

Appendix B: Biological Resources Supporting Information

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B.1 - Biological Resources Analysis

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**BIOLOGICAL RESOURCES ANALYSIS
2220 FULTON ROAD
CITY OF SANTA ROSA, CALIFORNIA**

February 25, 2020

Prepared for

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Attachment B. Micro-Watersheds Mapped on the Project Site by Dr. L. Stromberg.

Attachment C. Results of Multi-year Survey for Special-status Plant Species. Woodside Holdings Property (A. P. No. 034-043-070) Santa Rosa, California. Laurence Stromberg, PhD. March 30, 2018.

Attachment D. Photo Pages of the Proposed Project Site and the Adjacent Woodbridge Preserve.

Attachment E. Email from U.S. Fish and Wildlife Service to Dr. M. Fawcett Concurring That There Would be No Impacts From Development to a Project located at 2222, 2038, and 2082 Fulton Road, and 2420 San Miguel Avenue, February 6, 2009.

Attachment F. Letter Prepared by Dr. Michael Fawcett Regarding His Absence of Expectation that the California Tiger Salamander Would be Found on the Stonebridge Project Site, June 11, 2019.

Attachment G. Corps Stamped Map. Corps Approved Jurisdictional Determination Letter and Map for the Stonebridge, 2220 Fulton Road Project Site.

Attachment H. Email from U.S. Fish and Wildlife Service to Harvey Rich (tridevser@att.net) and David Jacobson, August 17, 2018.

1. INTRODUCTION

Monk & Associates, Inc. (M&A) has prepared this *Biological Resources Analysis – 2220 Fulton Road, Santa Rosa, California* (“Biological Resources Report”) for the proposed Stonebridge development (“Proposed Project”) located at 2220 Fulton Road in Santa Rosa, California with Assessor’s Parcel Number 034-303-070 (“Proposed Project Site”). The Applicant is Woodside Holdings LLC. The purpose of M&A’s analysis is to provide a description of existing biological resources on the Proposed Project Site and to identify potentially significant impacts to sensitive biological resources that could occur 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 non-agency resource organizations such as 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 Report also provides mitigation measures for “potentially significant” and “significant” impacts that could occur to biological resources from implementation of the Proposed Project. Whenever possible, implementation of the prescribed mitigation measures would reduce impacts to these resources 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 Biological Resources Report is suitable for review and inclusion in any review being conducted by the City of Santa Rosa for the Proposed Project pursuant to the CEQA.

2. PROPERTY LOCATION AND SETTING

The Proposed Project Site (Figures 1-3) is located on the east side of Fulton Road within a geographic area designated as the Santa Rosa Plain. The habitat on the Proposed Project Site includes upland annual grasslands and seasonal wetlands. Trees have been planted along the east property line and around an old residence. One residence and a few associated outbuildings are present on the site; the residence is currently occupied.

2.1 Land Use History

The Proposed Project Site is a rural residential property that has been occupied since the 1940s. Currently, the tenants have established a garden and use several residential outbuildings. The residence is accessed off Fulton Road via a hardscaped (gravel-surfaced) driveway with multiple graveled parking areas onsite. The residential area is well-maintained and all ruderal (weedy) habitats around the residence are regularly mowed. Currently, the eastern three-quarters of the property is mowed annually to reduce risk of fire. Historical fill in the southeast corner of the site suggests that structures may have once been present there. Planted trees (two rows) and scattered fruit trees visible on the 1942 aerial photograph, which is available online through the Sonoma County Vegetation Mapping and Lidar Project, indicate that an orchard may once have been planted in the northeast half of the site but has long been abandoned.

3. PROPOSED PROJECT

The Applicant is proposing to subdivide the 28.60-acre Proposed Project Site into two separate parcels, including:

1. A residential subdivision of approximately 14.60 acres, where construction of 105 lots for single-family homes is being proposed (Attachment A: Site Plan) and
2. A habitat preserve of approximately 14.00 acres where wetlands will be enhanced and created (also shown on Attachment A).
3. New wetlands and enhanced wetlands within the proposed Stonebridge Preserve will be constructed as a restoration component of the Proposed Project.
4. The Stonebridge Preserve wetlands will be enhanced to promote Burke's goldfield colonization. This meets the preservation enhancement objectives set forth in the USFWS' *2016 Recovery Plan for the Santa Rosa Plain* as the Proposed Project Site and Stonebridge Preserve are located within the *Lasthenia burkei* (Burke's goldfields) "Alton Lane Core Area."
5. The proposed wetland enhancement and creation proposal has been reviewed by both USFWS and CDFW and these agencies agree that the enhancement/restoration plan meets their requirements for Burke's goldfields mitigation.
6. The Proposed Project proposes to mitigate impacts to potential California tiger salamander migration/dispersal habitat in accordance with USFWS' mitigation requirements applied to other projects in the Santa Rosa Plain. Mitigation at a 1:1 (impacts to replacement) ratio is warranted for impacts to USFWS-designated California tiger salamander migration/ dispersal habitat since the project site is between 2,200 feet and 1.3 miles of the closest known California tiger salamander breeding site, which is the Alton Lane Mitigation Site, approximately 2,230 feet west of the project site.
7. A California tiger salamander pitfall trapping study is currently underway on the Proposed Project Site and will be followed by a larval dip-netting survey in spring of 2020 (a "protocol study"). If the California tiger salamander is identified on the project site during completion of the protocol study, additional mitigation would be warranted as detailed in the "Impacts and Mitigations Section" of this report.

4. ANALYSIS METHODS

Prior to preparing this Biological Resource Report,

1. M&A researched the most recent version of CDFW's Natural Diversity Database (CNDDDB 2019) for historic and recent records of special-status plant and animal species (i.e., threatened, endangered, rare) known to occur in the region of the Proposed Project Site.
2. M&A also searched the 2019 electronic version of the California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Plants of California* (CNPS 2001) for records of special-status plants known in the region of the Proposed Project Site.
3. M&A biologists and project team members met with CDFW personnel and USFWS personnel on several occasions to discuss these agencies' concerns regarding the Proposed Project's effects on sensitive resources. All special-status species records were compiled in tables. M&A examined all known special-status species record locations to

determine if they occurred on the Proposed Project Site or within a zone of influence of the Proposed Project Site.

4. M&A biologists Mr. Geoff Monk, Ms. Hope Kingma, and Ms. Sharon Dulava conducted a general survey of the Proposed Project Site on April 25, 2018 to record biological resources and to assess the likelihood of resource agency regulated areas on the Proposed Project Site. The survey involved searching all habitats on the site and recording all plant and wildlife species observed.
5. M&A cross-referenced the habitats found on the Proposed 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.
6. After conducting background research and a field reconnaissance, M&A determined that follow-up surveys for special-status plants and California tiger salamander (*Ambystoma californiense*) larvae would be necessary to address the effects of the project on such species.
7. Finally, CDFW requested that the applicant perform a “protocol” California tiger salamander survey since there are seasonal wetlands on the Proposed Project Site. A formal larval survey was conducted in the spring of 2019, and a pitfall trapping study is underway and will be completed on the Proposed Project Site through March 15, 2020. A second year of larval surveys will be conducted on the project site in the spring of 2020. The results of all surveys will be reported to CDFW and USFWS.

The methods used to conduct these surveys are presented in Sections 7.1 and 7.2 below, respectively. The results of our literature research and all survey findings are provided in the sections below.

5. EXISTING CONDITIONS

5.1 Topography and Drainage

The Proposed Project Site is relatively flat, except for where depressional wetland habitat is present. The elevation over most of the site ranges from approximately 138 feet in depressional wetlands and natural drainages to 142 feet in the eastern two-thirds of the property. The total difference in elevation is approximately four feet. The storm-related drainage patterns on the site are complex and have been modified over the years by adjacent housing developments immediately north and south of the Proposed Project Site.

Mainly, there are two primary watersheds on the Proposed Project Site, one that flows westward toward Fulton Road, and one that flows southward toward the Montage II housing development on the south side of the site. Between these watersheds there is a break in flow directions that was used to help select the two development areas of the Proposed Project Site: the Stonebridge Residential Development area and the Stonebridge Preserve area. *This watershed break was confirmed in the field by the Corps when they confirmed the extent of their jurisdiction on the Proposed Project Site.* The western watershed is proposed to be developed into the residential subdivision (“Stonebridge Residential Site”), while the eastern watershed is proposed to be restored to inure to the benefit of wetlands and rare vernal pool plant species (“Stonebridge Preserve”).

The Proposed Project Site supports eight small “micro” watersheds (Stromberg 2018, Attachment B), all but one of which are drained by a swale or swale networks, and nearly all of which reflect the natural topography. The one exception is the watershed in the southwest corner of the site where construction of a driveway, parking areas, a residence, gardens, and several outbuildings long ago removed drainage patterns on this portion of the Proposed Project Site (see micro-watershed 8 on Attachment B).

The natural flow of stormwater from the western half of the Proposed Project Site northward was blocked in circa 2005 when the high-density residential Woodbridge Development was constructed on the northwest border of the Proposed Project Site. Before the Woodbridge residential subdivision was constructed, stormwater flowed from a micro-watershed on the western half of the Proposed Project Site to the headwaters of Abramson Creek. This hydrology connection on the Proposed Project Site is now blocked by the high-density residential Woodbridge Development.

Another micro-watershed occurs on the eastern half of the Proposed Project Site, which historically drained off the project site to the south eventually connecting with the Peterson Creek watershed. Within the eastern area of the Proposed Project Site the largest swale/micro-watershed flows to a Sonoma County storm drain inlet at the edge of the Montage II housing development located immediately south of the Proposed Project Site.

Another swale on the eastern portion of the site flows south and terminates against a retaining wall that supports the raised building pad elevation of a portion of the Montage II subdivision. This swale blockage now results in seasonal pooling (up to 24 inches deep) on the southeastern edge of the site.

5.2 Soils

The soils on the Proposed Project Site, mapped by the Natural Resource Conservation Service (NRCS), are the Huichica loam series and Clear Lake clay series (Figure 4). They are as follows:

1. In the northern central and northeastern corner of the site the soils are Clear Lake clay.
2. In the southern half of the site the soils are Huichica loam, 0-2 percent slopes, and
3. In the northwestern corner and southeastern corner they are Huichica loam, ponded, 0 to 5 percent slopes. The Huichica soils possess a clay horizon at a depth of about two feet and a cemented hardpan below the clay. Together, they form a barrier to deep percolation and result in perched stormwater at or near the surface.

5.3 Plant Communities and Associated Wildlife Habitats

A complete list of plant species observed on the Proposed 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 Proposed 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.

The following descriptions of the Proposed Project Site's plant communities and landscape areas were taken from Dr. Stromberg's report: *Results of Multi-year Survey for Special-status Plant Species, Woodside Holdings Property (APN 034-043-070) Santa Rosa, California* (March 30, 2018) (Attachment C). Additional plant species observed by M&A during our 2018 and 2019 surveys are also included below and in Table 1. Wildlife habitat descriptions provided below are based on M&A's site surveys and years of experience working on properties in the Santa Rosa Plain.

5.3.1 SEASONAL WETLANDS

The wetlands on the Proposed Project Site are palustrine emergent wetlands, as classified by the Corps using the Cowardin "method" (Cowardin et al 1979). According to the California Rapid Assessment Method (CRAM) (California Wetlands Monitoring Workgroup 2013: *In Stromberg 2018b*; Attachment C), the wetlands on the Proposed Project Site would be considered a vernal pool system. A CRAM assessment has not been conducted. The area of seasonal wetland on the entire Proposed Project Site is approximately 6.31 acres. The wetlands are a mosaic of vernal pools connected by swales. The maximum depth of standing water in the vernal pools ranges from six inches to more than 24 inches. In the bottoms of vernal pools and the deeply inundated swales (characterized by local high points that cause water to collect upgradient), the dominant and common species include California semaphore grass (*Pleuropogon californicus*), meadow barley (*Hordeum brachyantherum*), curly dock (*Rumex crispus*), smooth goldfields (*Lasthenia glaberrima*), pennyroyal (*Mentha pulegium*), and coyote thistle (*Eryngium aristulatum*).

The vegetation at the wetland margins is typically indicative of the transition into upland habitat. Dominant and common plant species at the margins include perennial ryegrass (*Festuca perennis*), Mediterranean barley (*Hordeum marinum gussoneanum*), bristly ox tongue (*Helminthotheca echioides*), prickly lettuce (*Lactuca serriola*), and sheep sorrel (*Rumex acetosella*). Upland plant species that occur at the wetland margins include Harding grass (*Phalaris aquatica*), pea (*Lathyrus cicera*), medusahead (*Elymus caput-medusae*), common vetch (*Vicia sativa*), rough cat's ear (*Hypochaeris radicata*), hedge bindweed (*Convolvulus arvensis*), soft chess (*Bromus hordeaceus*), and cutleaf geranium (*Geranium dissectum*).

Seasonal wetlands provide wildlife with a seasonal water source that allows animals to drink and forage in the water during the winter and spring months and, so long as the water lasts, into the early summer. Common amphibians lay their eggs in seasonal wetland habitats and complete much of their life cycle in the wetlands. Invertebrates such as mayflies (Ephemeroptera), damselflies (Odonata), and predaceous diving beetles (Dytiscidae) are commonly associated with inundated seasonal wetland habitats and complete their life cycle in the wetlands.

Wildlife observed using these wetlands during the 2018 terrestrial surveys and 2019 larval amphibian surveys included black phoebe (*Sayornis nigricans*), Sierran tree frog (*Pseudacris sierra*), and common invertebrates such as, scuds (Amphipods), water boatman (Corixidae), and predaceous diving beetles (Dytiscidae). No special-status animals or invertebrates were

identified in the Proposed Project Site's existing wetlands. More in-depth discussions of wildlife and the wetlands are provided in the "Special-Status Animals," California tiger salamander discussion below.

5.3.2 UPLAND ANNUAL GRASSLAND

The upland annual grassland is dominated by non-native annuals, and introduced perennials, and naturalized species. The dominant and more common species include slender oats (*Avena barbata*), hare barley (*Hordeum murinum* ssp. *leporinum*), subterranean clover (*Trifolium subterraneum*), vernal grass (*Anthoxanthum aristatum*), perennial ryegrass (*Festuca perennis*), six-weeks fescue (*Festuca bromoides*), soft chess (*Bromus hordeaceus*), shamrock clover (*Trifolium dubium*), several species of vetch (*Vicia sativa*, *V. cracca*, *V. villosa varia*), sheep sorrel, and cut-leaf geranium. Less common species include rip-gut brome (*Bromus diandrus*), hedge bindweed (*Convolvulus arvensis*), bristly ox-tongue (*Helminthotheca echinoides*), prickly lettuce (*Lactuca serriola*), several species of filaree (*Erodium cicutarium*, *E. botrys*, *E. moschatum*), rough and smooth cat's ear (*Hypochaeris radicata* and *H. glabra*), California poppy (*Eschscholzia californica*), sun cups (*Taraxia ovata*), toad rush (*Juncus bufonius*), capitate rush (*Juncus capitatus*), bird's foot trefoil (*Lotus corniculatus*), woolly trefoil (*Acmispon brachycarpus*), medusahead grass, willow herb (*Epilobium brachycarpum*), mouse-ear chickweed (*Cerastium glomeratum*), and miniature lupine (*Lupinus bicolor*).

The Proposed Project Site's upland supports annual grasses and forbs (broad-leaved plants) that provide a food source for granivorous (seed-eating) birds including mourning dove (*Zenaidura macroura*), song sparrow (*Melospiza melodia*), house finch (*Haemorhous mexicanus*), and lesser goldfinch (*Carduelis psaltria*). Insectivorous birds such as Say's phoebe (*Sayornis saya*), American pipit (*Anthus rubescens*), violet green swallow (*Tachycineta thalassina*), and western meadow lark (*Sturnella neglecta*) find insects to eat in the grassland. Other animals observed in the grassland included Botta's pocket gopher (*Thomomys bottae*) and California meadow vole (*Microtus californicus*).

5.3.3 WOODY VEGETATION/LANDSCAPE TREES

Walnut trees (*Juglans* spp.), fruit trees (*Prunus* spp.), a single, multi-trunked coast live oak (*Quercus agrifolia*) or coast live oak-interior live oak hybrid, a pine (*Pinus* sp.), a Monterey cypress (*Hesperocyparis macrocarpa*), and ornamental shrubs have been planted around the residence and associated outbuildings in the western part of the Proposed Project Site. A string of eucalyptus trees (*Eucalyptus globulus*) has also been planted just inside the eastern property line. A small amount of coyote brush (*Baccharis pilularis* ssp. *consanguinea*) shrubs and eight small, ornamental fruit trees (*Prunus* spp.) are also scattered across the eastern third of the site, apparent holdovers of an orchard, the remnants of which (two rows) are visible on the 1942 aerial photograph that is available through the online Sonoma County Vegetation Mapping and Lidar Project. Apparently, all but eight trees had been removed prior to 1942.

Scattered trees in a rural residential setting such as the Proposed Project Site provide nesting habitat for passerine birds (that is, perching birds, also known as song birds) such as mourning dove, California scrub jay (*Aphelocoma californica*), Anna's hummingbird (*Calypte anna*), and northern mockingbird (*Mimus polyglottos*), as well as other urban-adapted bird species, and

roosting habitat for a variety of smaller raptors (birds of prey) such as the sharp-shinned hawk (*Accipiter striatus*) which may hunt in the area though is unlikely to nest onsite due to an absence of suitable nesting habitat (the sharp-shinned hawk nests in riparian woodlands). The fruit trees provide food for common, urban-adapted mammals such as the Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), and raccoon (*Procyon lotor*). Coyote brush that occurs on the Proposed Project Site also provides nesting opportunities for passerine birds and cover for small mammals and reptiles.

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 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. Also, local wildlife corridors within restricted habitats provide access routes to food, cover, and water resources.

Properties located within suburban settings such as the Proposed Project Site typically provide the greatest wildlife corridor function if there is a creek or other heavily vegetated corridor running through the property that connects with other open spaces. No such drainage or vegetated corridor exists on the Proposed Project Site.

The Proposed Project Site is an open grassland with a seasonal wetland habitat that is surrounded by developed properties on three sides (to the north, south, and east). Though there are some small parcels to the northeast and east that are either designated open space (the CDFW-owned Woodbridge Preserve) or currently undeveloped (the Kerry Ranch parcels), these properties abut densely developed lands and do not provide a large swath of contiguous, open land that functions as a wildlife movement corridor. To the immediate west of the Proposed Project Site is Fulton Road, a heavily traveled and highly trafficked road. With over 19,000 vehicle trips a day (data from between Piner and Piner High School, April 28, 2015 - Pacific Traffic & Transit Data Services), Fulton Road is a significant geographical impediment to wildlife movements and removes any wildlife corridor function/value to wildlife originating west of the Proposed Project Site.

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, 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);
- 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 California Environmental Quality Act (CEQA) (14 CCR §15380) that may include species not found on either State or Federal Endangered Species 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 Environmental Impact Reports (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 (2019);
- 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 M&A provides 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 Federal 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.

State Threatened Species. A species listed as Threatened under the state Endangered Species Act (§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 federal 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 (California Endangered Species Act) 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.

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.

7. SPECIAL-STATUS PLANTS AND ANIMALS

A complete list of plant species observed on the Proposed Project Site by both M&A biologists during 2018-2019 special-status plant surveys and by Dr. Larry Stromberg during multiple years of special-status plant surveys is attached as Table 1. A list of wildlife observed by M&A on the Proposed Project Site during April 2018, and April and May 2019, site surveys is provided as Table 2.

7.1 Potential Special-Status Plants on the Proposed Project Site

Figure 5 provides a graphical illustration of the closest known records for special-status species within two miles of the Proposed Project Site and helps readers visually understand the number of sensitive species that occur in the vicinity of the Proposed Project Site. The Proposed Project Site has undergone multiple years of special-status plant surveys exceeding Corps, CDFW, and USFWS policies that require two years of special-status plant surveys prior to the time a project is permitted to impact seasonal wetlands. Special-status plant surveys were conducted by Laurence P. Stromberg, Ph.D. in 2015, 2016, and 2017 (Attachment C, *Results of Multi-Year Survey for Special-Status Plant Species* prepared by Laurence P. Stromberg, Ph.D., dated March 30, 2018), with an additional survey conducted on April 29, 2019 to re-verify the location of Burke's goldfields (*Lasthenia burkei*) that was previously identified onsite. M&A biologists have also conducted special-status plant surveys on the Proposed Project Site. These surveys were conducted on April 25, 2018, and May 7 and 21, 2019. The May 2019 surveys follow Dr. Stromberg's April 2019 survey for a total of three consecutive surveys in 2019, to target the three federally and state listed vernal pool plants known from the Santa Rosa Plain. Both the Stromberg and M&A surveys were conducted when the three target plant species on the Santa Rosa Plain were either in flower or were otherwise readily identifiable, as evidenced at the nearby Alton Lane Mitigation Site ("reference site visit") on the same dates.

Dr. Stromberg's surveys methods were consistent with the guidelines established by the CDFW in 2000 and 2009 (CDFG 2000, 2009), and with USFWS' survey guidelines (USFWS 2000, 2005), and CNPS' (2001) guidelines for assessing the effects of proposed developments on rare and endangered plants and plant communities. M&A's survey methods were also consistent with these survey guidelines, as well as the most recent survey protocol implemented by CDFW in 2018 (CDFW 2018).

Only two special-status plants were identified on the Proposed Project Site during all years of special-status plant surveys: Burke's goldfields and Lobb's buttercup (*Ranunculus lobbii*). Burke's goldfields is discussed below. Lobb's buttercup is only a CNPS Rank 4 plant without a State or Federal status and as such is not protected pursuant to CEQA and is not discussed

further. Since no other special-status plants were identified on the Proposed Project Site during the multiple years of survey, no other species are addressed here but are rather dismissed from consideration in Table 3 (see Table 3).

7.1.1 BURKE'S GOLDFIELDS

Burke's goldfields was identified in seasonal wetlands on the eastern side of the Proposed Project Site, the proposed Stonebridge Preserve location. *No Burke's goldfields have ever been identified on the western side of the Proposed Project Site (where the Stonebridge Residential Site is proposed).* Please see attached Figure 6 for the locations of Burke's goldfields on the Proposed Project Site; this figure includes current (2019) population numbers. The eastern portion of the Proposed Project Site (i.e., the proposed Stonebridge Preserve) is currently experiencing deep pool hydrology owing to the construction of the Montage II development to the south which has blocked historical flows through the proposed Preserve area preventing water from slowly draining or dissipating offsite. As a result, the depth of these pools is not favorable to colonization by Burke's goldfields and this plant currently only occurs sparsely in limited areas (Figure 6). By enhancing the wetlands within the Stonebridge Preserve, the pool hydrology will mimic historical, natural pool hydrology and pool depths that foster colonization by Burke's goldfields.

Immediately north of the proposed Stonebridge Preserve is the CDFW-owned Woodbridge Preserve. The Woodbridge Preserve property at one time supported similar unsuitable wetland hydrology/pools for Burke's goldfields. These pools were enhanced/modified to mimic historical, natural pool hydrology and pool depths, and these pools now support dense colonies of Burke's goldfields. Attachment D has 2019 photographs of both the existing Stonebridge Preserve wetlands with sporadic occurrences of Burke's goldfields and also the enhanced Woodbridge Preserve wetlands with dense, floriferous Burke's goldfield colonies. These photographs exhibit the glaring differences in Burke's goldfield colonization of enhanced (Woodbridge) pools and existing (Stonebridge) Burke's goldfields pools.

As stated in Section 5.1, above, the hydrology of the vernal pool complexes on the entire Proposed Project Site breaks both east and west. The site development plan was carefully planned to occur in the portion of the Proposed Project Site that has a westward breaking watershed where wetlands have never been known to support Burke's goldfields. Rather a few scattered occurrences of Burke's goldfields occur in the eastern breaking watershed on the Proposed Project Site in three pools mostly immediately adjacent to the Woodbridge Preserve (Figure 6). While these three pools are regarded as "occupied," and thus, would be avoided by all project activities, the pools in the western watershed are *not* regarded as occupied since after years of rare plant surveys Burke's goldfields have never been found in the western watershed.

Figure 6 provides the locations and numbers of the small population of Burke's goldfield plants identified in 2019 on the Stonebridge Preserve portion of the Proposed Project Site. Note that numbers are small, and the number of colonies in 2019 is one fewer than observed in 2018. The occupied pools will be fenced off when pool enhancement grading activities occur within the Stonebridge Preserve to prevent harm/take of these goldfield plants.

7.1.2 BURKE'S GOLDFIELDS SEED REQUIREMENTS FOR STONEBRIDGE PRESERVE ENHANCEMENT/PRESERVATION PROJECT (ALSO SEE SECTION 8 BELOW)

Virtually all reestablished and new colonies of Burke's goldfield on the Santa Rosa Plain are from use of donor site seed sources. Such harvesting is a critical component of reestablishing and recovering the Burke's goldfield population on the Santa Rosa Plain.

Immediately north of the Stonebridge Preserve, in what is now the CDFW-owned Woodbridge Preserve, similar unsuitable wetlands for Burke's goldfields were enhanced/modified in 2005 to mimic historical, natural pool hydrology and pool depths. Burke's goldfield seeds were harvested from the Alton Lane Mitigation Site in 2005 to seed these pools. These pools now support dense colonies of Burke's goldfields.

Attachment D shows 2019 photographs of the existing Stonebridge Preserve wetlands with sporadic occurrences of Burke's goldfields. Attachment D also includes photographs taken of the CDFW-owned Woodbridge Preserve immediately over the northern fence line of the proposed Stonebridge Preserve where previously modified/enhanced wetlands currently support robust Burke's goldfield colonies. Attachment D photographs exhibit the glaring differences in Burke's goldfield colonization of enhanced/created pools at the Woodbridge Preserve vs. the existing seasonal wetlands within the proposed Stonebridge Preserve. The primary objective for enhancement of the existing wetlands in the proposed Stonebridge Preserve is to equally promote colonization of seasonal wetlands by Burke's goldfields, a critically endangered plant on the Santa Rosa Plain.

7.2 Potential Special-Status Animals on the Proposed Project Site

Figure 5 provides a graphical illustration of the closest known records for special-status species within two miles of the Proposed Project Site which provides an understanding of the number of sensitive species that occur in the vicinity. No special-status animal have ever been mapped on or adjacent to the Proposed Project Site; however, according to CDFW's CNDDDB records, a total of three special-status animal species are known to occur in the region of the Proposed Project Site (Table 4 and Figure 5). Two of these species would not occur on the Proposed Project Site due to an absence of stream channels, drainages, or other permanent aquatic habitat: the western pond turtle and the Coho salmon. These two species are not discussed below.

The third species is the California tiger salamander. M&A conducted late-winter/spring California tiger salamander larval surveys in the wetlands on the project site. After examining the hydrology of the seasonal wetlands on the Proposed Project Site, and in consideration of other factors, M&A concluded the wetlands on the Proposed Project Site provide habitat that would be unlikely to support breeding California tiger salamanders. This finding is corroborated by a negative protocol level larval survey on the Proposed Project Site, and by a significant body of evidence (discussed below) that would suggest that California tiger salamanders are not present north of Santa Rosa Creek on the east of Fulton Road where the Proposed Project Site occurs. For a full analysis please see the discussion on the California tiger salamander below.

7.2.1 CALIFORNIA TIGER SALAMANDER

7.2.1.1 Legal status

The California tiger salamander Sonoma County “Distinct Population Segment” (DPS) is a federally listed endangered species. The Proposed Project Site is located within its known range. The USFWS determined that the Sonoma County DPS 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 Final Rule on the Revised Designation of Critical Habitat for the Sonoma County Distinct Population of the California tiger salamander was published (76 FR 54346 54372) (USFWS 2011). Approximately 47,383 acres were designated as Critical Habitat. *The Proposed Project Site is located within designated critical habitat in the Santa Rosa Plain (Figure 10).*

On March 4, 2010, the California tiger salamander was also State-listed as a threatened species under the California Endangered Species Act (CESA). Proposed projects may not impact California tiger salamanders without incidental take authority from both USFWS and CDFW. Prior to implementing a project that would result in “take” (i.e., to harm, harass, or kill) California tiger salamanders, applicants must obtain “Incidental Take” authorization from the USFWS pursuant to either Section 7 or Section 10 of the FESA. Similarly, projects that would impact California tiger salamanders also require an Incidental Take Permit (ITP) from CDFW pursuant to the CESA.

7.2.1.2 Life History

California tiger salamanders 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 County). California tiger salamanders spend the majority of their lives underground. They typically only emerge from their subterranean refugia for a few nights each year during rainfall events typically in late October through December to migrate to breeding ponds where they lay eggs. After spending a up to a few weeks and sometimes longer in breeding ponds the adult salamanders then return to their subterranean over-summering refugia not to resurface until the following breeding season. Young hatch typically in February and March and metamorphose leaving natal ponds in search of subterranean refugia typically in late April and May.

Deep, seasonal and sometimes perennial wetlands typically provide most of the breeding habitat used by California tiger salamanders. California tiger salamanders 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 three-quarters ($\frac{3}{4}$) the diameter of a dime to the full diameter of a dime. Typically, seasonal breeding pools must hold water into the month of May to allow enough time for larvae to fully

metamorphose. Pools that are 16 inches or deeper in the peak winter months usually will remain inundated long enough to provide good breeding conditions for California tiger salamanders. Optimal pools are typically deeper than 16 inches consistently in most winters.

In dry years, seasonal wetlands, especially shallower pools, may dry too early to allow enough time for California tiger salamander larvae to successfully metamorphose. As pools dry down to very small areas of inundation, California tiger salamander larvae become concentrated and are particularly susceptible to predation. In Cotati, Mr. Monk observed drying pool predation of larvae by red-sided garter snakes (*Thamnophis sirtalis infernalis*). Similarly, ducks (various spp.) are often observed predating breeding pools. In duck-ravaged pools, larvae may be concentrated in deeper water or are found in areas along the pool margins where pools remain relatively deep and there is dense emergent vegetation. When pools dry too soon, desiccated California tiger salamander larvae can be found, but owing to scavengers usually disappear within a day or two.

Shallow pools are not optimal California tiger salamander breeding sites. Pools that are as shallow 10 to 12 inches may still attract breeding salamanders, but young do not often successfully metamorphose from such pools except in years exhibiting wet springs. With frequent rainfall events in March and April, or with infrequent but large late spring rainfall events, shallower pools can remain hydrated long enough to allow California tiger salamander larvae ample time to successfully metamorphose from shallower pools. Pools that dry and rehydrate multiple times over the winter do not provide the continuous hydration period required for successful metamorphosis of young.

7.2.1.3 Migration

Adult California tiger salamanders have been observed up to 2,092 meters (1.3 miles) from breeding ponds (USFWS 2004). As such, unobstructed migration corridors are an important component of California tiger salamander habitat. In Sonoma County, Mr. G. Monk has been conducting California tiger salamander surveys since 1989 (Exhibit B). It is M&A's direct experience that California tiger salamanders move to their breeding pools at night during the first heavy, typically warmer, rainfall events of the year, usually in late-October into early December. In most instances, early movements from over-summering refugia to breeding sites do not occur until it has been raining continuously for several days, but occasionally errant salamanders may move to breeding pools during light rainfall events too. Typically, movements of California tiger salamander occur when temperatures are above 48° F.

A primary factor encouraging larger movements of California tiger salamanders is continuous or nearly continuous rainfall over many days. Resultant widespread ground saturation that otherwise floods over-summering refugia can result in relatively large numbers of California tiger salamanders leaving their refugia in search of breeding sites over a one- or two-night period (as observed by G. Monk and S. Lynch during numerous studies). In addition to pitfall trapping results that demonstrate such movements, often these focused movement periods are evident in breeding pools where up to several size classes of larvae can be identified later in the spring, each size class likely being representative of a focused movement period for adult breeding salamanders.

7.2.1.4 Closest Known California Tiger Salamander Breeding Population

The closest known CNDDDB record (CNDDDB Occurrence No. 360) for the California tiger salamander to the Proposed Project Site is located approximately 2,230 feet (~0.42-mile) to the west at the Alton Lane Mitigation Site (Figure 11). This record resulted from the translocation of California tiger salamander larvae from the Wright Conservation Site to the man-made pools at the Alton Lane Mitigation Site circa 1990-91. Alton Lane Mitigation Site is a former vineyard that was restored into a vernal pool complex in 1989-1992. California tiger salamander adults were also translocated to the Alton Lane Mitigation Site by CDFW (then CDFG) from an M&A salvage project in Cotati immediately west of Highway 101 and north of Highway 116.

7.2.1.5 California Tiger Salamander Studies on and Near the Project Site

M&A biologists hold a federal 10(a)(1)(A) Recovery Permit and a State Memorandum of Understanding (MOU) to conduct California tiger salamander surveys. M&A has extensive experience in the Santa Rosa Plain conducting California tiger salamander surveys and assessments since 1989 (Exhibit B). Most recently, USFWS and CDFW granted approval for M&A biologists to conduct protocol-level surveys for California tiger salamander larvae and adults on the Proposed Project Site. M&A completed one visual California tiger salamander egg survey (March 7, 2019) and three larval dip-netting surveys (March 28, April 15, and May 21, 2019) on the project site. *No California tiger salamander eggs or larvae were observed/identified on the Proposed Project Site.* In early October 2019, M&A established approximately 5,475 linear feet of drift fencing complete with 193 pitfall traps on the project site. This pitfall trapping array will be operated this winter (2019-2020) per USFWS/CDFW's joint survey protocol (2003) to determine if adult California tiger salamanders reside on the project site.

In addition to project site surveys, M&A has completed a large number of multi-season formal California tiger salamander surveys throughout the Santa Rosa Plain, many of which were conducted in the immediate Proposed Project Site vicinity (Exhibits B and C). *M&A have never found California tiger salamanders east of Fulton Road or north of the Wright Conservation Site in Santa Rosa.*

From 2005-2007, M&A completed two winters (adult surveys) and one spring (larval surveys) of field surveys for California tiger salamanders on the Kerry Ranch I, II, and III project sites, which are immediately east of the project site. *No California tiger salamanders were captured on the Kerry Ranch project sites at any time during the 2005/2006 and 2006/2007 survey seasons.* Most recently, in 2018, M&A received USFWS approval to conduct protocol-level larval surveys on the now much-reduced, 4.15-acre, Kerry Ranch I project site (2181 Francisco Avenue). *After completion of the protocol level larval survey, no California tiger salamander larvae were captured.*

Other biologists have also completed formally-approved two-year California tiger salamander surveys in the immediate area of the Proposed Project Site - *all with negative survey results* (Exhibit C). In 2004, a California tiger salamander site assessment was completed by Dr. Michael Fawcett at 1835 Fulton Road. This assessment included larval dip-netting surveys. Survey results were negative. In addition, in 2005-2007 a two-year California tiger salamander

survey was conducted by Dr. Fawcett at 2323 and 2285 San Miguel Avenue in northwest Santa Rosa, just east of Fulton Road and north of Piner Road. *Again, survey results were negative.*

Also, in 2006 and 2007, Dr. Fawcett completed two-year formal surveys at 2022 Fulton Road, 2038 Fulton Road, 2082 Fulton Road, and 2420 San Miguel Road, all of which are in closer proximity to the Alton Lane Conservation Complex than the proposed Stonebridge Preserve. After submitting a two-year survey report to USFWS for the formally completed surveys, USFWS sent an email to Dr. Fawcett and the Applicant stating: *The Service concurs with the conclusions of the July 23, 2008 Report on California Tiger Salamander surveys conducted at four West Santa Rosa Properties, Sonoma County, California. As a result, the Proposed Project will not result in 'take' and no mitigation for the Sonoma County Distinct Population Segment of California tiger salamander (Ambystoma californiense) is necessary* (Email attached as Attachment E). In 2019, Dr. Fawcett prepared a letter regarding his belief that that the California tiger salamander would not be found on the project site, or north of Santa Rosa Creek and east of Fulton Road (Attachment F).

Other properties near the Proposed Project Site in the area bounded by Fulton Road, Francisco Avenue, and San Miguel Road were surveyed for California tiger salamanders between 2002 and 2004 by Dr. Mark Jennings and Ms. Gretchen Padgett-Flohr of Live Oak Associates; *all surveys were negative.*

Between 2002 and 2019, in the vicinity of the Project, over 40 studies for California tiger salamander were conducted by credentialed biologists. Their studies included site assessments, larval surveys, and 2-year studies, all of which were negative for California tiger salamander occurrence. From this large body of data, M&A concludes that it is most unlikely that California tiger salamander are present on the Project site.

7.2.1.6 Project Site Seasonal Wetland Breeding Pool Suitability Analysis and Discussion

The pools on the Proposed Project Site are not optimal California tiger salamander breeding pools and would be unlikely to support a successful reproductive cycle; this statement is considered with the fact that there *are no records for California tiger salamanders east of Fulton Road and north of Santa Rosa Creek* [Source: CNDDDB records Figure 5, M&A studies, and Dr. Michael Fawcett -Studies as supported by Attachment F]. The absence of California tiger salamander records east of Fulton Road and north of Santa Rosa Creek may indicate that seasonal wetlands east of Fulton Road are not suitable for California tiger salamander reproduction.

Based on Mr. Monk's 30 years of work with California tiger salamander on the Santa Rosa Plain and elsewhere, the following characteristics are believed to collectively determine whether seasonal wetlands on the Santa Rosa Plain are suitable for California tiger salamander breeding and metamorphosis:

- **Pool Depth:** Generally, on the Santa Rosa Plain, pools that are 16 inches or deeper are necessary to provide a sufficient hydroperiod that allows California tiger salamander eggs to hatch and for young to successfully metamorphose. While pool depth is an important

characteristic of a successful breeding pool, it is not the only determinant. The pools must also maintain deep water *continuously* over a long enough hydroperiod to allow California tiger salamander to reproduce, for eggs to hatch, and for larvae to successfully metamorphose.

One reason deeper pools are generally better for larval development is because the water remains cooler. Shallow pools are warmed faster by the sun, evaporate more quickly becoming smaller and more prone to successful predation, and most importantly, warmer water carries less free oxygen which is necessary for California tiger salamander larvae to mature and metamorphose.

Warmer pools also tend to promote algae blooms and the subsequent excessive decomposition of algae further lowers available oxygen. Free oxygen in pools is a critical factor for California tiger salamander larvae since as they progress through metamorphosis they absorb their gills. With ample free oxygen in the water, California tiger salamander larvae are able to reach full metamorphosis even with partially to fully absorbed gills.

Thick and continuous algal blooms occur most frequently in warmer pools, especially pools that are subjected to higher nutrient levels such as pools that are grazed by livestock. Continuous algae mats usurp the water column of free oxygen through bacterial degradation. This low oxygen environment is detrimental to California tiger salamander larvae. As important, algal blooms physically block advanced larvae from rising to the surface to gulp air, which becomes critical for larvae that have partially to fully absorbed their gills prior to full metamorphosis.

