

Appendix B: Biological Resources Supporting Information

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B.1 - Biological Resources Assessment

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**3090 Browns Valley Road
Napa, CA
Biological Resources Report**



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07/19/2022

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List of Abbreviated Terms

BMPs	best management practices
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFP	California fully protected species
CFR	Code of Federal Regulations
CDFW	California Department of Fish and Wildlife
CNDD	California Natural Diversity Database
B	
CNPS	California Native Plant Society
CSSC	California species of special concern
CWA	Clean Water Act
DPS	Distinct Population Segment
ECOS	Environmental Conservation Online System
EFH	Essential Fish Habitat
EPA	Environmental Protection Agency
ESU	Evolutionarily Significant Unit
FESA	Federal Endangered Species Act
FMPs	fishery management plans
FONR	Friends of the Napa River
HCP	habitat conservation plan
IPAC	Information for Planning and Consultation
LID	low impact development
LSAA	Lake or Streambed Alteration Agreement
MBPA	California Migratory Bird Protection Act
MBTA	Migratory Bird Treaty Act
MIG	MIG, Inc.
MRP	Municipal Regional Permit
MS4s	municipal separate storm sewer systems
NCCP	Natural Community Conservation Plan
NCRCDD	Napa County Resource Conservation District
NCSPPP	Napa Countywide Stormwater Pollution Prevention Program
NOAA	National Oceanic and Atmospheric Administration

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NOAA Fisheries	National Oceanic and Atmospheric Administration National Marine Fisheries Service
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resource Conservation Service
NWI	National Wetlands Inventory
NWPs	Nationwide Permits
OHWM	Ordinary High Water Mark
Porter-Cologne	Porter-Cologne Water Quality Act
PRC	Public Resources Code
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SWRCB	State Water Resources Control Board
SWPPP	Stormwater Pollution Prevention Plan
U.S.	United States
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
VegCAMP	Vegetation Classification and Mapping Program
WDRs	waste discharge requirements
WICC	Napa County Watershed Information & Conservation Council

Summary of Project Impacts and Measures to Protect Biological Resources

Consistent with the California Environmental Quality Act (CEQA) and the CEQA Guidelines, this report identifies that all potential impacts to biological resources from the proposed project would be less than significant with mitigation measures incorporated in this document (Mitigation Measures [MMs] 1 through 10), BMPs incorporated in the project, and compliance with applicable regulations and agency requirements. Potentially significant impacts were identified to special-status aquatic species (construction), special-status and nesting birds (construction), pallid bat and other roosting bats (construction), critical habitat and essential fish habitat (construction), and local measures protecting biological resources. Potential long-term impacts to special-status species, critical habitat, and essential fish habitat; and all potential impacts to sensitive natural communities and riparian habitat, and wildlife movement and nursery sites, were found to be less than significant with project compliance with the creek structural setback and proposed landscape plan. The project would have no impacts to an adopted habitat conservation plan (HCP). Project impacts are summarized in Table 1 below and discussed in detail in Chapter 7.

Table 1. Summary of Project Impacts and Measures to Protect Biological Resources

Project Impact	Protection Measures
Special-Status Aquatic Species (short-term): Project construction could adversely impact aquatic species through water quality impacts such as erosion and sedimentation or accidental release of construction fluids. If California red-legged frogs or western pond turtles are dispersing or estivating in upland habitat on the site, crews and equipment could inadvertently crush them during construction. Special-status species could also be impacted by construction noise, lighting, trash, and monofilament netting used in erosion control products. Less than Significant with Mitigation Incorporated	MM BIO-1: Preconstruction Survey. No more than twenty-four (24) hours prior to the date of initial ground disturbance, a qualified biologist shall perform a pre-construction survey for the California freshwater shrimp, steelhead, California red-legged frog, and western pond turtle. The survey shall consist of walking the project limits and within the project site to ascertain the possible presence of the species. The qualified biologist shall investigate all potential areas that could be used by aquatic special-status species for feeding, breeding, sheltering, movement, and other essential behaviors. Results of the survey shall be documented. Comply with MM BIO-8 if species are detected. MM BIO-2: Worker Environmental Awareness Program. All construction personnel shall participate in a worker environmental awareness program. These

Project Impact	Protection Measures
	personnel shall be informed about the possible presence of all special-status species and habitats associated with the species identified to be potentially present in the project area and that unlawful take of the animal or destruction of its habitat is a violation of federal and state laws. Prior to construction activities, the qualified biologist shall instruct all construction personnel about (1) the description and status of the species; (2) the importance of their associated habitats; and (3) a list of measures being taken to reduce impacts on these species during project construction and implementation. A fact sheet conveying this information shall be prepared for distribution to the construction crew and anyone else who enters the project site. MM BIO-3: Minimize Area of Disturbance. Project activities shall be limited to the smallest area necessary for equipment staging, site access, construction equipment and personnel parking, debris storage, etc. MM BIO -4: Noise and Lighting Restrictions. Construction noise shall be limited to daylight hours, and construction lighting shall be minimized and directed away from the riparian corridor. MM BIO-5. Food and Trash. To eliminate an attraction for the predators of special-status species, all food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in solid, closed containers (trash cans) and removed from the construction site daily. MM BIO -6. Prohibition of Plastic Mono-filament Netting. Plastic mono-filament netting (e.g., erosion control matting, wattles), rolled erosion control products or similar

