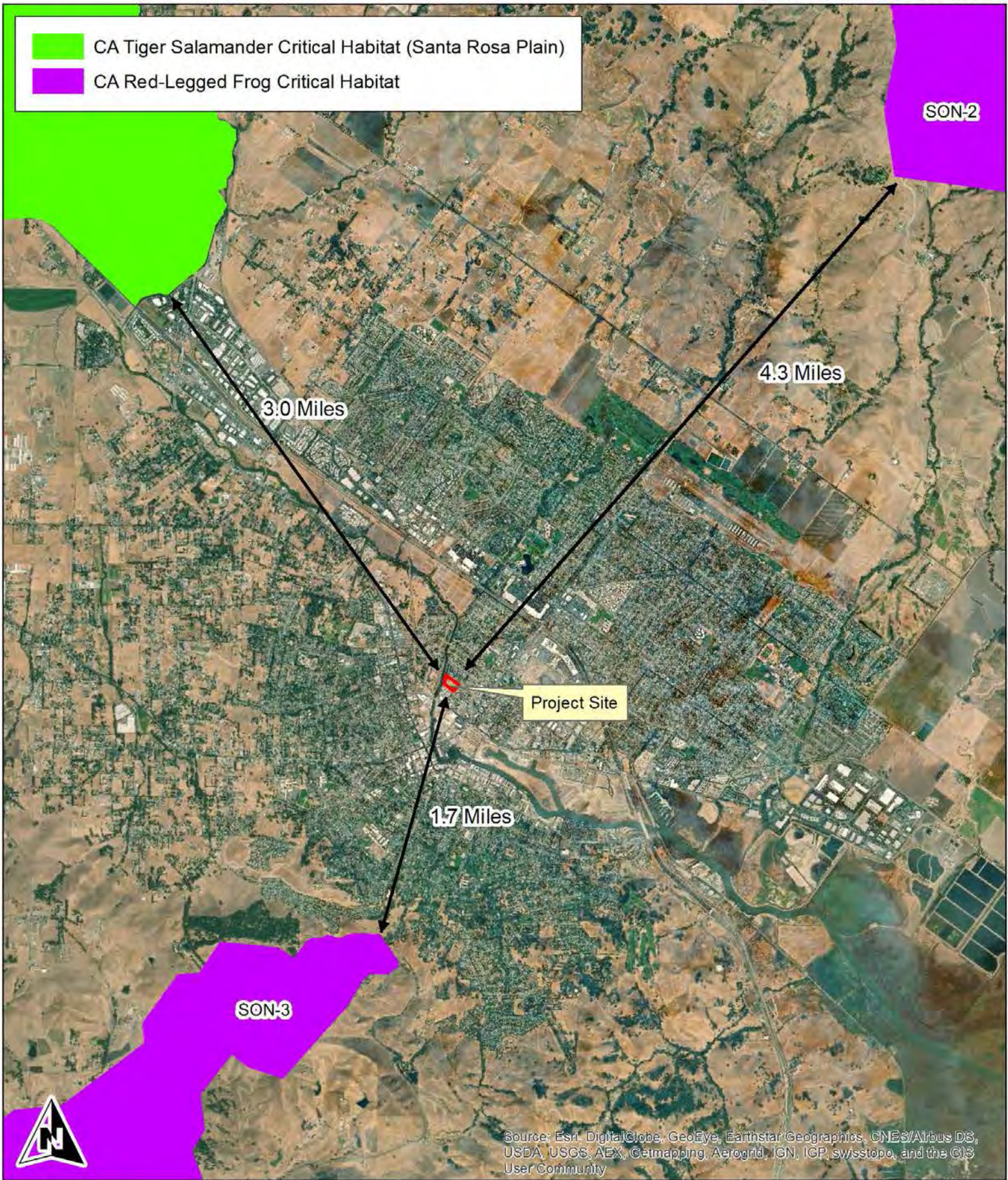
1	American badger	9	San Pablo song sparrow	E	<i>Chorizanthe valida</i>
13	California black rail	10	Steelhead - Central California Coast DPS	F	<i>Delphinium luteum</i>
2	California red-legged frog	11	Townsend's big-eared bat	G	<i>Fritillaria liliacea</i>
3	California tiger salamander	12	Western pond turtle	H	<i>Hemizonia congesta ssp. congesta</i>
4	Foothill yellow-legged frog	A	<i>Allium peninsulare var. franciscanum</i>	I	<i>Lilium pardalinum ssp. pitkinense</i>
5	Pallid bat	B	<i>Astragalus tener var. tener</i>	J	<i>Plagiobothrys mollis var. vestitus</i>
6	Sacramento splittail	C	<i>California macrophylla</i>	K	<i>Sidalcea calycosa ssp. rhizomata</i>
7	Saltmarsh common yellowthroat	D	<i>Centromadia parryi ssp. parryi</i>	L	<i>Trifolium amoenum</i>