- **Rainfall Patterns:** Rainfall patterns can influence breeding pool suitability. Winters that extend well into spring, bringing more rainfall events, can render even shallower pools (e.g., 12-inch deep pools), or pools with higher soil infiltration rates, potentially useable by California tiger salamander for breeding/larval development. Late rains may continuously replenish pool water depths countering pool drawdown to mud that kills larvae that have not metamorphosed.
- **Escape Habitat:** Seasonal wetlands which have tea-colored to turbid water provide visual screening making predation of California tiger salamander larvae less likely. Similarly, wetlands which support a moderate density of in-column aquatic plants provide California tiger salamander larvae with predator escape cover, and thus, are better California tiger salamander breeding pools. California tiger salamander larvae that occur in clear water pools are readily preyed upon by waterfowl. Turbidity can also be a result of ducks feeding in pools that support silty soils, and the indirect effect is that the stirred up bottom sediments provide cover for California tiger salamander larvae. Pools with solid bottom sediments that are not as subject to stirred up suspension of sediments in the water column, that otherwise provide clear water conditions, allow predators such as ducks clear visibility of targeted California tiger salamander larvae.
- **Impermeable Soils:** Soil types that are more impermeable (i.e., that support lower infiltration rates) are more likely to support adequate pool depths over sufficient duration for

California tiger salamander larvae to successfully metamorphose (typically pools must remain hydrated through May).

- **Population Expansion and Impediments to Migration:** California tiger salamander breeding pools that have adjacent unimpeded migration habitat to previously unoccupied pools (such as created mitigation pools) are more likely to be used by an expanding California tiger salamander breeding population. In contrast, non-breeding pools that are isolated from known California tiger salamander breeding pools by heavily trafficked roads, high-density housing developments, vertical or near vertical concrete lined canals/creeks, and other geographic impediments (i.e., “barriers”), are unlikely to support an expanding California tiger salamander breeding population.

7.2.1.7 Analysis of the Pools on the Stonebridge Project Site

M&A concludes that the seasonal wetlands present on the Proposed Project Site do not exhibit the characteristics necessary to provide successful California tiger salamander breeding habitat. This is corroborated by M&A’s negative California tiger salamander larval surveys onsite in 2019, M&A’s past California tiger salamander studies in the vicinity of the Proposed Project Site which were also negative, and finally, the work of many other California tiger salamander biologists in the area of the project site that corroborates M&A’s negative findings. This is likely attributable to several factors that include pool characteristics as discussed above, and the isolation of the Proposed Project Site from extant California tiger salamander breeding populations.

The observed hydrology of the seasonal wetlands on the Proposed Project Site in 2018/19 indicate that pools did not retain water at adequate depths over continuous duration, long enough to facilitate full California tiger salamander larval metamorphosis despite a wet and long winter. The 2018/2019 rainfall season was an exceptionally high rainfall year, and significant rainfall events persisted well into spring. The National Oceanic and Atmospheric Administration (NOAA) reports that rainfall in Santa Rosa from October 1, 2018, to June 23, 2019, was 134% of normal (<https://www.cnrfc.noaa.gov/awipsProducts/RNOWRKCLI.php>).

Presumably owing to an exceptional winter of rainfall and late-spring rainfall events, even shallower pools than 16 inches could be used successfully by California tiger salamander for breeding. Exhibit A shows the Proposed Project Site wetland depths. On March 28, 2019, pools measured from 4” to 24” deep, the deepest these pools were measured in the winter/spring of 2018/19. By April 15, 2019, pool depths had dropped by approximately 6 to 12 inches, and one-third (1/3) of all pools on the Proposed Project Site only supported saturated soils (had no standing water). Thus, in a two and one-half week period, the pools had lost half of their water or more.

Pool depths were not investigated on May 15, 2019, the optimal hydroperiod allowing most California tiger salamander larvae to complete metamorphosis in the Santa Rosa Plain. Nevertheless, due to the rapid draw-down observed from March 28th to April 15th, M&A does not believe that pools retained deep enough water into May to support California tiger salamander larvae.

The rapid draw-down of the Stonebridge pools is likely facilitated by relatively permeable soils. By April 15, 2019, the pools that remained, with few exceptions, were already too shallow, too warm, too clear, and too small to support California tiger salamander larval development. The smaller, shallower pools would facilitate focused predation, allowing waterfowl to feed on California tiger salamander and other amphibian larvae. On April 15th there was a measured dramatic decline in the Sierran treefrog (*Pseudacris sierra*) larval population in remaining pools supporting the notion that most larvae had metamorphosed and/or there had been heavy predation of these larvae.

As discussed elsewhere in this report, there is ample scientific evidence that adult California tiger salamander do not occur within or proximate to the seasonal wetlands on the Stonebridge Proposed Project Site. As described above, pools within the Proposed Project Site do not provide characteristics that are expected to support a breeding California tiger salamander population. The nearest documented extant California tiger salamander breeding habitat is more than 2,200 feet to the west of the Proposed Project Site, across Fulton Road, in the Alton Lane Mitigation Site. Fulton Road is a significant geographic barrier that would prevent California tiger salamander from being able to migrate to the Proposed Project Site.

7.2.1.8 Potential Migration to the Project Site From Known Breeding Locations

The closest known California tiger salamander breeding pool to the Proposed Project Site is located approximately 2,230 feet (~0.42-mile) to the west at the Alton Lane Mitigation Site (Figure 11). Aside from the Alton Lane Mitigation Site area, all known California tiger salamander breeding locations are separated from the Proposed Project Site by several to many miles of high-density urban development, which without doubt is an effective geographic barrier preventing migration to the project site. Regarding the closest known breeding record, it is most unlikely that California tiger salamanders that occur at the Alton Lane Mitigation Site would be able to successfully migrate east, across heavily trafficked Fulton Road, to the Proposed Project Site.

Amphibians and reptiles are highly susceptible to injury or death while crossing roads (van Gelder 1973, Fahrig et al. 1995, Carr and Fahrig 2001). Hels and Buchwald (2001) studied the relationship between traffic volume and amphibian mortality for several species of frogs and salamanders. They concluded that *where amphibians have fixed routes to and from spawning sites they may be undeterred by low to medium traffic intensity (i.e., below 12,000 vehicles per 24 hours)*. Also, that: *Mortality of this type therefore may be higher than predicted from traffic intensity alone*. Finally, the authors concluded: *with increased traffic intensity, mortality may eventually reduce the population to a level where its reproductive output is too small to reach the carrying capacities of the breeding ponds*.

Fulton Road represents a significant geographic barrier to California tiger salamander migration from the Alton Lane Mitigation Site west of Fulton Road to the project site east of Fulton Road. The reach of Fulton Road between the project site and the Alton Lane Mitigation Site was “improved” in 2008 (Exhibit D). It is now a four-lane road supporting bicycle lanes, curbs on both sides, a sidewalk on the east side, and a left turn lane down the center (so essentially 5

lanes). The curbs have 7-inch vertical side walls that constitute effective barriers to California tiger salamander migration. That said, with 19,124 vehicle trips a day (data from between Piner and Piner High School, April 28, 2015 - Pacific Traffic & Transit Data Services), Fulton Road is a significant and lethal geographical impediment to California tiger salamander migration from the Alton Lane Mitigation Site on the west side of Fulton Road to the east side of Fulton Road where the project site is located.

Even considering nocturnal vehicle trips per day on Fulton Road, the timeframe when California tiger salamanders migrate, Fulton Road represents a significant impediment to successful migration across this road. Of the recorded 19,124 vehicle trips per day (796.83 trips per hour) recorded in 2015, 3,987 of these trips occurred between 8 p.m. and 8 a.m. (332.25 trips per hour). Appendix F provides a summary of the traffic counts from Pacific Traffic & Transit Data Services in 2015. Thus, even at night, traffic counts would be lethal to any amphibian trying to cross Fulton Road, especially in consideration that curbs on both sides of the street would keep any salamander that ended up in the road, imperiled over an extended period while it tried to escape the high curbs. If a salamander were to end up in the road, the only likely way it would survive is if it was able to find a storm drain inlet, which regardless would divert the salamander ultimately to the Laguna de Santa Rosa within the storm drain system. Fulton Road is a significant geographic barrier that would prevent successful migration of the California tiger salamander to the project site from the Alton Lane Mitigation Site.

7.2.1.9 California Tiger Salamander Impact Conclusions

Based upon the multitude of California tiger salamander studies conducted over many years on properties immediately adjacent to or near the Proposed Project Site, all that had negative findings, and as there are no CNDDDB records for California tiger salamanders east of Fulton Road or north of Santa Rosa Creek (CNDDDB records 2019), M&A concludes that implementation of the Proposed Project is unlikely to result in any impacts to the California tiger salamander, either to occupied habitat or to individual California tiger salamanders as further discussed in Section 14, below. Although the Proposed Project would not result in “take” of the California tiger salamander, CDFW requested that a full “Protocol” California tiger salamander study be completed pursuant to the *Interim guidance on site assessment and field surveys for determining presence or a negative finding of the California tiger salamander* (USFWS 2003). A Protocol California tiger salamander study includes an upland survey (aka “winter pitfall trapping study”) and two spring larval breeding pool surveys that must be completed to prove absence of the California tiger salamander on a project site.

One spring larval survey was completed on the Proposed Project Site per the California tiger salamander Protocol in the spring of 2019 and was negative for California tiger salamander larvae. The winter pitfall trapping study is currently underway on the Proposed Project Site and will not be completed until March 15, 2020. The second larval survey will be completed by May 15th, 2020. The completion of the Protocol California tiger salamander survey will provide data that will either support or refute a conclusion that California tiger salamander are unlikely to occur on the Proposed Project Site. ***Until the Protocol study is complete, and the California tiger salamander has been determined to be absent, impacts to the California tiger salamander are regarded as potentially significant pursuant to the CEQA.***

If the Protocol survey is completed and demonstrates absence of the California tiger salamander on the Proposed Project Site, CDFW will not require an Incidental Take Permit pursuant to the California Endangered Species Act and would not require any mitigation measures for California tiger salamander (G. Monk pers. comm. w/ M. Day, CDFW, September 2019).

Regardless, the Proposed Project proposes to mitigate impacts to potential California tiger salamander migration/dispersal habitat as indicated in Sections 3 and 14 of this analysis (See Impacts and Mitigation Section below). In accordance with USFWS' mitigation requirements applied to other projects in the Santa Rosa Plans, mitigation at a 1:1 (impacts to replacement) ratio is warranted for impacts to USFWS designated California tiger salamander migration/dispersal habitat since the project site is between 2,200 feet and 1.3 miles of the closest known California tiger salamander breeding site, which is the Alton Lane Mitigation Site, approximately 2,230 feet west of the project site (Figure 11). This mitigation requirement was originally established in the USFWS' Conservation Strategy (USFWS 2005) and was later again incorporated into the USFWS' *Programmatic Biological Opinion* (USFWS 2007) for impacts that could occur to potential migration/dispersal habitat within 1.3 miles of a known California tiger salamander breeding pool.

As originally prescribed in the USFWS' Conservation Strategy (USFWS 2005), it states on page 40, *the mitigation requirement for projects on parcels with existing hardscape (see Glossary) can be reduced by the amount of hardscape present*. The Glossary (Section 11) of the Conservation Strategy provides the following definition: "**Hardscape** – Roads, parking lots, compacted gravel surfaces, buildings, or other structures." Neither CDFW nor USFWS requires California tiger salamander mitigation compensation for impacts to "hard-pack" areas. Approximately 0.60-acre of the 14.60-acre development site is currently developed with buildings or hard-packed, gravel-impregnated roadways and parking areas around existing buildings (as shown in Figure 11). These developed surfaces do not constitute California tiger salamander habitat that warrants mitigation. Thus, the 1:1 mitigation requirement would apply to a total of 14.00 acres (that is, 14.60 acres minus 0.60-acre). The Preserve acreage of 14.00 acres would remain available for use by all wildlife including the California tiger salamander if at some time in the future it expands its range. That said, if the California tiger salamander is identified on the Proposed Project Site during completion of the Protocol study, additional mitigation would be warranted as detailed in the Impacts and Mitigations Section of this report.

8. SUMMARY ANALYSIS OF THE EFFECTS OF BURKE'S GOLDFIELDS SEED COLLECTION

The Proposed Project includes a proposal to create the Stonebridge Preserve where wetlands would be enhanced and created to inure to the benefit of Burke's goldfields, a state and federally listed endangered vernal pool plant that occurs on the Santa Rosa Plain. New wetlands and enhanced wetlands within the proposed Stonebridge Preserve will be constructed as a restoration component of the Proposed Project. The targeted pool hydrology will mimic historical, natural pool hydrology and pool depths that foster colonization of pools by Burke's goldfields. The plan to create and enhance Burke's goldfields habitat will require the collection of seeds from healthy colonies of Burke's goldfields for use in recolonizing enhanced and created seasonal wetlands

within the Stonebridge Preserve. Per a Seed Collection Plan prepared by L. Stromberg (L. Stromberg 2018c), Burke's goldfield seeds will be collected from a number of possible source populations including the Alton Lane Mitigation Site and/or the Woodbridge Preserve, and other sites. CDFW owns the Woodbridge Preserve and is proposed to own the Alton Lane Mitigation Site in the future. Since seeds are proposed to be collected in the spring of 2020, for use in the Stonebridge Preserve, CDFW would have to allow the collection of Burke's goldfield seeds from one of these sites or other sites CDFW may designate.

In consideration that CDFW now owns or will own soon most of the property that supports extant Burke's goldfield populations in the Santa Rosa Plain, the Applicant is proposing that Burke's goldfield seeds would be harvested from a CDFW-owned conservation site. In meetings with the CDFW conducted by the Applicant and Applicant's team to discuss this possibility, CDFW was amenable to the notion that Burke's goldfield seeds could be collected from their lands for this important ecological restoration project.

CDFW Region 3 met with the Applicant's team on March 18, 2019 and April 25, 2019 to discuss the Burke's goldfield reestablishment goals for the Stonebridge Preserve and the collection of Burke's goldfield seeds from CDFW-owned lands. In consideration that studies of Burke's goldfield harvested colonies had been underway since 2016 to determine if there is a deleterious effect when extant colonies of Burke's goldfields are used as donor sites, CDFW requested quantification of the effects of this seed harvesting.

L. Stromberg and S. Gordon conducted Burke's goldfield seeding harvesting studies at a number of conservation sites in the period of 2016 through 2018 (Stromberg and Gordon 2019a). In 2016, the Alton North Conservation Bank was selected as the donor site where 19 donor plots were established. Populations of Burke's goldfields were quantified in 2016. In 2017, seeds were harvested for dispersal to the Alton South Mitigation Site (ASMS) (recipient site). Burke's goldfield numbers at the donor site were again quantified in 2018, the year after collection. Comparing numbers of Burke's goldfields at the donor site in 2016 with numbers in the same plots in 2018, the year after seeds were harvested, resulted in demonstrated increases in Burke's goldfields plants in 13 plots, decreases in five plots, and no change in a single plot. Collectively, all plots of Burke's goldfield increased from 60,778 to 196,223 plants, a 323 percent increase. Also, in 2018, four reference pools (pools that were not used as donor pools) at the Alton North Conservation Site showed declines in the number of Burke's goldfields. Regardless, considering the entire conservation site, the number of Burke's goldfields actually increased approximately 40 percent (op. cit.), largely at the donor plots.

Similarly, L. Stromberg and S. Gordon are conducting a Burke's goldfields and Sonoma sunshine (*Blennosperma bakeri*) seed harvesting study at the Woodbridge Preserve (donor site) (Stromberg and Gordon 2019b). The percent cover and numbers of Burke's goldfields and Sonoma sunshine seeds were initially quantified in donor pools in 2016 and were then harvested in 2017 for dispersal to (inoculation of) created pools at the Fulton Road Mitigation Site. As quantified in 2018, the average cover of Burke's goldfields decreased from 2016 to 2018 at donor plots, but the number of plants increased *indicating plants were smaller so provided less cover but were more numerous*.

While the two L. Stromberg and S. Gordon studies (Stromberg and S. Gordon 2019a, 2019b) are only three years into a proposed six-year study period, the data support the preliminary determination that Burke's goldfield seed harvesting does not harm donor populations. As stated in Stromberg and Gordon (2019b), *the objective of the collection effort was to establish new populations of Burke's goldfields and Sonoma sunshine at the Alton South Conservation Bank while simultaneously not adversely affecting donor pools at the existing Alton North Conservation Bank. At the Alton South Conservation Bank new Burke's goldfields colonies were documented in 15 newly created pools while Sonoma sunshine was documented in 16 newly created pools.*

Virtually all reestablished and new colonies of Burke's goldfield on the Santa Rosa Plain are from use of donor site seed sources. Such harvesting is a critical component of reestablishing and recovering the Burke's goldfields populations on the Santa Rosa Plain.

During meetings with USFWS on July 12, 2018, and with CDFW on March 18, 2019, and April 25, 2019, the Applicant team demonstrated that all meaningful recolonizations of Burke's goldfield in the Santa Rosa Plain have been successful owing to the use of Burke's goldfield seeds collected from extant donor colonies. It was shown that the Burke's goldfield seeds used to create the now-regionally-significant Alton Lane Mitigation Site originally came from donor pools that were being impacted on the G. Kovatch, TMD-Brown, and Schellinger Brother's development project sites in 1989-1992. All three of these development project impact areas were located north of Piner Road and immediately east of the Proposed Project Site.

The successful colonization of the Alton Lane Mitigation Site by Burke's goldfields was used as a donor site for the creation of the Woodbridge Preserve in 2005, the Slippery Rock Conservation Site in 2006, and in created and enhanced pools at the Wright Conservation Site in 2007. In turn, donor colonies at the Woodbridge Preserve were used in 2010 at the Alton North Mitigation Bank, and at the Fulton Road Mitigation Bank in 2017. Also, successfully created Burke's goldfields colonies at the Alton North Mitigation Bank were used as donor sites for the Alton South Mitigation Bank in 2017. All these Burke's reintroductions have been highly successful, and clearly would not have occurred without Burke's goldfields donor pool seed sources. Thus, it is easy to conclude that in order to promote the recovery of Burke's goldfields on the Santa Rosa Plain, that Burke's goldfield seed collection is a vitally important component of any reintroduction efforts for establishing Burke's goldfields in newly created seasonal wetlands.

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

This section provides a discussion of laws and regulations that are in place to protect native wildlife, fish, and plants. Under each law its relevance to the Proposed Project is discussed.

9.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) forms the basis for the federal protection of threatened or endangered plants, insects, fish and wildlife. FESA contains four main elements, 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 National Marine Fisheries Service (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 proposed 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 "reasonably certain to occur."

Section 9 applies to any person, corporation, federal agency, or any local or State agency. If "take" of a listed species (other than a plant 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 proposed actions. Section 7 is by and between the NMFS and/or the USFWS and the federal agency contemplating a discretionary approval (that is, the federal “action 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 Proposed 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 federal listed species (that is, it will issue a jeopardy decision), the nexus federal agency would be 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 with the conditions of the Biological Opinion conditions of its discretionary permit. A non-jeopardy Biological Opinion constitutes an “incidental take” authorization that allows applicants to “take” federally listed species while otherwise carrying out legally sanctioned projects.

For non-federal entities, for example private parties, cities, and counties that are proposing a project that might result in incidental take, Section 10 provides the mechanism for obtaining that 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 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 "habitat conservation plans" or "HCPs" for short. 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.

9.1.1 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.

9.1.2 APPLICABILITY TO THE PROPOSED PROJECT

The Proposed Project Site supports one federally listed species: Burke's goldfields. Since the Proposed Project will require a Clean Water Act permit (Section 404 permit) from the Corps, the USFWS will produce a Biological Opinion that provides FESA Incidental Take authority. While FESA has no requirements for Incidental Take of plants, the Biological Opinion can be expected to have conservation measures that will apply to Burke's goldfield.

The Proposed Project includes creation of a wetland/rare plant habitat preserve and, as such, will include preservation and enhancement of seasonal wetlands that will result in the recruitment of Burke's goldfields colonies to the Santa Rosa Plain.

The Proposed Project is not expected to result in the direct take of the California tiger salamander as it has not been identified on the Proposed Project Site to date; however, it may result in the potential destruction or adverse modification of federally designated Critical Habitat (Figure 10). The approximately 47,383 acres of designated Critical Habitat for California tiger salamander includes developed areas and roadways that may include unoccupied and occupied California tiger salamander habitats. Indeed, the USFWS designated Critical Habitat over much of the City of Santa Rosa. Accordingly, USFWS designated Critical Habitat is not an indication that the California tiger salamander would be impacted by activities occurring within the mapped Critical Habitat.

USFWS does not require mitigation for impacts to Critical Habitat; nonetheless, USFWS must consider whether the destruction or adverse modification of Critical Habitat could preclude recovery of the species prior to the time it can authorize Incidental Take for proposed projects (G. Monk pers. comm. with J. Hanni, USFWS, October 2019). If the proposed action would preclude recovery, USFWS will not authorize Incidental Take for a proposed project. The Proposed Project is not expected to preclude recovery of the California tiger salamander because there is substantial evidence that the California tiger salamander doesn't use or occur on the Proposed Project Site. However, since the Proposed Project Site is within 1.3 miles of a known California tiger salamander breeding site (Figure 11), the recognized dispersal distance of the California tiger salamander, the Proposed Project includes mitigation for impacts to potential California tiger salamander migration/dispersal habitat that includes land preservation consistent with USFWS policy. The mitigation land will provide similar habitat attributes to the land that will be developed.

If the California tiger salamander is identified on the Proposed Project Site during the Protocol survey that is currently underway, mitigation will also be required for the project's impact on the species and a consideration would be made by USFWS during Section 7 Consultation of whether the effects on designated Critical Habitat constitute adverse impacts that would preclude recovery of the species. It is M&A's conclusion that even if the site is occupied and developed, it would not preclude recovery of the species because ample mitigation that includes land preservation is being provided by the Applicant. See the Impacts and Mitigation section (Section 14) for complete details on Burke's goldfields mitigation and California tiger salamander mitigation.

9.2 Federal Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) 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.

9.2.1 APPLICABILITY TO THE PROPOSED PROJECT

White-tailed kite (*Elanus caeruleus*), red-tailed hawk (*Buteo jamaicensis*), and red-shouldered hawk (*Buteo lineatus*) are all examples of raptors that could nest on or within a zone of influence of the Proposed Project Site. These raptors (birds of prey) would be protected by the Migratory Bird Treaty Act. Also, common songbirds and wading birds that could occur on the site would be protected pursuant to this Act. As long as there is no direct mortality of species protected pursuant to this Act caused by development of the site, there should be no constraints to development. While adult birds can typically fly out of harm’s way, nesting birds, their eggs, and young are much more prone to being impacted by construction projects. To comply with the Migratory Bird Treaty Act, all active nest sites would have to be avoided while birds were nesting. Upon completion of the nesting cycle, the Proposed Project could commence as otherwise planned.

In 2017, the Solicitor for the USFWS opined that the MBTA only prohibits intentional take of MBTA-listed species and does not prohibit unintentional take incidental to otherwise lawful activities. Accordingly, it is unlikely that development of the Proposed Project would implicate the take prohibitions under the MBTA. As of March 2019, however, the California Legislature was considering a bill (AB 454) that would make illegal, in California, the incidental take of MBTA-listed birds. The Proposed Project would be unlikely to impact MBTA-listed birds; however, the Proposed Project could impact eggs or nestlings of a MBTA-listed birds without avoidance measures. ***Accordingly, impacts to MBTA-listed birds is regarded as a potentially significant impact. These impacts can be mitigated to a level regarded as less than significant pursuant to the CEQA.*** Please review specific requirements for avoidance of nest sites for potentially occurring species in the Impacts and Mitigations section below.

9.3 California Endangered Species Act

9.3.1 SECTION 2081 OF THE CALIFORNIA ENDANGERED SPECIES ACT

In 1984, the state legislated the California Endangered Species Act (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 (or mortality) of a listed species.

If a proposed project would result in mortality 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 proposed 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.

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 proposed 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 proposed 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 2080.1 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.

9.3.2 APPLICABILITY TO THE PROPOSED PROJECT

While California tiger salamander is not expected to be found on the Proposed Project Site, should California tiger salamander be found during the Protocol survey, which will not be completed until May 2020, then the Proposed Project Site would be considered to be occupied by the California tiger salamander. If the Proposed Project Site is determined to be occupied by the California tiger salamander then the Applicant would be required to obtain a CESA 2081(b) Incidental Take Permit from the CDFW in advance of grading the Proposed Project Site.

The Proposed Project Site is known to support small numbers of the State-listed Burke's goldfields on the Preserve portion (eastern portion). Protocol-level surveys for all potentially occurring (based on habitat conditions) State-listed plants and animals have been conducted on the Proposed Project Site and no other State-listed species have been identified (the outcome of the California tiger salamander surveys is pending). No impacts are expected to occur to Burke's goldfields when wetlands are enhanced/created on the Stonebridge Preserve as all populations of Burke's goldfields will be avoided during the creation/enhancement work. Since the pools supporting Burke's goldfields will not be directly impacted by the proposed wetland enhancement/creation on the Stonebridge Preserve, ***there will be no direct impacts to "occupied" Burke's goldfield pools by the Proposed Project. Rather wetlands that will be impacted are regarded as impacting "suitable" vernal pool (rare plant) habitat as discussed in Section 10 below.***

As the Applicant will be collecting the seeds of Burke's goldfields from an offsite donor site, CESA incidental take authority would be required for this action under CESA Section 2081. ***Collection of Burke's goldfield seeds for distribution on the Stonebridge Preserve will significantly increase numbers of endangered Burke's goldfields plants/populations.***

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

California Fish and Game Code §3503 makes it unlawful to take, possess or "needlessly" destroy the nest or eggs of any bird, although it does not protect the fledged birds themselves. Section 3503.5 (birds of prey), 3511 (fully protected birds), and 3513 (MBTA-listed birds) prohibit the take, possession, and/or destruction of different categories 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."

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

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.

9.4.1 APPLICABILITY TO THE PROPOSED PROJECT

Several raptor species and many common passerine bird species could nest on the Proposed Project Site. Preconstruction nesting surveys would have to be conducted for nesting birds to ensure that there is no direct take of these birds, or their eggs or nests, as applicable, during the construction of the Proposed Project.

Any active bird nests that are found during preconstruction surveys would have to be avoided by the Proposed Project. Certain exceptions apply for example for European starling (*Sturnus vulgaris*) nests. Other bird species are also exceptions, but this should be assessed by a qualified biologist at the time an active bird nest is identified within a zone of influence of the Proposed Project Site. Suitable non-disturbance buffers should be established around any active nest site until the nesting cycle has been completed. ***Impacts to nesting birds are regarded as a potentially significant impact. Such impacts could be mitigated to levels regarded as less than significant pursuant to the CEQA.*** More specifics on nesting bird surveys and protection buffers are provided below in the Impacts and Mitigations section.

9.5 City of Santa Rosa General Plan

The *Santa Rosa General Plan 2035* (November 3, 2009) was developed to ensure responsible development within the City of Santa Rosa. This General Plan has various measures designed to protect natural resources within the City of Santa Rosa. In the category, Biological Resources and Waterways, the following goals and policies apply to the Proposed Project Site:

OSC-D Conserve wetlands, vernal pools, wildlife ecosystems, rare plant habitats, and waterways.

OSC-D-1: Utilize existing regulations and procedures, including Subdivision Guidelines, Zoning, Design Review, and environmental law, to conserve wetlands and rare plants. Comply with the federal policy of no net loss of wetlands using mitigation measures such as:

- Avoidance of sensitive habitat;
- Clustered development;
- Transfer of development rights; and/or
- Compensatory mitigation, such as restoration or creation.

OSC-D-2: Protect high quality wetlands and vernal pools from development or other activities as determined by the Vernal Pool Ecosystem Preservation Plan.

OSC-D-5: Consult with North Coast Regional Water Quality Control Board staff as part of the CEQA process for proposed developments to help them identify wetland and vernal pool habitat that has candidacy for restoration/protection based on actual and potential beneficial uses, and determine appropriate locations for mitigation banking.

OSC-H-4: Require incorporation of native plants into landscape plans for new development, where appropriate and feasible, especially in areas adjacent to open space areas or along waterways.

OSC-B-4: Require that graded areas within new developments be revegetated.

9.5.1 APPLICABILITY TO THE PROPOSED PROJECT

Consistent with General Plan Measures OSC-D-1 and OSC-D-5, the Applicant will follow existing regulations and procedures to permit impacts to wetlands (that is, waters of the United States/State) on the Proposed Project Site and mitigate those impacts (no net loss policy) as stated in the permits issued for the Proposed Project. The Applicant intends to mitigate impacts to waters of the United States/State (wetlands) through various means including onsite preservation and enhancement of seasonal wetlands and purchase of mitigation credits from an authorized mitigation bank. Consistent with General Plan Measure OSC-D-2, the Applicant will preserve and protect approximately half of the wetlands and rare plant habitat onsite by placing the eastern half of the Proposed Project Site in a habitat preserve which will allow for the restoration and enhancement of endangered plant habitat.

Finally, as per OSC-B-4 and OSC-H-4, the proposed development will include native plants in the landscape plans where appropriate and feasible and all graded areas within the development will be revegetated.

9.6 City of Santa Rosa Tree Ordinance

The Santa Rosa City Code, Chapter 17.24, has three articles that pertain to the protection of trees within the City of Santa Rosa to discourage the alteration, removal or relocation of trees, including any heritage, protected, or street tree, without a permit. These articles are discussed below.

Article III – Prohibitions – Tree alteration, removal, relocation-Permit required.

Article III has provisions that protect trees which are defined as any woody plant with a single trunk diameter of four (4) inches or more or a combination of multiple trunks having a total diameter of eight (8) inches or more. This article also protects the following types of trees:

- (a) Heritage tree which includes any of the following trees, whether located on public or private property, at a diameter equal to or greater than those listed below:

Species	Diameter
Valley oak (<i>Quercus lobata</i>)	6
Coast live oak (<i>Quercus agrifolia</i>)	18
Black oak (<i>Quercus kelloggii</i>)	18
Oregon oak (<i>Quercus garryana</i>)	18
Canyon oak (<i>Quercus chrysolepis</i>)	18
Blue oak (<i>Quercus douglasii</i>)	6
Interior live oak (<i>Quercus wislizenii</i>)	18

Coast redwood (<i>Sequoia sempervirens</i>)	24
Bay (<i>Umbellularia californica</i>)	24
Madrone (<i>Arbutus menziesii</i>)	12
Douglas's fir (<i>Pseudotsuga menziesii</i>)	24
Red alder (<i>Alnus rubra</i>)	18
White alder (<i>Alnus rhombifolia</i>)	18
Big leaf maple (<i>Acer macrophyllum</i>)	24

- (b) Protected tree which means any tree, including a heritage tree, designated to be preserved on an approved development plan or as a condition of approval of a tentative map, a tentative parcel map, or other development.
- (c) Street tree which means any tree having a single trunk circumference greater than 6 and one-quarter inches or a diameter greater than 2 inches, a height of more than 6 feet, and one half or more of its trunk is within a public right of way or within 5 feet of the paved portion of a City street or a public side walk.

The following tree species are exempt from the above provisions (except for those that may exist as street trees): acacia, silver maple, poplar, ailanthus, hawthorn, fruitless mulberry, privet, pyracantha, Monterey pine, Monterey cypress, and fruit and nut trees (except walnut trees). A permit is not required for these tree species alteration, removal or relocation.

9.6.1.1 Article IV – Permit Category II – Tree alteration, removal or relocation on property proposed for development-Requirements.

Article IV requires the following:

- (a) All development proposals and subdivision applications shall clearly designate all trees and heritage trees on the property by trunk location and accurate outline of the dripline and shall indicate those trees proposed to be altered, removed or relocated. The reasons for the removal of any tree shall be stated in writing. The development plan or tentative subdivision map shall indicate the genus and species, shape, drip-line and trunk circumference of each tree and heritage tree. The owner of the property and person in control of the proposed development shall protect and preserve each tree and heritage tree situated within the site of the proposed development during the period the application for the proposed development is being considered by the City. The proposed development shall be designed so that:
 - (1) The proposed lots and/or improvements preserve any heritage trees to the greatest possible extent.
 - (2) The road and lot grades protect heritage trees to the greatest extent possible and the existing grad shall be maintained within each such tree's root zone.
- (b) If the Proposed Project is approved, the recordation of the final map or issuance of a grading permit or building permit for the Proposed Project shall constitute a permit to

alter, remove or relocate any trees designated for alteration, removal or relocation upon the project's approved plans. Any change in the trees to altered, removed or relocated as designated on the approved development plan or tentative map shall only be permitted upon the written approval of the Director or, when the Director determines that the proposed change may be substantial, by the Planning Commission.

- (c) A tree replacement program that will require the applicant to replace trees and heritage trees approved for removal as part of the approval of the Proposed Project in accordance with subdivision 1; each protected tree removed or damaged shall be replaced in accordance with subdivision 2. For each 6 inches or fraction thereof of the diameter of a tree which was approved for removal, two trees of the same genus and species as the removed tree (or another approved species), each of a minimum 15-gallon container size, shall be planted on the Proposed Project Site. For each 6 inches or fraction thereof of the diameter of a tree which was not approved for removal, four trees of the same genus and species as the removed tree (or another approved species), each of a minimum 15-gallon container size, shall be planted on the Proposed Project Site.
- (d) If the development site is inadequate in size to accommodate the replacement trees, the trees shall be planted on public property with the approval of the Director of the City's Recreation and Parks Department. Upon the request of the developer and the approval of the Director, the City may accept an in-lieu payment of \$100.00 per 15-gallon replacement tree on the condition that all such payments shall be used for tree-related educational projects and/or planting programs of the City.
- (e) The following requirements will apply to any applicant of property upon which a protected tree is located:
 - (1) Before the start of any clearing, excavation, construction or other work on the site, every protected tree shall be securely fenced off at the "protected perimeter" which shall either be the root zone or other limit as may be established by the City.
 - (2) If the proposed development, including any site work for the development, will encroach upon the protected perimeter of a protected tree, special measures shall be utilized, to allow the roots to obtain oxygen, water and nutrients as needed. Any excavation, cutting, filling, or compaction of the existing ground surface within the protected perimeter, if authorized at all by the Director, shall be minimized and subject to such conditions as may be imposed by the Director. No significant change in existing ground level shall be made within the dripline of a protected tree.
 - (3) No oil, gas, chemicals or other substances that may be harmful to trees shall be stored or dumped within the protected perimeter. All brush, earth and other debris shall be removed in a manner which prevents injury to the protected tree.
 - (4) Underground trenching for utilities shall avoid major support and absorbing tree roots of protected trees. If avoidance is impractical, tunnels shall be made below the roots. Trenches shall be consolidated to USFWS as many units as possible. Trenching

within the drip line of protected trees shall be avoided to the greatest extent possible and shall only be done under the at-site directions of a certified arborist.

- (5) No concrete or asphalt paving shall be placed over the root zones of protected trees. No artificial irrigation shall occur within the root zone of oaks.
- (6) No compaction of the soil within the root zone of protected trees shall occur.
- (7) If the trees proposed to be removed can be economically relocated, the developer shall move the trees to a suitable location on the site shown on the approved plans.

9.6.1.2 Article V – Permit category II – Street trees and plantings on and adjacent to public streets and sidewalks.

Article V pertains to the alteration, removal, and relocation of street trees and entails the following:

- (a) As per Section 17-24.075, no tree growing within a planting strip or within any public right-of-way shall be removed or altered by or at the instigation of the abutting property owner or anyone other than a duly authorized officer, agent or employee of the City, except upon issuance of a permit therefore by the Director of Recreation and Parks who may require, as a condition of permitting the removal or alteration of a tree, the posting of security for such work and the planting, at the expense of the permittee, of a tree to replace the one removed from a list approved under Section 17-24.070 of the city code.
- (b) As per Section 17-24.080, a permit approved by the Director of Recreation and Parks under the provisions of this article shall be valid for a period of 60 days from its issuance unless a longer term is set forth in the permit. If the work to be done under the permit does not commence prior to the permit's expiration and thereafter expeditiously pursued, the permit shall become null and void.

9.6.2 APPLICABILITY TO THE PROPOSED PROJECT

None of the trees onsite meet the City's definition of a "heritage tree." The coast live oak, which is the only tree onsite which could qualify as a heritage tree (since it is the only native), is less than 18 inches diameter at breast height and thus, would not be regarded as a heritage tree. Similarly, according to the Tree Ordinance, the "following tree species are exempt from the above provisions (except for those that may exist as street trees): acacia, silver maple, poplar, ailanthus, hawthorn, fruitless mulberry, privet, pyracantha, Monterey pine, Monterey cypress, and fruit and nut trees (except walnut trees). A permit is not required for these tree species alteration, removal or relocation." Accordingly, impacts to the existing landscape trees will not require a permit. The eucalyptus trees onsite are a non-native, invasive species and though not mentioned specifically in the City's Tree Ordinance, they would not be protected. There are no designated protected trees or street trees on the Proposed Project Site either. ***No significant impacts would occur to heritage trees or other protected trees from implementation of the Proposed Project.***

10. 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 (SWRCB), and the CDFW to determine those areas within a project area that would be subject to their regulation.

10.1 U.S. Army Corps of Engineers Jurisdiction and Permitting

10.1.1 SECTION 404 OF THE CLEAN WATER ACT

Congress enacted the Clean Water Act “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 Clean Water Act (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).

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 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 ordinary high water mark, or
- (2) When adjacent wetlands are present, the jurisdiction extends beyond the ordinary high water mark 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 “ordinary high water mark” (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 Clean Water Act.

10.1.1.1 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 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 ordinary high-water mark – 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.

10.1.1.2 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, the Corps normally provides two alternatives for permitting impacts to the type of waters of the United States found in the proposed 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 Clean Water Act (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]). Because impacts to waters of the U.S. will exceed 0.5-acre, the proposed project will not meet conditions for use of NWPs.

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., seasonal wetlands would be filled, mitigation would include seasonal wetland mitigation), 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 if the Permittee is responsible for the mitigation. In some cases, the Corps allows “out-of-kind” mitigation if the compensation site has greater value than the impacted site. 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.

10.1.2 APPLICABILITY TO THE PROPOSED PROJECT

Laurence P. Stromberg, Ph.D. prepared a *Pre-Jurisdictional Determination* of the Proposed Project Site that was field verified by the Corps on January 25, 2016. The Corps’ approved Administrative Jurisdictional Determination letter is dated March 9, 2016 and the map is stamped March 7, 2016 (Attachment G). The Corps verified 6.31 acres of seasonal wetlands on the Proposed Project Site. An Individual Permit application was submitted to the San Francisco District of the Corps during the validity period of the Corps’ jurisdictional determination, and

hence, by Corps' policy, this map will remain valid while the permit application is processed by the Corps.