Project Impact	Protection Measures
	material shall not be used at the project site to prevent trapping California red-legged frogs, or other wildlife species. MM BIO-7: Construction Monitoring. If an aquatic special-status species listed under the federal or state endangered species act(s) is confirmed to be present in or near the parcel, a qualified biologist shall be onsite during all construction activities, depending on the species. The qualified biologist shall be given the authority to freely communicate verbally, by telephone, electronic mail, or in writing at any time with construction personnel, any other person(s) at the project site, otherwise associated with the project, CDFW and/or USFWS, or their designated agents. The qualified biologist shall have oversight over implementation of all the conservation measures and shall have the authority and responsibility to stop project activities if they determine any of the associated requirements are not being fulfilled. MM BIO-8: Relocation of Aquatic Special-Status Species. If an aquatic special-status species is found during construction, all work shall cease in the area where the individual was found until the animal leaves the impact area on its own. If this is not possible, a qualified biologist shall contact CDFW/USFWS as appropriate to determine if the animal can be moved to an appropriate relocation site. If moving the animal is approved, the project proponent shall ensure the qualified biologist is given sufficient time to complete the task. Only qualified biologists shall capture, handle, and move listed species. The qualified biologist shall monitor any relocated individual until it is determined that it is safe.

Project Impact	Protection Measures
	MM BIO-9: Biological Monitoring during Demolition in the Riparian Zone. A biological monitor shall be present during the removal of structures within the riparian zone (Figure 4). The monitor shall ensure that silt fencing, snow fencing, or equivalent is installed to prevent debris from entering the creek during demolition activities. If debris falls into the creek, demolition shall stop and additional methods shall be employed to prevent debris from falling into the creek. The biological monitor shall have the authorization to stop demolition activities.
Special-Status Aquatic Species (long-term): Potential long-term impacts to water quality in Browns Valley Creek could occur due to runoff containing petroleum products from parking lots, fertilizers or herbicides used for landscaping, pet waste, or other urban pollutants. Another potential long-term impact could include altered habitat such as reduced shade or overhanging vegetation on the creek if riparian habitat is impacted by the project. Reduced shade could increase the water temperature, making it unsuitable for anadromous fish such as steelhead and potentially other aquatic special-status species. Less than Significant Impact	A creek structural setback is incorporated in the project consistent with the City of Napa Municipal Code, including Chapter 17.52, Section 110 Creeks and other watercourses. The project will include a stormwater pollution prevention plan (SWPPP) and low impact development (LID) features to retain and treat stormwater consistent with Section 402 of the Clean Water Act and local stormwater regulations. The project includes bioretention basins to treat stormwater before it enters the creek, and stormwater detention and dissipation prior to discharge by sheet flow to the creek to prevent erosion. The project also incorporates the following Best Management Practices: • Construction or demolition in the riparian zone will be restricted to the dry season from April 15 to October 31, or as otherwise specified in the Lake and Streambed Alteration Agreement with CDFW. • Construction and demolition will not occur in the riparian zone during or within 24 hours following rain events of 0.25 inch of rain or more, or when the 72-hour National Weather Service forecast is for 40 percent chance of

Project Impact	Protection Measures
	rain or greater, or as otherwise specified in the project SWPPP and/or the Lake and Streambed Alteration Agreement with CDFW. • Not trees or other vegetation will be removed in the riparian zone unless it poses a safety hazard as determined by an arborist (for trees). • Travel and parking of vehicles and equipment will be limited to pavement, existing roads, and previously disturbed areas. • Temporarily impacted areas will be restored to pre-existing contours and revegetated. • All potential pollutants, including solid wastes, petroleum products, chemicals, wastewater, sediment, and non-stormwater discharges will be controlled and will not be discharged to Browns Valley Creek or other waterways. • Cleaning, fueling, or maintaining vehicles/equipment on property will be avoided except in designated areas in which run-off is contained and treated. • Soils and other materials will be removed from the site promptly and stockpiling material will be avoided when rain is forecast. If rain threatens, stockpiles, soils, and other materials will be covered with a tarp or other material to minimize erosion. • A hazardous spill plan will be developed prior to the start of construction. The plan will describe what actions will be taken in the event of a spill. The plan will incorporate preventative measures to be implemented, such as vehicle and

Project Impact	Protection Measures
	equipment staging, cleaning, maintenance, and refueling; and contaminant (including fuel) management and storage. In the event of a contaminant spill, work at the site will immediately cease until the contractor has contained and mitigated the spill. The contractor will immediately prevent further contamination and notify appropriate authorities. Adequate spill containment materials, such as oil diapers and hydrocarbon cleanup kits will always be available on site. Containers for storage, transportation, and disposal of contaminated absorbent materials will be provided on the project site. • All materials and equipment will be removed from the work site immediately after completion of construction.
Special-Status and Nesting Birds (short-term): Construction disturbance during the avian breeding season (February 1 through September 15, for most species) could impact special-status and common nesting birds. Construction disturbance could result in the incidental loss of eggs or nestlings, either directly through the destruction or disturbance of active nests or indirectly by causing the abandonment of nests. In addition, noise and increased construction activity could temporarily alter foraging behavior, potentially resulting in the abandonment of nest sites. Less than Significant with Mitigation Incorporated	MM BIO-10. Pre-construction Survey for Nesting Birds. To avoid impacts to nesting birds and violation of state and federal laws pertaining to birds, all vegetation removal, use of heavy equipment, and ground disturbance should occur outside the avian nesting season (that is, prior to February 1 or after September 15). At a minimum, removal of trees and other woody vegetation outside of the nesting bird season is strongly recommended. If tree removal or ground disturbance occurs within the avian nesting season (from February 1 to September 15), all suitable habitats located within the project's area of disturbance including maintenance areas, staging and storage areas, and access routes plus a 250-foot (passerines) and 1,000-foot (raptor nests) buffer around these areas shall be thoroughly surveyed, as feasible, for