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Figure 4. CNDDDB Special-Status Species Occurrences Within 3 Miles of the Clover Project Site, Petaluma, California

Map Preparation Date:
 November 6, 2018
 3-Mile Radius
 Source: CDFW, California Natural Diversity Data Base, 2018



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Figure 5. Critical Habitat in the Vicinity of the
Clover Project Site
Petaluma, California

Aerial Photograph Source: ESRI
Map Preparation Date: November 8, 2018

Table 1
Plant Species Observed on the Clover Project Site

Gymnosperms

Pinaceae

* <i>Pinus halepensis</i>	Aleppo pine
<i>Pinus radiata</i>	Monterey pine

Angiosperms - Dicots

Apiaceae

* <i>Foeniculum vulgare</i>	Sweet fennel
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Araliaceae

* <i>Hedera helix</i>	English ivy
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Asteraceae

<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	Coyote brush
* <i>Carduus pycnocephalus</i> subsp. <i>pycnocephalus</i>	Italian thistle
* <i>Carduus tenuiflorus</i>	Plumeless thistle
* <i>Centaurea solstitialis</i>	Yellow starthistle
<i>Centromadia pungens</i> subsp. <i>pungens</i>	Common spikeweed
* <i>Dittrichia graveolens</i>	Stinkwort
<i>Erigeron canadensis</i>	Horseweed
* <i>Helminthotheca echioides</i>	Bristly ox-tongue
* <i>Hypochaeris radicata</i>	Rough cat's-ear
* <i>Lactuca serriola</i>	Prickly lettuce
* <i>Lactuca virosa</i>	Bitter lettuce
* <i>Pseudognaphalium luteoalbum</i>	Everlasting cudweed
* <i>Senecio vulgaris</i>	Common groundsel
* <i>Silybum marianum</i>	Milk thistle
* <i>Sonchus oleraceus</i>	Common sow-thistle
* <i>Tragopogon porrifolius</i>	Common salsify

Brassicaceae

* <i>Brassica nigra</i>	Black mustard
* <i>Hirschfeldia incana</i>	Short-podded mustard
* <i>Lepidium latifolium</i>	Broadleaf pepperweed
* <i>Raphanus raphanistrum</i>	Jointed charlock
* <i>Raphanus sativus</i>	Wild radish

Caryophyllaceae

* <i>Stellaria media</i>	Common chickweed
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Convolvulaceae

* <i>Convolvulus arvensis</i>	Bindweed
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Crassulaceae

<i>Crassula connata</i>	Sandy pygmy-weed
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Euphorbiaceae

* <i>Euphorbia pepulus</i>	Petty spurge
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* Indicates a non-native species

Table 1
Plant Species Observed on the Clover Project Site

Fabaceae

* <i>Acacia sp.</i>	Acacia
* <i>Lotus corniculatus</i>	Birdfoot trefoil
<i>Lupinus bicolor</i>	Bicolored lupine
* <i>Medicago polymorpha</i>	California burclover
* <i>Melilotus indicus</i>	Annual yellow sweetclover
* <i>Trifolium fragiferum</i>	Strawberry clover
* <i>Vicia benghalensis</i>	Purple vetch
* <i>Vicia sativa</i>	Common vetch

Fagaceae

<i>Quercus agrifolia</i> var. <i>agrifolia</i>	Coast live oak
<i>Quercus lobata</i>	Valley oak