The Proposed Project will result in the fill of 2.52 acres of seasonal wetlands. In addition, 0.13-acre of seasonal wetlands would be permanently filled within the Stonebridge Preserve as necessary to enhance the functions and services of wetlands in the Stonebridge Preserve (total = 2.65 acres of permanent fill). Specifically, wetland hydrology that currently pools against the adjacent development's retaining walls will be recontoured into a naturalistic vernal pool configuration and this will require filling 0.13-acre of the 3.79 acres of wetlands that currently occur in the proposed Stonebridge Preserve. Finally, 0.484-acre of existing seasonal wetland in the Stonebridge Preserve that currently supports Burke's goldfields will be avoided/protected during the implementation of the wetland creation/enhancement project.

To meet the Corps' policy of "no net loss" approximately 1.766 acres of new wetlands are proposed to be created in existing upland habitats in the Stonebridge Preserve. In addition, the Applicant will purchase 0.89-acre of wetland credits from a Corps (and RWQCB) approved Wetland Mitigation Bank. The total creation plus purchase of credit, totals 2.65 acres and meets the Corps no net loss policy or 1:1 impact to mitigation ratio.

In addition, approximately 3.267 acres of existing wetland will be recontoured (enhanced) to improve hydrology and functions such that the enhanced wetlands will promote/support colonization by the state and federally listed vernal pool plant Burke's goldfields. In total, after the enhancement, the Stonebridge Preserve that currently supports 3.79 acres of wetlands will support 5.52 acres of enhanced wetlands. Enhancing 3.267 acres of wetlands exceeds a 1:1 impacts to mitigation ratio. Thus, in consideration that the project will not result in "no net loss" (1:1 ratio) and will enhance 3.267 acres (exceeds 1:1 impacts to enhancement ratio), taken together the Proposed Project will exceed a 2:1 overall replacement/enhancement to impacts ratio.

The Proposed Project would include the permanent loss of 2.65 acres of seasonal wetlands. ***These impacts are regarded as significant pursuant to the CEQA. Mitigation would be implemented that would reduce impacts to waters of the U.S. to levels regarded as less than significant.*** For further details regarding impacts and mitigation for impacts to wetlands please review the Impacts and Mitigation Section below.

10.2 California Regional Water Quality Control Board (RWQCB)

10.2.1 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 Clean Water Act. 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 an 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 Clean Water Act, the California Environmental Quality Act, the California Endangered Species Act, and the SWRCB's mandate to protect beneficial uses of waters of the State. Any denied (i.e., not certified) NWP, and all Individual Corps permits, would require a project specific RWQCB certification of water quality. Where a project will result in dredge or fill of non-federal waters of the State, the RWQCB will authorize those fills through waste discharge requirements issued under the Porter Cologne Water Quality Control Act.

On April 2, 2019, the State Water Resources Control Board adopted a state-level definition of "wetlands," which is broader than the federal definition in that unvegetated areas may be considered a wetland water of the State. As a part of the same policy, the Water Board adopted permit procedures and standards governing the discharge of dredged or fill material into wetlands and other waters of the State. The policy includes, among other things, requirements for analyses to identify the least environmentally damaging practicable alternative (LEDPA) and compensatory mitigation standards including a minimum 1:1 ratio for wetlands and streams, and full functional replacement of all waters on top of this minimum where applicable. The policy, which will govern both Section 401 certifications and WDRs, is scheduled to become effective nine months following the completion of review by the California Office of Administrative Law.

10.2.2 APPLICABILITY TO THE PROPOSED PROJECT

The Corps has taken jurisdiction over 6.31 acres of waters of the United States on the Proposed Project Site which are all seasonal wetlands. Since the RWQCB does not have a formal method for technically defining what constitutes waters of the State, the RWQCB is expected to remain consistent with the Corps' determination. Any Clean Water Act Section 404 permit authorized by the Corps for the Proposed Project would be inoperative without also obtaining authorization from the RWQCB pursuant to Section 401 of the Clean Water Act (i.e., without obtaining a certification of water quality).

The Proposed Project would include the permanent loss of 2.65 acres of seasonal wetlands. ***These impacts are regarded as significant pursuant to the CEQA. Mitigation would be implemented that would reduce impacts to waters of the State to levels regarded as less than significant.***

Any impacts to waters of the State would be required 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 Clean Water Act. 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 Proposed Project by the RWQCB prior to the time any certification of water quality is authorized for the Proposed Project. Finally, please review the Impacts and Mitigation Section below for complete information about impacts and mitigation measures that would be implemented by the Proposed Project.

10.2.3 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 whether 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 Proposed 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 National Pollutant Discharge Elimination System (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.

10.2.4 APPLICABILITY TO THE PROPOSED PROJECT

The Corps has taken jurisdiction over 6.31 acres of waters on the Proposed Project Site. There are no isolated wetlands or other waters on the Project Site that are outside of the RWQCB's Clean Water Act jurisdiction (see Attachment G).

Prior to issuance of any permit from the RWQCB, this agency will require submittal of a Notice of Determination from the City of Santa Rosa indicating that the Proposed Project has completed environmental review pursuant to CEQA. The pertinent sections of the CEQA document (typically the biology section) are often submitted to the RWQCB for review prior to the time this agency will issue a permit for a proposed project.

Since any “threat” to water quality could conceivably be regulated by the RWQCB or the SWRCB 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 Best Management Practices Plan (BMPs) are incorporated into the Proposed Project implementation plans. Such BMPs, if correctly installed and maintained, are likely to keep the Proposed Project in compliance with the Porter-Cologne Water Quality Control Act.

All stormwater runoff currently flows into the city's existing storm drain system. It is expected that project development 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 County stormdrain system will be necessary. Additionally, during project construction it is important for the Proposed Project proponent to have the components of a stormwater pollution prevention plan (SWPPP) and a stormwater low impact development (SW LID) in place; these documents are typically prepared by the Proposed Project civil engineer. Refer to the sections below for further discussion on site disturbance (grading) and storm water management.

11. STATE WATER RESOURCES CONTROL BOARD (SWRCB)/RWQCB – STORM WATER MANAGEMENT

11.1 Construction General Permit

While federal CWA NPDES regulations allow two permitting options for construction related 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 that specifies Best Management Practices (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. Achieve quantitatively-defined (i.e., numeric) pollutant-specific discharge standards, and conduct much more rigorous monitoring based on the Proposed Project's projected risk level.
3. Perform inspections of all BMPs.

This Construction General Permit is implemented and enforced by the nine RWQCBs. It is also enforceable through citizens' suits and represents a dramatic shift in the State Water Board's approach to regulating new and redevelopment sites, and imposing new affirmative duties and fixed standards on builders and developers.

Types of Construction Activity Covered by the Construction General Permit

- Clearing,
- Grading, and/or
- 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.

The Construction General Permit includes several “post-construction” requirements to ensure 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 (e.g., bioretention cells, rain gardens, and rain cisterns). This “runoff reduction” approach is essentially a State Water Board-imposed 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 RWQCB.

Improving the quality of site runoff is necessary to improve water quality in impaired and threatened streams, rivers, and lakes (that is, water bodies on the EPA’s 303(d) list). The RWQCB prioritizes the water bodies on the 303(d) list according to potential impacts to beneficial uses. Beneficial uses can include a wide range of uses, such as nautical navigation; wildlife habitat; fish spawning and migration; commercial fishing, including shellfish harvesting; recreation, including swimming, surfing, fishing, boating, beachcombing, and more; water supply for domestic consumption or industrial processes; and groundwater recharge, among others. The State is required to develop action plans and establish Total Maximum Daily Loads (TMDLs) to improve water quality within these impaired water bodies. The TMDL is the quantity of a pollutant that can be safely assimilated by a water body without violating the applicable water quality standards.

Pursuant to the CWA, the RWQCB regulates construction discharges under the National Pollutant Discharge Elimination System (NPDES). The project sponsor of construction or other

activities that disturb more than 1 acre of land must obtain coverage under NPDES Construction General Permit Order 2009-0009-DWQ, administered by the RWQCB¹.

11.1.1 APPLICABILITY TO THE PROPOSED PROJECT

The Proposed Project will impact greater than one acre and thus, must obtain NPDES coverage via acquisition of coverage under the General Construction Permit. To obtain coverage under the SWRCB administered Construction General Permit, the applicant (typically through its civil engineer) must electronically file a number of permit-related compliance documents (Permit Registration Documents (PRDs), including a Notice of Intent (NOI), a risk assessment, site map, signed certification, SWPPP, Notice of Termination (NOT), NAL exceedance reports, and other site-specific PRDs that may be required. The PRDs must be prepared by a Qualified SWPPP Practitioner (QSP) or Qualified SWPPP Developer (QSD) and filed by a Legally Responsible Person (LRP) on the RWQCB's Stormwater Multi-Application Report Tracking System (SMARTS). (QSDs are typically civil engineers, professional hydrologists, engineering geologists, or landscape architects.) Once filed, these documents become immediately available to the public for review and comment. At a minimum, the SWPPP shall identify Best Management Practices (BMPs) for implementation during project construction that are in accordance with the applicable guidance and procedures contained in the California Stormwater Quality Association's *California Stormwater Best Management Practices Handbook* (2015).

11.2 RWQCB Municipal Storm Water Permitting Programs

The federal Clean Water Act (CWA) was amended in 1987 to address urban stormwater runoff pollution of the nation's waters. In 1990, the U.S. Environmental Protection Agency (USEPA) promulgated rules establishing Phase 1 of the National Pollutant Discharge Elimination System (NPDES) stormwater program. The Phase 1 program for Municipal Separate Storm Sewer System (MS4s) requires operators that serve populations of 100,000 or greater to implement a stormwater management program to control polluted discharges from these MS4s. While Phase 1 of the municipal stormwater program has focused on large urban areas, Phase 2 of the municipal stormwater program was promulgated by the USEPA for smaller urban areas including non-traditional Small MS4s, which are governmental facilities such as military bases, public campuses, and prison and hospital complexes.

MS4 permits require the discharger (or dischargers that are permitted by the MS4 permittees) to develop and implement a Storm Water Management Plan/Program (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.

¹ CGP Order 2009-0009-DWQ remains in effect, but has been amended by CGP Order 2009-0014-DWQ, effective February 14, 2011, and CGP Order 2009-0016-DWQ, effective July 17, 2012. The first amendment merely provided additional clarification to Order 2009-0009-DWQ, while Order 2009-0016-DWQ eliminated numeric effluent limits on pH and turbidity (except in the case of active treatment systems), in response to a legal challenge to the original order.

11.2.1 NPDES C.3 REQUIREMENTS

The NPDES C.3 requirements went into effect for any project (public or private) that is “deemed complete” by the city or county (Lead Agency) on or after February 15, 2005, and which will result in the creation or replacement (other than normal maintenance) of at least 10,000 square feet of impervious surface area (e.g., roofs, streets, patios, parking lots, etc.). Provision C.3 requires the onsite treatment of stormwater prior to its discharge into downstream receiving waters. Note that these requirements are in addition to existing NPDES requirements for erosion and sedimentation controls during project construction that are typically addressed through acquisition of coverage under the SWRCB administered Construction General Permit. The C.3 requirements are typically required to be implemented by MS4 permittees (and their constituencies).

Projects subject to Provision C3 must include the capture and onsite treatment of all stormwater from the site prior to its discharge, including rainwater falling on building rooftops. Project applicants are required to implement appropriate source control and site design measures and to design and implement stormwater treatment measures in order to reduce the discharge of stormwater pollutants to the *maximum extent practicable*. While the CWA does not define “maximum extent practicable,” the Stormwater Quality Management Plans required as a condition of the municipal NPDES permits identify control measures (known as BMPs) and, where applicable, performance standards, to establish the level of effort required to satisfy the maximum extent practicable criterion. It is ultimately up to the professional judgment of the reviewing municipal staff in the individual jurisdictions to determine whether a project’s proposed stormwater controls will satisfy the maximum extent practicable criterion; however, there are numeric criteria used to ensure that treatment BMPs have been adequately sized to accommodate and treat a site’s stormwater. The C3 requirements are quite extensive, and their complete explanation is not provided here. However, the following are minimums that should be understood and adhered to:

- The applicant must provide a detailed and realistic site design *and impervious surface area calculations*. This site design *and calculations* will be used by the Lead Agency (county or city) to determine/*verify* the amount of impervious surface area that is being created or replaced. It should include all proposed buildings, roads, walkways, parking lots, landscape areas, etc., that are being created or redeveloped. If large lots (greater than 10,000 square feet) are being created an effort will need to be made to determine the total impervious surface area that could be created on that parcel. For example if only a portion of the lot is shown as a “building envelope” then the Lead Agency will need to consider that a driveway will have to be constructed to access the envelope and that the envelope will then be developed as shown. If the C.3 thresholds are met (creation/redevelopment of 10,000 square feet of impervious surface area), a Stormwater Control Plan (SWCP) (if required by the Lead Agency, or whatever steps for compliance with Provision C3 are required locally) must accompany the application.
- If a SWCP is required by the Lead Agency for the Proposed Project it must be stamped by a Licensed Civil Engineer, Architect, or Landscape Architect.

11.2.2 APPLICABILITY TO THE PROPOSED PROJECT

The Water Board issued county-wide municipal stormwater permits in the early 1990s to operators of MS4s. On November 19, 2015, the Water Board re-issued these county-wide municipal stormwater permits as one Municipal Regional Stormwater NPDES Permit to regulate stormwater discharges from municipalities and local agencies. Permittees in the San Francisco Bay area are included in a Municipal Regional Permit (MRP), issued to 76 cities, counties and flood control districts in 2009 and revised in 2015. Each of the Permittee's must file an Annual Report that is comprised of three parts: regional, countywide, and individual.

The City of Santa Rosa is an MS-4 permittee. It is the applicant's responsibility to ensure that the Proposed Project's civil engineer prepares all required Storm Water Planning documents for submittal to the City of Santa Rosa to comply with its MS4 permit requirements. In 2017, the City of Santa Rosa released "The Storm Water Low Impact Development Technical Design Manual" (SW LID Manual). The SW LID Manual provides technical guidance for project designs that require the implementation of permanent storm water BMPs. The intent of this manual is to provide design guidance to mitigate negative water quality impacts due to development and otherwise to ensure projects meet the City's MS-4 reporting requirements. The SW LID Manual supersedes both the 2005 SUSMP Guidelines and the 2011 version of this SW LID Manual, both of which similarly provided earlier guidance to the development community, ensuring project compliance with the NPDES and the city's MS-4 requirements.

In addition, as the Proposed Project includes a requirement to obtain a CWA Section 401 permit from the RWQCB, a Storm Water Management Plan prepared in compliance with the SW LID must be submitted to the RWQCB with the application package submitted for acquisition of a Section 401 permit (aka "water quality certification").

11.3 California Department of Fish and Wildlife Protections

11.3.1 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 "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 Proposed 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 2016).

Refer to Section 1602 of the current California Fish and Game Code for further details.

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, and any proposed mitigation plans that would be implemented to offset biological impacts and engineering and erosion control plans.

11.3.2 APPLICABILITY TO THE PROPOSED PROJECT

There are no streams or drainages on or adjacent to the Proposed Project Site that would be subject to regulation by CDFW pursuant to Section 1602 of the Fish and Game Code. Hence, an SBAA with CDFW is not required for the Proposed Project.

12. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) REGULATIONS

A CEQA Lead Agency must determine if a proposed activity constitutes a project requiring further review pursuant to 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 proposed 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 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 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.

12.1.1 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, the City of Santa Rosa) 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.

13. IMPACTS ANALYSIS

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

13.1 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 proposed 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.

13.1.1 THRESHOLDS OF SIGNIFICANCE

13.1.1.1 Plants, Wildlife, Waters

In accordance with Appendix G (Environmental Checklist Form) of the CEQA Guidelines, implementing the Proposed 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 Clean Water Act (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.

13.1.1.2 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 Clean Water Act, 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.

13.1.1.3 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.

14. IMPACT ASSESSMENT AND PROPOSED MITIGATION

In this section potential impacts to sensitive biological resources are discussed, including special-status plants and waters of the United States/State in accordance with Appendix G of the CEQA Guidelines. 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 a Site Plan prepared by Civil Design Consultants, Inc. in February 2019 (Attachment A: Proposed Project Site Plan).

Appendix G – Checklist Items are listed below. Where there would be significant impacts to checklist categories, these impacts and required mitigation measures are fully discussed below.

Would the Proposed Project 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?

Yes, impacts and mitigations are detailed below.

Would the Proposed Project 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?

No. There is no riparian habitat or sensitive natural community on the project site that has been identified in local or regional plans, policies, regulations, or by the CDFW or USFWS. Therefore, the Proposed Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community.

Would the Proposed Project have a substantial adverse effect on state or federally protected “wetlands” (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Yes, impacts and mitigations are detailed below.

Would the Proposed Project 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?

No. The Proposed Project would not adversely impact or interfere with wildlife movement corridors. The project site is an open grassland/seasonal wetland mosaic habitat that is surrounded by developed properties on three sides (to the north, south, and east). Though there are some small parcels to the northeast and east that are either designated open space (the Woodbridge Preserve) or currently undeveloped (the Kerry Ranch parcels), these properties abut already developed lands and do not provide a large swath of contiguous, open land that serves as a wildlife movement corridor. To the immediate west of the Proposed Project Site is Fulton Road, a heavily traveled and highly trafficked road which is an impediment to wildlife

movements and removes any wildlife corridor function/value to wildlife originating west of the Proposed Project Site.

Would the Proposed Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No, there are no heritage trees, protected trees, or street trees onsite. There are no other local policies or ordinances with which this project would conflict.

Would the Proposed Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No, there are no Habitat Conservation Plans or Natural Community Conservation Plans in force in the City of Santa Rosa.

14.1 Impacts and Mitigation Measures

14.1.1 IMPACT BIO-1. DEVELOPMENT OF THE PROPOSED PROJECT WOULD HAVE A SIGNIFICANT ADVERSE IMPACT ON SUITABLE VERNAL POOL (RARE PLANT) HABITAT (SIGNIFICANT).

As detailed in this report, several years of special-status plant surveys have been conducted on the project site pursuant to all required CDFW, USFWS, and CNPS Guidelines. Only one CEQA-protected, special-status plant was identified during surveys. A small number of Burke's goldfields were found in isolated pools within the proposed Stonebridge Preserve. Burke's goldfields is a federally-listed and State-listed endangered species that is protected pursuant to both the FESA and the CESA (respectively).

Wetlands where the Burke's goldfields occur within the proposed Stonebridge Preserve are hydrologically isolated from the seasonal wetlands on the western portion of the Proposed Project Site by a naturally occurring watershed break. The residential subdivision component of the Proposed Project has been proposed to occur in a separate micro-watershed than the proposed Stonebridge Preserve to avoid impacting endangered plants. The proposed residential area has a westward breaking watershed, while the proposed Stonebridge Preserve has a watershed that breaks eastward. As the Burke's goldfield colonies only occur within the proposed Stonebridge Preserve, and as these pools will not be directly impacted by proposed wetland enhancement/creation in the Stonebridge Preserve, ***there will be no direct impacts to occupied Burke's goldfield pools by the Proposed Project. Rather wetlands that will be impacted (by both the development and the wetland enhancement) are regarded as impacting "suitable" vernal pool (rare plant) habitat.***

Approximately 2.65 acres of "suitable" vernal pool (rare plant) habitat will be impacted by the Proposed Project. As detailed in the USFWS' *Programmatic Biological Opinion for U.S. Army Corps of Engineers Permitted Projects that Affect the California Tiger Salamander and Three Endangered Plant Species on the Santa Rosa Plain, California* (USFWS 2007) projects are required to mitigate impacts to suitable vernal pool habitat via preservation of vernal pool habitats. While this project will not rely on use of this Programmatic Biological Opinion, it

nonetheless presents USFWS' regulatory requirements for projects that impact suitable vernal pool habits on the Santa Rosa Plain.

Impacts to “suitable” vernal pool (rare plant) habitat in the Santa Rosa Plain is a significant and adverse impact. This impact would be mitigated to a less than significant level pursuant to CEQA based on the wetlands preservation/restoration and enhancement proposed at the Stonebridge Preserve.

14.1.2 MITIGATION MEASURE BIO-1. FOR IMPACTS TO SUITABLE VERNAL POOL (RARE PLANT) HABITAT

The Proposed Project will mitigate impacts to 2.65 acres of suitable vernal pool (rare plant) habitat via: (1) the creation of 1.766 acres of new vernal pool habitat on the proposed Stonebridge Preserve; (2) the enhancement of an additional 3.267 acres of wetlands in the proposed Stonebridge Preserve; and (3) avoidance/preservation of 0.484-acre of wetlands in the proposed Stonebridge Preserve that support a small number of Burke's goldfield plants (0.484-acre of “occupied” habitat). These actions together will create a total of 5.52 acres of vernal pools that will provide optimal conditions for supporting colonization by Burke's goldfields. The proposed enhancements will emulate similar enhancements at the immediately adjacent Woodbridge Preserve that now supports abundant Burke's goldfield colonies (see photographic proof at Attachment D). This is approximately a 2.1:1 mitigation to impacts ratio which exceeds requirements for plant establishment mitigation for impacts to “suitable” vernal pool (rare plant) habitats as presented in the USFWS' *Santa Rosa Plain Programmatic Biological Opinion* (USFWS 2007).

Pursuant to the USFWS' requirements, compensation mitigation that is required for impacts to “suitable” vernal pool (rare plant) habitat is replacement via 1:1 “occupied or established habitat” (any combination) with success criteria met prior to groundbreaking at a project site and 0.5:1 “established habitat” credit with success criteria met prior to ground breaking. Or, instead, applicants may also mitigate impacts through acquisition and permanent protection of occupied and suitable special-status plant habitats (“conserved land”) as permitted by the USFWS (and CDFW). The conserved land must also have a USFWS and CDFW-approved management plan and a non-wasting endowment fund must be established to provide for the in-perpetuity management of the conserved land.

In pre-application meetings with the USFWS and CDFW, these agencies agreed that the proposed mitigation plan for the Proposed Project meets their criteria for Burke's goldfields mitigation on the Santa Rosa Plain.

A mitigation compliance report shall be submitted to the City planning staff or staff biologist at least 30 days prior to breaking ground on the residential subdivision portion of the Proposed Project. The compliance report shall detail the progress that has been made towards implementation of the vernal pool creation/enhancement mitigation measures implemented by the Proposed Project. Provided mitigation is well underway, the City may approve commencement of the development portion of the Proposed Project thereafter.

The above mitigation measure would reduce impacts to Burke's goldfields (special-status plants) to a level considered less than significant pursuant to CEQA.

14.1.1 IMPACT BIO-2. BURKE'S GOLDFIELDS SEED COLLECTION

The Proposed Project includes a proposal to create the Stonebridge Preserve where wetlands would be enhanced and created to inure to the benefit of Burke's goldfields, a state and federally-listed endangered vernal pool plant that occurs on the Santa Rosa Plain. The plan to create and enhance Burke's goldfields habitat will require the collection of this plant's seeds from a property or properties that support healthy donor colonies of Burke's goldfields for use in recolonizing enhanced and created seasonal wetlands within the Stonebridge Preserve.

Pursuant to the CEQA, harvesting Burke's goldfields seeds from a healthy donor site for use in the Stonebridge Preserve, if carefully executed, will not result in significant impacts to donor populations. The wetland enhancement and creation project in the Stonebridge Preserve is expected to increase seasonal wetland functions and values and will significantly increase numbers of endangered Burke's goldfields plants/colonies. The establishment of a new Burke's goldfield preserve will increase the Santa Rosa Plain population of Burke's goldfields which is in keeping with the USFWS' 2016 Recovery Plan for the Santa Rosa Plain (USFWS 2016), and with CDFW's objectives for promotion of endangered vernal pool plants on the Santa Rosa Plain.

None of the sparse occurrences of Burke's goldfields in the proposed Stonebridge Preserve will be impacted during enhancement of wetlands within the Stonebridge Preserve. That is, there will be no direct "take" of Burke's goldfields during the enhancement/recontouring of existing wetlands because the portions of the wetlands where these plants occur will be avoided by the enhancement project. Within the Stonebridge Preserve, wetlands that are not occupied by Burke's will be enhanced to provide conditions that promote the establishment of Burke's goldfield colonies. The proposed enhancement/recontouring of swales in the proposed Preserve will emulate the highly successful wetland recontouring that occurred in the CDFW-owned Woodbridge Preserve which has resulted in a flourishing Burke's goldfield population (refer to Attachment D for photographs of the Woodbridge Preserve Burke's goldfield population).

14.1.2 MITIGATION MEASURE BIO-2. BURKE'S GOLDFIELDS SEED COLLECTION

Per a Seed Collection Plan prepared by L. Stromberg (L. Stromberg 2018c) for the proposed Stonebridge Preserve, Burke's goldfield seeds will be collected from a number of possible source populations including the Alton Lane Mitigation Site and/or the Woodbridge Preserve, and other sites. This seed collection plan shall be implemented as part of the Proposed Project. CDFW owns the Woodbridge Preserve and will own the Alton Lane Mitigation Site in the near future. Since seeds are proposed to be collected in the spring of 2020, for use in the Stonebridge Preserve in 2020, the CDFW would have to permit the collection of Burke's goldfield seeds from one of these sites or other sites that CDFW may designate. The Applicant shall apply to CDFW for an Incidental Take Permit pursuant to Section 2081 of the California Fish and Game Code that allows the collection of Burke's goldfield seeds. This seed collection will allow for the

Stonebridge Preserve Burke's goldfields restoration project to be implemented and is a key component of this restoration project.

When implemented, the above mitigation measure would ensure that the Stonebridge Preserve enhancement project can be completed as proposed by the Applicant. This is a mitigation measure for a less than significant beneficial impact.

14.1.3 IMPACT BIO-3. DEVELOPMENT OF THE PROJECT WOULD HAVE A POTENTIALLY SIGNIFICANT ADVERSE IMPACT ON POTENTIAL CALIFORNIA TIGER SALAMANDER MIGRATION/DISPERSAL HABITAT (POTENTIALLY SIGNIFICANT)

The project site falls within the Sonoma County Distinct Population Segment (DPS) of the California tiger salamander. This DPS is federally listed as endangered and State-listed as threatened; as such, California tiger salamander is protected pursuant to FESA and CESA, respectively. The Proposed Project Site lies within USFWS designated Critical Habitat for this species. While USFWS does not require mitigation for impacts to Critical Habitat, nonetheless, USFWS must consider whether impacts to Critical Habitat would preclude recovery of the species prior to the time it can authorize Incidental Take for proposed projects (G. Monk pers. comm. with J. Hanni of the USFWS, October 2019).

The closest known record of breeding California tiger salamanders to the Proposed Project Site is at the Alton Lane Mitigation Site approximately 2,230 feet to the west of the Proposed Project Site (on the other side of Fulton Road from the Proposed Project). Based upon the USFWS' 2007 *Programmatic Biological Opinion* for the Santa Rosa Plain, that while not being used for the Proposed Project nonetheless sets precedent for USFWS' California tiger salamander mitigation requirements on the Santa Rosa Plain, requires a 1:1 mitigation ratio for a project that is greater than 2,200 feet but within 1.3 miles of a known California tiger salamander breeding site. ***Thus, in accordance with the USFWS' mitigation requirements for impacts to California tiger salamander dispersal/migration habitat, the Proposed Project would result in a potentially significant impact to California tiger salamander dispersal/migration habitat. This impact would be mitigated to a less than significant level pursuant to CEQA.***

14.1.4 MITIGATION MEASURE BIO-3. FOR IMPACTS TO POTENTIAL CALIFORNIA TIGER SALAMANDER MIGRATION/DISPERSAL HABITAT

The project would obtain Incidental Take authorization from the USFWS for impacts to potential California tiger salamander migration/dispersal habitat. The Proposed Project would require a Section 404 permit from the Corps for the discharge of fill or dredged material to waters of the U.S. The Corps would consult with USFWS under Section 7 of FESA. Under Section 7, USFWS will prepare a Biological Opinion (BO) that would provide FESA Incidental Take authorization for the Proposed Project. The BO will impose mitigation requirements for potential impacts to California tiger salamander migration/dispersal habitat and suitable rare plant habitat. These requirements will become conditions of the Corps' permit. The Applicant will implement applicable Corps' permit conditions including the conditions in the USFWS' BO.

The Project includes California tiger salamander mitigation based on the USFWS' *Programmatic Biological Opinion for the Santa Rosa Plain* (USFWS 2007). The mitigation for the Proposed Project's impact on California tiger salamander dispersal/ migration habitat would

be at a 1:1 ratio (i.e., 1 acre of preservation for each acre of development – or a prorata share thereof). The distance based 1:1 mitigation ratio set forth in the USFWS’ Programmatic Biological Opinion was discussed in a July 12, 2018, pre-application meeting with the USFWS (Mr. Ryan Olah), M&A biologists, the Applicant (Mr. David Jacobson), and a mitigation banker (Mr. Harvey Rich). In this meeting it was confirmed that the proposed 14.00-acre Preserve would meet the 1:1 mitigation requirement for the project’s impacts to California tiger salamander dispersal habitat on 14.00 acres of natural habitats on the Proposed Project Site (approximately 0.60-acre of the 14.60-acre development area is currently developed with buildings or hard-packed, gravel-impregnated roadways and parking areas around buildings (as shown in Figure 11). These developed surfaces do not constitute California tiger salamander habitat that warrants mitigation). The mitigation proposal meets with the objectives of the USFWS’ *Recovery Plan for the Santa Rosa Plain* (USFWS 2016).

Thus, if the Protocol survey confirms that California tiger salamander are not found (discussed in Impact BIO-4, below), then mitigation for impacts to California tiger salamander would follow the USFWS’ 1:1 mitigation requirement in accordance with the 2007 *Programmatic Biological Opinion* for the Santa Rosa Plain as described above. ***Implementation of this mitigation measure would fully mitigate impacts to California tiger salamander migration/dispersal habitat to a level regarded as less than significant pursuant to the CEQA.***

14.1.5 IMPACT BIO-4. DEVELOPMENT OF THE PROPOSED PROJECT WOULD HAVE A POTENTIALLY SIGNIFICANT ADVERSE IMPACT ON POTENTIAL CALIFORNIA TIGER SALAMANDER BREEDING AND OVER-SUMMERING HABITAT (POTENTIALLY SIGNIFICANT)

Based upon the multitude of California tiger salamander studies conducted over many years on properties immediately adjacent to or near the Proposed Project Site, all that had negative findings, and the absence of CNDDDB records for California tiger salamanders east of Fulton Road and north of Santa Rosa Creek (CNDDDB records 2019), M&A concludes that implementation of the project is unlikely to result in any impacts to the California tiger salamander, either to occupied habitat or to individual California tiger salamanders. That is, there is no expectation that the Proposed Project would result in “take” of the California tiger salamander. However, CDFW has requested that a full “Protocol” California tiger salamander study be completed pursuant to the “*Interim guidance on site assessment and field surveys for determining presence or a negative finding of the California tiger salamander*” (USFWS 2003). A Protocol California tiger salamander study includes an upland survey (aka “winter pitfall trapping study”) and two spring larval breeding pool surveys to prove absence of the California tiger salamander on a project site.

One spring larval survey was completed in the spring of 2019 on the Proposed Project Site per the Protocol and was negative for California tiger salamander larvae. The winter pitfall trapping study is currently underway on the Proposed Project site and will not be completed until March 15, 2020. The second larval survey will be completed by May 15th, 2020. The completion of the Protocol California tiger salamander study will provide data that will either support or refute a conclusion that California tiger salamander are unlikely to occur on the project site. Until the Protocol California tiger salamander study is complete, and the California tiger salamander has been determined conclusively to be absent, ***impacts to the California tiger salamander are***

regarded as potentially significant pursuant to the CEQA. These impacts can be mitigated to a less than significant level pursuant to CEQA.

14.1.6 MITIGATION MEASURE BIO-4. FOR IMPACTS TO OCCUPIED CALIFORNIA TIGER SALAMANDER BREEDING AND OVER-SUMMERING HABITAT

While California tiger salamander are not expected to be found on the Proposed Project Site, should California tiger salamander be found during completion of the Protocol survey, which will not be completed until May 2020, then the Proposed Project Site *shall be regarded as occupied by the California tiger salamander*. If the Proposed Project Site is determined to be occupied by California tiger salamander then the Applicant would obtain a CESA 2081(b) Incidental Take Permit from the CDFW and the Biological Opinion prepared by the USFWS would also include conditions for the Proposed Project to ensure the recovery of the species. Any conditions in these permits/authorizations shall be implemented by the Applicant prior to grading the project site.

In addition, if the Proposed Project Site is determined to be occupied by California tiger salamander, consistent with the mitigation requirements imposed by CDFW and USFWS for impacts to occupied habitat, mitigation shall be implemented at a 3:1 replacement to impacts ratio. That is, three (3) acres of occupied California tiger salamander habitat shall be preserved in perpetuity for each acre of impact from the Proposed Project. The establishment of the Stonebridge Preserve shall be allowed to constitute a pro-rata acreage share of this California tiger salamander mitigation requirement. The remainder of the mitigation could be met by purchasing mitigation credits at an agency-approved mitigation bank.

In lieu of any land preservation, mitigation credits may be purchased by the Applicant to meet “occupied habitat” mitigation requirements, but any mitigation credits purchased to compensate for impacts to occupied California tiger salamander habitat must be approved by both USFWS and CDFW. After approved credits are purchased, proof of purchase shall be provided to the City of Santa Rosa, CDFW, and USFWS prior to the time that grading may commence on the Proposed Project Site. ***Implementation of this mitigation measure would fully mitigate impacts to occupied California tiger salamander habitat to a level regarded as less than significant pursuant to CEQA.***

14.1.7 IMPACT BIO-5. DEVELOPMENT OF THE PROJECT WOULD HAVE A POTENTIALLY SIGNIFICANT ADVERSE IMPACT ON NESTING BIRDS (POTENTIALLY SIGNIFICANT)

White-tailed kite, red-tailed hawk, and red-shouldered hawks are all known from the area and could nest on the Proposed Project Site or within a zone of influence of the Proposed Project Site. Common song birds (passerine birds) could also nest on or immediately adjacent to the Proposed Project Site. These bird species and many others known to nest in the Santa Rosa Plain are protected under the Migratory Bird Treaty Act (50 CFR 10.13). Also, 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, 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.

14.1.8 MITIGATION MEASURE BIO-5. NESTING BIRDS

To avoid impacts to nesting birds, a nesting bird survey shall be conducted within 15 days of commencing with construction work or tree removal if this work would commence between February 1st and August 31st. The nesting survey should include an examination of all buildings and all trees onsite and within 200 feet of the Proposed Project Site (i.e., within a zone of influence of the project site). The zone of influence includes those areas outside the Proposed 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 Proposed Project, prior to the commencement of construction that could impact the active nest(s), 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 and several raptor species known to nest in the region of the Proposed Project Site.

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 Proposed 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, as determined by a qualified biologist, temporary nesting buffers may be removed and construction may commence in the established nesting buffers without further regard for the buffered nest site(s). ***Implementation of this mitigation measure would reduce impacts to nesting birds to a level regarded as less than significant pursuant to CEQA.***

14.1.9 IMPACT BIO-6. DEVELOPMENT OF THE PROPOSED PROJECT WOULD HAVE A SIGNIFICANT IMPACT ON WATERS OF THE UNITED STATES AND/OR STATE (SIGNIFICANT)

The Corps' approved Administrative Jurisdictional Determination letter (Attachment G) verified 6.31 acres of waters of the U.S. (specifically seasonal wetlands) on the Proposed Project Site. The proposed development project will permanently impact 2.52 acres of seasonal wetlands. In addition, 0.13-acre of seasonal wetlands would be permanently impacted within the Stonebridge Preserve as necessary to enhance the functions and services of wetlands in the Stonebridge Preserve (total = 2.65 acres of permanent fill). Specifically, wetland hydrology that currently pools against the adjacent development's retaining walls will be recontoured into a naturalistic vernal pool configuration and this will require filling 0.13-acre of the 3.79 acres of wetlands that currently occur in the proposed Stonebridge Preserve. Finally, 0.484-acre of existing seasonal

wetland in the Stonebridge Preserve that currently supports Burke's goldfields will be avoided/protected during the implementation of the wetland creation/enhancement project.

The Proposed Project would include the permanent loss of 2.65 acres of seasonal wetlands. ***These impacts are regarded as significant pursuant to the CEQA. The Project includes wetlands mitigation that would reduce impacts to waters of the U.S. to levels regarded as less than significant.***

14.1.10 MITIGATION MEASURE BIO-6. IMPACTS TO WATERS OF THE UNITED STATES /STATE

Given that there are no opportunities for meaningful avoidance or preservation within the development area of the Proposed Project Site, the Proposed Project will compensate for the loss of 2.65 acres of wetlands at a 2:1 mitigation ratio, or as otherwise required by the Corps and RWQCB to achieve "no net loss" of wetlands. Mitigation proposed is as follows:

To compensate for the loss of 2.65 acres of waters of the U.S. and State resulting from construction of the Proposed Project (2.52 acres) and the Stonebridge Preserve (0.13-acre), the Applicant proposes to construct, enhance, and avoid/preserve a total of 5.52 acres of wetlands in the Stonebridge Preserve. This will be accomplished by:

1. creating a total of 1.766 acres of new wetlands from uplands within the Preserve;
2. enhancing 3.267 acres of wetlands within the Preserve; and,
3. avoiding/preserving 0.484-acre of wetlands in the Preserve.

This enhancement, preservation, and creation is shown on Attachment A. Finally, to meet the Corps' "no net loss" policy, the Applicant will also purchase 0.89-acre of wetland mitigation credit from the Hazel Mitigation Bank or another Corps and RWQCB-approved wetland mitigation bank.

In total, after the enhancement and creation, the Stonebridge Preserve that currently supports 3.79 acres of wetlands will support 5.52 acres of enhanced wetlands. Enhancing 3.267 acres of wetlands exceeds a 1:1 impact to mitigation ratio. Thus, in consideration that the Proposed Project will not result in a net loss of waters of the United States/State (per paragraph above) and will enhance an additional 3.267 acres of existing wetlands (which exceeds 1:1 impacts to enhancement ratio), and create 1.766 acres, taken together the Proposed Project *will exceed* a 2:1 overall replacement/enhancement to impacts ratio.

When implemented, the above mitigation measure would reduce impacts to waters of the United States and State to a level considered less than significant.