Project Impact	Protection Measures
	the presence of active nests by a qualified biologist no more than five days before commencement of any site disturbance activities and equipment mobilization. If project activities are delayed by more than five days, an additional nesting bird survey shall be performed. Active nesting is present if a bird is building a nest, sitting in a nest, a nest has eggs or chicks in it, or adults are observed carrying food to the nest. The results of the surveys shall be documented. If pre-construction nesting bird surveys result in the location of active nests, no vegetation removal or maintenance activities shall take place within 250 feet of non-raptor nests and 1,000 feet of raptor nests, or as determined by a qualified biologist in consultation with the CDFW, as appropriate, until the chicks have fledged. Monitoring shall be required to ensure compliance with relevant California Fish and Game Code requirements. Monitoring dates and findings shall be documented.
Special-Status and Nesting Birds (long-term): Potential long-term impacts to special-status and nesting birds include increased disturbance due to increased human activity at the site and altered or reduced habitat due to project-related removal of trees and other vegetation. Less than Significant Impact	. The project complies with Chapter 17.52, Section 110 Creeks and other watercourses, and Chapter 12.45 Trees on Private Property, of the City of Napa Municipal Code which protect riparian habitat and larger sized native trees. The project does not propose to remove riparian vegetation, and complies with the creek structural setback that protects the creek riparian zone. The project will remove structures and paving that are currently in the creek structural setback, including structures currently in the riparian zone. The project incorporates landscaping that provides suitable nesting and forage habitat for the urban-adapted bird species that are common on the parcel.

Project Impact	Protection Measures
Pallid Bat and Other Roosting Bats (short-term): Removal of trees or structures during project construction could impact pallid bat or other protected bat species if they are roosting in such trees or structures, particularly if maternity roosts are present. Disturbance-related impacts such as roost abandonment could also occur if construction occurs in close proximity to a special-status bat roost or a maternity colony. Less than Significant with Mitigation Incorporated	MM BIO-11. Bat Protection Measures. No less than 30 days prior to construction activities on the project site, including removal of trees or structures, a roosting bat survey shall be conducted within the impact area and a 50-foot buffer. The survey may be conducted at any time of year, but should be conducted in such a way as to allow sufficient time to determine if special-status bat species or bat maternity colonies are present. The survey shall include observations of dusk emergence, a search for signs of bat activity, and the use of acoustic equipment to determine the types of bats present. Six trees and five buildings on site have suitable roosting habitat for bats, all within the riparian zone. If possible, these buildings should not be removed during the bat torpor (“hibernation”) period between November 1 and March 1. No trees in the riparian zone are proposed to be removed. If bats are detected, the project shall follow the recommendations of a qualified (5 years minimum experience) biologist to minimize impacts to bat species. Measures will be determined at the time in response to the situation, but may include exclusion or deterrence measures such as installing one-way exits or removing roost habitat features after bats emerge in the evening. If an active maternity colony is detected (5 or more bats), a disturbance-free buffer shall be implemented until after maternity season (April 15 – September 15).
Pallid Bat and Other Roosting Bats (long-term): Potential long-term impacts to pallid bat and other roosting bats include increased disturbance due to increased human activity at the site and altered or reduced habitat due to	With proposed compliance with the creek structural setback that will preserve bat habitat in the riparian zone, and project landscaping, potential long-term impacts to pallid bats and other roosting bats would be less than significant. The project will comply

Project Impact	Protection Measures
project-related removal of trees and vacant structures. Less than Significant Impact	with Chapter 17.52, Section 110 Creeks and other watercourses, and Chapter 12.45 Trees on Private Property, of the City of Napa Municipal Code which protect riparian habitat and larger sized native trees.
Sensitive Natural Communities and Riparian Habitat: The project could impact sensitive riparian habitat directly if trees or other vegetation in the riparian zone are removed or damaged during construction. Indirect impacts could also occur due to pollutants entering runoff water that flows into the riparian zone during project construction or over the long term. Less than Significant Impact	With compliance with the creek structural setback the creek and riparian habitat will be protected and the project would have less than significant impacts on sensitive vegetation communities and riparian habitat. In addition, the project will include a stormwater pollution prevention plan (SWPPP) and includes bioretention, stormwater detention, and dissipation to protect the property and adjacent creek from pollutants and erosion.
Critical Habitat and Essential Fish Habitat: Potential short-term and long-term impacts to critical habitat in Browns Valley Creek and EFH are the same as for aquatic special-status species; see the first two rows of this table above for more information. Less than Significant with Mitigation Incorporated	See MMs 1 through 9 above in the first row of the table, and the explanation in the second row of the table.
Jurisdictional Waters: The proposed project includes a bioretention area and stormwater detention outside of the creek structural setback and the edge of the riparian zone. The stormwater detention empties onto a 15 ft by 6 ft (90 sq ft) rock energy dissipater that is within the edge of riparian vegetation, but is set back from the top of bank by about 55 feet (see Chapter 2 Project Location and Description). The rock energy dissipater falls within the jurisdiction of the California Department of Fish and Wildlife, and may be within the jurisdiction of the Regional Water Quality Control Board.	See MM-BIO-9 for creek protection measures during demolition. The project also incorporates stormwater pollution measures to prevent significant impacts to jurisdictional waters (see Chapter 2). Project activities within the riparian zone are within CDFW jurisdiction, and may be within RWQCB jurisdiction and will require notification of those agencies.