Geraniaceae

* <i>Erodium botrys</i>	Broad-leaf filaree
* <i>Erodium cicutarium</i>	Red-stem filaree
* <i>Erodium moschatum</i>	White-stem filaree
* <i>Geranium dissectum</i>	Cut-leaf geranium
* <i>Geranium molle</i>	Dove's-foot geranium

Juglandaceae

<i>Juglans hindsii</i>	Northern California black walnut
* <i>Juglans nigra</i>	Black walnut

Malvaceae

* <i>Malva nicaeensis</i>	Bull mallow
* <i>Malva parviflora</i>	Cheeseweed

Onagraceae

<i>Epilobium brachycarpum</i>	Summer cottonweed
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Papaveraceae

<i>Eschscholzia californica</i>	California poppy
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Plantaginaceae

* <i>Plantago lanceolata</i>	English plantain
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Platanaceae

<i>Platanus racemosa</i>	Western sycamore
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Polygonaceae

* <i>Polygonum aviculare</i>	Common knotweed
* <i>Rumex crispus</i>	Curly dock
* <i>Rumex sp.</i>	Dock

Rosaceae

* <i>Rubus armeniacus</i>	Himalayan blackberry
<i>Rubus ursinus</i>	California blackberry

Rubiaceae

<i>Galium aparine</i>	Goose grass
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Table 1
Plant Species Observed on the Clover Project Site

Sapindaceae	
* <i>Acer sp.</i>	Maple
Verbenaceae	
<i>Phyla nodiflora</i>	Common frog-fruit
Angiosperms -Monocots	
Alliaceae	
* <i>Allium triquetrum</i>	Onion
Amaryllidaceae	
* <i>Leucojum aestivum</i>	Snowflake
Poaceae	
* <i>Avena barbata</i>	Slender wild oat
* <i>Bromus catharticus var. elatus</i>	Chilean brome
* <i>Bromus diandrus</i>	Ripgut grass
* <i>Bromus hordeaceus</i>	Soft chess
* <i>Bromus madritensis subsp. madritensis</i>	Foxtail chess
* <i>Cynodon dactylon</i>	Bermudagrass
* <i>Festuca bromoides</i>	Brome fescue
<i>Festuca microstachys</i>	Small fescue
* <i>Festuca myuros</i>	Rattail sixweeks grass
* <i>Festuca perennis</i>	perennial ryegrass
* <i>Hordeum marinum subsp. gussoneanum</i>	Mediterranean barley
* <i>Hordeum murinum subsp. leporinum</i>	Hare barley
* <i>Phalaris aquatica</i>	Harding grass
* <i>Poa annua</i>	Annual bluegrass

Table 2
Wildlife Species Observed on the Clover Project Site

Birds

Turkey vulture	<i>Cathartes aura</i>
Mallard	<i>Anas platyrhynchos</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
Rock pigeon	<i>Columba livia</i>
Anna's hummingbird	<i>Calypte anna</i>
Black phoebe	<i>Sayornis nigricans</i>
California scrub jay	<i>Aphelocoma californica</i>
American crow	<i>Corvus brachyrhynchos</i>
Common raven	<i>Corvus corax</i>
Chestnut-backed chickadee	<i>Poecile rufescens</i>
California towhee	<i>Pipilo crissalis</i>
Savannah sparrow	<i>Passerculus sandwichensis</i>
House finch	<i>Haemorhous mexicanus</i>
Lesser goldfinch	<i>Spinus psaltria</i>

Mammals

Botta's pocket gopher	<i>Thomomys bottae</i>
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Table 3

Special-Status Plant Species Known to Occur in the Vicinity of the Clover Project Site