14.1.11 IMPACT BIO-7. CUMULATIVE IMPACTS TO VEGETATION AND WILDLIFE RESOURCES (LESS THAN SIGNIFICANT)

Implementation of the Proposed Project would contribute to a cumulative loss of seasonal wetlands and non-native annual grassland. Implementation of the development project would also result in cumulative impacts to common plant and animal species. There are other Proposed Projects in Santa Rosa and Sonoma County that would/are impacting similar resources to those

that would be impacted by the Proposed Project. Project-related impacts would be considered cumulative with other projects in the region. ***The mitigation measures prescribed in the section above would offset cumulative impacts to special-status species, seasonal wetlands, and plant communities/wildlife habitats to a level regarded as less than significant.*** The mitigation proposed would also result in a net increase of Burke's goldfields colonies since wetland restoration and enhancement measures on the property would improve hydrologic function in seasonal wetlands specifically to promote colonization of these wetlands by Burke's goldfields.

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Figure 2. Stonebridge, 2220 Fulton Road Project Site
Location Map
Santa Rosa, California

38.485319 -122.766168
Section: 5; T7N R8W
7.5-Minute Sebastopol quadrangle
Aerial Photograph Source: ESRI
Map Preparation Date: June 18, 2019



Figure 3. Aerial Photograph of the
Stonebridge, 2220 Fulton Road Project Site
Santa Rosa, California

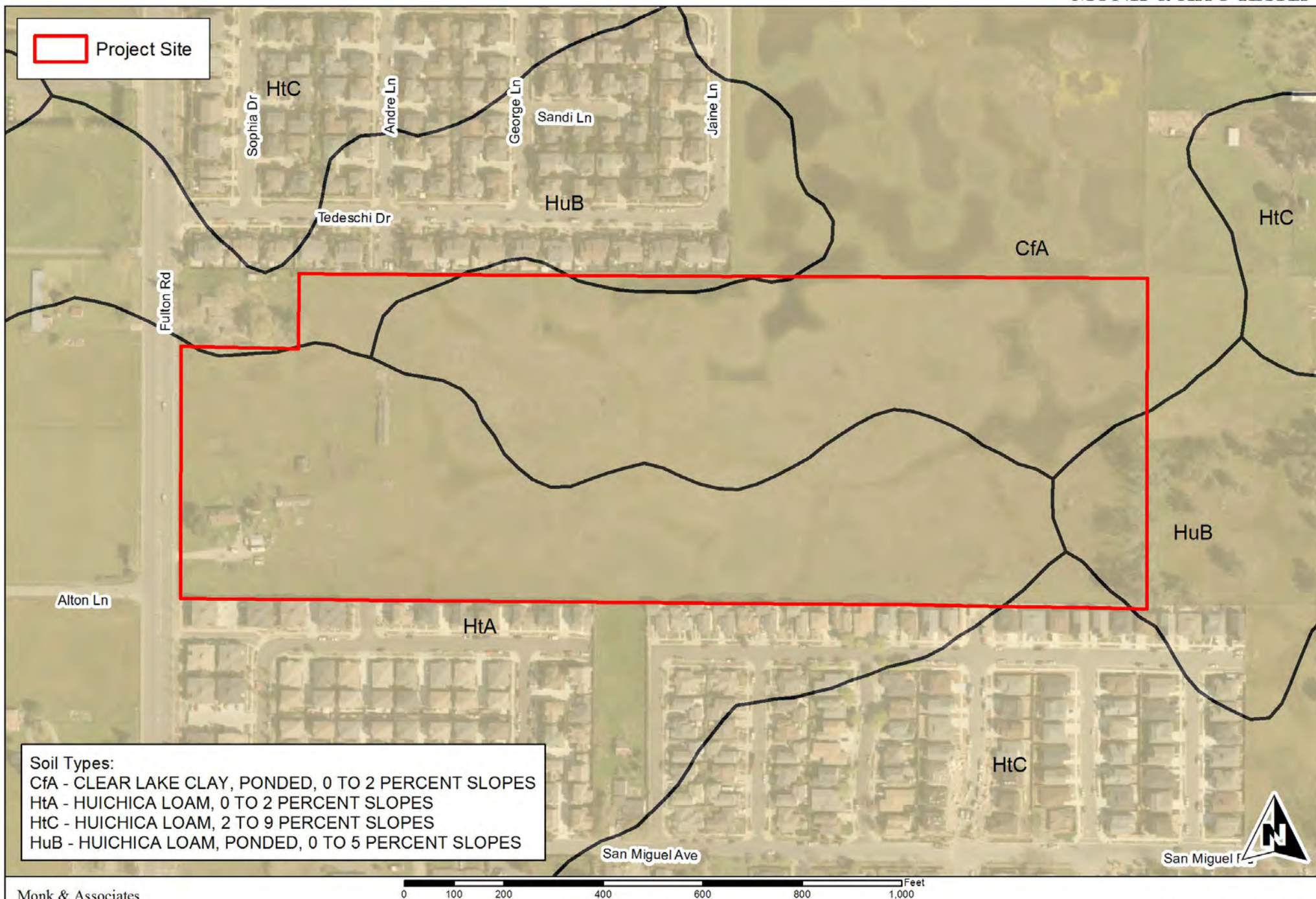


Figure 4. Soil types of the
 Stonebridge, 2220 Fulton Road Project Site
 Santa Rosa, California

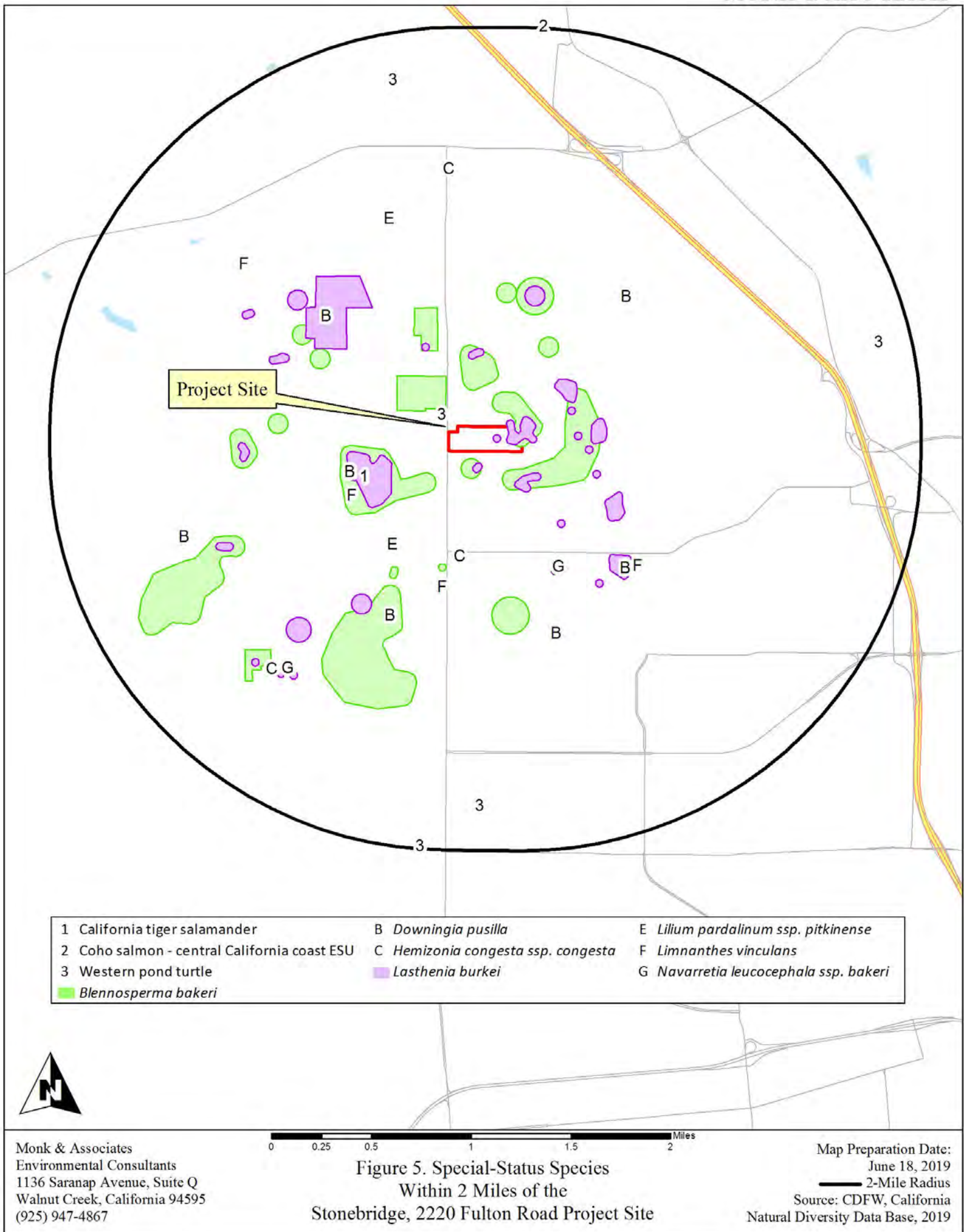


Figure 5. Special-Status Species
Within 2 Miles of the
Stonebridge, 2220 Fulton Road Project Site



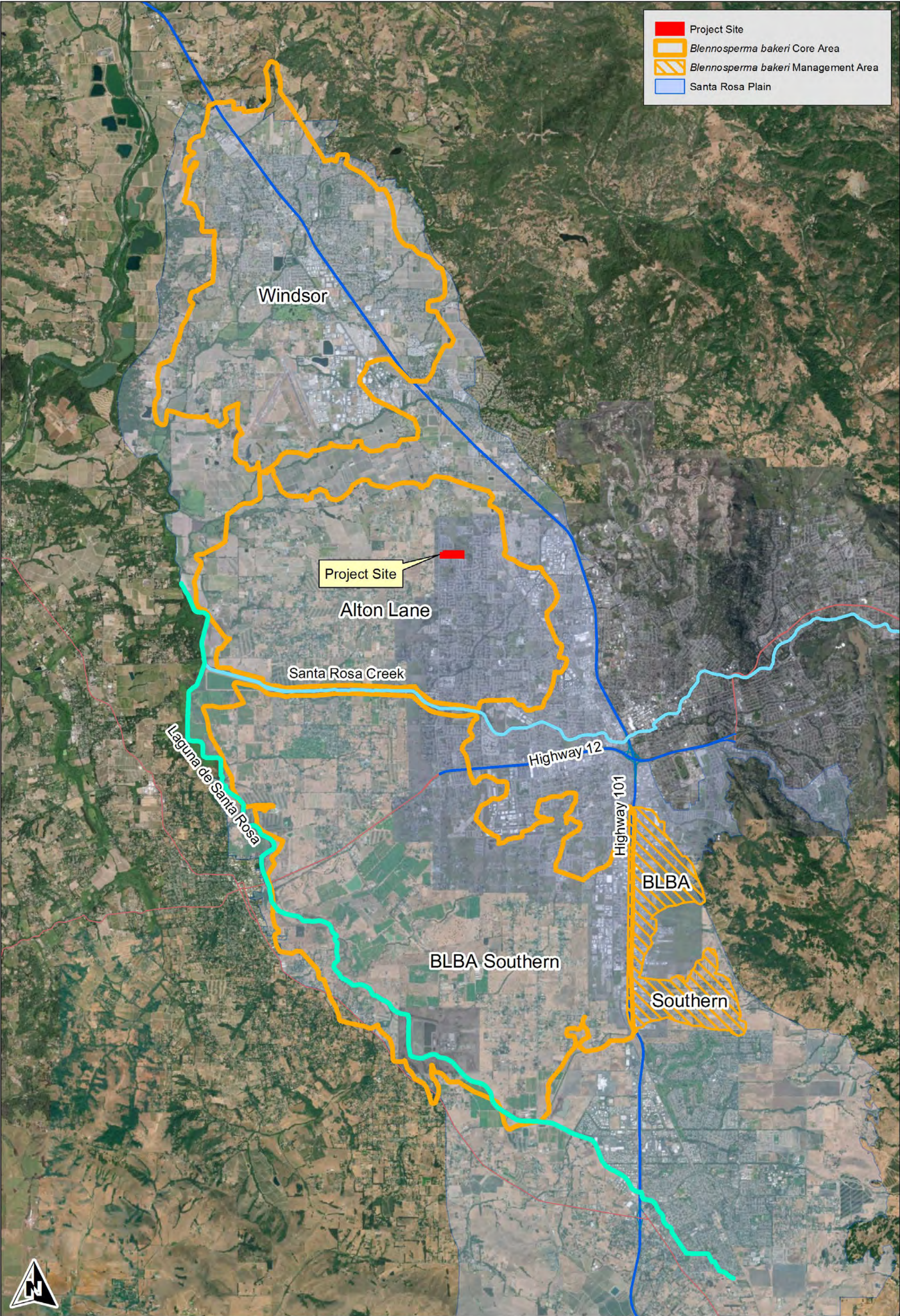


Figure 7. *Blennosperma bakeri* Core and Management Areas
(from USFWS 2016) in the Vicinity of the
Stonebridge, 2220 Fulton Road Project Site

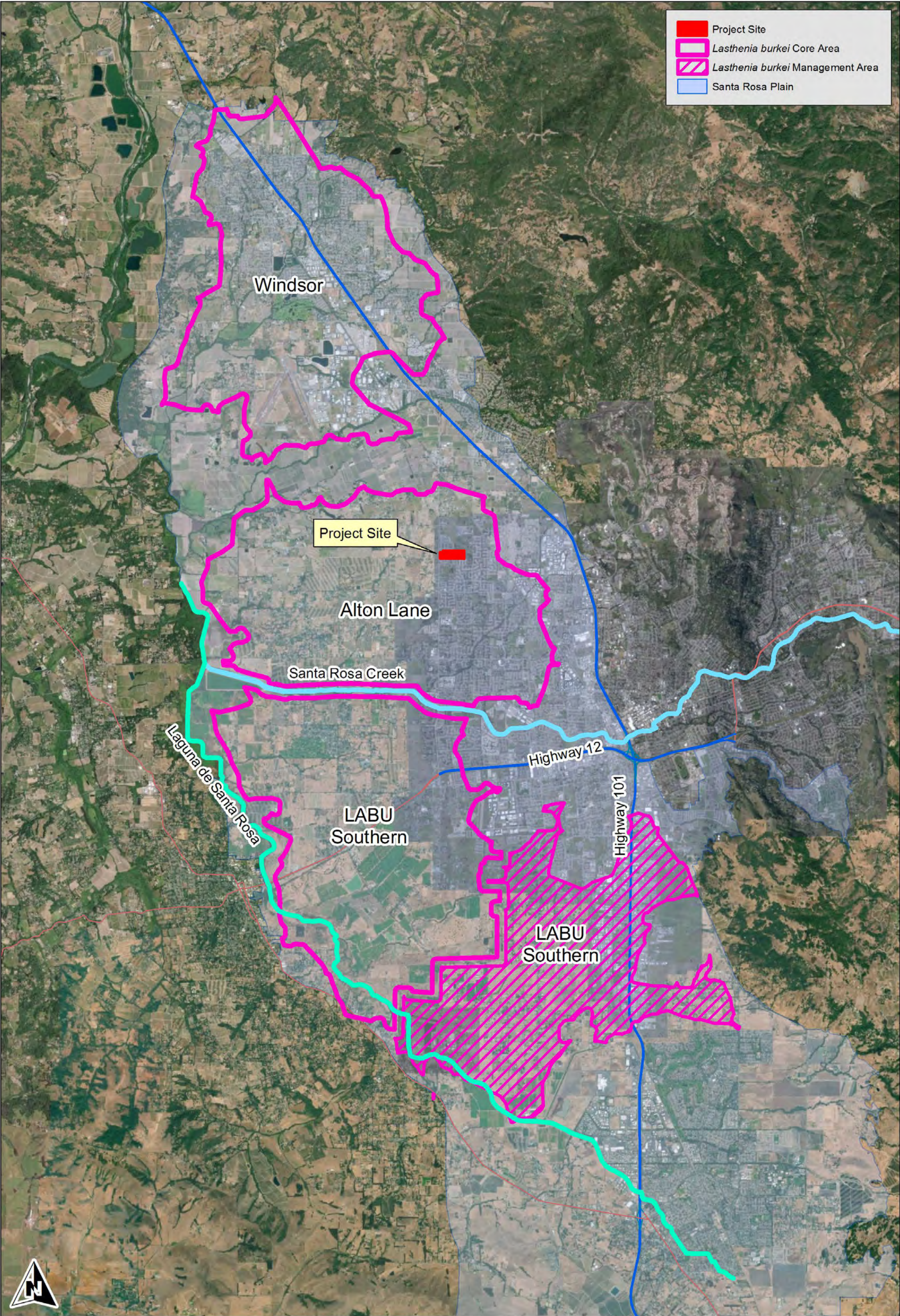


Figure 8. *Lasthenia burkei* Core and Management Areas
(from USFWS 2016) in the Vicinity of the
Stonebridge, 2220 Fulton Road Project Site

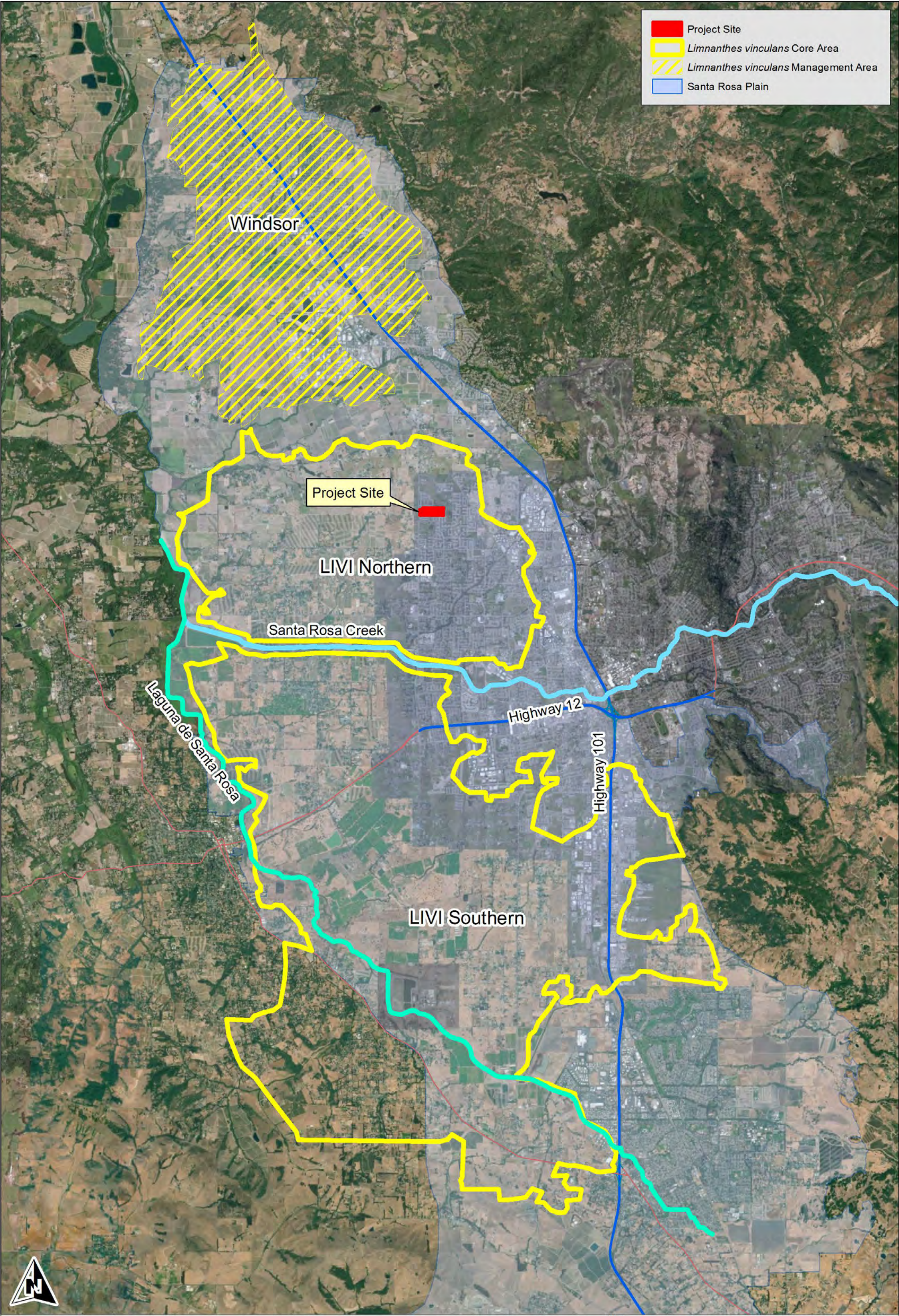
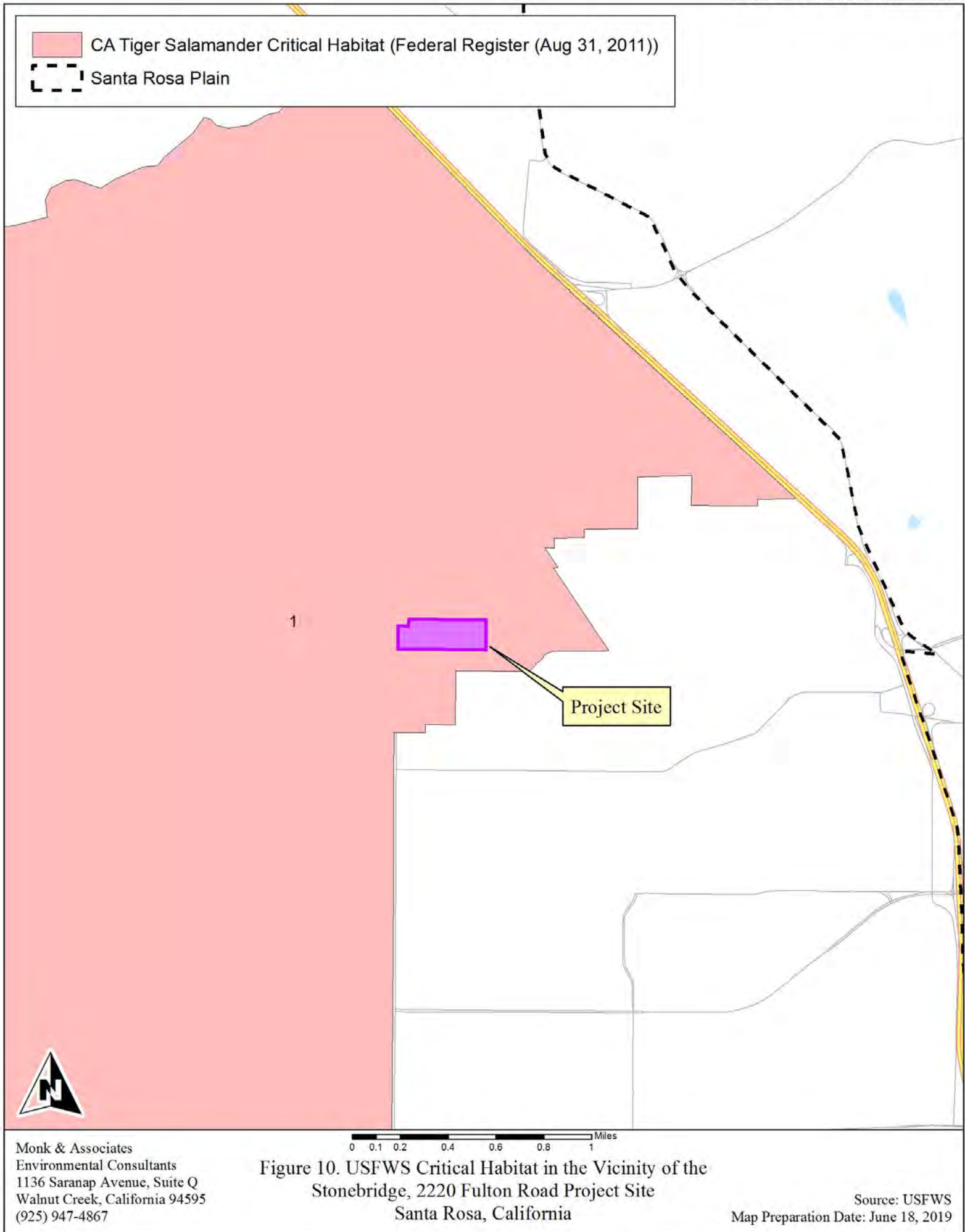


Figure 9. *Limnanthes vinculans* Core and Management Areas
(from USFWS 2016) in the Vicinity of the
Stonebridge, 2220 Fulton Road Project Site



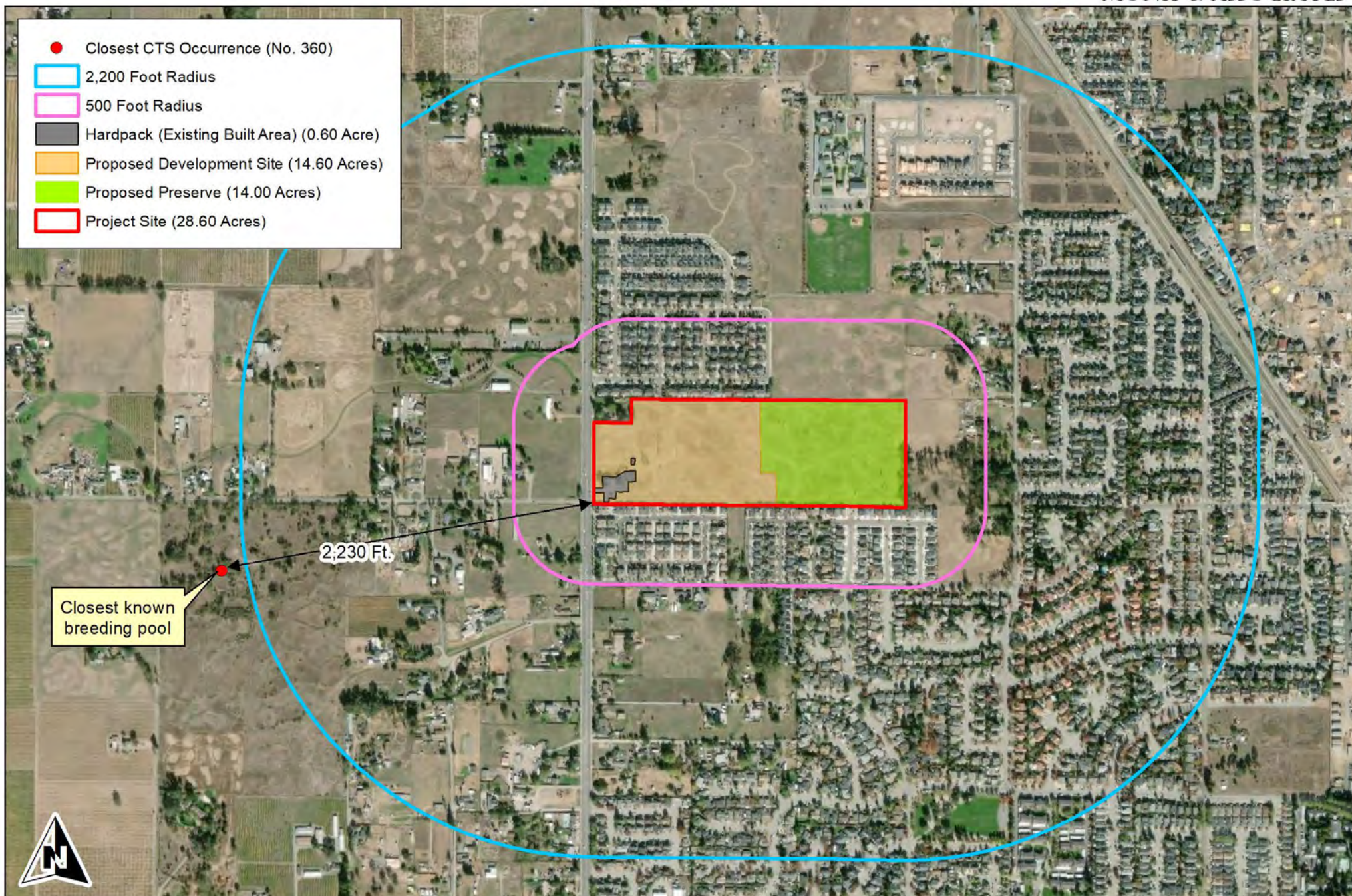


Figure 11. Closest Known Occurrence of
 CTS to the Stonebridge, 2220 Fulton Road Project Site
 (Source: CDFW CNDDDB Records)

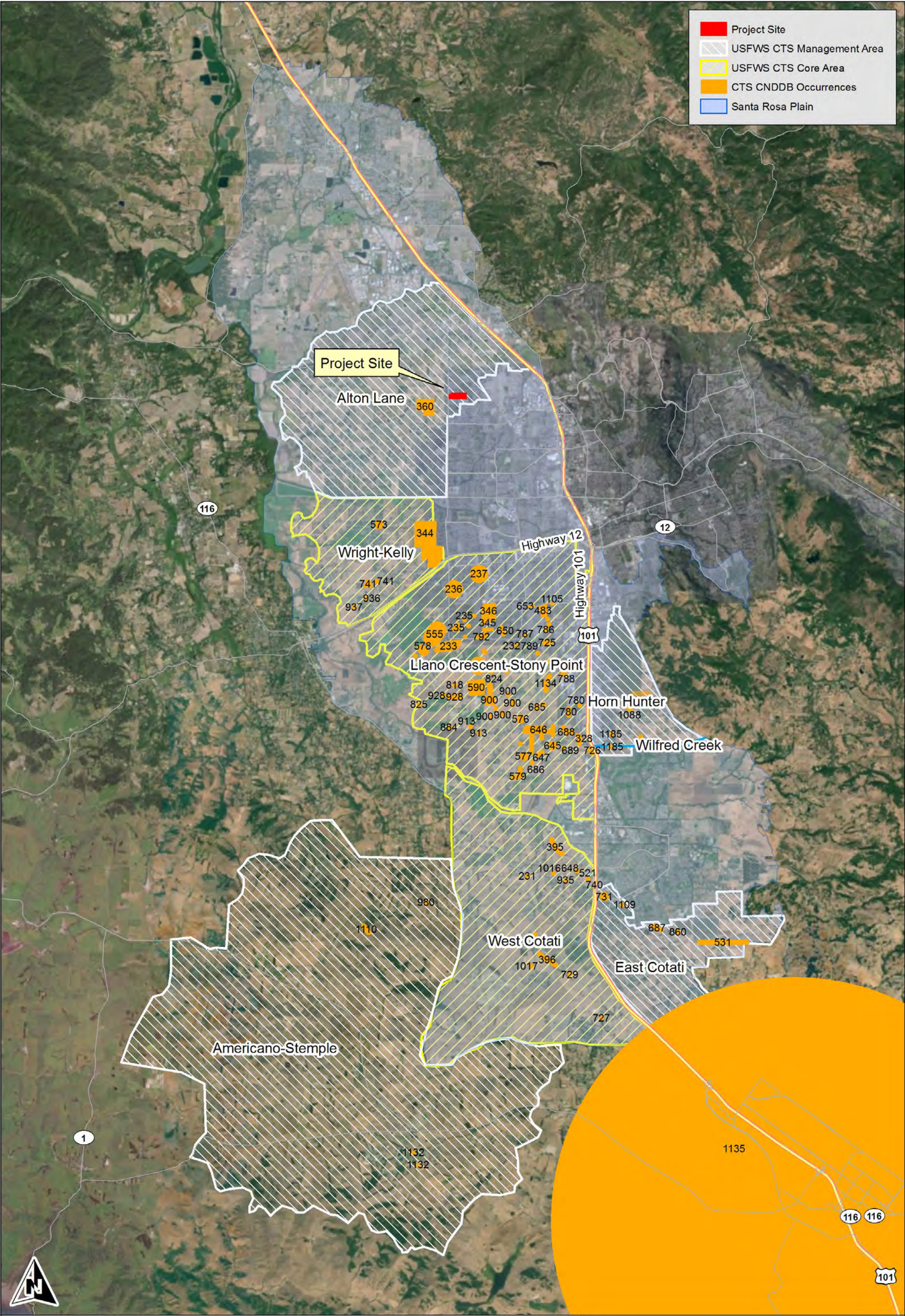


Figure 12. Santa Rosa Plain California Tiger Salamander Core and Management Areas (USFWS 2016) in the Vicinity of the Stonebridge, 2220 Fulton Road Project Site

Table 1**Plants Observed at the Stonebridge, 2220 Fulton Road Project Site****Gymnosperms****Cupressaceae**

<i>Hesperocyparis macrocarpa</i>	Monterey cypress
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Pinaceae

<i>Pinus radiata</i>	Monterey pine
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Angiosperms - Dicots**Apiaceae**

<i>Daucus pusillus</i>	Rattlesnake weed
<i>Eryngium aristulatum</i> var. <i>aristulatum</i>	California coyote-thistle
* <i>Foeniculum vulgare</i>	Sweet fennel
<i>Sanicula bipinnatifida</i>	Purple sanicle
* <i>Torilis nodosa</i>	Knotted hedge-parsley

Araliaceae

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

<i>Achyrachaena mollis</i>	Blow-wives
<i>Agoseris heterophylla</i> var. <i>heterophylla</i>	False dandelion
<i>Anaphalis margaritacea</i>	Pearly everlasting
* <i>Anthemis cotula</i>	Mayweed
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	Coyote brush
* <i>Carduus pycnocephalus</i> subsp. <i>pycnocephalus</i>	Italian thistle
* <i>Cichorium intybus</i>	Chicory
* <i>Cirsium vulgare</i>	Bull thistle
* <i>Cotula coronopifolia</i>	Brass-buttons
<i>Erigeron canadensis</i>	Horseweed
* <i>Helminthotheca echioides</i>	Bristly ox-tongue
* <i>Hypochaeris glabra</i>	Smooth cat's-ear
* <i>Hypochaeris radicata</i>	Rough cat's-ear
* <i>Lactuca saligna</i>	Willow lettuce
* <i>Lactuca serriola</i>	Prickly lettuce
<i>Lasthenia burkei</i>	Burke's goldfields
<i>Lasthenia glaberrima</i>	Smooth goldfields
* <i>Leontodon saxatilis</i>	Long-beaked hawkbit
* <i>Matricaria chamomilla</i>	German chamomile
* <i>Pseudognaphalium luteoalbum</i>	Everlasting cudweed
* <i>Senecio vulgaris</i>	Common groundsel
* <i>Soliva sessilis</i>	Field burrweed
* <i>Sonchus asper</i> subsp. <i>asper</i>	Prickly sow-thistle
* <i>Sonchus oleraceus</i>	Common sow-thistle
* <i>Taraxacum officinale</i>	Common dandelion
* <i>Tragopogon porrifolius</i>	Common salsify
<i>Xanthium strumarium</i>	Cocklebur

* Indicates a non-native species

Table 1**Plants Observed at the Stonebridge, 2220 Fulton Road Project Site****Boraginaceae**

<i>Plagiobothrys bracteatus</i>	Bracted popcornflower
<i>Plagiobothrys stipitatus</i> var. <i>stipitatus</i>	Showy Great Valley popcornflower
<i>Plagiobothrys undulatus</i>	Wavy-stemmed popcornflower

Brassicaceae

* <i>Brassica nigra</i>	Black mustard
* <i>Capsella bursa-pastoris</i>	Shepherd's purse
<i>Cardamine oligosperma</i>	Few-seed bittercress
* <i>Hirschfeldia incana</i>	Short-podded mustard
<i>Lepidium nitidum</i>	Shining peppergrass
* <i>Raphanus sativus</i>	Wild radish

Campanulaceae

<i>Downingia concolor</i> var. <i>concolor</i>	Downingia
<i>Downingia cuspidata</i>	Toothed downingia

Caryophyllaceae

* <i>Cerastium glomeratum</i>	Mouse-ear chickweed
* <i>Stellaria media</i>	Common chickweed

Convolvulaceae

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

<i>Crassula aquatica</i>	Water pygmy-weed
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Cucurbitaceae

<i>Marah fabacea</i>	Wild cucumber
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Euphorbiaceae

<i>Croton setiger</i>	Turkey mullein
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Fabaceae

<i>Acmispon brachycarpus</i>	Short podded lotus
* <i>Lotus corniculatus</i>	Birdfoot trefoil
<i>Lupinus bicolor</i>	Bicolored lupine
<i>Lupinus nanus</i>	Sky lupine
* <i>Medicago polymorpha</i>	California burclover
<i>Trifolium depauperatum</i>	Dwarf sack clover
* <i>Trifolium dubium</i>	Little hop clover
* <i>Trifolium repens</i>	White clover
* <i>Trifolium subterraneum</i>	Subterranean clover
<i>Trifolium variegatum</i>	White-tip clover
<i>Trifolium willdenovii</i>	Tomcat clover
* <i>Vicia benghalensis</i>	Purple vetch
* <i>Vicia cracca</i>	Bird vetch
* <i>Vicia sativa</i>	Common vetch

Fagaceae

<i>Quercus agrifolia</i> var. <i>agrifolia</i>	Coast live oak
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Table 1**Plants Observed at the Stonebridge, 2220 Fulton Road Project Site****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

Juglandaceae

* <i>Juglans regia</i>	English walnut
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Lamiaceae

* <i>Mentha pulegium</i>	Pennyroyal
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Limnanthaceae

<i>Limnanthes douglasii</i> subsp. <i>nivea</i>	Douglas' meadowfoam
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Lythraceae

* <i>Lythrum hyssopifolia</i>	Hyssop loosestrife
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Malvaceae

* <i>Malva nicaeensis</i>	Bull mallow
<i>Sidalcea calycosa</i> subsp. <i>calycosa</i>	Annual checker mallow

Myrsinaceae

* <i>Lysimachia arvensis</i>	Scarlet pimpernel
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Myrtaceae

* <i>Eucalyptus globulus</i>	Blue gum
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Onagraceae

<i>Epilobium brachycarpum</i>	Summer cottonweed
<i>Taraxia ovata</i>	Sun cup

Orobanchaceae

* <i>Parentucellia viscosa</i>	Yellow glandweed
<i>Triphysaria versicolor</i> subsp. <i>faucibarbat</i>	Yellow owl's-clover

Papaveraceae

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

<i>Callitriche heterophylla</i> var. <i>heterophylla</i>	Larger water-starwort
<i>Callitriche marginata</i>	Winged water-starwort
<i>Gratiola ebracteata</i>	Bractless hedge-hyssop
<i>Plantago erecta</i>	Plantain
* <i>Plantago lanceolata</i>	English plantain
<i>Veronica peregrina</i> subsp. <i>xalapensis</i>	Purslane speedwell

Polygonaceae

* <i>Polygonum aviculare</i>	Common knotweed
* <i>Rumex acetosella</i>	Sheep sorrel
* <i>Rumex crispus</i>	Curly dock
* <i>Rumex pulcher</i>	Fiddle dock

Table 1**Plants Observed at the Stonebridge, 2220 Fulton Road Project Site****Ranunculaceae**

<i>Ranunculus californicus</i>	California buttercup
<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup
* <i>Ranunculus muricatus</i>	Spiny-fruit buttercup
<i>Ranunculus pusillus</i>	Low buttercup

Rosaceae

* <i>Prunus cerasifera</i>	Cherry plum
<i>Prunus sp.</i>	Prunus
* <i>Rubus armeniacus</i>	Himalayan blackberry

Angiosperms -Monocots**Agavaceae**

<i>Chlorogalum pomeridianum</i> var. <i>pomeridianum</i>	Soap plant
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Cyperaceae

<i>Cyperus eragrostis</i>	Tall flatsedge
<i>Eleocharis macrostachya</i>	Creeping spikerush

Juncaceae

<i>Juncus bufonius</i>	Toad rush
* <i>Juncus capitatus</i>	Dwarf rush
<i>Juncus tenuis</i>	Slender rush

Juncaginaceae

<i>Triglochin scilloides</i>	Flowering quillwort
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Poaceae

* <i>Aira caryophylla</i>	Silver European hairgrass
* <i>Anthoxanthum aristatum</i> subsp. <i>aristatum</i>	Annual vernal grass
* <i>Avena barbata</i>	Slender wild oat
* <i>Briza maxima</i>	Rattlesnake grass
* <i>Briza minor</i>	Small quaking grass
<i>Bromus carinatus</i> var. <i>carinatus</i>	California brome
* <i>Bromus diandrus</i>	Ripgut grass
* <i>Bromus hordeaceus</i>	Soft chess
* <i>Bromus madritensis</i> subsp. <i>madritensis</i>	Foxtail chess
* <i>Cynodon dactylon</i>	Bermudagrass
* <i>Cynosurus echinatus</i>	Dogtail Grass
<i>Danthonia californica</i>	California oatgrass
<i>Deschampsia danthonioides</i>	Annual hairgrass
* <i>Elymus caput-medusae</i>	Medusahead
* <i>Festuca bromoides</i>	Brome fescue
* <i>Festuca myuros</i>	Rattail sixweeks grass
* <i>Festuca perennis</i>	perennial ryegrass
<i>Hordeum brachyantherum</i>	Meadow barley
* <i>Hordeum marinum</i> subsp. <i>gussoneanum</i>	Mediterranean barley
* <i>Hordeum murinum</i> subsp. <i>leporinum</i>	Hare barley
* <i>Phalaris aquatica</i>	Harding grass
<i>Pleuropogon californicus</i> var. <i>californicus</i>	Annual semaphore grass

* Indicates a non-native species

Table 1

Plants Observed at the Stonebridge, 2220 Fulton Road Project Site

<i>*Poa annua</i>	Annual bluegrass
<i>*Polypogon monspeliensis</i>	Annual beard grass
Themidaceae	
<i>Brodiaea elegans subsp. elegans</i>	Harvest brodiaea
<i>Triteleia hyacinthina</i>	White brodiaea

* Indicates a non-native species

Table 2
Wildlife Observed at the Stonebridge, 2220 Fulton Road Project Site

Amphibians	
Sierran treefrog	<i>Pseudacris sierra</i>
Reptiles	
California red-sided garter snake	<i>Thamnophis sirtalis infernalis</i>
Birds	
lesser yellow legs	<i>Tringa flavipes</i>
Snowy egret	<i>Egretta thula</i>
Mallard	<i>Anas platyrhynchos</i>
Mourning dove	<i>Zenaida macroura</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>
Northern mockingbird	<i>Mimus polyglottos</i>
European starling	<i>Sturnus vulgaris</i>
Cedar waxwing	<i>Bombycilla cedrorum</i>
California towhee	<i>Pipilo crissalis</i>
Mammals	
Botta's pocket gopher	<i>Thomomys bottae</i>
Raccoon	<i>Procyon lotor</i>

Table 3
Special-Status Plants Known to Occur Within Two Miles of the Stonebridge Project Site

Family Taxon Common Name	Status*	Flowering Period	Habitat	Area Locations	Probability on Project Site
Asteraceae					
<i>Blennosperma bakeri</i> Sonoma sunshine	Fed: FE State: CE CNPS: Rank 1B.1	February-April	Valley and foothill grassland (mesic); vernal pools.	Closest record for this species is a historic record on the project site (Occurrence No. 10, mapped by CNDDDB as a polygon covering several properties).	None. Not observed onsite in 2015, 2016, 2017, or 2019 appropriately timed surveys. No impact to plant expected from development; the Preserve will provide habitat. See text.
<i>Hemizonia congesta congesta</i> White seaside tarplant	Fed: - State: - CNPS: Rank 1B.2	April-November	Valley and foothill grassland. 20 to 560 meters. Clay soils	Closest record for this species located approximately 0.6-mile south of the project site (Occurrence No. 23).	None. Was not observed during years of appropriately timed surveys. No impact expected.
<i>Lasthenia burkei</i> Burke's goldfields	Fed: FE State: CE CNPS: Rank 1B.1	April-June	Meadows and seeps (mesic); vernal pools.	Observed on the project site and also 0.6-mile south of the project site (Occurrence No. 19 and 23).	High. Was observed during appropriately timed surveys. Will be protected in a habitat Preserve. See text.
Campanulaceae					
<i>Downingia pusilla</i> Dwarf downingia	Fed: - State: - CNPS: Rank 2.2	March-May	Valley and foothill grassland (mesic); vernal pools.	Closest record for this species located approximately 0.4-mile west of the project site (Occurrence No. 80).	None. Was not observed during years of appropriately timed surveys. No impact expected.
Liliaceae					
<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).	Closest record for this species located in the vicinity of the project site (Occurrence No. 1).	None. No suitable habitat onsite. It was not observed during years of appropriately timed surveys. No impact expected.