Project Impact	Protection Measures
The proposed project will remove existing structures and paving within the creek structural setback, including two structures that extend into the riparian zone totaling 989 square feet. Structures within the riparian area near the top of bank are within the jurisdiction of CDFW, and may be within the jurisdiction of the RWQCB. Less than Significant Impact	
Wildlife Movement and Nursery Sites: Construction activities could temporarily restrict some wildlife species from moving between suitable habitat patches during project implementation. In addition, noise and disturbance associated with construction activities could cause a temporary reduction in habitat connectivity through the site for species that commonly use habitats in the project area. Over the longer term, human activity would increase on the parcel due to the new residences, leading to some reduction in wildlife movement opportunity, particularly for species sensitive to human disturbance. There are no known wildlife nursery sites on or near the parcel; therefore, potential impacts to wildlife nursery sites are not anticipated. Less than Significant Impact	With compliance with the creek structural setback the creek and riparian habitat will be protected, allowing for continued movement along the riparian corridor and the project would have less than significant impacts on wildlife movement. The project is not expected to impact wildlife nursery sites, however, see MM BIO-11 for protection of bat maternity colonies, if found present.
Local Policies Protecting Biological Resources: The proposed project could damage or remove trees protected by the City of Napa Municipal Code, Chapter 12.45 Trees on Private Property. Coast live oaks and California bay trees 12 inches or more in diameter and coast redwoods 36 inches or more in diameter are protected by this ordinance. Less than Significant with Mitigation Incorporated	MM BIO-12. Arborist's Report. An arborist's report shall be prepared by a qualified arborist documenting the species, diameter at breast height (dbh), and health of each tree on the project parcel. The report shall include recommendations to protect retained trees during construction, particularly trees protected by the City of Napa Municipal Code (Chapter 12.45 Trees on Private Property). Removed or damaged protected trees shall be replaced consistent with the requirements of the Napa Municipal Code.

Project Impact	Protection Measures
Habitat Conservation Plan: The project parcel is not within an area covered by an adopted habitat conservation plan or natural community conservation plan. No Impact	None required.

1 Introduction

This report provides an evaluation of biological resources that may be impacted by the proposed subdivision and development of eleven residential lots on a 3.78-acre parcel at 3090 Browns Valley Road in the City of Napa, Napa County, California. It identifies sensitive biological resources with potential to occur at the project site, potential impacts to those resources resulting from the project, and recommended mitigation measures to avoid or minimize potentially significant impacts defined by the California Environmental Quality Act (CEQA).

The report will be used during project planning, to support the CEQA documentation prepared by the City of Napa, and for permit applications for a stormwater outfall to Browns Valley Creek. The report includes the following sections:

- Section 2 Project Location and Description: provides an overview of the project location and activities proposed by the project.
- Section 3 Regulatory Setting: provides a brief explanation of the federal, state, and local regulations that pertain to the project.
- Section 4 Methods: explains the approach used for the evaluation, including field work and literature review.
- Section 5 Environmental Setting: provides a description of the environmental conditions at the project site, including vegetation communities and associated wildlife habitats present.
- Section 6 Special-status Species and Sensitive Habitats: describes special-status species, and sensitive communities that are known to occur or that could potentially occur in the project area.
- Section 7 Biological Impact Assessment: provides an evaluation of the potential impacts to biological resources that may occur from the project; responses to the CEQA Guidelines Appendix G questions related to biological resources; and mitigation measures to prevent significant impacts biological resources, as needed.

2 Project Location and Description

The property at 3090 Browns Valley Road is an approximately 3.78-acre linear parcel that extends south-southwest to north-northeast from Browns Valley Road to Browns Valley Creek in Napa, California (Figure 1). It is currently developed with a single-family residence, a cottage, and barns (Figure 2). Photographs of the parcel are included in Appendix A.

Edenbridge Homes has purchased the property and plans to subdivide the parcel into 11 separate lots (Figure 3). In a due diligence review, Edenbridge identified that stormwater drainage for the property would need to flow to the creek north of the current parcel, rather than draining to Browns Valley Road to the south, and that setbacks will be needed from the creek top of bank and edge of riparian zone (shown in Figure 3).