Family Taxon Common Name	Status*	Flowering Period	Habitat	Area Locations	Probability on Project Site
Alliaceae					
<i>Allium peninsulare franciscanum</i> Franciscan onion	Fed: - State: - CNPS: Rank 1B.2	May-June	Cismontane woodland; valley and foothill grassland [clay, often serpentine]. 100-300 m.	The closest record for this species is located approximately 0.6-mile south of the project site (Occurrence No. 10).	None. No suitable habitat. No serpentine habitat occurs on the project site.
Asteraceae					
<i>Centromadia parryi parryi</i> Pappose tarplant	Fed: - State: - CNPS: Rank 1B.2	May-November	Coastal prairie; meadows and seeps; marshes and swamps; vernal wet grassland (sometimes alkaline).	The closest record for this species is located approximately 2.8 miles north of the project site (Occurrence No. 13).	None. No prairie, meadow, seep, marsh, swamp, or vernal wet grassland habitat occurs on the project site. None observed during appropriately-timed surveys.
<i>Hemizonia congesta congesta</i> White seaside tarplant	Fed: - State: - CNPS: Rank 1B.2	April-November	Valley and foothill grassland. 20 to 560 meters.	The closest record for this species is located approximately 2.7 miles northwest of the project site (Occurrence No. 13).	None. No suitable habitat. None observed during appropriately-timed surveys.
Boraginaceae					
<i>Plagiobothrys mollis vestitus</i> Petaluma popcornflower	Fed: - State: - CNPS: Rank 1A	June-July	Marshes and swamps (coastal salt); valley and foothill grassland (mesic).	The closest record for this species is located approximately 0.6-mile south of the project site (Occurrence No. 1).	None. No marsh, swamp, or mesic grassland habitat occurs on the project site.
Fabaceae					
<i>Astragalus tener tener</i> Alkali milkvetch	Fed: - State: - CNPS: Rank 1B.2	March-June	Playas; mesic grasslands (adobe clay), vernal pools (alkaline).	The closest record for this species is located approximately 0.6-mile south of the project site (Occurrence No. 39).	None. No mesic grassland or vernal pool habitat occurs on the project site.

Table 3

Special-Status Plant Species Known to Occur in the Vicinity of the Clover Project Site

Family Taxon Common Name	Status*	Flowering Period	Habitat	Area Locations	Probability on Project Site
<i>Trifolium amoenum</i> Showy Indian clover	Fed: FE State: - CNPS: Rank 1B.1	April-June	Valley and foothill grassland (sometimes serpentinite)	The closest record for this species is located approximately 2.2 miles south of the project site (Occurrence No. 19).	None. No suitable habitat. None found during appropriately-timed surveys.
Geraniaceae					
<i>California macrophylla</i> Round-leaved filaree	Fed: - State: - CNPS: CBR	March-May	Cismontane woodland; valley and foothill grassland/clay.	The closest record for this species is located approximately 0.6-mile south of the project site (Occurrence No. 59).	None. No suitable habitat. None found during appropriately-timed surveys.
Liliaceae					
<i>Fritillaria liliacea</i> Fragrant fritillary	Fed: - State: - CNPS: Rank 1B.2	February-April	Coastal prairie; coastal scrub; valley and foothill grassland; [often serpentinite].	The closest record for this species is located approximately 0.6-mile south of the project site (Occurrence No. 83).	None. No suitable habitat. None found during appropriately-timed surveys.
<i>Lilium pardalinum pitkinense</i> Pitkin Marsh lily	Fed: FE State: CE CNPS: Rank 1B.1	June-July	Cismontane woodland (mesic); meadows and seeps; marshes and swamps (freshwater).	The closest record for this species is located approximately 0.6-mile south of the project site (Occurrence No.4).	None. No woodland, meadows, seeps, marsh, or swamp habitat occurs on the project site.
Malvaceae					
<i>Sidalcea calycosa rhizomata</i> Point Reyes checkerbloom	Fed: - State: - CNPS: Rank 1B	April-September	Marshes (near the coast).	The closest record for this species is located approximately 0.6-mile south of the project site (Occurrence No. 10).	None. No marsh habitat occurs on the project site.