Table 3
Special-Status Plants Known to Occur Within Two Miles of the Stonebridge Project Site

Family Taxon Common Name	Status*	Flowering Period	Habitat	Area Locations	Probability on Project Site
Limnanthaceae					
<i>Limnanthes vinculans</i> Sebastopol meadowfoam	Fed: FE State: CE CNPS: Rank 1B.1	April-May	Meadows (mesic); vernal pools.	Closest record for this species located approximately 0.4 mile west of the project site (Occurrence No. 21).	None. Not observed onsite during years of appropriately timed surveys. No impact to plant expected from development. Regardless, the Preserve will provide habitat. See text.
Polemoniaceae					
<i>Navarretia leucocephala bakeri</i> Baker's navarretia	Fed: - State: - CNPS: Rank 1B.1	May-July	Cismontane woodland; lower montane coniferous forest; meadows (mesic); valley and foothill grassland; vernal pools.	Closest record for this species located approximately 0.6-mile south of the project site (Occurrence No. 20).	None. Was not observed during years of appropriately timed surveys. No impact expected.
Ranunculaceae					
<i>Ranunculus lobbii</i> Lobb's aquatic buttercup	Fed: - State: - CNPS: Rank 4	March-May	Cismontane woodland; north coast coniferous forest; valley and foothill grassland; vernal pools; [mesic].	Observed in the wetlands onsite.	High. Observed during surveys onsite. Will be protected in the onsite habitat Preserve.

Table 3**Special-Status Plants Known to Occur Within Two Miles of the Stonebridge Project Site**

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

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 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)

Rank 3.2 - Plants about which we need more information (Review List)

Rank 3.3 - Plants about which we need more information (Review List)

Rank 3.4 - Plants about which we need more information (Review List)

Rank 4 - Plants of limited distribution - a watch list

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)

Table 4**Special-Status Wildlife Known to Occur Within Two Miles of the Stonebridge, 2220 Fulton Road Project Site**

Species	*Status	Habitat	Closest Locations	Probability on Project Site
Fish				
Coho salmon - Central California ESU <i>Oncorhynchus kisutch</i>	Fed: FE State: CE Other:	Federal listing = pops between Punta Gorda & San Lorenzo River. State listing = pops south of San Francisco Bay only. Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen.	Closest record for this species located 3.0 miles north of the project site (Occurrence No. 25)	None. No stream, creeks, or other drainages onsite. No impacts expected.
Amphibians				
California tiger salamander (So Co DPS) <i>Ambystoma californiense</i>	Fed: FE 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 located 0.42- mile west of the project site (Occurrence No. 360)	Low to None. No records for CTS east of Fulton Road. Extensive studies completed in area with negative findings. Protocol study onsite underway. 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 located 0.1 -mile northwest of the project site (Occurrence No. 525)	None. No streams, drainages or other semi-permanent water sources onsite. Seasonal wetlands onsite dry too quickly to provide habitat. No impact expected.

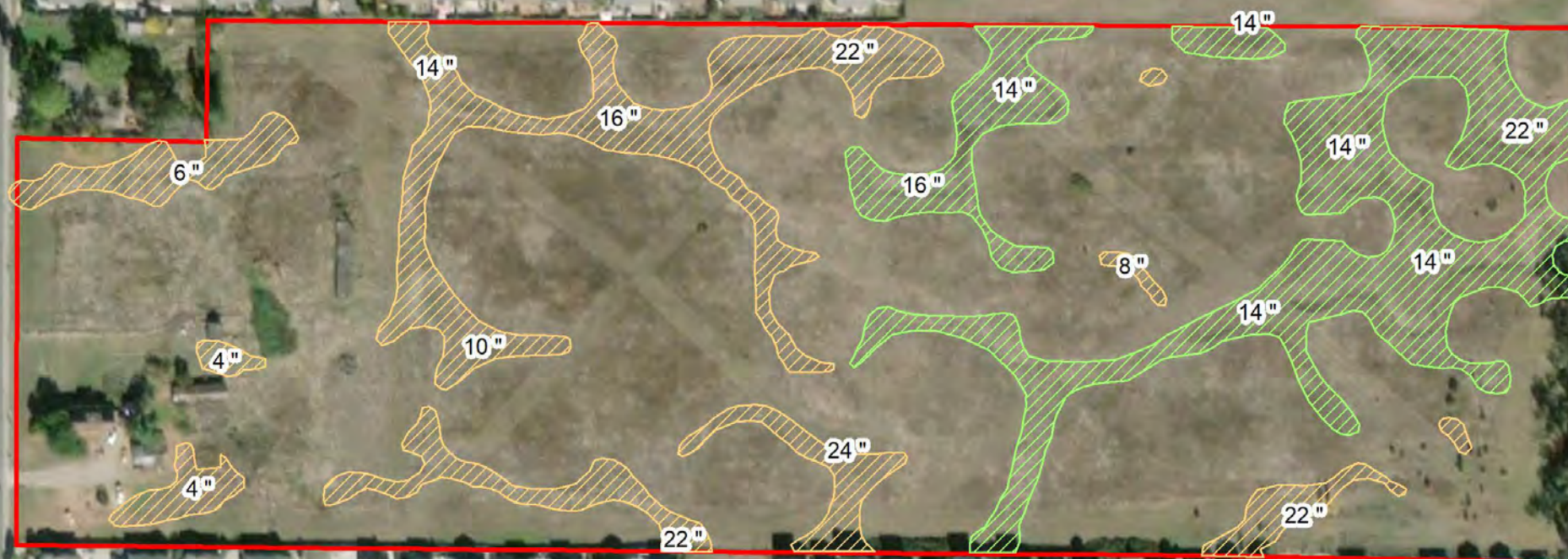
Table 4**Special-Status Wildlife Known to Occur Within Two Miles of the Stonebridge, 2220 Fulton Road Project Site**

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

Maximum Pool Depths Measured on March 28, 2019

- Occupied Burke's goldfields (149,928 Sq. Ft., 3.44 Acres)
- Suitable Burke's goldfields (134,526 Sq. Ft., 3.09 Acres)
- Project Site (28.5 Acres)



Woodbridge



0 50 100 200 300 400 500 Feet

Monk & Associates
Environmental Consultants
1136 Saranap Avenue, Suite Q
Walnut Creek, California 94595
(925) 947-4867

Exhibit A. Maximum Pool Depths
Stonebridge, 2220 Fulton Road Project Site
Santa Rosa, California

Aerial Photograph Source: ESRI
Map Preparation Date: June 24, 2019

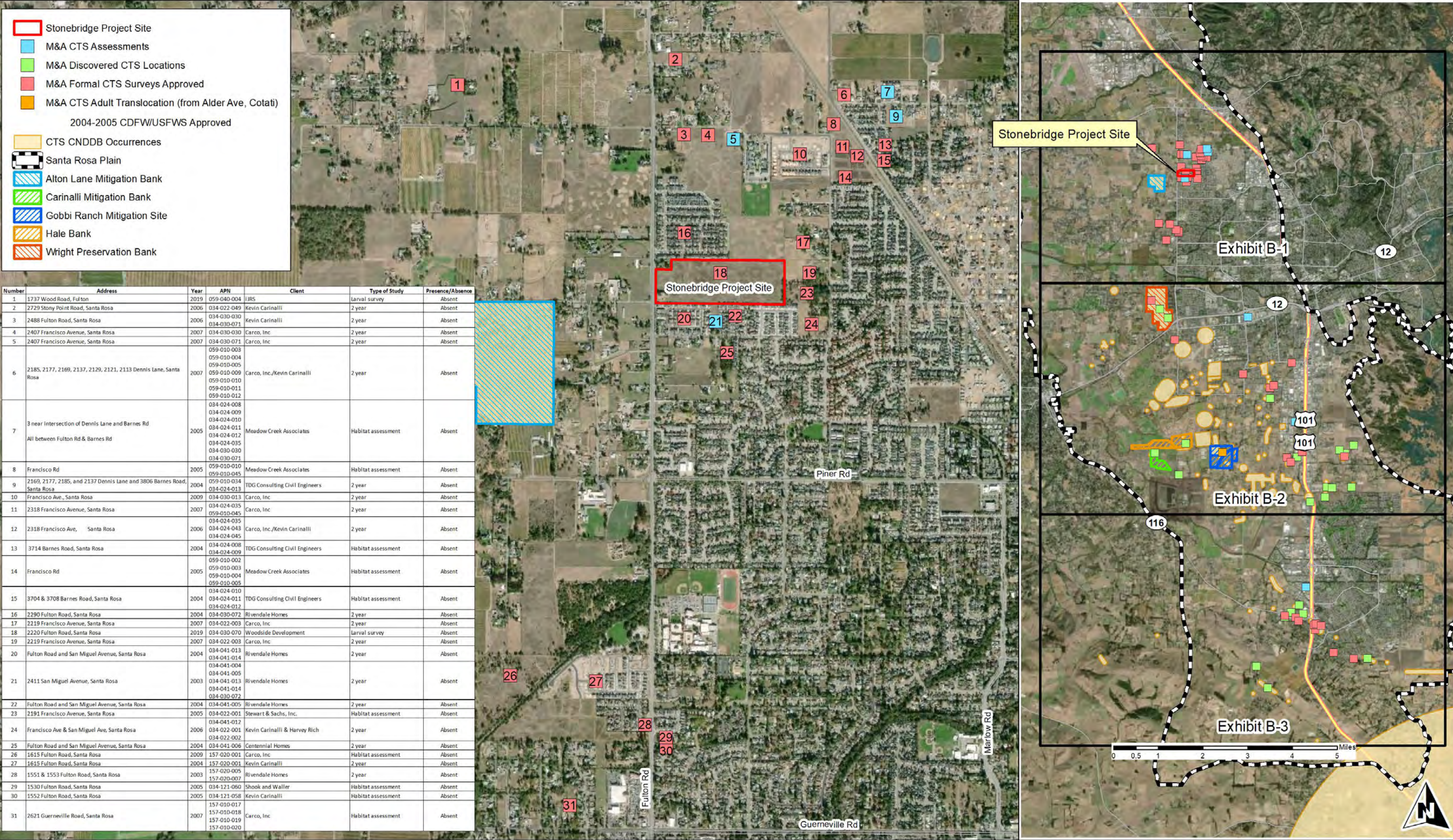


Exhibit B-1. Monk & Associates CTS Studies and CTS Discoveries
on the Santa Rosa Plain
From CDFW CNDDDB & M&A Studies

M&A CTS Assessments

M&A Discovered CTS Locations

M&A Formal CTS Surveys Approved

M&A CTS Adult Translocation (from Alder Ave, Cotati)

2004-2005 CDFW/USFWS Approved

CTS CNDDDB Occurrences

Santa Rosa Plain

Alton Lane Mitigation Bank

Carinalli Mitigation Bank

Gobbi Ranch Mitigation Site

Hale Bank

Wright Preservation Bank

Number	Address	Year	APN	Client	Type of Study	Presence/Absence
32	Slippery Rock Mitigation Bank, Santa Rosa	2004	130-010-053	Rivendale Homes	Salvage surveys	Absent
33	Wright Preserve Project Site	2005	035-051-023	Rivendale Homes	Salvage surveys	Present
34	Wright Preserve Project Site	2005	035-051-014	Rivendale Homes	Salvage surveys	Present
35	1055 South Wright Road, Santa Rosa	2008	035-072-023	Charlie Traboulsi	Habitat assessment	Present
36	2040 Stony Point Road, Santa Rosa	2004	125-071-015	Cypress Equities Northwest, LLC	Habitat assessment	Absent
37	2677 Stony Point Road, Santa Rosa	2003	134-022-047	Henry Dominguez	Habitat assessment	Absent
38	740 Hearn Avenue, Santa Rosa	2003	144-450-002	Sutter Investment Company	2 year	Absent
39	2868 Dutton Meadow Santa Rosa	2005	043-112-035 043-112-050 043-112-005	Self Storage Management Company, LLC	Habitat assessment	Absent
40	2903 Dutton Meadow Drive, Santa Rosa	2002	043-111-007	Ryder Companies	2 year	Absent
41	3011 Dutton Meadows Drive, Santa Rosa	2004	043-121-007	Charlie Traboulsi	2 year	Present
42	Moorland Avenue & West Robles Avenue, Santa Rosa	2008	043-280-028	Poulsen Olson Investment Group	Habitat assessment / 2 year	Absent
43	Moorland Avenue & West Robles Avenue, Santa Rosa	2008	043-280-027	Poulsen Olson Investment Group	Habitat assessment / 2 year	Absent
44	Todd Road and Llano Road, Santa Rosa	2004	060-070-023	Carinalli Todd Road Mitigation Bank / Kevin Carinalli	Larval survey	Present
45	Todd Road and Llano Road, Santa Rosa	2004	134-051-025	Hale Mitigation Bank / Charlie Traboulsi	Larval survey	Present
46	3909 Walker Avenue, Santa Rosa	2006	134-201-016	Tesconi	2 year	Present
47	1026 TODD RD SANTA ROSA	2004/ 2005	134-151-040	Gobbi Ranch Mitigation Site	Translocation	
48	Ghillotti Avenue, Santa Rosa	2005	134-171-050	Ghillotti	2 year	Absent
49	Ghillotti Avenue, Santa Rosa	2005	134-171-028	Ghillotti	2 year	Absent
50	Todd Road and U.S. Highway 101, Santa Rosa	2011	134-171-055	SMART District and Aspen Environmental Group	2 year (one year completed by Garcia and Associates)	Present
51	Todd Road and U.S. Highway 101, Santa Rosa	2011	134-183-009	SMART District and Aspen Environmental Group	2 year (one year completed by Garcia and Associates)	Present
52	495 Hunters Lane, Santa Rosa	2013	045-131-012	Charlie Traboulsi	2 year	Present
53	Horn 4, Todd Road, Santa Rosa	2013	044-220-008	Charlie Traboulsi	2 year	Present
54	495 Hunters Lane, Santa Rosa	2013	045-131-012	Charlie Traboulsi	2 year	Present
55	Hunter Lane Extention, Santa Rosa	2004	045-131-012	TDG Consulting Civil Engineers	2 year	Present
56	Horn Avenue, Santa Rosa	2004	045-041-020	TDG Consulting Civil Engineers	2 year	Present
57	Horn Avenue, Santa Rosa	2004	045-162-030	TDG Consulting Civil Engineers	2 year	Present
58	464 Horn Avenue, Santa Rosa	2013	045-162-030	Charlie Traboulsi	2 year	Present
59	Horn Avenue, Santa Rosa	2004	045-041-020	TDG Consulting Civil Engineers	2 year	Present
60	Redwood Drive, Santa Rosa	2002	045-033-046	CalTrans	2 years	Present

Exhibit B-2. Monk & Associates CTS Studies and CTS Discoveries
on the Santa Rosa Plain
From CDFW CNDDDB & M&A Studies

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County: Sonoma
Aerial Photograph Source: ESRI
Map Preparation Date: June 24, 2019

M&A CTS Assessments

M&A Discovered CTS Locations

M&A Formal CTS Surveys Approved

CTS CNDDDB Occurrences

Santa Rosa Plain

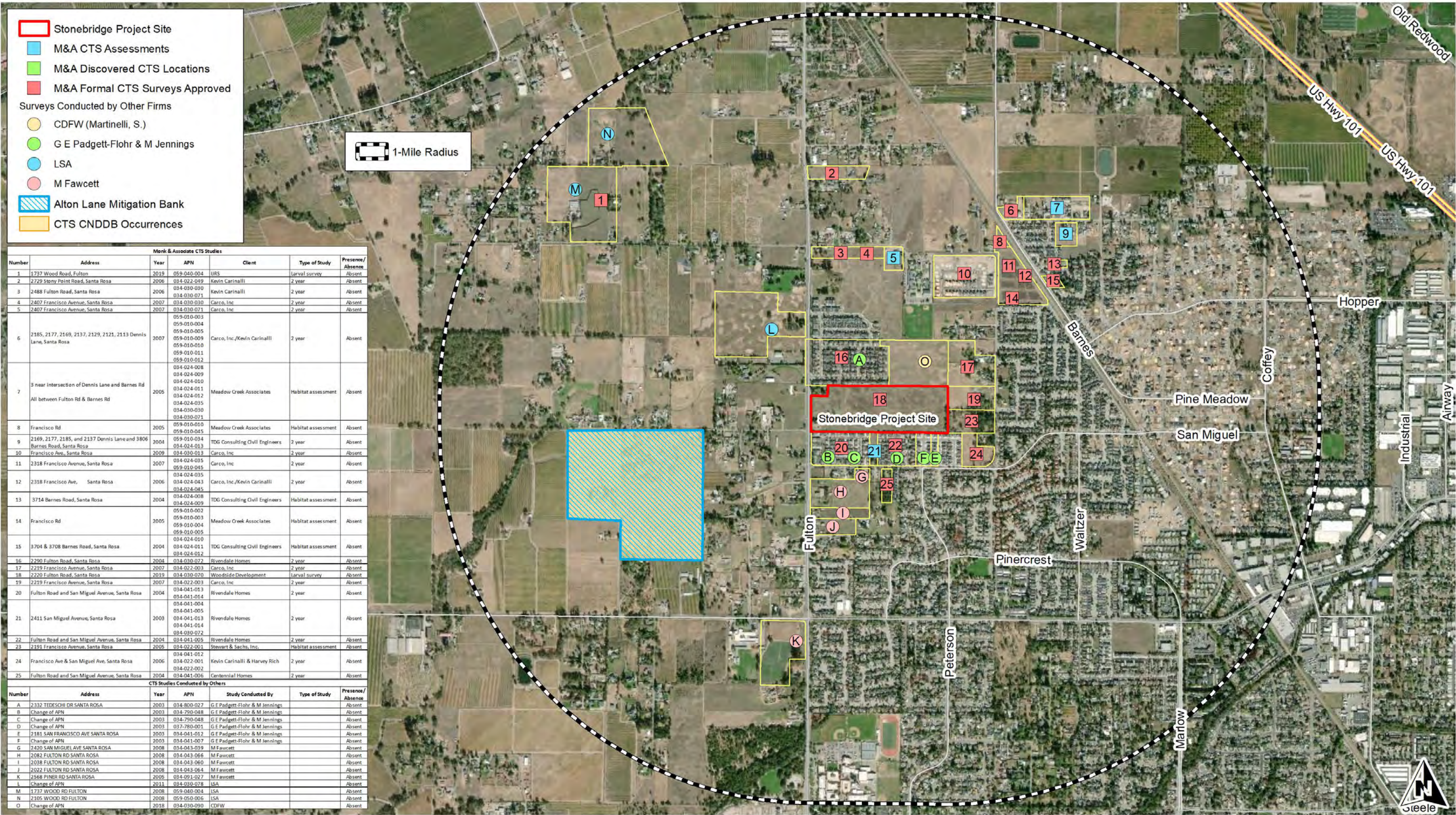


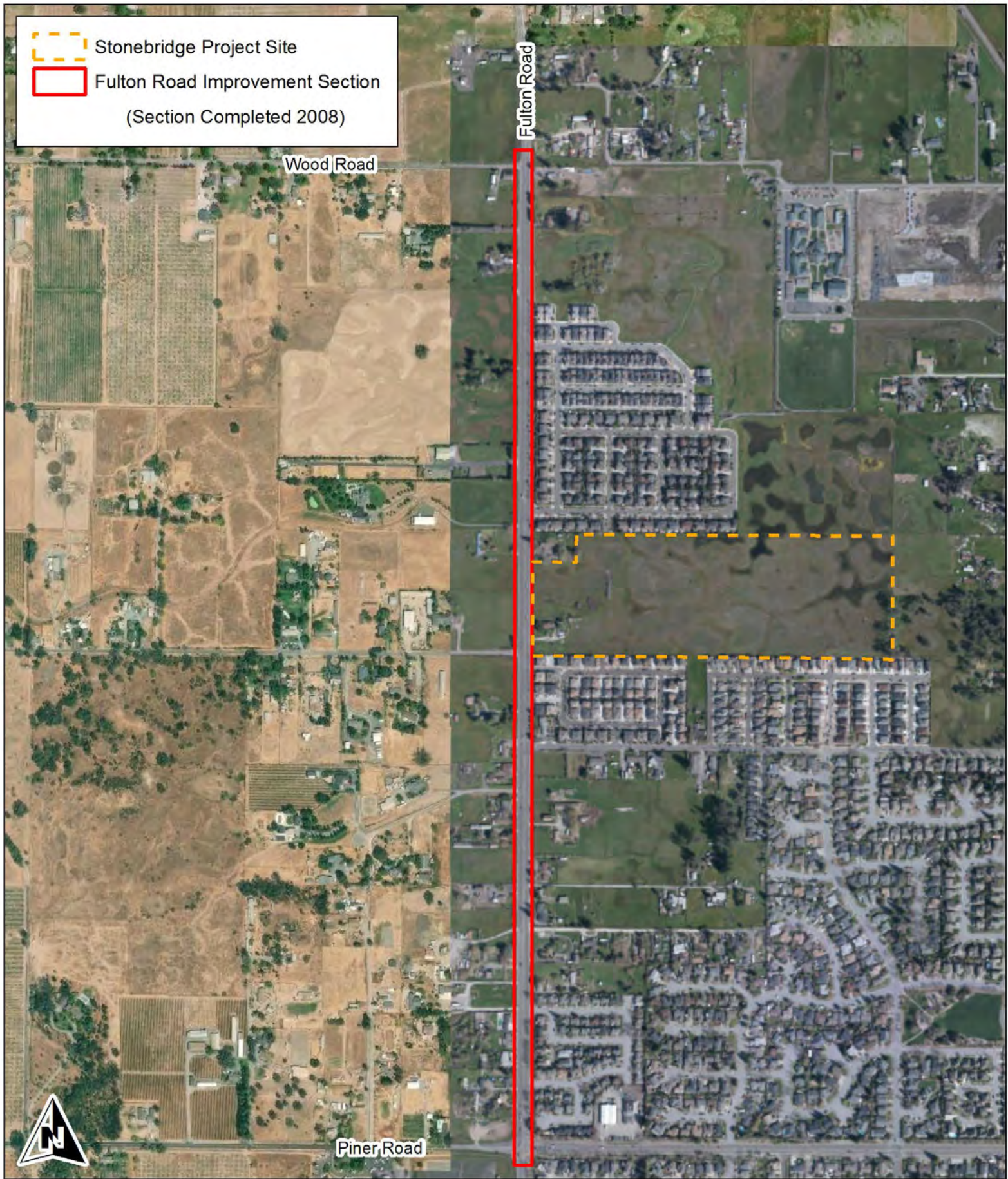
Number	Address	Year	APN	Client	Type of Study	Presence/Absence
61	Aaron and Portal Street, Cotati	2003	144-010-018	Dennis Key	Habitat assessment	Absent
62	Cotati Village, Cotati	2004	046-113-033	Monahan Pacific Company	2 year	Present
63	Ni be-Reds, Gravenstein Hwy, Cotati	2007	144-040-011	Monahan Pacific Company	2 years	Present
64	8028 Gravenstein Highway, Cotati	2006	144-100-001	Durenberger family	Habitat assessment	Absent
65	1765 Meda Avenue, Santa Rosa	2003	144-100-001	David Durenberger	Habitat assessment	Absent
66	850 West Cotati Avenue Cotati	2003	144-110-023	Harvey Rich	Larval survey	Absent
67	Sonoma Business Park	2000	046-286-019	Bennett Consolidate	Larval survey	Present
68	780 West Cotati Avenue, Cotati	2003	144-110-001	Harvey Rich	Larval survey	Absent
69	7801 Old Redwood Highway, Cotati	2009	144-170-008	Town Green Village / Thiessen Homes	2 year	Absent
70	7801 Old Redwood Highway, Cotati	2009	144-170-006 144-170-007	Town Green Village / Thiessen Homes	2 year	Absent
71	150 St. Joseph Way, Cotati	2004	144-170-009	Saint Joseph's Church	2 year	Absent
72	7883 & 7971 Old Redwood Highway, Cotati	2004	144-200-001 144-200-004	R&O Rental	2 year	Absent
73	100 Valparaiso Avenue, Cotati	2003	144-450-002	Colvin Group LLC	2 year	Absent
74	195 Eucalyptus Avenue, Cotati	2003	046-630-047	Michael Mead	Habitat assessment	Absent
75	505 Eucalyptus Avenue, Cotati	2003	046-231-018	Unknown	Larval survey	Present
76	Roblar Road & Stony Point Road, Cotati	2004	999-999-ROW	Drive By	Drive By	Present
77	Roblar Road & Stony Point Road, Cotati	1997	999-999-ROW	Drive By	Drive By	Present

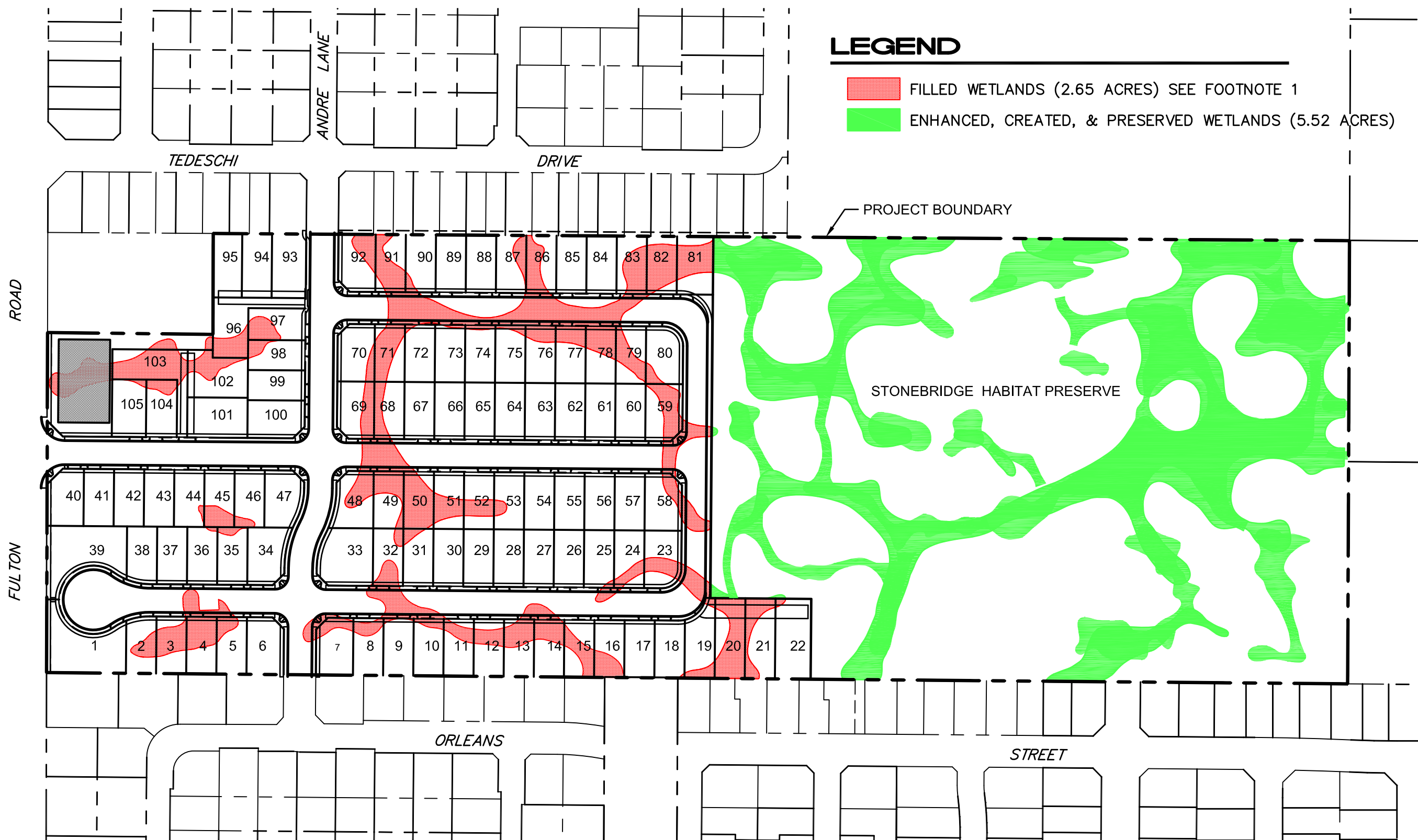
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Exhibit B-3. Monk & Associates CTS Studies and CTS Discoveries
on the Santa Rosa Plain
From CDFW CNDDDB & M&A Studies

County: Sonoma
Aerial Photograph Source: ESRI
Map Preparation Date: June 24, 2019







LEGEND

- FILLED WETLANDS (2.65 ACRES) SEE FOOTNOTE 1
- ENHANCED, CREATED, & PRESERVED WETLANDS (5.52 ACRES)

PROJECT DATA

NUMBER OF RESIDENTIAL LOTS – 105
DEVELOPMENT AREA – 14.6 ACRES
PRESERVE AREA – 14.0 ACRES
TOTAL SITE AREA 28.6 ACRES

AREA ROAD & SIDEWALK =4.7 ACRE
AREA BIORETENTION =0.4 ACRE
AREA RESIDENTIAL LOTS = 9.5 ACRE
TOTAL = 14.6 ACRE

FOOTNOTE 1: THE 2.65 ACRES OF IMPACTED WETLANDS INCLUDES 2.52 ACRES ON THE PROJECT SITE AND 0.13 ACRES ON THE PRESERVE TO ENHANCE THE FUNCTIONS AND SERVICES OF PRESERVE WETLANDS. NO OCCUPIED BURKE’S POOLS WOULD BE AFFECTED. SEE REPORT.

SCALE: 1"=150'

CIVIL DESIGN CONSULTANTS, INC.

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(707) 542-4830

ATTACHMENT A – PROPOSED PROJECT
STONEBRIDGE SUBDIVISION
SANTA ROSA, CALIFORNIA

JULY 2019

JOB NO.
17-114
SHEET NO.
1
OF 1 SHEET



LEGEND

- Subwatershed Divide A, B, C, D Watershed Divides
- Watershed Boundaries Drainages

<p>Applicant: Mr. David Jacobson Woodside Holdings, LP 47 Bellevue Road San Rafael, CA 94901</p> <p>Site: Woodside Holdings Property (A.P. 034-043-070) Santa Rosa, California</p>	 <p>No Scale</p>	<p>Attachment B. Existing Drainage Network and Watershed Boundaries on the Woodside Holdings Property</p>
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**RESULTS OF MULTI-YEAR SURVEY
FOR SPECIAL-STATUS PLANT SPECIES,
WOODSIDE HOLDINGS PROPERTY (A. P. NO. 034-043-070)
SANTA ROSA, CALIFORNIA**

Submitted on behalf of:

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March 30, 2018

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SANTA ROSA, CALIFORNIA**

1.0. SUMMARY

This report presents the findings of a multi-year survey conducted for special-status plant species on the approximately 28.6-ac Woodside Holdings property (A.P. No. 034-043-070), located in northwest Santa Rosa (Figure 1) on the west side of Fulton Road between San Miguel Avenue and Tedeschi Drive (Figure 2) (all figures at the end of the report). The site is located within the Santa Rosa Plain and the area covered by the Santa Rosa Plain Conservation Strategy.

Several site visits were made in 2015, 2016, and 2017. Based on visits in each of these years to reference sites for the three plant species listed as endangered on the Santa Rosa Plain, the survey in each year was conducted within the “windows” during which the three target species either were in flower or were otherwise readily identifiable. The survey methods used were consistent with the guidelines established by the California Department of Fish and Wildlife and the U. S. Fish and Wildlife Service for assessing the effects of proposed developments on rare and endangered plants and plant communities.

Historic records indicate that both Sonoma sunshine and Burke’s goldfields have been observed on the property in the past. The three years of survey produced observations of Burke’s goldfields at several locations but Sonoma sunshine was not observed on the property in any year.

2.0. PROPERTY LOCATION AND CONDITIONS

2.1. PROJECT SITE LOCATION

The Woodside Holdings property is a 28.6-acre parcel (A. P. No. 034-043-070) located northwest of downtown Santa Rosa (Figure 1) (all figures at the end of the report) on the east side of Fulton Road between San Miguel Avenue and Tedeschi Drive (Figure 2). The site is located within the Santa Rosa Plain and the area covered by the Santa Rosa Plain Conservation Strategy.

2.2. HISTORIC AND CURRENT LAND USES

The Woodside Holdings property is a rural residential property occupied currently by tenants who have established a garden, use many of the outbuildings, and park their vehicles on hardscaped (gravel-surfaced) areas and in other areas that are regularly mowed around the residence and other structures. Twenty years ago, the property was used to graze cattle and horses and to produce hay. Currently, the eastern three-quarters of the property is mowed annually for fuel control. Fill in the southeast corner of the Woodside Holdings property suggest that structures may have once been present there. Apparently planted trees (two rows) visible on the 1942 aerial photograph available through on-line the Sonoma County Vegetation Mapping and Lidar Project and a scattered fruit trees indicate that an orchard may once have been planted in the northeast half of the Woodside Holdings property but has long been abandoned; all but eight trees had been removed prior to 1942.

2.3. TOPOGRAPHY AND DRAINAGE

The project site is relatively flat, except for where depressional wetland habitat is present. The elevation over most of the site ranges from approximately 138 ft in the depressional wetlands, including the natural drainages, to 142 ft on the top of mounds where they remain intact in the eastern two-thirds of the property. The total difference in elevation is approximately four feet.