The outfall is proposed to be located outside of the top of bank in the northeast corner of the site (Figure 4). The stormwater control plan (Figure 5) directs site stormwater first to two bioretention areas, which will overflow to a detention pipe. Stormwater is then directed to a rock energy dissipator and coir log configuration that is six feet wide and fifteen feet long for a permanent impact area of 90 square feet. An 18-inch storm pipe will direct stormwater from the detention pipe onto the dissipator. From there water will sheet flow toward the creek. Because the rock energy dissipator and a portion of the pipe is within the riparian zone it is expected to require a section 1602 Agreement from the California Department of Fish and Wildlife (CDFW). Because it does not extend below the top of bank or the ordinary high water mark it is not expected to require authorization from the Regional Water Quality Control Board or the U.S. Army Corps of Engineers.

A creek structural setback is incorporated in the project consistent with the City of Napa Municipal Code, including Chapter 17.52, Section 110 Creeks and other watercourses; the setback is shown in Figures 3 and 4. There are currently four structures and some driveway paving within the setback (Figure 6). Two structures extend into the riparian zone. No structures or paving extend below the top of bank (Figure 4). The project will remove 4,153 square feet of existing structures and 3,362 square feet of paving from the creek structural setback. That figure includes 989 square feet of existing structures that are within the canopy of the riparian zone. No new buildings will be built within the creek structural setback, riparian zone, or below the top of bank. New paving will be installed within the creek structural setback, as allowed by the City, including a small portion of Street A, part of the driveway to Lot 5, and three parking stalls associated with the driveway for Lot 5, comprising 1,273 square feet. In balance, the project will result in a net reduction of 4,153 square feet of structures within the creek structural setback, including 989 square feet of structures within the riparian canopy, and 2,089 square feet of paving within the creek structural setback.

The project includes a schematic landscape design (Figures 6a and 6b) that incorporates trees and a dense understory of perennial grasses and shrubs. The bioretention area includes rushes, sedges, and native shrub species. The species mix includes a diversity of structure and nectar sources.

2.1 Recommended Best Management Practices to Protect Biological Resources

A creek structural setback is incorporated in the project consistent with the City of Napa Municipal Code, including Chapter 17.52, Section 110 Creeks and other watercourses. This setback will protect biological resources in the riparian zone from project activities. The project includes bioretention basins to treat stormwater before it enters the creek, and stormwater detention and dissipation prior to discharge by sheet flow to the creek to prevent erosion. A stormwater pollution prevention plan (SWPPP) will be prepared and implemented for the project consistent with Section 402 of the Clean Water Act. At a minimum, the SWPPP will include the following best management practices (BMPs) to protect water quality and avoid impacts to biological resources:

- Construction or demolition in the riparian zone will be restricted to the dry season from April 15 to October 31.
- Construction and demolition will not occur in the riparian zone during or within 24 hours following rain events of 0.25 inch of rain or more, or when the 72-hour National Weather Service forecast is for 40 percent chance of rain or greater.
- Not trees or other vegetation will be removed in the riparian zone unless it poses a safety hazard as determined by an arborist (for trees).
- Travel and parking of vehicles and equipment will be limited to pavement, existing roads, and previously disturbed areas.
- Temporarily impacted areas will be restored to pre-existing contours and revegetated.
- All potential pollutants, including solid wastes, petroleum products, chemicals, wastewater, sediment, and non-stormwater discharges will be controlled and will not be discharged to Browns Valley Creek or other waterways.
- Cleaning, fueling, or maintaining vehicles/equipment on property will be avoided except in designated areas in which run-off is contained and treated.
- Soils and other materials will be removed from the site promptly and stockpiling material will be avoided when rain is forecast. If rain threatens, stockpiles, soils, and other materials will be covered with a tarp or other material to minimize erosion.
- A hazardous spill plan will be developed prior to the start of construction. The plan will describe what actions will be taken in the event of a spill. The plan will incorporate preventative measures to be implemented, such as vehicle and equipment staging, cleaning, maintenance, and refueling; and contaminant (including fuel) management and storage. In the event of a contaminant spill, work at the site will immediately cease until the contractor

has contained and mitigated the spill. The contractor will immediately prevent further contamination and notify appropriate authorities. adequate spill containment materials, such as oil diapers and hydrocarbon cleanup kits will always be available on site. Containers for storage, transportation, and disposal of contaminated absorbent materials will be provided on the project site.

- All materials and equipment will be removed from the work site immediately after completion of construction.

3 Regulatory Setting

Biological resources in California are protected under federal, state, and local laws. The laws that may pertain to the biological resources affected by the project are described in this section.

3.1 Federal

3.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973, as amended, provides the regulatory framework for the protection of plant and animal species (and their associated critical habitats), which are formally listed, proposed for listing, or candidates for listing as endangered or threatened under FESA. FESA has the following four primary components: (1) provisions for listing species, (2) requirements for consultation with the United States Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries), (3) prohibitions against "taking" (i.e., harassing, harming, hunting, shooting, wounding, killing, trapping, capturing, or collecting, or attempting to engage in any such conduct) of listed species, and (4) provisions for permits that allow incidental "take". FESA also discusses recovery plans and the designation of critical habitat for listed species.

Both the USFWS and NOAA Fisheries share the responsibility for administration of FESA. Section 7 requires federal agencies, in consultation with, and with the assistance of the USFWS or NOAA Fisheries, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. Non-federal agencies and private entities can seek authorization for take of federally listed species under Section 10 of FESA, which requires the preparation of a habitat conservation plan (HCP).