Table 3

Special-Status Plant Species Known to Occur in the Vicinity of the Clover Project Site

Family	Taxon	Common Name	Status*	Flowering Period	Habitat	Area Locations	Probability on Project Site
Polygonaceae							
	<i>Chorizanthe valida</i>	Sonoma spineflower	Fed: FE State: CE CNPS: Rank 1B.1	June-August	Coastal prairie (sandy).	The closest record for this species is located approximately 0.6-mile south of the project site (Occurrence No. 5).	None. No coastal prairie habitat occurs on the project site.
	<i>Eriogonum luteolum caninum</i>	Tiburon buckwheat	Fed: - State: - CNPS: Rank 1B.2	June-September	Chaparral; coastal prairie; valley and foothill grassland; [serpentine].	The closest record for this species is located on the Petaluma Quadrangle (CNPS 1-Quad Search).	None. No serpentine soils occur on the project site.
Ranunculaceae							
	<i>Delphinium bakeri</i>	Baker's larkspur	Fed: FE State: CE CNPS: Rank 1B.1	March-May	Coastal scrub.	The closest record for this species is located on the Petaluma Quadrangle (CNPS 1-Quad Search).	None. No coastal scrub habitat occurs on the project site.
	<i>Delphinium luteum</i>	Golden larkspur	Fed: FE State: CR CNPS: Rank 1B.1	March-May	Chaparral; coastal prairie; coastal scrub.	The closest record for this species is located approximately 2.2 miles south of the project site (Occurrence No. 2).	None. No chaparral, coastal prairie, or coastal scrub habitat occurs on the project site.

Table 3

Special-Status Plant Species Known to Occur in the Vicinity of the Clover Project Site

Family	Taxon	Status*	Flowering Period	Habitat	Area Locations	Probability on Project Site
Common Name						

***Status**

Federal:

- FE - Federal Endangered
- FT - Federal Threatened
- FPE - Federal Proposed Endangered
- FPT - Federal Proposed Threatened
- FC - Federal Candidate

State:

- CE - California Endangered
- CT - California Threatened
- CR - California Rare
- CC - California Candidate
- CSC - California Species of Special Concern

CNPS:

- Rank 1A - Presumed extinct in California
- Rank 1B - Plants rare, threatened, or endangered in California and elsewhere
- Rank 1B.1 - Seriously endangered in California (over 80% occurrences threatened/ high degree and immediacy of threat)
- Rank 1B.2 - Fairly endangered in California (20-80% occurrences threatened)
- Rank 1B.3 - Not very endangered in California (<20% of occurrences threatened or no current threats known)

CNPS Continued:

- Rank 2 - Plants rare, threatened, or endangered in California, but more common elsewhere
- Rank 2A - Extirpated in California, common elsewhere
- Rank 2B.1 - Seriously endangered in California, but more common elsewhere
- Rank 2B.2 - Fairly endangered in California, but more common elsewhere
- Rank 2B.3 - Not very endangered in California, but more common elsewhere
- Rank 3 - Plants about which we need more information (Review List)
- Rank 3.1 - Plants about which we need more information (Review List)
 - Seriously endangered in California
- Rank 3.2 - Plants about which we need more information (Review List)
 - Fairly endangered in California
- Rank 4 - Plants of limited distribution - a watch list

Table 4
Special-Status Animal Species Known to Occur in the Vicinity of the Clover Project Site

Species	*Status	Habitat	Closest Locations	Probability on Project Site
Fish				
Green sturgeon - Southern DPS <i>Acipenser medirostris</i>	Fed: FT State: - Other:	Found in rivers, estuaries, and marine waters. Spawns in the Sacramento River and Klamath River. Prefers lower reaches of large rivers for spawning. Needs swift currents and large cobble.	Petaluma River is designated Critical Habitat for this species.	None. Although the adjacent Petaluma River provides suitable habitat for this species, the proposed project will not result in impacts to this species. See text.
Steelhead - Central California Coast DPS <i>Oncorhynchus mykiss irideus</i>	Fed: FT State: - Other:	From Russian River south to Soquel Creek, and to Pajaro River. Also found in San Francisco & San Pablo Bay Basins. Spawn in clear, cool, well oxygenated streams greater than 18 cm deep.	Closest record for this species is located approximately 2.3 miles east from the project site (Occurrence No. 1).	None. Although the adjacent Petaluma River provides suitable habitat for this species, the proposed project will not result in impacts to fishery resources. See text.
Chinook salmon - California coastal ESU <i>Oncorhynchus tshawytscha</i>	Fed: FT State: - Other:	Fed listing refers to wild spawned, coastal, spring and fall runs between Redwood Creek, Humboldt County and Russian River, Sonoma County.	This species has been observed in the Petaluma River in the vicinity of the project site (Leidy 2003).	None. Although the adjacent Petaluma River provides suitable habitat for this species, the proposed project will not result in impacts to fishery resources. No impact expected. See text.
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	Fed: State: CSC Other:	Endemic to the lakes and rivers of the Central Valley; now confined to the delta, Suisun Bay, and associated marshes. Inhabits slow moving river sections and dead-end sloughs. Needs flooded vegetation for spawning.	Closest record for this species is located approximately 0.12-mile north from the project site (Occurrence No. 8).	None. Although the adjacent Petaluma River provides suitable habitat for this species, the proposed project will not result in impacts to fishery resources. See text.
Amphibians				
California tiger salamander <i>Ambystoma californiense</i>	Fed: FT State: CT Other:	Found in grassland habitats of the valleys and foothills. Requires burrows for aestivation and standing water until late spring (May) for larvae to metamorphose.	Closest record for this species is located approximately 0.6-mile south from the project site (Occurrence No. 1135). Records date from 1856 in "Petaluma" (Possibly extirpated).	None. The project site is a highly disturbed, isolated urban infill project. No breeding or upland over-summering habitat occurs on the project site. No impact expected. See text.