The drainage patterns on the site are complex and have been modified slightly by development of adjacent lands. The property contains eight small watersheds (Figure 3) (Stromberg 2015) all but one of which are drained by a swale or swale network and all of which reflect the natural topography except the watershed in the southwest corner of the site where construction of a driveway, parking areas, a residence, gardens, and several outbuildings long ago changed the drainage pattern.

Most significantly, the flow of water from the site is blocked on both sides of the property. Before the Woodbridge subdivision was constructed, water flowed from a pair of watersheds toward a six-foot-deep ditch excavated at the headwaters of Abramson Creek that carried water to a culvert below Fulton Road. The largest, best defined swale on the site drains a large part of the site toward a drop inlet at the edge of the Montage subdivision. Another swale also carries water toward the Montage subdivision but, absent a drop inlet, water collects against a retaining wall. Small swales drain Watersheds 5 and 7 to the south and water from Watershed 8 flows toward Fulton Road as sheet flow.

2.4. SOILS

The soils on the site are mapped by the Natural Resource Conservation Service (NRCS) (U. S. Soil Conservation Service 1978) as belonging to three phases of the Huichica loam series and to the ponded phase of the Clear Lake clay soil series. Huichica loam soils are mapped as being present over more than 60 percent of the site with Clear Lake clays restricted to the northcentral and northeastern part. The mapping is inaccurate; Clear Lake clays are present in less than an acre of the site and variants of the Huichica loam series occur over all but this small area.

Generally, Huichica loam soils are characterized by a water-restricting horizon in the form of a moderately well cemented hardpan with the capacity to perch water at the surface. In the native, undrained state, the Huichica loam series in depressional sites is a hydric soil.

Both the Huichica and the Clear Lake clay soils are considered a vernal pool soils by the Vernal Pool Task Force (CH2M Hill 1996). Applying the criteria developed by the National Technical Committee for Hydric Soils to the soils in Sonoma County, the NRCS field office in Santa Rosa (Soil Conservation Service 1992) developed a draft list of hydric soils that occur in Sonoma County. The ponded phase of the Huichica series and the Clear Lake clay series are classified as hydric soils. Although the actual presence of hydric soils must be determined in the field during the course of the delineation, experience indicates that the soils in the depressional landforms in terrain, i.e., the soils in the swales and in the lower ground surrounding the mima mounds, are generally considered to be hydric soils.

2.5. EXISTING HABITAT

The habitat on the Woodside Holdings property includes upland annual grasslands and seasonal wetlands. Trees have been planted along the east property line and around the residence and the area around the residential is mowed. A complete list of plant species observed on the project site is presented in Appendix B. The general aspect of the vegetation is shown in Figure 3.

2.5.1. Seasonal Wetlands

The wetlands on the Woodside Holdings property (Figure 4) are palustrine emergent wetlands (Cowardin et al 1979). According to the California Rapid Assessment Method (CRAM) (California Wetlands Monitoring Workgroup 2013), the wetlands on the Woodside Holdings property would be considered a vernal pool system. No CRAM assessment has been conducted.

The area of the seasonal wetland on the site is approximately 6.31 acres. The wetlands are a mosaic of vernal pools connected by swales. The maximum depth of standing water in the vernal pools ranges from six inches to more than 18 inches.

In the bottoms of vernal pools and the deeply inundated swales (characterized by local high points that cause water to collect upgradient), dominant and common species include California semaphore grass (*Pleuropogon californicus*), meadow barley (*Hordeum brachyantherum*), and curly dock (*Rumex crispus*), smooth goldfields (*Lasthenia glaberrima*), pennyroyal (*Mentha pulegium*), and coyote thistle (*Eryngium aristulatum*). The vegetation at the margins is typically indicative of the

transition into upland habitat. Dominant and common plant species at the margins include perennial ryegrass (*Festuca perennis*), Mediterranean barley (*Hordeum marinum gussoneanum*), bristly oxtongue (*Hemithotheca echioides*), prickly lettuce (*Lactuca serriola*), and sheep sorrel (*Rumex acetosella*).

Upland plant species that occur at the wetland margins include Harding grass (*Phalaris aquatica*), pea (*Lathyrus cicera*), medusahead (*Taeniatherum caput-medusae*), common vetch (*Vicia sativa*), rough cat's ear (*Hypochaeris radicata*), hedge bindweed (*Convolvulus arvensis*), soft chess (*Bromus hordeaceus*), and cutleaf geranium (*Geranium dissectum*).

2.5.2. Upland Annual Grassland

The upland annual grassland is dominated by non-native annual and perennial introduced and naturalized species. The dominant and more common species include slender oats (*Avena barbata*), hare barley (*Hordeum murinum*), subterranean clover (*Trifolium subterraneum*), vernal grass (*Anthoxanthum aristatum*), perennial ryegrass (*Festuca perennis*), six-weeks fescue (*Vulpia bromoides*), soft chess (*Bromus hordeaceus*), lesser trefoil (*Trifolium dubium*), several species of vetch (*Vicia sativa*, *V. cracca*, *V. villosa varia*), sheep sorrel (*Rumex acetosella*), and cut-leaf geranium (*Geranium dissectum*). Less common species include ripgut brome (*Bromus diandrus*), hedge bindweed (*Convolvulus arvensis*), bristly ox-tongue (*Helminthotheca echioides*), prickly lettuce (*Lactuca serriola*), several species of filaree (*Erodium cicutarium*, *E. botrys*, *E. moschatum*), rough and smooth cat's ear (*Hypochaeris radicata* and *H. glabra*), California poppy (*Eschscholzia californica*), sun cups (*Camissonia ovata*), toad rush (*Juncus bufonius*), capitate rush (*Juncus capitatus*), bird'sfoot trefoil (*Lotus corniculatus*), wooly trefoil (*Lotus humistratus*), medusahead grass (*Taeniatherum caput-medusae*), willow herb (*Epilobium brachycarpum*), mouse-ear chickweed (*Cerastium glomeratum*), and miniature lupine (*Lupinus bicolor*).

2.5.3. Woody Vegetation

Walnut trees (*Juglans* spp.), fruit trees (*Prunus* spp.), a single coast live oak (*Quercus agrifolia*) or coast live oak-interior live oak hybrid, a pine (*Pinus* sp.), a Monterrey cypress (*Hesperocyparis macrocarpa*), and ornamental shrubs have been planted around the residence and associated outbuildings in the western part of the site. A string of eucalyptus trees (*Eucalyptus globulus*) has also been planted just inside the eastern property line. A handful of coyote brush (*Baccharis pilularis* var. *consanguinea*) shrubs and eight small ornamental fruit trees (*Prunus* spp.) are also scattered across the eastern third of the site, apparent holdovers of an orchard, the remnants of which (two rows) visible on the 1942 aerial photograph available through on-line the Sonoma County Vegetation Mapping and Lidar Project (all but eight trees had been removed prior to 1942).

3.0. METHODS

Target special-status species were those listed in the draft Santa Rosa Plain Vernal Pool Ecosystem Preservation Plan in preparation for the Santa Rosa Plain Vernal Pool Task Force (CH2M Hill 1996) and identified in California Natural Diversity Data Base records. Target species include those species whose range includes the region and which, by virtue of their known occurrence in the vicinity, were considered to have the potential to occur on the site given their habitat requirements and the types of habitat present. These species are listed in the table in Appendix A.

The dates of the field visits were:

1. April 21 and 29, May 8, and July 21, 2015;
2. April 4, 14, and 27, May 6 and 19, 2016;
3. May 9 and 23, 2017.

Each wetland was surveyed completely each year. Non-wetland habitat was considered to provide suitable habitat for the upland target species were surveyed using a series of wandering transects. The survey was conducted within the “windows” during which all target species (those whose range and habitat affinities include the site, those observed in previous years on the site or on adjacent properties) either were in flower or would be readily identifiable to species. The surveys followed U. S. Fish and Wildlife Service’s (Service) (2005)¹ survey guidelines for the Santa Rosa Plain, the guidelines published by the California Department of Fish and Wildlife (CDFW)² for assessing the impacts of development on rare and endangered plant communities (2000), and the inventory guidelines published by the California Native Plant Society (2001).³

Distributional information for the three species listed as endangered by the federal government -- Sonoma sunshine (*Blennosperma bakeri*), Sebastopol meadowfoam (*Limnanthes vinculans*), and Burke’s goldfields (*Lasthenia burkei*) -- was obtained from Appendix B to the Vernal Pool Ecosystem Preservation Plan (CH2M Hill 1996). Information on distributional and habitat requirements of the upland species was obtained from flora (Mason 1975, Munz and Keck 1968, Best et al. 1996, Baldwin et al. 2012), other reports and surveys conducted for special-status species on the Santa Rosa Plain and properties in the vicinity, and the California Native Plant Society’s list of rare and endangered plant species in the state (Skinner and Pavlik 1994). Target species are

¹ U.S. Fish & Wildlife Service. nd. Guidelines for conducting and reporting botanical inventories for federally listed plants on the Santa Rosa Plain (modified from the September 23, 1996 Service guidelines for conducting and reporting botanical inventories for federally listed, proposed and candidate plants.

² California Department of Fish and Game. 2000. Guidelines for assessing the effects of proposed developments on rare and endangered plants and plant communities. May 4, 1984; revised May 8, 2000. 2 p.

³ CNPS (California Native Plant Society). 2001. Inventory of rare and endangered plants of California (sixth edition).

shown in Appendix A.

Nearby reference sites were checked prior to *and on the first survey date* in each of the three years. The reference sites included:

1. For Sebastopol meadowfoam – Carinalli-Todd Road Mitigation Bank, Gobbi Mitigation Site, Slippery Rock Conservation Bank, Hazel Mitigation Bank;
2. For Sonoma sunshine – Alton Lane Mitigation Site, Alton North Conservation Bank, Slippery Rock Conservation Bank, Carinalli-Todd Road Mitigation Bank;
3. For Burke's goldfields – Alton Lane Mitigation Site, Alton North Conservation Bank, the nearby Woodbridge Mitigation Site, Slippery Rock Conservation Bank, Hall Road Unity of the Santa Rosa Ecological Reserve (constructed wetlands in the southwest corner).

4.0. SURVEY RESULTS

4.1. SONOMA SUNSHINE

Figure 5 shows that Sonoma sunshine had been observed in the eastern quarter of the site. The figure shows both extant and current occurrences. Sonoma sunshine was not observed on the project site in the current protocol surveys.

All plant species observed during the conduct of the survey are listed in Appendix B.

4.2. BURKE'S GOLDFIELDS

Burke's goldfields also occurred historically on the Woodside Holdings property. The orange polygon in Figure 5 shows the limits of a broadly defined occurrence of Burke's goldfields that includes the north eastern third of the Woodside Holdings property, the Woodbridge Preserve (WP), the Leras property to the east of the Woodbridge Preserve, and the Kerry Ranch site to the east of the Woodside Holdings property. Several million Burke's goldfields have been observed during monitoring of the WP and the species persists in a small but declining colony on the Kerry Ranch site, but no Burke's goldfields has been observed on the Leras property by Stromberg in 2016.

Burke's goldfields was present in one colony on the SP in 2014 and four colonies in 2017 (Figure 6). Based on full counts, the annual maximum number of plants observed in the four colonies is estimated at 3,305 plants. Colony 1, observed in years prior to the three-year protocol surveys is situated along the eastern property line at the margin between a deep pool and an adjacent mound. The population at this location has fluctuated; over the three-year period the total number of plants has ranged from an estimated 720 plants to more than 1,500 plants.

Since 2015, Burke's goldfields has been observed at the three other locations along the northern SP boundary, the colonies developing from seed carried onto the SP from vernal pools on the WP. The number of plants and the extent of the colonies have continued to climb since the first plants were observed in Colony 2 in 2015, when 55 Burke's goldfields were observed in a 20-foot-long strip on the west side of the vernal pool and just inside the fence. In 2016, Colony 2 spread within the pool and by the spring of 2017, Colonies 3 and 4 had become established.

4.3. LOBB'S AQUATIC BUTTERCUP

Other special-status plant species that occur in the region include those listed in the Santa Rosa Plain Vernal Pool Ecosystem Preservation Plan (CH2M Hill 1996) and which, by virtue of their known nearby occurrence, habitat affinities, and the habitats present, could be considered to have the potential to occur on the Woodside Holdings property. These species include Bogg's Lake dodder (*Cuscuta howelliana*), a parasitic species on many vernal pool species, particularly *Eryngium*, Sebastopol meadowfoam (*Limnanthes vinculans*); small-flowered mesamint (*Pogogyne douglasii* ssp. *parviflora*); Lobb's aquatic buttercup; and many-flowered navarretia (*Navarretia pleiantha*).

Suitable habitat is present on the Woodside Holdings property for all of these special-status species but only Lobb's aquatic buttercup has been observed. The locations at which the species has been observed, including areas west of the Woodside Holdings property, are shown in Figure 6. Because

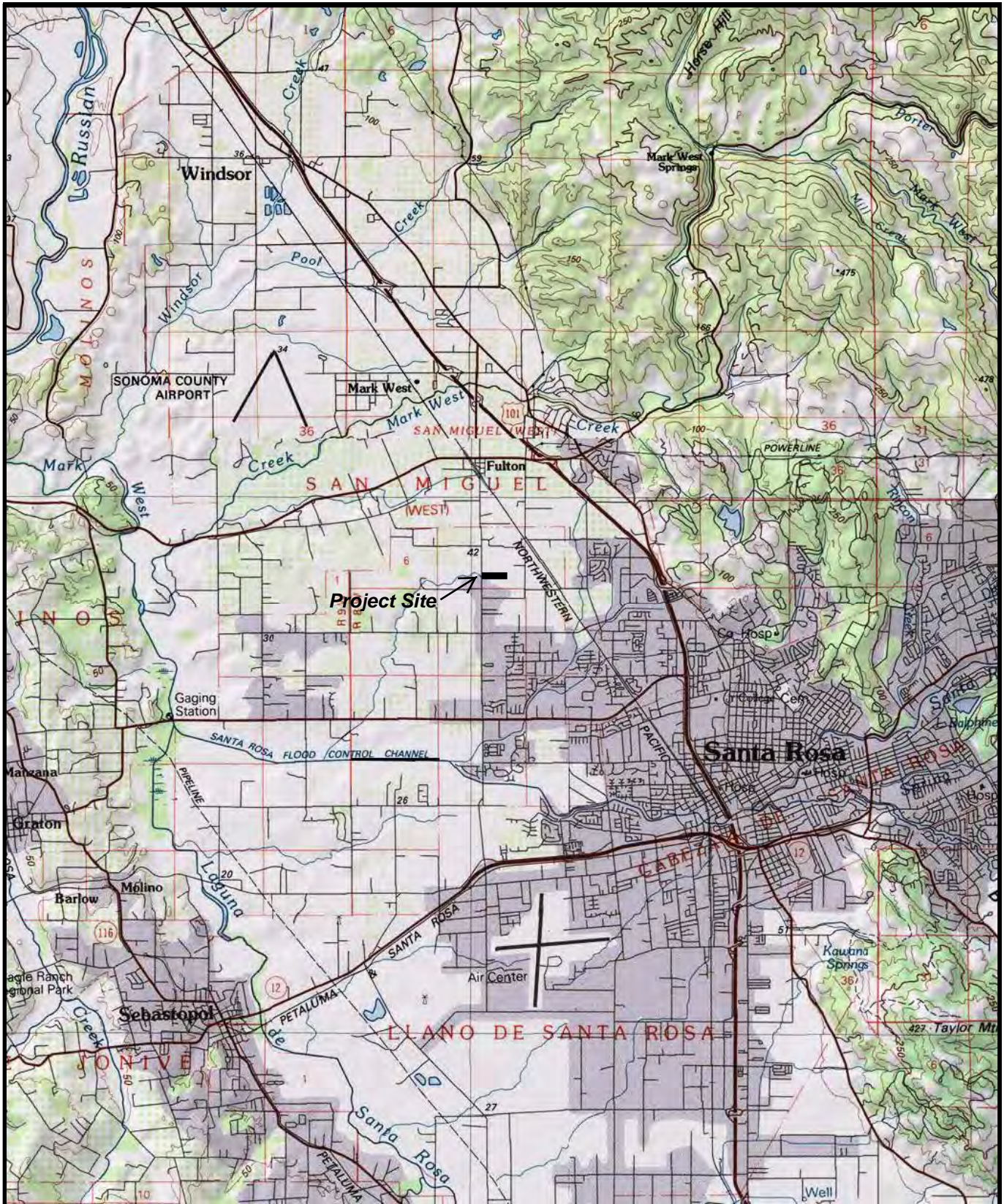
of the species' floating habitat, no attempt was made to count the number of plants at any of the locations where it has been observed.

5.0. REFERENCES CITED

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Results, Multi-year Survey for Special-status Plant Species,
Woodside Holdings (A.P. No 034-043-070),
Santa Rosa, California

FIGURES

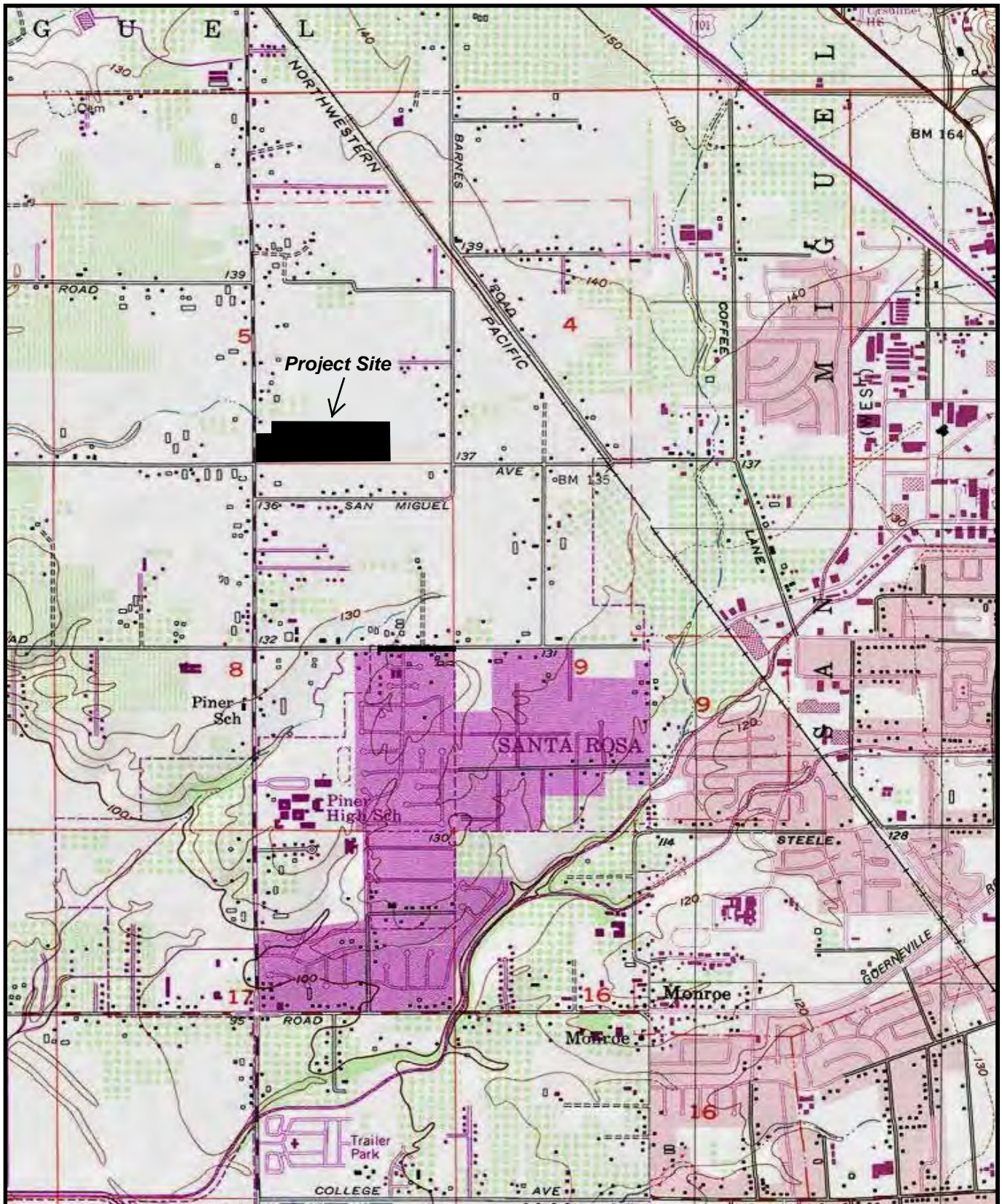


Applicant:
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 Woodside Holdings, LP
 47 Bellevue Road
 San Rafael, CA 94901
 Site:
 Woodside Holdings Property (A.P. 034-043-070)
 Santa Rosa, California



Nominal Scale:
 1:100,000

Figure 1.
 Regional Location Map



Applicant:
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 Woodside Holdings, LP
 47 Bellevue Road
 San Rafael, CA 94901
 Site:
 Woodside Holdings Property (A.P. 034-043-070)
 Santa Rosa, California



Nominal Scale:
 1:22,500

Figure 2.
 Project Site Location



LEGEND

- Subwatershed Divide A, B, C, D
- Watershed Boundaries
- Watershed Divides
- Drainages

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Site:
 Woodside Holdings Property (A.P. 034-043-070)
 Santa Rosa, California



No Scale

Figure 3.
 Existing Drainage Network and Watershed Boundaries
 on the Woodside Holdings Property



LEGEND  Burke's Goldfields  Colony X (xx) Burke's Goldfields Colony Number (Number of Plants)  Lobb's Aquatic Buttercup

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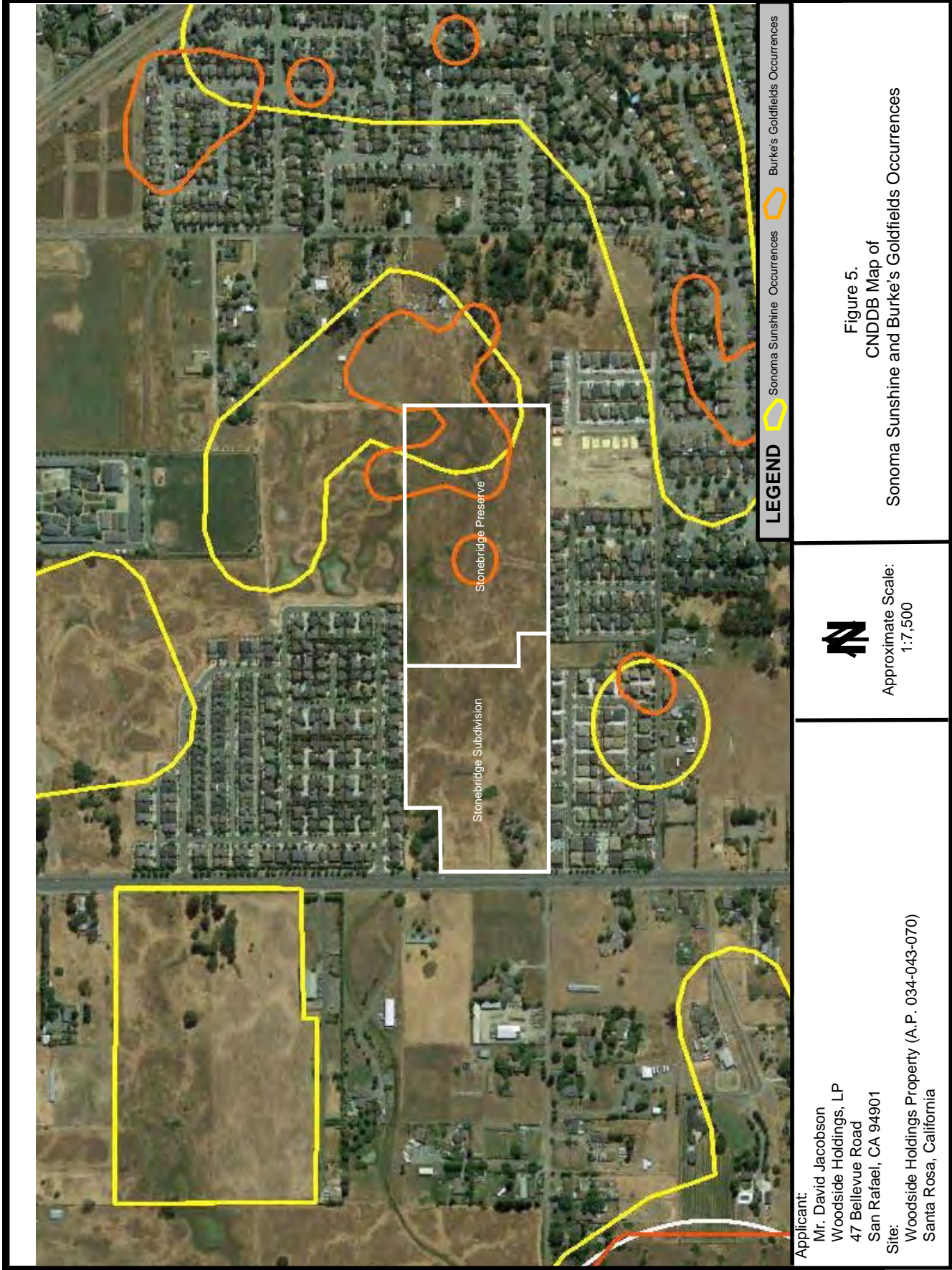
Site:

Woodside Holdings Property (A.P. 034-043-070)
Santa Rosa, California



Approximate Scale:
1:2,900

Figure 4.
Current Burke's Goldfields and Lobb's Aquatic Buttercup Occurrences
on the Woodside Holdings Property





LEGEND  Burke's Goldfields **Colony X (xx)** Burke's Goldfields Colony Number (Number of Plants)  Lobb's Aquatic Buttercup

Applicant:

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Woodside Holdings, LP
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Site:

Woodside Holdings Property (A.P. 034-043-070)
Santa Rosa, California



Approximate Scale:
1:2,900

Figure 6.
Current Burke's Goldfields and Lobb's Aquatic Buttercup Occurrences
on the Woodside Holdings Property

Results, Multi-year Survey for Special-status Plant Species,
Woodside Holdings (A.P. No 034-043-070),
Santa Rosa, California

APPENDICES

APPENDIX A. Species with the Potential to Occur on the Woodside Holdings Property Santa Rosa, California

<i>Scientific Name</i> Common Name	Status	Habitat Affinities	Blooming Period	Notes
<i>Alopecurus aequalis</i> var. <i>sonomensis</i> Sonoma alopecurus	USFWS: C2 CDFG: - CNPS: 1A	Marshes, swamps, and scrub.	Feb-Apr	No suitable habitat occurs on the Woodside Holdings property. Species was not observed.
<i>Amsinkia lunaris</i> Bent-flowered fiddleneck	USFWS: - CDFG: - CNPS: 4	Annual grassland.	Mar-Jun	The upland habitat might provide marginally suitable habitat but the species was not observed
<i>Blennosperma bakeri</i> Sonoma sunshine	USFWS: E CDFG: E CNPS: 1b	Vernal pools and vernal swales.	Mar-Apr	Suitable habitat is present on the Woodside Holdings property. The species was not observed. CNDDDB historic records.
<i>Cuscuta howelliana</i> Bogg's Lake dodder	USFWS: - CDFG: - CNPS: 4	Vernal pools.	Mar-Apr	Suitable habitat is present on the Woodside Holdings property. The species was not observed.
<i>Downingia humilis</i> Dwarf downingia	USFWS: - CDFG: - CNPS: 1B	Vernal pools.	Mar-Apr	Suitable habitat is present on the Woodside Holdings property. The species was not observed.
<i>Lasthenia burkei</i> Burke's goldfields	USFWS: E CDFG: E CNPS: 1b	Vernal pools and vernal swales.	Mar-Apr	Suitable habitat is present on the Woodside Holdings property. Four colonies were observed.
<i>Limnanthes vinculans</i> Sebastopol meadowfoam	USFWS: E CDFG: E CNPS: 1b	Vernal pools and vernal swales.	Mar-Apr	Suitable habitat is present on the Woodside Holdings property but site is near the northern range limit. Species not observed.
<i>Navarretia pleiantha</i> Many-flowered navarretia	USFWS: C1 CDFG: CNPS: 1b	Vernal pools and vernal swales.	Mar-Apr	Suitable habitat is present on the Woodside Holdings property site but the species was not observed.
<i>Perideridia gairdneri</i> ssp. <i>gairdneri</i> Gairdner's yampah	USFWS: C2 CDFG: - CNPS: 1B	Vernal pools and saturated seasonal wetlands.	Jun-Jul	Suitable clay soils are present in a small area of the site but the species was not observed.
<i>Pogogyne douglasii</i> ssp. <i>parviflora</i> Small-flowered mesamint	USFWS: C3c CDFG: - CNPS: 1B	Vernal pools and inundated seasonal wetlands	May-Jul	Suitable habitat is present on the Woodside Holdings property. The species was not observed.
<i>Ranunculus lobbii</i> Lobb's aquatic buttercup	USFWS: - CDFG: - CNPS: 4	Vernal pools and ponded swales.	Feb-Apr	Suitable habitat is present on the Woodside Holdings property. The species was not observed.
<i>Trifolium amoenum</i> Showy indian clover	USFWS: C2* CDFG: - CNPS: 1A	Annual grassland.	Apr-Jun	The upland habitat on the site provides marginally suitable habitat but the species was not observed.

Notes: **Agencies** - USFWS = U.S. Fish and Wildlife Service, CDFG = California Department of Fish and Game, CNPS = California Native Plant Society. **Federal Designations** - E = Listed as Endangered by the Federal Government. T = Listed as Threatened by the Federal Government. C1 = Category 1 Candidate. C1* = Sufficient data are on file to support listing but taxon presumed extinct. C2 = Category 2 Candidate. C2* = Sufficient data to support federal listing lacking, taxon presumed extinct. **State Designations** - E = Listed as Endangered. R = Listed as Rare. **CNPS Designations** - List 1A = Species presumed extinct in California. List 1B = Species rare and endangered in California and elsewhere. List 2 = Species rare and endangered in California but more common elsewhere. List 3 = Species about which additional data are needed. List 4 = Species of limited distribution.

APPENDIX B.
Species Observed on the Woodside Holdings Property,
Santa Rosa, California

CLASS

Family

Scientific name

Common name

GYMNOSPERMS

Cupressaceae

Hesperocyparis macrocarpa

Pinaceae

Pinus radiata

Monterey pine

ANGIOSPERMS

DICOTYLEDONAE

Apiaceae

Eryngium aristulatum

coyote thistle

Foeniculum vulgare

fennel

Sanicula bipinnatifida

footsteps of spring

Torilis nodosa

knotted hedge parsley

Araliaceae

Hedera helix

English ivy

Asteraceae

Achyraea mollis

blow-wives

Agoseris heterophylla

false dandelion

Anaphalis margaritacea

pearly everlasting

Anthemis cotula

mayweed

Baccharis pilularis var. *consanguinea*

coyote brush

Carduus pycnocephalus

Italian thistle

Chamomilla suaveolens

pineapple weed

Cichorium intybus

chicory

Cirsium vulgare

bull thistle

Conyza canadensis

horseweed

Cotula coronopifolia

brass buttons

Gnaphalium luteo-album

cudweed

Helminthotheca echioides

bristly ox-tongue

Hypochaeris glabra

Smooth cat's-ear

Hypochaeris radicata

rough cat's-ear

<i>Lactuca saligna</i>	Willow lettuce
<i>Lactuca serriola</i>	prickly lettuce
<i>Lasthenia burkei</i>	Burke's goldfields
<i>Leontodon taraxacoides</i>	hawkbit
<i>Senecio vulgaris</i>	common groundsel
<i>Soliva sessilis</i>	soliva
<i>Sonchus asper asper</i>	prickly sow thistle
<i>Sonchus oleraceus</i>	common sow thistle
<i>Taraxacum officinale</i>	dandelion
<i>Tragopogon porrifolius</i>	salsify
<i>Xanthium strumarium</i>	cocklebur

Boraginaceae

<i>Plagiobothrys stipitatus stipitatus</i>	slender popcorn flower
<i>Plagiobothrys bracteatus</i>	popcorn flower

Brassicaceae

<i>Brassica nigra</i>	black mustard
<i>Capsella bursa-pastoris</i>	shepherd's purse
<i>Cardamine oligosperma</i>	bitter cress
<i>Hirschfeldia incana</i>	short-podded mustard
<i>Lepidium nitidum nitidum</i>	peppeweed
<i>Raphanus sativus</i>	wild radish

Callitrichaceae

<i>Callitriche heterophylla</i>	water starwort
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Campanulaceae

<i>Downingia concolor</i>	downingia
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Caryophyllaceae

<i>Cerastium glomeratum</i>	mouse-ear chickweed
<i>Spergularia</i> sp.	sand spurrey
<i>Stellaria media</i>	common chickweed

Convolvulaceae

<i>Convolvulus arvensis</i>	hedge bindweed
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Crassulaceae

<i>Crassula aquatica</i>	pygmy water-wort
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Cucurbitaceae

<i>Marah fabaceus</i>	manroot
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Euphorbiaceae

Eremocarpus setigerus

turkey mullein

Fabaceae

Acemispom brachycarpum

wooly trefoil

Lotus corniculatus

birdsfoot trefoil

Lupinus bicolor

miniature lupine

Lupinus nanus

sky lupine

Medicago polymorpha

bur clover

Trifolium depauperatum

dwarf sack clover

Trifolium dubium

little hop clover (lesser trefoil)

Trifolium repens

white clover

Trifolium subterraneum

subterranean clover

Trifolium variegatum

white-tip clover

Trifolium willdenovii

tomcat clover

Vicia benghalensis

purple vetch

Vicia cracca

cow vetch

Vicia sativa

common vetch

Fagaceae

Quercus agrifolia

coast live oak

Geraniaceae

Erodium botrys

broad-leaf filaree

Erodium cicutarium

red-stem filaree

Erodium moschatum

white-stem filaree

Geranium dissectum

cut-leaf geranium

Juglandaceae

Juglans regia

English walnut

Lamiaceae

Mentha pulegium

pennyroyal

Lythraceae

Lythrum hyssopifolium

hedge hyssop

Malvaceae

Malva nicaeensis

bull mallow

Sidalcea calycosa

checker mallow

Myrtaceae

Eucalyptus globulus

blue gum (eucalyptus)

Onagraceae

<i>Camissonia ovata</i>	sun cups
<i>Epilobium angustifolium</i>	fireweed
<i>Epilobium brachycarpum</i>	tall willowherb

Orobanchaceae

<i>Parentucellia viscosa</i>	parentucellia
<i>Triphysaria versicolor faucibarbatata</i>	yellow owl's clover

Papaveraceae

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

<i>Plantago erecta</i>	plantain
<i>Plantago lanceolata</i>	English plantain
<i>Veronica peregrina xalapensis</i>	speedwell

Polygonaceae

<i>Polygonum arenastrum</i>	knotweed
<i>Rumex acetosella</i>	sheep sorrel
<i>Rumex crispus</i>	curly dock
<i>Rumex pulcher</i>	fiddle dock

Primulaceae

<i>Anagallis arvensis</i>	scarlet pimpernel
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Ranunculaceae

<i>Ranunculus californicus</i>	California buttercup
<i>Ranunculus muricatus</i>	spiny-fruited buttercup

Rosaceae

<i>Prunus cerasifera</i>	cherry plum
<i>Prunus</i> sp.	ornamental fruit tree
<i>Rubus discolor</i>	Himalaya berry

Scrophulariaceae

<i>Parentucellia viscosa</i>	parentucellia
------------------------------	---------------

MONOCOTYLEDONAE

Cyperaceae

<i>Cyperus eragrostis</i>	tall flatsedge
<i>Eleocharis macrostachya</i>	spike rush

Juncaceae

<i>Juncus bufonius</i>	toad rush
<i>Juncus capitatus</i>	capitate rush
<i>Juncus tenuis</i>	slender rush

Liliaceae

<i>Brodiaea elegans</i>	harvest brodiaea
<i>Chlorogalum pomeridianum</i>	soap plant
<i>Triteleia hyacinthina</i>	hyacinth brodiaea

Poaceae

<i>Aira caryophyllea</i>	silver European hairgrass
<i>Anthoxanthum aristatum</i>	vernal grass
<i>Avena barbata</i>	slender oats
<i>Briza maxima</i>	rattlesnake grass
<i>Briza minor</i>	little rattlesnake grass
<i>Bromus carinatus</i>	California brome
<i>Bromus diandrus</i>	rip-gut brome
<i>Bromus hordeaceus</i>	soft chess
<i>Cynodon dactylon</i>	Bermuda grass
<i>Cynosurus echinatus</i>	dogtail grass
<i>Danthonia californica</i>	California oatgrass
<i>Deschampsia danthonioides</i>	annual hairgrass
<i>Festuca bromoides</i>	brome fescue
<i>Festuca myuros</i>	six-weeks descur
<i>Festuca perennis</i>	ryegrass
<i>Hordeum brachyantherum</i>	meadow barley
<i>Hordeum marinum</i> var. <i>gussoneanum</i>	Mediterranean barley
<i>Hordeum murinum</i> var. <i>leporinum</i>	hare barley
<i>Phalaris aquatica</i>	Harding grass
<i>Pleuropogon californicus</i>	California semaphore grass
<i>Poa annua</i>	annual bluegrass
<i>Polypogon monspeliensis</i>	rabbitsfoot grass
<i>Taeniatherum caput-medusae</i>	medusahead

**Attachment D. Photographs of the Stonebridge Project Site
Burke's Goldfields within the Project Site and the Adjacent Woodbridge Preserve**



Looking southeast at existing seasonal wetlands on the Stonebridge development site. Marginal habitat for Burke's goldfields and other special-status plants.



Scattered, sparse occurrence of Burke's goldfields in dense vegetation along northern boundary of Project Site Preserve on May 7, 2019. Compare with the Burke's on the Woodbridge Preserve which is immediately to the north of the project site and shown in the photos below.



Woodbridge Preserve on May 7, 2019. *Lasthenia burkei* (yellow) and *Limnanthes douglasii* (white).



Woodbridge Preserve on May 21, 2019. *Lasthenia burkei* and *Limnanthes douglasii*.

Attachment

USFWS 2009 Letter of concurrence on conclusions of July 23, 2000 Report on California tiger salamander surveys conducted at four West Santa Rosa Properties, Sonoma, California.

Page 1 of 1

Subj: Schellinger Brothers Construction Proposed Medium Density Residential Project on 2022, 2038 and 2082 Fulton Rd and 2420 San Miguel Rd. (Service File No. 81420-2009-TA-0431)
Date: 2/6/2009 9:36:00 AM Pacific Standard Time
From: Vincent_Griego@fws.gov
To: bill@pacificbioconsulting.com
CC: Mhfawcett@aol.com, TLove@dfg.ca.gov

Bill,

The Service concurs with the conclusions of the July 23, 2008 Report on California Tiger Salamander Surveys Conducted at Four West Santa Rosa Properties, Sonoma County, California. As a result, the proposed project will not result in 'take' and no mitigation for the Sonoma County Distinct Population Segment of California tiger salamander (*Ambystoma californiense*) is required, however compensation will be required for the endangered Burke's goldfields, Sonoma sunshine, Sebastopol meadowfoam and/or Many-flowered navarretia for the proposed medium density residential project on these parcels. The Service should be contacted to obtain concurrence on the acreage of compensation required prior to any ground disturbance for the proposed project.