Critical Habitat

Critical habitat is habitat needed to support recovery of listed species. When a species is listed under the FESA, USFWS or NOAA Fisheries (depending on the species) is required to determine whether there are areas that meet the definition of critical habitat. Once critical habitat is designated, other federal agencies consult with NOAA Fisheries to ensure actions they fund, authorize, or undertake are not likely to destroy or adversely modify the critical habitat.

Critical habitat is defined as:

- Specific areas within the geographical area occupied by the species at the time of listing that contain physical or biological features essential to conservation of the species and that may require special management considerations or protection; and
- Specific areas outside the geographical area occupied by the species if the agency determines that the area itself is essential for conservation.

USFWS Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog

The USFWS issued revised guidance on conducting site assessments and field surveys for the California red-legged frog (*Rana aurora draytonii*) in August 2005 (2005 Guidance). Similar to previous Guidance issued in 1997, two procedures are recommended in the 2005 Guidance to accurately assess the likelihood of California red-legged frog presence in the vicinity of a project site: (1) an assessment of CRF locality records and potential California red-legged frog habitat in and around the project area and, (2) focused field surveys of breeding pools and other associated habitat to determine whether CRF are likely to be present. The Guidance focuses on site assessments and surveys conducted in and around aquatic and riparian habitat. If the 2005 Guidance is followed in its entirety, the results of the site assessments and surveys are considered valid by the USFWS for two (2) years, unless determined otherwise on a case-by-case basis by the appropriate Service Fish and Wildlife Office.

3.1.2 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act governs all fishery management activities that occur in federal waters within the United States' 200-nautical-mile limit. The Act establishes eight Regional Fishery Management Councils responsible for the preparation of fishery management plans (FMPs) to achieve the optimum yield from U.S. fisheries in their regions. These councils, with assistance from the NOAA Fisheries, establish Essential Fish Habitat (EFH) in FMPs for all managed species. Federal agencies that fund, permit, or implement activities that may adversely affect EFH are required to consult with the NOAA Fisheries regarding potential adverse effects of their actions on EFH and respond in writing to recommendations by the NOAA Fisheries.

3.1.3 U.S. Migratory Bird Treaty Act

The U.S. Migratory Bird Treaty Act (MBTA; 16 USC §§ 703 et seq., Title 50 Code of Federal Regulations [CFR] Part 10) states it is “unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill; attempt to take, capture or kill; possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export any migratory bird, any part, nest, or egg of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or in part, of any such bird or any part, nest or egg thereof...” In short, under MBTA it is illegal to disturb a nest that is in active use, since this could result in killing a bird, destroying a nest, or destroying an egg. The USFWS enforces MBTA. The MBTA does not protect some birds that are non-native or human-introduced or that belong to families that are not covered by any of the conventions implemented by MBTA. In 2017, the

USFWS issued a memorandum stating that the MBTA does not prohibit incidental take; therefore, the MBTA is currently limited to purposeful actions, such as directly and knowingly removing a nest to construct a project, hunting, and poaching.

3.1.4 Clean Water Act

The Clean Water Act (CWA) is the primary federal law regulating water quality. The implementation of the CWA is the responsibility of the U.S. Environmental Protection Agency (EPA). However, the EPA depends on other agencies, such as the individual states and the USACE, to assist in implementing the CWA. The objective of the CWA is to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” Section 404 and 401 of the CWA apply to activities that would impact waters of the U.S. The USACE enforces Section 404 of the CWA and the California State Water Resources Control Board (SWRCB) enforces Section 401. Section 402 of the CWA authorizes the EPA to regulate water quality in California by controlling the discharge of pollutants to water bodies from point and non-point sources. Sections 404, 401, and 402 of the CWA are described in more detail below.

Section 404

As part of its mandate under Section 404 of the CWA, the EPA regulates the discharge of dredged or fill material into “waters of the United States” (U.S.). “Waters of the U.S.” include territorial seas, tidal waters, and non-tidal waters in addition to wetlands and drainages that support wetland vegetation, exhibit ponding or scouring, show obvious signs of channeling, or have discernible banks and high-water marks. Wetlands are defined as those areas “that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3(b)). The discharge of dredged or fill material into waters of the U.S. is prohibited under the CWA except when it is in compliance with Section 404 of the CWA. Enforcement authority for Section 404 was given to the USACE, which it accomplishes under its regulatory branch. The EPA has veto authority over the USACE’s administration of the Section 404 program and may override a USACE decision with respect to permitting.

Substantial impacts to waters of the U.S. may require an Individual Permit. Projects that only minimally affect waters of the U.S. may meet the conditions of one of the existing Nationwide Permits (NWP), provided that such permits’ other respective conditions are satisfied. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions (see below).

Section 401

Any applicant for a federal permit to impact waters of the U.S. under Section 404 of the CWA, including NWPs where pre-construction notification is required, must also provide to the USACE a

certification or waiver from the State of California. The “401 Certification” is provided by the SWRCB through the local RWQCB.