Table 4
Special-Status Animal Species Known to Occur in the Vicinity of the Clover Project Site

Species	*Status	Habitat	Closest Locations	Probability on Project Site
California red-legged frog <i>Rana draytonii</i>	Fed: FT State: CSC Other:	Occurs in lowlands and foothills in deeper pools and streams, usually with emergent wetland vegetation. Requires 11-20 weeks of permanent water for larval development.	Closest record for this species is located approximately 1.5 miles south from the project site (Occurrence No. 840). 2005 record in Kelly Creek.	None. The project site is a highly disturbed, isolated urban infill project. No breeding or upland migration habitat occurs on the project site. Species not known to occur in Petaluma Creek. No impact expected. See text.
Foothill yellow-legged frog <i>Rana boylei</i>	Fed: -- State: CC Other:	Found in partially shaded, shallow streams with rocky substrates. Needs some cobble-sized rocks as a substrate for egg laying. Requires water for 15 weeks for larval transformation.	Closest record for this species is located approximately 2.3 miles east from the project site (Occurrence No. 476). 2008 record in Adobe Creek.	None. No suitable habitat occurs on the project site. The project site is a highly disturbed, isolated urban infill project. No impact expected. See text.
Reptiles				
Western pond turtle ** <i>Emys marmorata</i>	Fed: - State: CSC Other:	Inhabits ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs suitable basking sites and upland habitat for egg laying. Occurs in the Central Valley and Contra Costa County.	Closest record for this species is located approximately 2.1 miles west from the project site (Occurrence No. 183).	None. Although the adjacent Petaluma River and its adjacent uplands provide suitable habitat, this species is precluded from moving onto the project site by its surrounding fence. No impact expected. See text.
Birds				
California black rail <i>Laterallus jamaicensis coturniculus</i>	Fed: -- State: CT Other:	Inhabits salt marshes bordering larger bays. Prefers tidal salt marshes of pickleweed.	Closest record for this species is located approximately 2.7 miles southeast from the project site (Occurrence No. 313). 2012 record in tidal marsh south of Cypress Drive.	None. No habitat onsite or adjacent to project site.
Salt marsh common yellowthroat <i>Geothlypis trichas sinuosa</i>	Fed: - State: CSC Other:	Resident of freshwater and salt water marshes in the San Francisco Bay region. Requires thick, continuous cover for foraging and tall grasses, tules, or willows for nesting.	Closest record for this species is located approximately 1.5 miles southeast from the project site (Occurrence No. 58) along the Petaluma River.	Low. May nest along the Petaluma River adjacent to project site. See text. Preconstruction surveys will be conducted.