No critical habitat has been proposed or designated for these species in the Santa Rosa Plain, therefore none will be affected. Our determinations are confined to this project site, are consistent with the Interim Santa Rosa Plain Conservation Strategy and made under the authority of the Endangered Species Act of 1973.

Vincent Griego
Senior Fish and Wildlife Biologist
Coast Bay Delta Branch
U.S. Fish and Wildlife Service
2800 Cottage Way Room W-2605
Sacramento, CA 95825

(916) 414-6493
Website: <http://www.fws.gov/sacramento>

FAWCETT ENVIRONMENTAL CONSULTING

P.O. BOX 385
BODEGA, CA 94922
TELEPHONE: 707/876-3450
EMAIL: p.fawcetti22@gmail.com

JUNE 11, 2019

Mr. Peter Hellmann
Builders Land Group
1615 Bonanza St., Suite 314
Walnut Creek, CA 94595

Subject: California tiger salamander studies near the Stonebridge Development Project, 2220 Fulton Road, Santa Rosa, CA, 94201

Dear Mr. Hellmann:

At your request, I am writing this letter to describe and summarize the findings of surveys and studies of Sonoma DPS California tiger salamander (CTS) I have conducted in the vicinity of the proposed Stonebridge Project at 2200 Fulton Road (project site), and to provide my opinion of the probability of finding CTS on your project site. The surveys and studies are indicated in the attached image and include the following:

- Harvest Christian project site, 2568 Piner Road (Fawcett 2005): A CTS Site Assessment for the parcel was conducted in 2004 (Fawcett 2005). Wetlands on the parcel were considered too shallow for CTS breeding. However, in February and March 2005, dip net surveys for CTS larvae were conducted in wetlands on adjacent City-owned property (2590 Piner Road) in February and March 2005, with negative findings.
- Shook and Waller project site, 2323 and 2285 San Miguel Avenue (Fawcett 2007): Pitfall trapping was conducted at this uplands site in 2005-2006 and 2006-2007, with negative results.
- Schellinger Brothers Fulton Road project site (Fawcett 2008): From spring 2004 through spring 2008 protocol-level pitfall trapping and dip net surveys were conducted at four parcels located between San Miguel Avenue and Onsrud Lane (APNs 034-043-066, 2082 Fulton Road; 034-043-060, 2038 Fulton Road; 034-043-064, 2022 Fulton Road; and 034-043-039), 2420 San Miguel Avenue). Potentially suitable pools for CTS breeding at the 2022 and 2038 Fulton Road properties (Figure 2) were dip-netted once in 2004 and multiple times in 2005, 2006, and 2007, with negative results. Pitfall trapping was conducted in two consecutive years at each of the parcels, with negative results for CTS. A letter of concurrence from the U.S. Fish and Wildlife Service (USFWS) that the project would not result in take of CTS is attached at the end of this letter.

- Alton North Conservation Bank (ANCB): My team conducted CTS egg and larvae surveys every breeding season since pools were created in summer 2010 (Fawcett 2011 through 2019 annual reports). Three adult or juvenile CTS were rescued and relocated during construction, and breeding occurred in spring 2011 in several pools close to known breeding pools at the Alton Lane Mitigation Site (ALMS). The ALMS CTS breeding population was established from an unauthorized introduction of larvae circa 1989-90. Since 2011, breeding has occurred in ANCB pools hydrologically connected to pools at the ALMS, progressively breeding in pools westward across the larger (22.67 acre) portion of ANCB. This westward movement between pools that are in relatively close proximity demonstrates that terrestrial-phase adults or juveniles that grew into adult CTS moved into and bred within the ANCB, representing a small western expansion of the ALMS CTS population. This is the only known evidence of any range expansion of the ALMS population.
- Fulton Road Conservation Site (FRCS; Fawcett 2015, 2016, 2019): This approximately 26-acre preserve located at 2365 Fulton Road consists of two sections, named the Fulton Road Conservation Site and the Fulton Road Mitigation Site (see attached image). Potentially suitable pools and swales for CTS breeding were present at FRCS (mainly in the western half) before construction in 2017 of new pools and swales, many of which are also potentially suitable for breeding. Dip net surveys for CTS larvae were conducted by LSA, Inc. in existing pools in 2006, 2007, and 2008., and egg and larvae surveys were conducted by my team in 2014 – 2015 and in 2016, all with negative results for CTS. Following construction of new pools in 2017, we conducted a larvae survey in 2018, and multiple egg and larvae surveys in 2019, again with negative results.

Discussion

The geographic range of CTS, as defined by USFWS, includes the project site, although to date, no CTS eggs, larvae, or terrestrial juveniles or adults have been found anywhere east of Fulton Road (the location of the project site) or north of Santa Rosa Creek. The only known breeding population north of Santa Rosa Creek occurs on the west side of Fulton Road focused around the ALMS including at the immediately adjacent ANCB. The Alton Lane population was originally established by an unauthorized introduction of CTS larvae circa 1989-90 from likely from what is now known as the Wright Conservation Property. In addition, there was a subsequent authorized introduction in 2004 of juveniles and adults taken from a construction site in Cotati west of Highway 101. Because of legal precedent (Alsea Decision), USFWS treats the Alton Lane CTS population the same as all others in Sonoma County. Pursuant to the USFWS' 2007 Programmatic Biological Opinion by and between the U.S. Army Corps of Engineers and the USFWS, and the USFWS' 2016 Santa Rosa Plain Recovery Plan, USFWS requires mitigation for impacts to CTS individuals

and/or their habitat. CDFW, pursuant to the CESA can only require CTS mitigation when a proposed project would impact (“take”) CTS since the CESA doesn’t regulate impacts to “habitat.”

In answer to the second part of your request regarding the probability of finding CTS at the Stonebridge site, I will point out that the Alton Lane CTS population appears to be expanding its range only to immediately adjacent pools within the ANCB. No expansion has been documented outside the Alton Lane mitigation complex. No CTS were detected in the surveys described above, nor in numerous other surveys of which I am aware in the Fulton Road area closer to the Stonebridge project site (Stacy Martinelli, CDFW, personal communication May 2019), and in areas further east and north (Geoff Monk, personal communication 06/11/19). In my view, it is extremely unlikely that CTS currently occupy uplands or breed in wetlands at the Stonebridge site.

References

- Fawcett, M.H. 2005. Preliminary California tiger salamander assessment, 1835 Fulton Road. Prepared for Golden Bear Biostudies. June 2005. 7 p.
- Fawcett, M.H. 2007. Report on two years of California tiger salamander surveys at 2323 and 2285 San Miguel Avenue (APN 034-041-007, 034-041-008), Santa Rosa, California. Prepared for Golden Bear Biostudies and Shook and Waller. August 2007. 29 p. + Appendix.
- Fawcett, M.H. 2008. Report on California tiger salamander surveys conducted at four west Santa Rosa Properties, Sonoma County, California: 2022, 2038, and 2082 Fulton Road (APNs 034-043-066, 034-043-060, 034-043-064); and 2420 San Miguel Road (APN 034-043-039). Report prepared for Pacific Biological Consulting and Schellinger Brothers Construction. July 2008. 30 p. + Appendix.
- Fawcett, M.H. 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019. Annual reports on surveys conducted at Alton North Conservation Bank, prepared for Alton Preserve, LLC.
- USFWS 2007. Programmatic Biological Opinion for U.S. Army Corps of Engineers for projects that may affect California tiger salamander and three endangered plant species on the Santa Rosa Plain, California. Corps File Number 233420N. U.S. Fish and Wildlife Service, November 2007.
- USFWS 2016. Recovery Plan for the Santa Rosa Plain: *Blennosperma bakeri* (Sonoma sunshine); *Lasthenia burkei* (Burke’s goldfields); *Limnanthes vinculans* (Sebastopol meadowfoam); California tiger salamander Sonoma County Distinct Population

CTS studies near the Stonebridge Development Project
2220 Fulton Road, Santa Rosa, CA, 94201

Page 4 of 6

Segment (*Ambystoma californiense*). U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California. vi + 128 pp.

Thank you for the opportunity to be of service.

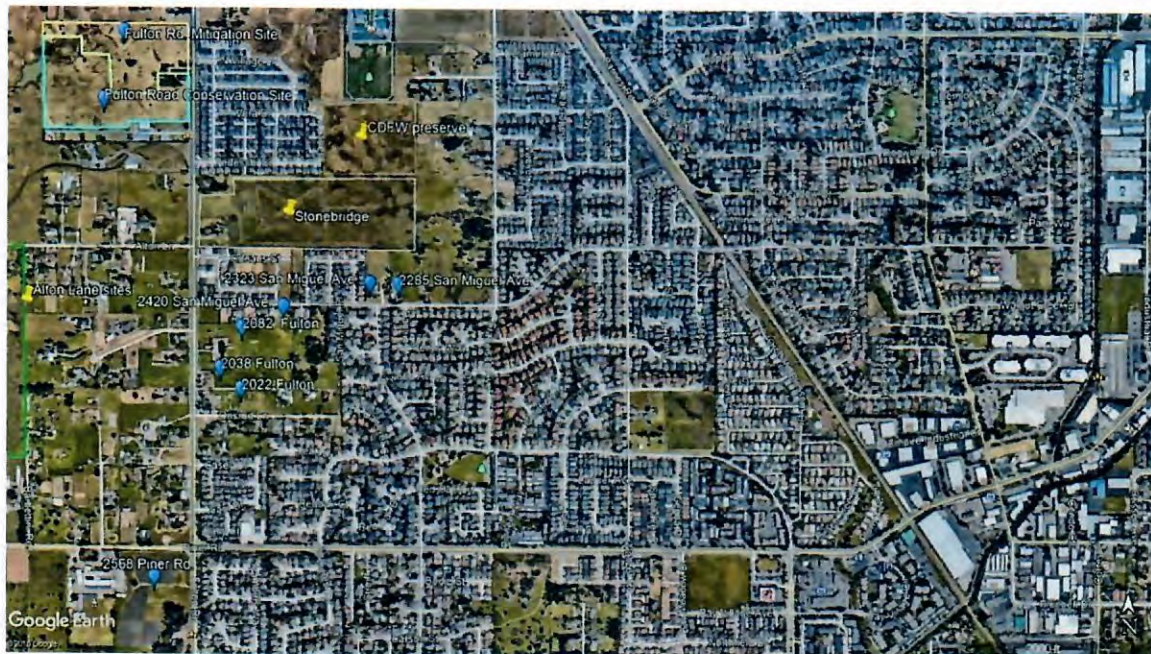
Sincerely,



Michael H. Fawcett, Ph.D.

Figures

Figure 1. Google Earth image showing Fawcett study sites (blue markers) near Stonebridge project



Attachment

USFWS 2009 Letter of concurrence on conclusions of July 23, 2000 Report on California tiger salamander surveys conducted at four West Santa Rosa Properties, Sonoma, California.

Page 1 of 1

Subj: Schellinger Brothers Construction Proposed Medium Density Residential Project on 2022, 2038 and 2082 Fulton Rd and 2420 San Miguel Rd. (Service File No. 81420-2009-TA-0431)
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Website: <http://www.fws.gov/sacramento>



DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1455 MARKET STREET, 16TH FLOOR
SAN FRANCISCO, CALIFORNIA 94103-1398

MAR - 9 2016

Regulatory Division

Subject: File Number 2015-00443N

Laurence P. Stromberg, Ph.D.
59 Jewell Street
San Rafael, California 94901

Dear Dr. Stromberg:

This correspondence is in reference to your submittal of November 16, 2015, on behalf of David Jacobson, Harvey Rich, and Ted Winfield requesting an approved jurisdictional determination of the extent of wetlands on a 28.6 acre parcel located at 2220 Fulton Road in Santa Rosa, Sonoma County, California. Coordinates for the project are 38°28.322'N, -122°46.478'W and APN 034-043-070. The wetlands drain to Abramson Creek.

All proposed discharges of dredged or fill material occurring below the plane of ordinary high water in non-tidal waters of the United States; or below the high tide line in tidal waters of the United States; and within the lateral extent of wetlands adjacent to these waters, typically require Department of the Army authorization and the issuance of a permit under Section 404 of the Clean Water Act of 1972, as amended (33 U.S.C. § 1344 *et seq.*). Waters of the United States generally include the territorial seas; all traditional navigable waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters subject to the ebb and flow of the tide; wetlands adjacent to traditional navigable waters; non-navigable tributaries of traditional navigable waters that are relatively permanent, where the tributaries typically flow year-round or have continuous flow at least seasonally; and wetlands directly abutting such tributaries. Where a case-specific analysis determines the existence of a "significant nexus" effect with a traditional navigable water, waters of the United States may also include non-navigable tributaries that are not relatively permanent; wetlands adjacent to non-navigable tributaries that are not relatively permanent; wetlands adjacent to but not directly abutting a relatively permanent non-navigable tributary; and certain ephemeral streams in the arid West.

All proposed structures and work, including excavation, dredging, and discharges of dredged or fill material, occurring below the plane of mean high water in tidal waters of the United States; in former diked baylands currently below mean high water; outside the limits of mean high water but affecting the navigable capacity of tidal waters; or below the plane of ordinary high water in non-tidal waters designated as navigable waters of the United States, typically require Department of the Army authorization and the issuance of a permit under Section 10 of the Rivers and Harbors Act of 1899, as amended (33 U.S.C. § 403 *et seq.*). Navigable waters of the United States generally include all waters subject to the ebb and flow of

the tide; and/or all waters presently used, or have been used in the past, or may be susceptible for future use to transport interstate or foreign commerce.

The enclosed delineation map entitled, "Woodside Holdings Property" consisting of one sheet, certified March 4, 2016, prepared by Cinquini & Passarino, Inc. dated October 16, 2015 accurately depicts the extent and location of 6.31 acres of wetlands within the boundary area of the site that are subject to U.S. Army Corps of Engineers' regulatory authority under Section 404 of the Clean Water Act. This approved jurisdictional determination is based on the current conditions of the site, as verified during a field investigation of January 25, 2016, and a review of other data included in your submittal. This approved jurisdictional determination will expire in three years from the date of this letter, unless new information or a change in field conditions warrants a revision to the delineation map prior to the expiration date. The basis for this approved jurisdictional determination is explained in the enclosed *Approved Jurisdictional Determination Form*. This approved jurisdictional determination is presumed to be consistent with the official interagency guidance of June 5, 2007, interpreting the Supreme Court decision, *Rapanos v. United States*, 126 S. Ct. 2208 (2006).

You are advised that the approved jurisdictional determination may be appealed through the U.S. Army Corps of Engineers' *Administrative Appeal Process*, as described in 33 C.F.R. Part 331 (65 Fed. Reg. 16,486; Mar. 28, 2000), and outlined in the enclosed flowchart and *Notification of Administrative Appeal Options, Process, and Request for Appeal* (NAO-RFA) Form. If you do not intend to accept the approved jurisdictional determination, you may elect to provide new information to this office for reconsideration of this decision. If you do not provide new information to this office, you may elect to submit a completed NAO-RFA Form to the Division Engineer to initiate the appeal process; the completed NAO-RFA Form must be submitted directly to the Appeal Review Officer at the address specified on the NAO-RFA Form. You will relinquish all rights to a review or an appeal, unless this office or the Division Engineer receives new information or a completed NAO-RFA Form within 60 days of the date on the NAO-RFA Form. If you intend to accept the approved jurisdictional determination, you do not need to take any further action associated with the Administrative Appeal Process.

You are further advised that the U.S. Army Corps of Engineers evaluated the approved jurisdictional determination pursuant to the provisions of Section 404 of the Clean Water Act. Accordingly, the approved jurisdictional determination may not be valid under the wetland conservation provisions of the Food Security Act of 1985, as amended (16 U.S.C. §§ 3801-3862 *et seq.*). If you or your tenant is a current or prospective USDA program participant, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to the commencement of work.

You may refer any questions on this matter to Roberta Morganstern of my Regulatory staff by telephone at 415-503-6782 or by e-mail at Roberta.A.Morganstern@usace.army.mil. All

correspondence should be addressed to the Regulatory Division, North Branch referencing the file number at the head of this letter.

The San Francisco District is committed to improving service to our customers. My Regulatory staff seeks to achieve the goals of the Regulatory Program in an efficient and cooperative manner, while preserving and protecting our nation's aquatic resources. If you would like to provide comments on our Regulatory Program, please complete the Customer Service Survey Form available on our website:
<http://www.spn.usace.army.mil/Missions/Regulatory.aspx>.

Sincerely,

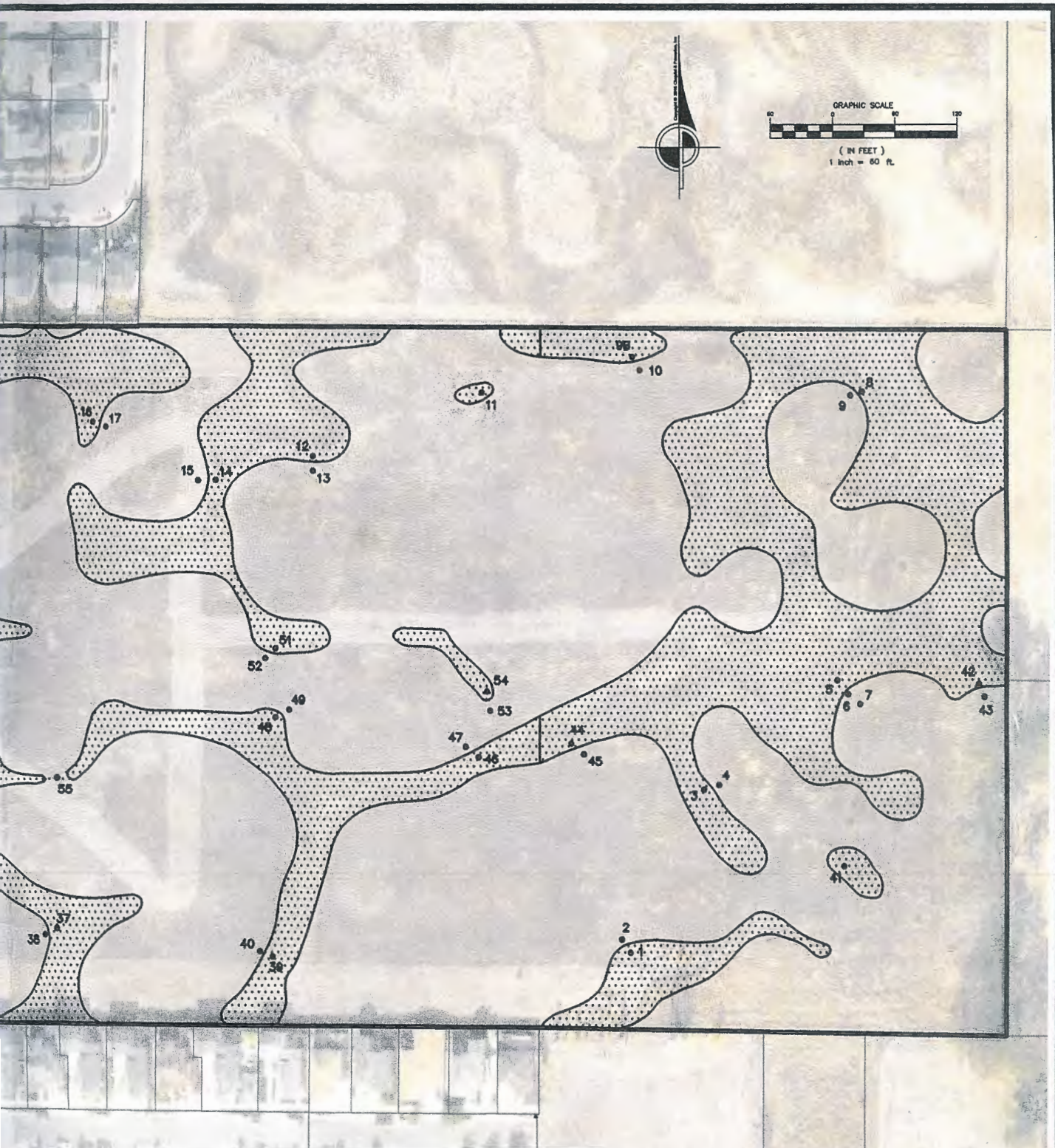
A handwritten signature in cursive script that reads "Roberta Morganstern".

Roberta Morganstern
Regulatory Division Project Manager

Enclosures

Copy Furnished **electronically**:

Applicants: Harvey Rich 'Harvey Rich' tridevser@att.net
David Jacobson: davidjacobson101@gmail.com; Ted P. Winfield: tpw_jr@comcast.net
North Coast Regional Water Quality Control Board: Bargsten, Stephen@Waterboards
<Stephen.Bargsten@waterboards.ca.gov>
U.S. EPA, San Francisco, CA Siu, Jennifer <Siu.Jennifer@epa.gov>



U.S. Army Corps
of Engineers
San Francisco District
Regulatory Branch

Approved Jurisdictional Determination
Pursuant to Section 404 of Clean Water Act
and Section 10 of the Rivers and Harbors Act.

Woodside Holdings Property
2220 Fulton Road in Santa Rosa
Sonoma County APN 034-043-070
38°28.322'N, -122°46.478'W

Map reflects verified jurisdiction within project boundary.

File #2015-00443N

March 7, 2016

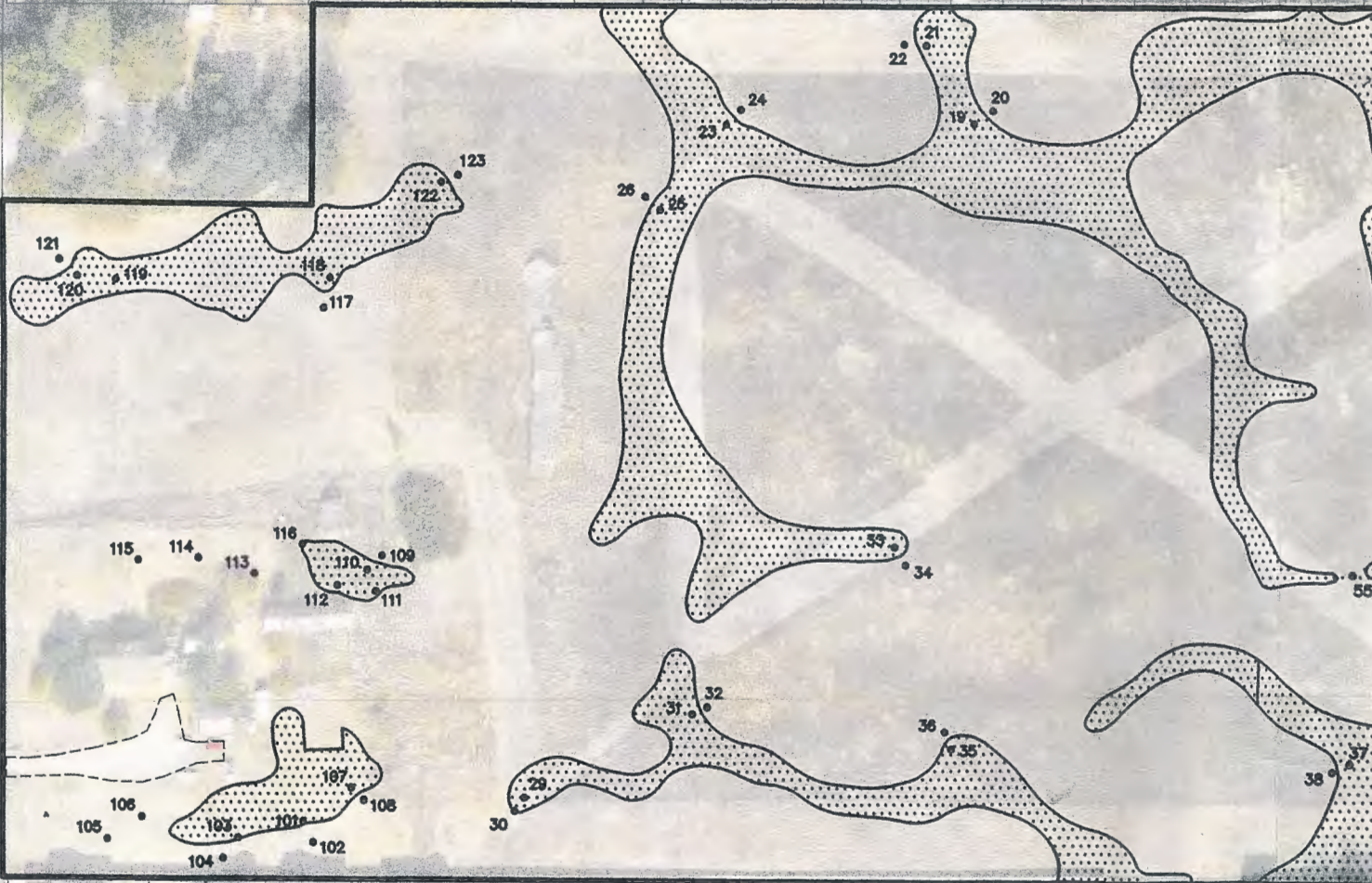
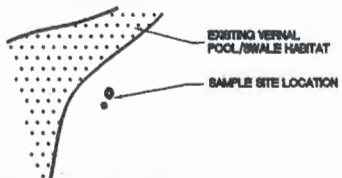
Job Name:	WOODSIDE HOLDINGS PROPERTY	
Drawn By:	JM	Checked By:
Scale:	1" = 60'	
Sheet:	1 OF 1	Job Number:
File:	G:\1007\6831\6831\Topo-20150428-Aurora.dwg	
Description:	JURISDICTIONAL DETERMINATION, WATERS OF THE STATE AND UNITED STATES	
Date:	Feb 03, 2016	
Time:	11:25am	
<p>CINGUI & PASSARINO, INC. LAND SURVEYING 1360 N. Dutton Ave. #150 Phone: (707) 542-8268 Santa Rosa, Ca. 95401 Fax: (707) 542-2106 WWW.CINGUIPASSARINO.COM</p>		
<p>△ BOUNDARY △ TOPOGRAPHIC △ CONSTRUCTION △ SUBDIVISIONS</p>		

TEDESCHI DRIVE

ORLEANS STREET

PAVING ROAD

LEGEND



From: Ryan Olah [mailto:ryan_olah@fws.gov]
Sent: Friday, August 17, 2018 7:46 AM
To: tridevser@att.net
Subject: Re: [EXTERNAL] JACOBSON PROPERTY

Hi David and Harvey:

This e-mail is to confirm our discussions of Thursday, July 12 in which we discussed establishing a preserve on the eastern portion of the Jacobson Property to provide Burke's goldfields mitigation and California tiger salamander mitigation for the development of the western portion of the property into a residential subdivision. This compensation approach would be beneficial to Burke's goldfields and CTS since it will create a larger protected preserved area for these species. The Service approves of this approach to developing the site and looks forward to receiving the documentation. Thank you.

Ryan

Ryan Olah

Coast Bay Division Chief

U.S. Fish and Wildlife Service

Sacramento Fish and Wildlife Office

2800 Cottage Way

Sacramento, CA 95825

(916) 414-6623

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B.2 - USACE Jurisdictional Determination Verification Letter

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DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1455 MARKET STREET, 16TH FLOOR
SAN FRANCISCO, CALIFORNIA 94103-1398

MAR - 9 2016

Regulatory Division

Subject: File Number 2015-00443N

Laurence P. Stromberg, Ph.D.
59 Jewell Street
San Rafael, California 94901

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All proposed structures and work, including excavation, dredging, and discharges of dredged or fill material, occurring below the plane of mean high water in tidal waters of the United States; in former diked baylands currently below mean high water; outside the limits of mean high water but affecting the navigable capacity of tidal waters; or below the plane of ordinary high water in non-tidal waters designated as navigable waters of the United States, typically require Department of the Army authorization and the issuance of a permit under Section 10 of the Rivers and Harbors Act of 1899, as amended (33 U.S.C. § 403 *et seq.*). Navigable waters of the United States generally include all waters subject to the ebb and flow of

the tide; and/or all waters presently used, or have been used in the past, or may be susceptible for future use to transport interstate or foreign commerce.

The enclosed delineation map entitled, "Woodside Holdings Property" consisting of one sheet, certified March 4, 2016, prepared by Cinquini & Passarino, Inc. dated October 16, 2015 accurately depicts the extent and location of 6.31 acres of wetlands within the boundary area of the site that are subject to U.S. Army Corps of Engineers' regulatory authority under Section 404 of the Clean Water Act. This approved jurisdictional determination is based on the current conditions of the site, as verified during a field investigation of January 25, 2016, and a review of other data included in your submittal. This approved jurisdictional determination will expire in three years from the date of this letter, unless new information or a change in field conditions warrants a revision to the delineation map prior to the expiration date. The basis for this approved jurisdictional determination is explained in the enclosed *Approved Jurisdictional Determination Form*. This approved jurisdictional determination is presumed to be consistent with the official interagency guidance of June 5, 2007, interpreting the Supreme Court decision, *Rapanos v. United States*, 126 S. Ct. 2208 (2006).

You are advised that the approved jurisdictional determination may be appealed through the U.S. Army Corps of Engineers' *Administrative Appeal Process*, as described in 33 C.F.R. Part 331 (65 Fed. Reg. 16,486; Mar. 28, 2000), and outlined in the enclosed flowchart and *Notification of Administrative Appeal Options, Process, and Request for Appeal* (NAO-RFA) Form. If you do not intend to accept the approved jurisdictional determination, you may elect to provide new information to this office for reconsideration of this decision. If you do not provide new information to this office, you may elect to submit a completed NAO-RFA Form to the Division Engineer to initiate the appeal process; the completed NAO-RFA Form must be submitted directly to the Appeal Review Officer at the address specified on the NAO-RFA Form. You will relinquish all rights to a review or an appeal, unless this office or the Division Engineer receives new information or a completed NAO-RFA Form within 60 days of the date on the NAO-RFA Form. If you intend to accept the approved jurisdictional determination, you do not need to take any further action associated with the Administrative Appeal Process.

You are further advised that the U.S. Army Corps of Engineers evaluated the approved jurisdictional determination pursuant to the provisions of Section 404 of the Clean Water Act. Accordingly, the approved jurisdictional determination may not be valid under the wetland conservation provisions of the Food Security Act of 1985, as amended (16 U.S.C. §§ 3801-3862 *et seq.*). If you or your tenant is a current or prospective USDA program participant, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to the commencement of work.

You may refer any questions on this matter to Roberta Morganstern of my Regulatory staff by telephone at 415-503-6782 or by e-mail at Roberta.A.Morganstern@usace.army.mil. All

correspondence should be addressed to the Regulatory Division, North Branch referencing the file number at the head of this letter.

The San Francisco District is committed to improving service to our customers. My Regulatory staff seeks to achieve the goals of the Regulatory Program in an efficient and cooperative manner, while preserving and protecting our nation's aquatic resources. If you would like to provide comments on our Regulatory Program, please complete the Customer Service Survey Form available on our website:
<http://www.spn.usace.army.mil/Missions/Regulatory.aspx>.

Sincerely,



Roberta Morganstern
Regulatory Division Project Manager

Enclosures

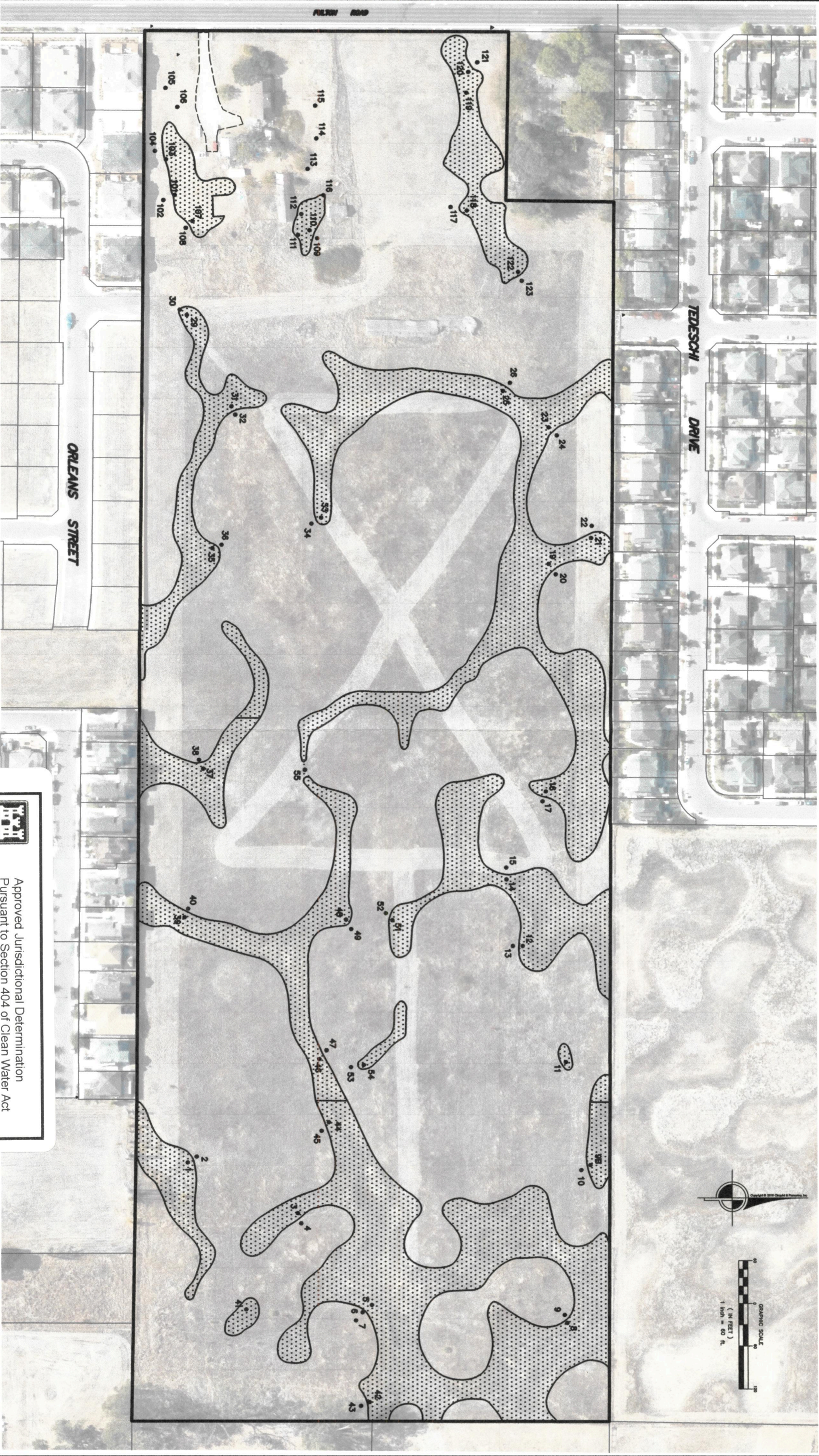
Copy Furnished **electronically**:

Applicants: Harvey Rich 'Harvey Rich' tridevser@att.net
David Jacobson: davidjacobson101@gmail.com; Ted P. Winfield: tpw_jr@comcast.net
North Coast Regional Water Quality Control Board: Bargsten, Stephen@Waterboards
<Stephen.Bargsten@waterboards.ca.gov>
U.S. EPA, San Francisco, CA Siu, Jennifer <Siu.Jennifer@epa.gov>

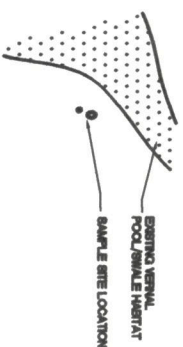
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B.3 - Waters of the State Jurisdictional Delineation Map

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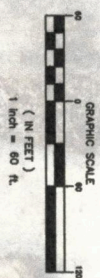


LEGEND

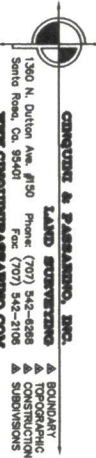


Approved Jurisdictional Determination
Pursuant to Section 404 of Clean Water Act
and Section 10 of the Rivers and Harbors Act.
U.S. Army Corps
of Engineers
San Francisco District
Regulatory Branch

Woodside Holdings Property
2220 Fulton Road in Santa Rosa
Sonoma County APN 034-043-070
38°28.322'N, -122°46.478'W
Map reflects verified jurisdiction within project boundary.



Job Name:	WOODSIDE HOLDINGS PROPERTY
Drawn By:	JM
Checked By:	AM
Scale:	1" = 60'
Sheet:	1 OF 1
Job Number:	6831-14
Drawn Date:	03/07/2016
Drawn By:	JM
Drawn Date:	03/07/2016
Drawn By:	JM
Drawn Date:	03/07/2016



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B.4 - Tree Preservation and Mitigation Report

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HORTICULTURAL *Associates*

Consultants in Horticulture and Arboriculture

TREE PRESERVATION AND MITIGATION REPORT

2220 Fulton Road
Santa Rosa, CA

Prepared For:

Mr. David Jacobson
Woodside Holdings LP
454 Gallinas Avenue, #488
San Rafael, CA 94903

Prepared by:

John C. Meserve
International Society of Arboriculture
ISA Certified Arborist, WE #0478A
ISA Qualified Tree Risk Assessor

May 9, 2019

May 9, 2019

Mr. David Jacobson
Woodside Holdings LP
454 Gallinas Avenue, #488
San Rafael, CA 94903

Re: Completed *Tree Preservation and Mitigation Report*, 2220 Fulton Road, Santa Rosa,
California

David,

Attached you will find our completed *Tree Preservation and Mitigation Report* for the above noted project site in Santa Rosa. A total of 32 trees were evaluated and this includes all trees in the vicinity of proposed grading and construction. Some off-site trees were also included where they overhang the project site and could be impacted by the construction project.

Each tree on the project is identified in the field with a numbered aluminum tag placed on the trunk at approximately eye level. Off-site trees were not tagged because they were on private property, and the attached *Tree Location Plan* identifies their location as reference.

All trees in this report was evaluated and documented for species, size, health, and structural condition. The *Tree Inventory Chart* also includes information about expected impacts of the proposed development plan and recommendations for action based on the plan reviewed. The *Tree Location Plan* shows the location and numbering sequence of all evaluated trees. *Tree Preservation Guidelines* are also included for general reference.