The RWQCB issues and enforces permits for discharge of treated water, landfills, storm-water runoff, filling of any surface waters or wetlands, dredging, agricultural activities and wastewater recycling. The RWQCB recommends the “401 Certification” application be made at the same time that any applications are provided to other agencies, such as the USACE, USFWS, or NOAA Fisheries. The application is not final until completion of environmental review under CEQA. The application to the RWQCB is similar to the pre-construction notification that is required by the USACE. It must include a description of the habitat that is being impacted, a description of how the impact is proposed to be minimized and proposed mitigation measures with goals, schedules, and performance standards. Mitigation must include a replacement of functions and values, and replacement of wetland at a minimum ratio of 2:1, or twice as many acres of wetlands provided as are removed. The RWQCB looks for mitigation that is on site and in-kind, with functions and values as good as or better than the water-based habitat that is being removed.

Section 402

The CWA authorizes the EPA to regulate water quality in California by controlling the discharge of pollutants to water bodies from point and non-point sources through the National Pollution Discharge Elimination System (NPDES). In Napa County, as with the rest of the Bay Area, NPDES permits are administered by the San Francisco Bay RWQCB. Phase I of the NPDES program covered discharges from industrial sites, construction sites larger than five acres, and municipal separate storm sewer systems (MS4s) serving populations of more than 100,000 people. The Phase II expansion of the MS4 program in 1999 expanded its coverage to include “Small” MS4s.

Stormwater discharges in the City of Napa, as with all of Napa County, are permitted under the NPDES requirements for Small MS4s (Phase II). The SWRCB has established a general permit process that allows the RWQCB to more efficiently regulate stormwater discharges from Small MS4s. The current general permit is the SWRCB-adopted *General Permit for the Discharge of Storm Water from Small MS4s* (Water Quality Order No. 2013-0001-DWQ, NPDES General Permit No. CAS000004) and all eligible MS4s are required to comply with its provisions, which include construction- and post-construction-phase stormwater runoff controls and water quality BMPs for new and re-development. This Municipal Regional Permit (MRP) requires that all projects implement BMPs and incorporate Low Impact Development (LID) practices into the design that prevents stormwater runoff pollution, promotes infiltration, and holds/slow down the volume of water coming from a site. To meet these permit and policy requirements, projects must incorporate the use of green roofs, pervious surfaces, tree planters, grassy swales, bioretention and/or detention basins, among other methods.

Construction Sites. The SWRCB administers the NPDES General Permit for Discharges of Stormwater Runoff Associated with Construction Activity (General Construction Permit). In order to cover a construction project disturbing one acre or more of land under the General Construction Permit, a facility must submit a Notice of Intent to the SWRCB prior to the beginning of construction. Effective July 1, 2010, all dischargers are required to obtain coverage under the Construction General Permit Order 2009-0009-DWQ adopted on September 2, 2009. The General Construction Permit requires that projects develop and implement a Stormwater Pollution Prevention Plan (SWPPP), identifying potential sources of pollution and specifying runoff controls during construction for the purpose of minimizing the discharge of pollutants in stormwater from the construction area. The SWPPP should contain a site map which shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP must list BMPs the discharger will use to protect stormwater runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

The permit also includes post-construction standards with the requirement for all construction sites to match pre-project hydrology to ensure that the physical and biological integrity of aquatic ecosystems is maintained. This "runoff reduction" approach is analogous in principle to LID and serves to protect related watersheds and water bodies from both hydrologic-based and pollution impacts associated with the post-construction landscape.

3.2 State

3.2.1 California Environmental Quality Act (CEQA)

CEQA (Public Resources Code [PRC] Sections 21000 et. seq.) requires public agencies to review activities which may affect the quality of the environment so that consideration is given to preventing damage to the environment. When a lead agency issues a permit for development that could affect the environment, it must disclose the potential environmental effects of the project. This is done with an "Initial Study and Negative Declaration" (or Mitigated Negative Declaration) or with an "Environmental Impact Report". Certain classes of projects are exempt from detailed analysis under CEQA if they meet specific criteria and are eligible for a Categorical Exemption.

CEQA Guidelines Section 15380 defines endangered, threatened, and rare species for purposes of CEQA and clarifies that CEQA review extends to other species that are not formally listed under the state or federal Endangered Species acts but that meet specified criteria. The state maintains a list of sensitive, or "special-status", biological resources, including those listed by the state or federal government or the California Native Plant Society (CNPS) as endangered, threatened, rare or of

special concern due to declining populations. During CEQA analysis for a proposed project, the California Natural Diversity Data Base (CNDDDB) is usually consulted. CNDDDB relies on information provided by the CDFW, USFWS, and CNPS, among others. Under CEQA, the lists kept by these and any other widely recognized organizations are considered when determining the impact of a project.

3.2.1 California Endangered Species Act

The California Endangered Species Act (CESA; Fish and Game Code 2050 et seq.) generally parallels FESA. It establishes the policy of the State to conserve, protect, restore, and enhance threatened or endangered species and their habitats. Section 2080 of the California Fish and Game Code prohibits the take, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or by the regulations. “Take” is defined in Section 86 of the California Fish and Game Code as to “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” This definition differs from the definition of “take” under FESA. CESA is administered by CDFW. CESA allows for take incidental to otherwise lawful projects but mandates that State lead agencies consult with the CDFW to ensure that a project would not jeopardize the continued existence of threatened or endangered species.