Table 4
Special-Status Animal Species Known to Occur in the Vicinity of the Clover Project Site

Species	*Status	Habitat	Closest Locations	Probability on Project Site
San Pablo song sparrow <i>Melospiza melodia samuelis</i>	Fed: -- State: CSC Other:	More properly known as Samuels Song Sparrow. Resident of salt marshes along the north side of San Francisco and San Pablo Bays. Inhabits tidal sloughs in the California marshes; nests in grindelia bordering slough channels.	Closest record for this species is located approximately 0.6-mile southeast from the project site (Occurrence No. 25).	Low. May nest along the Petaluma River adjacent to project site. See text. Preconstruction surveys will be conducted.
Mammals				
Townsend's big-eared bat <i>Corynorhinus townsendii townsendii</i>	Fed: -- State: CSC Other: -	Occurs in humid coastal regions of northern and central California. Roosts in limestone caves, lava tubes, mines, and buildings. Extremely sensitive to disturbance.	Closest record for this species is located approximately 0.65-mile south from the project site (Occurrence No. 445).	None. No suitable roosting habitat onsite.
Pallid bat <i>Antrozous pallidus</i>	Fed: - State: CSC Other:	Occurs in deserts, grasslands, shrublands, woodlands, and forests. Most common in dry habitats with rocky areas for roosting. Roosts in caves, crevices, mines, and occasionally hollow trees. Night roosts in open areas such as porches and open buildings.	Closest record for this species is located approximately 1.6 miles south from the project site (Occurrence No. 50).	Low. Although the project site is heavily disturbed, the trees onsite provide potentially suitable roosting habitat. Preconstruction surveys will be conducted. See text.
Salt marsh harvest mouse <i>Reithrodontomys raviventris</i>	Fed: FE State: CE Other:	Inhabits saline marshes in the San Francisco Estuary. Prefers pickleweed marshes. Requires higher areas for escaping high water.	Closest record for this species is located approximately 1.5 miles southeast from the project site (Occurrence No. 44) in the Petaluma River Marsh.	None. No suitable habitat along the Petaluma River adjacent to the site. No impact expected.
American badger <i>Taxidea taxus</i>	Fed: - State: CSC Other:	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Need sufficient food, friable soils & open, uncultivated ground. Prey on burrowing rodents. Dig burrows.	Closest record for this species is located approximately 0.9-mile north from the project site (Occurrence No. 533).	None. The project site is isolated from other open space areas. No burrows occur on the project site. No impact expected.






Table 4
Special-Status Animal Species Known to Occur in the Vicinity of the Clover Project Site

Species	*Status	Habitat	Closest Locations	Probability on Project Site
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***Status**

- | | |
|----------------------------------------|-------------------------------------------------|
| Federal: | State: |
| FE - Federal Endangered | CE - California Endangered |
| FT - Federal Threatened | CT - California Threatened |
| FPE - Federal Proposed Endangered | CR - California Rare |
| FPT - Federal Proposed Threatened | CC - California Candidate |
| FC - Federal Candidate | CSC - California Species of Special Concern |
| FPD - Federally Proposed for delisting | FP - Fully Protected |
| | WL - Watch List. Not protected pursuant to CEQA |

**The USFWS hopes to finish a 12-month finding for western pond turtle in 2021 but until formally listed, it is not afforded the protections of FESA.

-  Project Boundary
-  Seasonal Wetland (Approximately 0.04 acre, 1918 Sq. Ft.)
-  Data Points
-  Storm Drain
-  Stormwater Outfall

Please note that while M&A can estimate Corps regulated areas, only the Corps can confirm the extent of area falling under their jurisdiction. Thus, it is most important to have a confirmed map from the Corps which can be relied upon for project planning purposes.



US Army Corps of Engineers

Preliminary Jurisdictional Determination Pursuant to Section 404 of the Clean Water Act (CWA): 529 Madison Street in the City of Petaluma, Sonoma County, California (APN 007-041-006) (Latitude (NAD83) 38.2417°N, Longitude (NAD83) 122.6382°W).

The seasonal wetland, as depicted on the map, is a potential water of the U.S. The boundary shown for this feature is approximate.

Section 404 of the CWA Jurisdiction reviewed only within the Project Boundary.

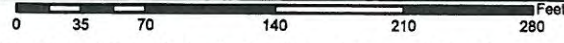
File No: 2001-261230

Date: May 27, 2015

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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and User Community



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Sheet 1. Revised Draft Jurisdictional Reverification Map
 Clover Project Site
 Petaluma, California

Aerial Photograph Source: ESRI
 Map Preparation Date: January 14, 2015