This report is intended to be a basic inventory of trees present at this site, which includes a general review of tree health and structural condition. No in-depth evaluation has occurred on any tree, and assessment has included only external visual examination without probing, drilling, coring, root collar examination, root excavation, or dissecting any tree part. Failures, deficiencies, and problems may occur in these trees in the future, and this inventory in no way guarantees or provides a warranty for their condition. Trees that are located off site should be evaluated by their owners if they have concerns about health or stability.

EXISTING SITE CONDITION SUMMARY

The project property consists of a large grass covered field with a single homesite that will be demolished. A second homesite is present in one corner of the site that is not part of this project. There are existing subdivision developments on the sides of the property.

EXISTING TREE SUMMARY

Trees on-site and overhanging include the following:

- Native species at or adjacent to the site include Valley Oak.
- Native species planted as ornamentals include Coast Redwood.
- Non-native species included Weeping Willow, Flowering Pear Black Walnut, Silver Maple, Plum, Apple, Deodar Cedar, Honey Locust, Red Gum Eucalyptus, and Italian Stone Pine

CONSTRUCTION IMPACT SUMMARY

A total of 10 trees will need to be removed for the project to be constructed. Off-site, overhanging trees appear to be preservable. Off-site Eucalyptus near the southeast corner of the site are in poor condition and should be removed before any construction begins.

Please feel free to contact me if you have questions regarding this report, or if further discussion would be helpful.

Regards,



John C. Meserve
Consulting Arborist and Horticulturist
ISA Certified Arborist, WE #0478A
ISA Qualified Tree Risk Assessor



TREE INVENTORY CHART

Tree #	Species	Common Name	Trunk (dbh ± inches)	Height (± feet)	Radius (± feet)	Health (1 - 5)	Structure (1-4)	Expected Impact	Recommendations
1	<i>Juglans regia</i>	English Walnut	16	15	16	2	2	3	2
2	<i>Pinus pinea</i>	Italian Stone Pine	23+24	30	24	4	2	3	2
3	<i>Pinus pinea</i>	Italian Stone Pine	27.5	20	20	3	2	3	2
4	<i>Gleditsia triacanthos</i>	Honey Locust	19	40	18	3	2	3	2
5	<i>Cedrus deodara</i>	Deodar Cedar	20	40	16	4	3	3	2
6	<i>Juglans regia</i>	English Walnut	18.5	20	16	3	2	3	2
7	<i>Juglans nigra</i>	Black Walnut	12	12	14	2	2	3	2
8	<i>Juglans nigra</i>	Black Walnut	7+multiple	12	16	2	2	3	2
9	<i>Malus domestica</i>	Apple	6+6	10	8	3	3	3	2, 11
10	<i>Prunus cerasifera</i>	Plum	6+ multiple	25	16	3	3	3	2, 11
11	<i>Acer saccharinum</i>	Silver Maple	19+15+16+18	50	30	3	2	1	1, 6, 10
12	<i>Quercus lobata</i>	Valley Oak	32	50	35	4	3-2	1	1, 6, 10
13	<i>Juglans nigra</i>	Black Walnut	14	30	18	3	3	1	1, 6, 10

TREE INVENTORY
2220 Fulton Road
Santa Rosa, CA

Tree #	Species	Common Name	Trunk (dbh ± inches)	Height (± feet)	Radius (± feet)	Health (1 - 5)	Structure (1-4)	Expected Impact	Recommendations
14	<i>Quercus lobata</i>	Valley Oak	6	18	18	4	3	1	1, 6, 10
15	<i>Sequoia sempervirens</i>	Coast Redwood	20+20	35	18	2	2	1	1, 6, 10
16	<i>Salix babylonica</i>	Weeping Willow	9	15	12	1	1	1	1, 6, 10
17	<i>Pyrus calleryana</i>	Flowering Pear	8	20	14	4	3	1	1, 6, 10
18	<i>Pyrus calleryana</i>	Flowering Pear	6	18	12	3	3	1	1, 6, 10
19	<i>Pyrus calleryana</i>	Flowering Pear	6	15	12	4	3	1	1, 6, 10
20	<i>Pyrus calleryana</i>	Flowering Pear	7	20	14	4	3	1	1, 6, 10
21	<i>Eucalyptus camaldulensis</i>	Red Gum Eucalyptus	26+16+18	40	20	2	2	1	3, 5, 10
22	<i>Eucalyptus camaldulensis</i>	Red Gum Eucalyptus	14+22+20+30	100	45	2	2	1	3, 5, 10
23	<i>Eucalyptus camaldulensis</i>	Red Gum Eucalyptus	11.5+18.5	100	45	2	2	1	3, 5, 10
24	<i>Eucalyptus camaldulensis</i>	Red Gum Eucalyptus	32.5+13+17.5	100	45	2	2	1	3, 5, 10
25	<i>Eucalyptus camaldulensis</i>	Red Gum Eucalyptus	34	80	45	2	2	1	3, 5, 10
26	<i>Eucalyptus camaldulensis</i>	Red Gum Eucalyptus	9	20	14	3	2	1	3, 5, 10

TREE INVENTORY
2220 Fulton Road
Santa Rosa, CA

Tree #	Species	Common Name	Trunk (dbh ± inches)	Height (± feet)	Radius (± feet)	Health (1 - 5)	Structure (1-4)	Expected Impact	Recommendations
27	<i>Eucalyptus camaldulensis</i>	Red Gum Eucalyptus	34	80	45	2	2	1	3, 5, 10
28	<i>Eucalyptus camaldulensis</i>	Red Gum Eucalyptus	8	20	16	3	2	1	3, 5, 10
29	<i>Eucalyptus camaldulensis</i>	Red Gum Eucalyptus	16.5+9	40	20	2	2	1	3, 5, 10
30	<i>Eucalyptus camaldulensis</i>	Red Gum Eucalyptus	20	50	30	3	2	1	3, 5, 10
31	<i>Eucalyptus camaldulensis</i>	Red Gum Eucalyptus	30	100	45	3	1	1	3, 5, 10
32	<i>Eucalyptus camaldulensis</i>	Red Gum Eucalyptus	30	45	24	1	1	1	3, 5, 10

KEY TO TREE INVENTORY CHART

KEY TO TREE INVENTORY CHART

2220 Fulton Road
Santa Rosa, California

Tree Number

Each tree has been identified in the field with an aluminum tag and reference number. Tags are attached to the trunk at approximately eye level and the *Tree Location Plan* illustrates the location of each numbered tree.

Species

Each tree has been identified by genus, species and common name. Many species have more than one common name.

Trunk

Each trunk has been measured, to the nearest one-half inch, to document its diameter at 4 feet above adjacent grade. Trunk diameter is a good indicator of age, and is commonly used to determine mitigation replacement requirements.

Height

Height is estimated in feet, using visual assessment.

Radius

Radius is estimated in feet, using visual assessment. Since many canopies are asymmetrical, it is not uncommon for a radius estimate to be an average of the canopy size.

Health

The following descriptions are used to rate the health of a tree. Trees with a rating of 4 or 5 are very good candidates for preservation and will tolerate more construction impacts than trees in poorer condition. Trees with a rating of 3 may or may not be good candidates for preservation, depending on the species and expected construction impacts. Trees with a rating of 1 or 2 are generally poor candidates for preservation.

- (5) Excellent - health and vigor are exceptional, no pest, disease, or distress symptoms.
- (4) Good - health and vigor are average, no significant or specific distress symptoms, no significant pest or disease.
- (3) Fair - health and vigor are somewhat compromised, distress is visible, pest or disease may be present and affecting health, problems are generally correctable.
- (2) Marginal - health and vigor are significantly compromised, distress is highly visible and present to the degree that survivability is in question.
- (1) Poor - decline has progressed beyond the point of being able to return to a healthy condition again. Long-term survival is not expected. This designation includes dead trees.

Structure

The following descriptions are used to rate the structural integrity of a tree. Trees with a rating of 3 or 4 are generally stable, sound trees which do not require significant pruning, although cleaning, thinning, or raising the canopy might be desirable. Trees with a rating of 2 are generally poor candidates for preservation unless they are preserved well away from improvements or active use areas. Significant time and effort would be required to reconstruct the canopy and improve structural integrity. Trees with a rating of 1 are hazardous and should be removed.

- (4) Good structure - minor structural problems may be present which do not require corrective action.
- (3) Moderate structure - normal, typical structural issues which can be corrected with pruning.
- (2) Marginal structure - serious structural problems are present which may or may not be correctable with pruning, cabling, bracing, etc.
- (1) Poor structure - hazardous structural condition which cannot be effectively corrected with pruning or other measures, may require removal depending on location and the presence of targets.

Expected Impacts

Considering the proximity of construction activities, type of activities, tree species, and tree condition - the following ratings are used to estimate the amount of impact on tree health and stability. Most trees will tolerate a (1) rating, many trees could tolerate a (2) rating with careful consideration and mitigation, but trees with a (3) rating are poor candidates for preservation due to their very close proximity to construction or because they are located within the footprint of construction and cannot be preserved.

- (3) A significant impact on long term tree integrity can be expected as a result of proposed development.
- (2) A moderate impact on long term tree integrity can be expected as a result of proposed development.
- (1) A very minor or no impact on long term tree integrity can be expected as a result of proposed development.
- (0) No impact is expected

Recommendations

Recommendations are provided for removal or preservation. For those being preserved, protection measures and mitigation procedures to offset impacts and improve tree health are provided.

- (1) Preservation appears to be possible.
- (2) Removal is required due to significant development impacts.
- (3) Removal is recommended due to poor health or hazardous structure.

- (4) Removal is required due to significant development impacts and poor existing condition.
- (5) Removal is recommended due to poor species characteristics.
- (6) Install temporary protective fencing at the edge of the dripline, or edge of approved construction, prior to beginning grading or construction. Maintain fencing in place for duration of all construction activity in the area.
- (7) Maintain existing grade within the fenced portion of the dripline. Route drainage swales and all underground work outside the dripline.
- (8) Place a 4" layer of chipped bark mulch over the soil surface within the fenced dripline prior to installing temporary fencing. Maintain this layer of mulch throughout construction.
- (9) Prune to clean, raise, or provide necessary clearance. Prune to reduce branches that are over-loaded, over-extended, largely horizontal, arching, or have foliage concentrated near the branch ends, per International Society of Arboriculture Pruning Standards.

Pruning to occur by, or under the supervision of, an Arborist certified by the International Society of Arboriculture. Pruning Standards are attached to this report.

- (10) This is a tree that is located off the project site, or very near the property line, with a canopy that overhangs the project site. This tree may be owned by others and ownership should be verified.
- (11) This tree is exempt from mitigation replacement, per the Santa Rosa Tree Ordinance.

TREE LOCATION PLAN

Tree Location Map

2220 Fulton Road Project



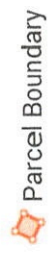
Parcel Boundary

Horticultural Associates



Tree Location Map

2220 Fulton Road Project



Horticultural Associates



TREE PROTECTION GUIDELINES

GENERAL TREE PROTECTION GUIDELINES FOR CONSTRUCTION AROUND PRESERVED TREES

2220 Fulton Road
Santa Rosa, CA

INTRODUCTION

Great care must be exercised when development is proposed in the vicinity of established trees of any type. The trees present at construction sites require specialized protection techniques during all construction activities to minimize negative impact on their long term health and vigor. The area immediately beneath and around canopy driplines is especially critical, and the requirements and procedures that follow are established to protect short and long term tree integrity. The purpose of this protection guideline is therefore to define the procedures that must be followed during any and all phases of development in the immediate vicinity of designated and protected trees.

Established, mature trees respond in a number of different ways to the disruption of their natural conditions. Change of grade within the root system area or near the root collar, damage to the bark of the trunk, soil compaction above the root system, root system reduction or damage, or alteration of summer soil moisture levels may individually or collectively cause physiological stress leading to tree decline and death. The individual impacts of these activities may cause trees to immediately exhibit symptoms and begin to decline, but more commonly the decline process takes many years, with symptoms appearing slowly and over a period of time. Trees may not begin to show obvious signs of decline from the negative impacts of construction until many years after construction is completed. It is not appropriate to wait for symptoms to appear, as this may be too late to correct the conditions at fault and to halt decline.

It is therefore critical to the long-term health of all protected trees that a defined protection program be established before beginning any construction activity where protected trees are found. Once incorporated at the design level, it is mandatory that developers, contractors, and construction personnel understand the critical importance of these guidelines, and the potential penalties that will be levied if they are not fully incorporated at every stage of development.

The following guidelines are meant to be utilized by project managers and those supervising any construction in the vicinity of protected trees including grading contractors, underground contractors, all equipment operators, construction personnel, and landscape contractors. These protection guidelines are presented in a brief outline form to be applied to each individual activity that occurs during

Horticultural Associates
P.O. Box 1261
Glen Ellen, CA 95442
707-935-3911

development activities. It is left to project managers to implement these protection measures. Questions which arise, or interpretation of guidelines as they apply to specific site activities, must be referred to the designated project arborist as they occur.

TREE PROTECTION ZONE

1. The canopy dripline is illustrated on the Improvement Plans and represents the area around each tree, or group of trees, which must be protected at all times with tree protection fencing. No encroachment into the dripline is allowed at any time without approval from the project arborist, and unauthorized entry may be subject to civil action and penalties.
2. The dripline will be designated by the project arborist at a location determined to be adequate to ensure long term tree viability and health.

TREE PROTECTION FENCING

1. Prior to initiating any construction activity on a construction project, including demolition or grading, temporary protective fencing shall be installed at each site tree. Fencing shall be located at the dripline designated by the project arborist or illustrated on the Improvement Plans.
2. Fencing shall be minimum 4' height at all locations, and shall form a continuous barrier without entry points around all individual trees, or groups of trees. Barrier type fencing such as *Tensar* plastic fencing is recommended, but any fencing system that adequately prevents entry will be considered for approval by the project arborist. The use of post and cable fencing is not acceptable.
3. Fencing shall be installed in a professional manner with steel fence posts (standard quality farm 'T' posts work well) placed no more than 8 feet on center. Fencing shall be attached to each post at 5 locations with plastic electrical ties, metal tie wire, or flip tie. See fencing detail.
4. Fencing shall serve as a barrier to prevent encroachment of any type by construction activities, equipment, materials storage, or personnel.
5. All encroachment into the fenced dripline must be approved in writing and supervised by the project arborist. Approved dripline encroachment may require additional mitigation or protection measures that will be determined by the project arborist at the time of the request.

6. Contractors and subcontractors shall direct all equipment and personnel to remain outside the fenced area at all times until project is complete, and shall instruct personnel and sub-contractors as to the purpose and importance of fencing and preservation.
7. Fencing shall be upright and functional at all times from start to completion of project. Fencing shall remain in place and not be moved or removed until all construction activities at the site are completed.

TREE PRUNING AND TREATMENTS

1. All recommendations for pruning or other treatments must be completed prior to acceptance of the project. It is strongly recommended that pruning be completed prior to the start of grading to facilitate optimum logistics and access.
- 2.
3. All pruning shall be conducted in conformance with International Society of Arboriculture pruning standards, and all pruning must occur by, or under the direct supervision of, an arborist certified by the International Society of Arboriculture.

GRADING AND TRENCHING

1. Any construction activity that necessitates soil excavation in the vicinity of preserved trees shall be avoided where possible, or be appropriately mitigated under the guidance of the project arborist. All contractors must be aware at all times that specific protection measures are defined, and non conformance may generate stop-work orders.
2. The designated dripline is defined around all site trees to be preserved. Fences protect the designated areas. No grading or trenching is to occur within this defined area unless so designated by the Improvement Plan, and where designated shall occur under the direct supervision of the project arborist.
3. Trenching should be routed around the dripline whenever possible. Where trenching has been designated within the dripline, utilization of underground technology to bore, tunnel or excavate with high-pressure air or water will be specified. Hand digging will be generally discouraged unless site conditions restrict the use of alternate technology.
4. All roots greater than one inch in diameter shall be cleanly hand-cut as they are encountered in any trench or in any grading activity. The tearing of roots

by equipment of any type shall not be allowed. Mitigation treatment of pruned roots shall be specified by the project arborist as determined by the degree of root pruning, location of root pruning, and potential exposure to desiccation. No pruning paints or sealants shall be used on cut roots.

5. Where significant roots are encountered mitigation measures such as supplemental irrigation and/or organic mulches may be specified by the project arborist to offset the reduction of root system capacity.
6. Retaining walls are effective at holding grade changes outside the area of the dripline and are recommended where necessary. Retaining walls shall be constructed in post and beam or drilled pier construction styles where they are necessary near or within a dripline.
7. Placement of fill soils is generally discouraged within the dripline, but in some approved locations may be approved to cover up to 30% of this area. The species and condition of the tree shall be considered, as well as site and soil conditions, and depth of fill. Retaining walls should be utilized to minimize the area of fill within the dripline. Type of fill soil and placement methods shall be specified by the project arborist.
8. Grade changes outside the dripline, or those necessary in conjunction with retaining walls, shall be designed so that drainage water of any type or source is not diverted toward or around the root crown in any manner. Grade shall drain away from root crown at a minimum of 2%. If grading toward the root collar is unavoidable, appropriate surface and/or subsurface drain facilities shall be installed so that water is effectively diverted away from root collar area.
9. Approved fill soils within the dripline may also be mitigated using aerated gravel layers and/or perforated aeration tubing systems, as specified by the project arborist.
10. Tree roots will be expected to grow into areas of soil fill, and quality of imported soil shall be considered. Ideally, fill soil should be site soil that closely matches that present within the root zone area. When import soil is utilized it must be the same or slightly coarser texture than existing site soil, should have a pH range comparable to site soils, and generally should have acceptable chemical properties for appropriate plant growth. A soil analysis is recommended prior to importation to evaluate import soil for these criteria.

11. Grade reduction within the designated dripline shall be generally discouraged, and where approved, shall be conducted only after careful consideration and coordination with the project arborist.
12. Foundations of all types within the dripline shall be constructed using design techniques that eliminate the need for trenching into natural grade. These techniques might include drilled piers, grade beams, bridges, or cantilevered structures. Building footprints should generally be outside the dripline whenever possible.

DRAINAGE

The location and density of native trees on many sites may be directly associated with the presence of naturally occurring water, especially ephemeral waterways. Project design, especially drainage components, should take into consideration that these trees may begin a slow decline if this naturally present association with water is eliminated.

TREE DAMAGE

Any form of tree damage which occurs during the demolition, grading, or construction process shall be evaluated by the project arborist. Specific mitigation measures will be developed to compensate for or correct the damage. Fines and penalties may also be levied.

Measures may include, but are not limited to, the following:

- pruning to remove damaged limbs or wood
- bark scoring to remove damaged bark and promote callous formation
- alleviation of compaction by lightly scarifying the soil surface
- installation of a specific mulching material
- supplemental irrigation during the growing season for up to 5 years
- treatment with specific amendments intended to promote health, vigor, or root growth
- vertical mulching or soil fracturing to promote root growth

- periodic post-construction monitoring at the developer's expense
- tree replacement, or payment of the established appraised value, if the damage is so severe that long term survival is not expected

FERTILIZATION

1. Native trees generally do not require supplemental fertilization unless exhibiting a deficiency symptom. Following completion of construction any tree that exhibits symptoms of a specific nutrient deficiency shall be fertilized to compensate for the deficiency. Soil or tissue analysis may be required to identify the deficiency.
2. Distressed trees, or trees damaged by construction in any way, may be detrimentally affected by supplemental fertilization. The decision to fertilize, and with what fertilizers, shall be made by the project arborist based on conditions and appearance observed at the completion of the project.

PEST CONTROL

A close visual examination for tree pests shall be conducted by the pruning contractor as he completes recommended pruning procedures. If a serious infestation is present, that was not apparent from ground observation, then pest control measures may be considered. However, the simple presence of tree pests does not warrant the use of chemical pesticides. Only a serious infestation, capable of causing tree decline, would warrant pesticide use. The use of organic sprays or pesticidal soaps is the preferred method for treating any serious pest infestation.

WEED CONTROL

No specific measures are recommended for weed control, and the presence of weeds should not be considered problematic in relation to continued tree health. However, use of contact weed killers and pre-emergent weed killers are generally not recommended due to their potential for root system damage if improperly applied.

DISEASE CONTROL

No specific measures are recommended for disease control unless noted in the Tree Protection and Preservation Plan. All disease control measures should be based on observation of actual conditions in the tree canopy.

MULCHING

Trees will generally benefit from the application of a 4 inch layer of chipped bark mulch over the soil surface within the greater root zone area. Ideal mulch material is a chipped bark containing a wide range of particle sizes. Bark mulches composed of shredded redwood, bark screened for uniformity of size, or chipped lumber will not function as beneficially. Rock and gravel mulches are generally discouraged due to their minimal benefit.

PLANTING UNDER EXISTING TREES

1. The installation of lawn beneath established native trees is strongly discouraged because it has the potential to initiate serious disease. If planting is required for aesthetic or functional purposes, the use of drought tolerant, woody species is most appropriate. Species should be selected for their ability to survive with minimal or no water through the summer months after the initial establishment period. Only drip irrigation should be utilized within the canopy dripline to minimize summer water in the root zone.
2. Many non-native trees will tolerate summer irrigation well and suitable landscape planting and irrigation may actually be beneficial.

B.5 - CNDDDB Search Results

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Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad IS (Sebastopol (3812247))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Agelaius tricolor</i> tricolored blackbird	G2G3 S1S2	None Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	106 106	955 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Alopecurus aequalis var. sonomensis</i> Sonoma alopecurus	G5T1 S1	Endangered None	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	140 150	21 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Ambystoma californiense</i> California tiger salamander	G2G3 S2S3	Threatened Threatened	CDFW_WL-Watch List IUCN_VU-Vulnerable	80 135	1213 S:28	5	13	5	1	0	4	2	26	28	0	0
<i>Andrena blennospermatis</i> Blennosperma vernal pool andrenid bee	G2 S2	None None		90 130	15 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Antrozous pallidus</i> pallid bat	G5 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority		420 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Arctostaphylos densiflora</i> Vine Hill manzanita	G1 S1	None Endangered	Rare Plant Rank - 1B.1	200 240	2 S:2	0	0	1	1	0	0	1	1	2	0	0
<i>Arctostaphylos stanfordiana ssp. decumbens</i> Rincon Ridge manzanita	G3T1 S1	None None	Rare Plant Rank - 1B.1		12 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Blennosperma bakeri</i> Sonoma sunshine	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	70 140	24 S:9	0	3	1	0	2	3	3	6	7	1	1
<i>Calamagrostis crassiglumis</i> Thurber's reed grass	G3Q S2	None None	Rare Plant Rank - 2B.1	150 150	15 S:1	0	0	0	0	0	1	1	0	1	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Campanula californica</i> swamp harebell	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	150 150	139 S:2	0	0	0	0	2	0	2	0	0	1	1
<i>Castilleja uliginosa</i> Pitkin Marsh paintbrush	GXQ SX	None Endangered	Rare Plant Rank - 1A	150 200	2 S:2	0	0	0	0	2	0	2	0	0	2	0
<i>Ceanothus confusus</i> Rincon Ridge ceanothus	G1 S1	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden		33 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Ceanothus foliosus var. vineatus</i> Vine Hill ceanothus	G3T1 S1	None None	Rare Plant Rank - 1B.1	150 250	6 S:3	0	0	1	0	0	2	1	2	3	0	0
<i>Ceanothus purpureus</i> holly-leaved ceanothus	G2 S2	None None	Rare Plant Rank - 1B.2 SB_SBBG-Santa Barbara Botanic Garden		43 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Chorizanthe valida</i> Sonoma spineflower	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	150 150	6 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Clarkia imbricata</i> Vine Hill clarkia	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden SB_UCBBG-UC Berkeley Botanical Garden	230 232	2 S:2	0	1	1	0	0	0	1	1	2	0	0
<i>Coastal and Valley Freshwater Marsh</i> Coastal and Valley Freshwater Marsh	G3 S2.1	None None		65 65	60 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Cuscuta obtusiflora var. glandulosa</i> Peruvian dodder	G5T4? SH	None None	Rare Plant Rank - 2B.2		6 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Delphinium luteum</i> golden larkspur	G1 S1	Endangered Rare	Rare Plant Rank - 1B.1 SB_UCBBG-UC Berkeley Botanical Garden		11 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Downingia pusilla</i> dwarf downingia	GU S2	None None	Rare Plant Rank - 2B.2	85 142	132 S:9	4	1	0	0	2	2	6	3	7	1	1



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Emys marmorata</i> western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	55 135	1384 S:6	0	2	3	1	0	0	1	5	6	0	0
<i>Fritillaria liliacea</i> fragrant fritillary	G2 S2	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive		82 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Hemizonia congesta ssp. congesta</i> congested-headed hayfield tarplant	G5T2 S2	None None	Rare Plant Rank - 1B.2 SB_UCBBG-UC Berkeley Botanical Garden	90 175	52 S:7	0	0	0	0	2	5	7	0	5	2	0
<i>Horkelia tenuiloba</i> thin-lobed horkelia	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden	200 250	27 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Lasiurus cinereus</i> hoary bat	G5 S4	None None	IUCN_LC-Least Concern WBWG_M-Medium Priority		238 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Lasthenia burkei</i> Burke's goldfields	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden SB_UCBBG-UC Berkeley Botanical Garden	50 142	35 S:18	3	5	5	1	3	1	7	11	15	1	2
<i>Lasthenia californica ssp. bakeri</i> Baker's goldfields	G3T1 S1	None None	Rare Plant Rank - 1B.2	125 125	19 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Legenere limosa</i> legenere	G2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_UCBBG-UC Berkeley Botanical Garden	90 90	83 S:1	0	0	1	0	0	0	1	0	1	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Lilium pardalinum ssp. pitkinense</i> Pitkin Marsh lily	G5T1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_BerrySB-Berry Seed Bank SB_RSABG-Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture	150 200	4 S:2	0	1	0	0	0	1	2	0	2	0	0
<i>Limnanthes vinculans</i> Sebastopol meadowfoam	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden SB_UCBBG-UC Berkeley Botanical Garden	50 135	46 S:26	2	3	5	0	5	11	10	16	21	5	0
<i>Lindleriella occidentalis</i> California lindleriella	G2G3 S2S3	None None	IUCN_NT-Near Threatened	100 135	438 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Microseris paludosa</i> marsh microseris	G2 S2	None None	Rare Plant Rank - 1B.2 SB_SBBG-Santa Barbara Botanic Garden SB_UCSC-UC Santa Cruz	80 80	38 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Navarretia leucocephala ssp. bakeri</i> Baker's navarretia	G4T2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	50 130	58 S:9	0	0	0	0	4	5	9	0	5	2	2
<i>Northern Hardpan Vernal Pool</i> Northern Hardpan Vernal Pool	G3 S3.1	None None		60 135	126 S:5	3	0	1	0	1	0	5	0	4	1	0
<i>Northern Vernal Pool</i> Northern Vernal Pool	G2 S2.1	None None		73 80	20 S:2	0	1	0	0	0	1	2	0	2	0	0
<i>Oncorhynchus kisutch pop. 4</i> coho salmon - central California coast ESU	G4 S2?	Endangered Endangered	AFS_EN-Endangered	445 445	23 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Rhynchospora alba</i> white beaked-rush	G5 S2	None None	Rare Plant Rank - 2B.2	200 200	11 S:1	0	1	0	0	0	0	1	0	1	0	0
<i>Rhynchospora californica</i> California beaked-rush	G1 S1	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	150 150	9 S:2	0	0	0	0	1	1	2	0	1	0	1
<i>Rhynchospora capitellata</i> brownish beaked-rush	G5 S1	None None	Rare Plant Rank - 2B.2	150 150	25 S:2	0	0	1	0	1	0	1	1	1	1	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Rhynchospora globularis</i> round-headed beaked-rush	G4 S1	None None	Rare Plant Rank - 2B.1	150 150	2 S:2	0	0	0	0	1	1	2	0	1	1	0
<i>Syncaris pacifica</i> California freshwater shrimp	G2 S2	Endangered Endangered	IUCN_EN-Endangered	162 162	20 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Taxidea taxus</i> American badger	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	80 90	591 S:2	0	2	0	0	0	0	0	2	2	0	0
<i>Trifolium amoenum</i> two-fork clover	G1 S1	Endangered None	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden SB_UCBBG-UC Berkeley Botanical Garden SB_USDA-US Dept of Agriculture	200 200	26 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Trifolium hydrophilum</i> saline clover	G2 S2	None None	Rare Plant Rank - 1B.2		49 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Viburnum ellipticum</i> oval-leaved viburnum	G4G5 S3?	None None	Rare Plant Rank - 2B.3		39 S:1	0	0	0	0	0	1	1	0	1	0	0

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B.6 - CNPS Inventory Results

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*The database used to provide updates to the Online Inventory is under construction. [View updates and changes made since May 2019 here.](#)






Plant List






40 matches found. [Click on scientific name for details](#)

Search Criteria

Found in Quad 3812247





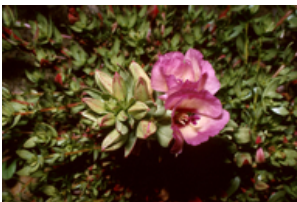


[Modify Search Criteria](#) [Export to Excel](#) [Modify Columns](#) [Modify Sort](#) [Remove Photos](#)







Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Federal Listing Status	Federal Listing Status	Habitats	Lowest Elevation	Highest Elevation	Photo
Alopecurus aequalis var. sonomensis	Sonoma alopecurus	Poaceae	perennial herb	May-Jul	1B.1	S1		FE	<ul style="list-style-type: none"> Marshes and swamps (freshwater) Riparian scrub 	5 m	365 m	
												2010 Robert Steers/NPS
Arctostaphylos densiflora	Vine Hill manzanita	Ericaceae	perennial evergreen shrub	Feb-Apr	1B.1	S1	CE		<ul style="list-style-type: none"> Chaparral (acid marine sand) 	50 m	120 m	
												2012 Aaron Arthur
Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	Ericaceae	perennial evergreen shrub	Feb-Apr(May)	1B.1	S1			<ul style="list-style-type: none"> Chaparral (rhyolitic) Cismontane woodland 	75 m	370 m	
												2012 Aaron Arthur
Blennosperma bakeri	Sonoma sunshine	Asteraceae	annual herb	Mar-May	1B.1	S1	CE	FE	<ul style="list-style-type: none"> Valley and foothill grassland (mesic) Vernal pools 	10 m	110 m	
												2010 Zoya Akulova
Calamagrostis bolanderi	Bolander's reed grass	Poaceae	perennial rhizomatous herb	May-Aug	4.2	S4			<ul style="list-style-type: none"> Bogs and fens Broadleaved upland forest Closed-cone coniferous forest Coastal 	0 m	455 m	
												2009 Zoya Akulova

									<ul style="list-style-type: none"> scrub • Meadows and seeps (mesic) • Marshes and swamps (freshwater) • North Coast coniferous forest 			
<u>Calamagrostis crassiglumis</u>	Thurber's reed grass	Poaceae	perennial rhizomatous herb	May-Aug	2B.1	S2			<ul style="list-style-type: none"> • Coastal scrub (mesic) • Marshes and swamps (freshwater) 	10 m	60 m	
												2013 Vernon Smith
<u>Campanula californica</u>	swamp harebell	Campanulaceae	perennial rhizomatous herb	Jun-Oct	1B.2	S3			<ul style="list-style-type: none"> • Bogs and fens • Closed-cone coniferous forest • Coastal prairie • Meadows and seeps • Marshes and swamps (freshwater) • North Coast coniferous forest 	1 m	405 m	
												Rick York and CNPS
<u>Castilleja ambigua</u> var. <u>ambigua</u>	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	4.2	S3S4			<ul style="list-style-type: none"> • Coastal bluff scrub • Coastal prairie • Coastal scrub • Marshes and swamps • Valley and foothill grassland • Vernal pools margins 	0 m	435 m	
												2010 Toni Corelli
<u>Castilleja uliginosa</u>	Pitkin Marsh paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Jun-Jul	1A	SX	CE		<ul style="list-style-type: none"> • Marshes and swamps (freshwater) 	240 m	240 m	
												Jo-Ann Ordano2004 California Academy of Sciences
<u>Ceanothus confusus</u>	Rincon Ridge ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Jun	1B.1	S1			<ul style="list-style-type: none"> • Closed-cone coniferous forest • Chaparral • Cismontane woodland 	75 m	1065 m	
												2006 Barrett Jeffery

12/11/2019

CNPS Inventory Results

<u>Ceanothus foliosus var. vineatus</u>	Vine Hill ceanothus	Rhamnaceae	perennial evergreen shrub	Mar-May	1B.1	S1			• Chaparral	45 m	305 m		2012 Aaron Arthur
<u>Ceanothus gloriosus var. exaltatus</u>	glory brush	Rhamnaceae	perennial evergreen shrub	Mar-Jun(Aug)	4.3	S4			• Chaparral	30 m	610 m		2010 Neal Kramer
<u>Ceanothus purpureus</u>	holly-leaved ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Jun	1B.2	S2			• Chaparral • Cismontane woodland	120 m	640 m		2008 Jorg Fleige
<u>Chorizanthe valida</u>	Sonoma spineflower	Polygonaceae	annual herb	Jun-Aug	1B.1	S1	CE	FE	• Coastal prairie (sandy)	10 m	305 m		2008 Aaron Schusteff
<u>Clarkia imbricata</u>	Vine Hill clarkia	Onagraceae	annual herb	Jun-Aug	1B.1	S1	CE	FE	• Chaparral • Valley and foothill grassland	50 m	75 m		Harlan Lewis and CNPS
<u>Cuscuta obtusiflora var. glandulosa</u>	Peruvian dodder	Convolvulaceae	annual vine (parasitic)	Jul-Oct	2B.2	SH			• Marshes and swamps (freshwater)	15 m	280 m	no photo available	
<u>Delphinium luteum</u>	golden larkspur	Ranunculaceae	perennial herb	Mar-May	1B.1	S1	CR	FE	• Chaparral • Coastal prairie • Coastal scrub	0 m	100 m		2010 Charles Patterson
<u>Downingia pusilla</u>	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2			• Valley and foothill grassland (mesic) • Vernal pools	1 m	445 m		2011 Dylan Neubauer
<u>Eriophorum gracile</u>	slender cottongrass	Cyperaceae	perennial rhizomatous herb (emergent)	May-Sep	4.3	S4			• Bogs and fens • Meadows and seeps • Upper montane	1280 m	2900 m		

										forest (openings) • Coastal scrub • Meadows and seeps • Marshes and swamps				
														2015 Asa Spade
<u>Legenere limosa</u>	legenere	Campanulaceae	annual herb	Apr-Jun	1B.1	S2				• Vernal pools	1 m	880 m		
														1993 Dean Wm. Taylor
<u>Leptosiphon jepsonii</u>	Jepson's leptosiphon	Polemoniaceae	annual herb	Mar-May	1B.2	S2S3				• Chaparral • Cismontane woodland • Valley and foothill grassland	100 m	500 m		
														2009 Bob Patterson and CNPS
<u>Lilium pardalinum ssp. pitkinense</u>	Pitkin Marsh lily	Liliaceae	perennial bulbiferous herb	Jun-Jul	1B.1	S1	CE	FE		• Cismontane woodland • Meadows and seeps • Marshes and swamps (freshwater)	35 m	65 m		
														Jo-Ann Ordano 2005 California Academy of Sciences
<u>Limnanthes vinculans</u>	Sebastopol meadowfoam	Limnanthaceae	annual herb	Apr-May	1B.1	S1	CE	FE		• Meadows and seeps • Valley and foothill grassland • Vernal pools	15 m	305 m		
														Jo-Ann Ordano 2005 California Academy of Sciences
<u>Microseris paludosa</u>	marsh microseris	Asteraceae	perennial herb	Apr-Jun(Jul)	1B.2	S2				• Closed-cone coniferous forest • Cismontane woodland • Coastal scrub • Valley and foothill grassland	5 m	355 m		
														2013 Vernon Smith
<u>Navarretia leucocephala</u>	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2				• Cismontane woodland	5 m	1740 m		

[ssp. bakeri](#)

- Lower montane coniferous forest
- Meadows and seeps
- Valley and foothill grassland
- Vernal pools



2003 Doreen L. Smith

[Navarretia](#)
[leucocephala](#)
[ssp. plieantha](#)

many-flowered
 navarretia

Polemoniaceae

annual herb

May-Jun

1B.2 S1

CE

FE

- Vernal pools (volcanic ash flow)

30 m

950 m

no photo available

[Ranunculus](#)
[lobbii](#)

Lobb's
 aquatic
 buttercup

Ranunculaceae

annual herb
 (aquatic)

Feb-May

4.2 S3

- Cismontane woodland
- North Coast coniferous forest
- Valley and foothill grassland
- Vernal pools

15 m

470 m



2008 Jorg Fleige

[Rhynchospora](#)
[alba](#)

white
 beaked-rush

Cyperaceae

perennial
 rhizomatous
 herb

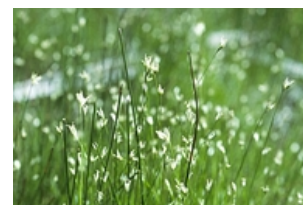
Jun-Aug

2B.2 S2

- Bogs and fens
- Meadows and seeps
- Marshes and swamps (freshwater)

60 m

2040 m



1996 Dean Wm. Taylor

[Rhynchospora](#)
[californica](#)

California
 beaked-rush

Cyperaceae

perennial
 rhizomatous
 herb

May-Jul

1B.1 S1

- Bogs and fens
- Lower montane coniferous forest
- Meadows and seeps (seeps)
- Marshes and swamps (freshwater)

45 m

1010 m



2002 Kristiaan Stuart

[Rhynchospora](#)
[capitellata](#)

brownish
 beaked-rush

Cyperaceae

perennial herb

Jul-Aug

2B.2 S1

- Lower montane coniferous forest
- Meadows and seeps
- Marshes and swamps
- Upper montane coniferous forest

45 m

2000 m



2010 Aaron Arthur

[Rhynchospora](#)
[globularis](#)

round-headed
 beaked-rush

Cyperaceae

perennial
 rhizomatous
 herb

Jul-Aug

2B.1 S1

- Marshes and swamps (freshwater)

45 m

60 m



2004 Steve Matson

[Trifolium](#)
[amoenum](#)

two-fork
 clover

Fabaceae

annual herb

Apr-Jun

1B.1 S1

FE

- Coastal bluff scrub
- Valley and foothill grassland (sometimes serpentine)

5 m

415 m



2009 Doreen L. Smith

[Trifolium hydrophilum](#)

saline clover Fabaceae annual herb Apr-Jun 1B.2 S2

- Marshes and swamps
- Valley and foothill grassland (mesic, alkaline)
- Vernal pools

0 m 300 m



2005 Aaron Schusteff

[Viburnum ellipticum](#)

oval-leaved viburnum Adoxaceae perennial deciduous shrub May-Jun 2B.3 S3?

- Chaparral
- Cismontane woodland
- Lower montane coniferous forest

215 m 1400 m



2006 Tom Engstrom

Suggested Citation

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