3.2.2 Native Plant Protection Act

The Native Plant Protection Act (NPPA) was created in 1977 with the intent to preserve, protect, and enhance rare and endangered plants in California (California Fish and Game Code sections 1900 to 1913). The NPPA is administered by CDFW, which has the authority to designate native plants as endangered or rare and to protect them from “take.” CDFW maintains a list of plant species that have been officially classified as endangered, threatened, or rare. These special-status plants have special protection under California law and projects that directly impact them may not qualify for a categorical exemption under CEQA guidelines.

1.1.2 Other Sensitive Plants – California Native Plant Society

The CNPS is a non-profit plant conservation organization that publishes and maintains an Inventory of Rare and Endangered Vascular Plants of California in both hard copy and electronic version (<http://www.rareplants.cnps.org/>).

The Inventory assigns plants to the following categories:

- 1A Presumed extinct in California;
- 1B Rare, threatened, or endangered in California and elsewhere;
- 2 Rare, threatened, or endangered in California, but more common elsewhere;
- 3 Plants for which more information is needed – A review list; and
- 4 Plants of limited distribution – A watch list.

Additional endangerment codes are assigned to each taxon as follows:

- 1 Seriously endangered in California (over 80% of occurrences threatened/high degree of immediacy of threat).
- 2 Fairly endangered in California (20-80% occurrences threatened).
- 3 Not very endangered in California (<20% of occurrences threatened or no current threats known).

Plants that are Rank 1A, 1B, and 2 of the CNPS Inventory consist of plants that may qualify for listing by the CDFW, as well as other state agencies (e.g., California Department of Forestry and Fire Protection). As part of the CEQA process, such species should be fully considered, as they meet the definition of threatened or endangered under the NPPA and Sections 2062 and 2067 of the California Fish and Game Code. California Rare Plant Rank 3 and 4 species are considered to be plants about which more information is needed or are uncommon enough that their status should be regularly monitored. Such plants may be eligible or may become eligible for state listing, and CNPS and CDFW recommend that these species be evaluated for consideration during the preparation of CEQA documents.

3.2.3 Fully Protected Species and Species of Special Concern

The classification of California fully protected (CFP) species was the CDFW's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under CESA and/or FESA. The Fish and Game Code sections (§5515 for fish, §5050 for amphibian and reptiles, §3511 for birds, §4700 for mammals) deal with CFP species and state that these species "...may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected species" (CDFW Fish and Game Commission 1998). "Take" of these species may be authorized for necessary scientific research. This language makes the CFP designation the strongest and most restrictive regarding the "take" of these species. In 2003, the code sections dealing with CFP species were amended to allow the CDFW to authorize take resulting from recovery activities for state-listed species.

California species of special concern (CSSC) are broadly defined as animals not listed under FESA or CESA, but which are nonetheless of concern to CDFW because they are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist. This designation is intended to result in special consideration for these animals by CDFW, land managers, consulting biologists, and others, and is intended to focus attention on the species to help avert the need for costly listing under FESA and CESA, and cumbersome recovery efforts that might ultimately be required. This designation also is intended to stimulate collection of

additional information on the biology, distribution, and status of poorly known at-risk species, and focus research and management attention on them. Although these species generally have no special legal status, they are given special consideration under CEQA during project review.

3.2.4 California Migratory Bird Protection Act

California Fish and Game Code section 3513 states that federal authorization of take or possession is no longer lawful under the state Fish and Game Code if the federal rules or regulations are inconsistent with state law. The California Migratory Bird Protection Act (MBPA) was passed in September 2019 to provide a level of protection to migratory birds in California consistent with the U.S. MBTA prior to the 2017 rule change limiting protection of migratory birds under the U.S. MBTA to purposeful actions (i.e., directly and knowingly removing a nest to construct a project, hunting, and poaching). Thus, under the MBPA, protections for migratory birds in California are consistent with rules and regulations adopted by the United States Secretary of the Interior under the U.S. MBTA before January 1, 2017. The MBPA reverts to existing provisions of the U.S. MBTA on January 20, 2025.

3.2.5 Nesting Birds

Nesting birds, including raptors, are protected under California Fish and Game Code Section 3503, which reads, “It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.” In addition, under California Fish and Game Code Section 3503.5, “it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto”. Passerines and non-passerine land birds are further protected under California Fish and Game Code 3513. As such, CDFW typically recommends surveys for nesting birds that could potentially be directly (e.g., actual removal of trees/vegetation) or indirectly (e.g., noise disturbance) impacted by project-related activities. Disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “take” by CDFW.

3.2.6 Non-Game Mammals

Sections 4150-4155 of the California Fish and Game Code protects non-game mammals, including bats. Section 4150 states “A mammal occurring naturally in California that is not a game mammal, fully protected mammal, or fur-bearing mammal is a nongame mammal. A non-game mammal may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission”. The non-game mammals that may be taken or possessed are primarily those that cause crop or property damage. Bats are classified as a non-game mammal and are protected

under California Fish and Game Code, in addition to being protected if they are a listed species (e.g., CSSC, CFP, state or federal threatened, or state or federal endangered).

3.2.7 Sensitive Vegetation Communities

Sensitive vegetation communities are natural communities and habitats that are either unique in constituent components, of relatively limited distribution in the region, or are of particularly high wildlife value. These communities may or may not necessarily contain special-status species. Sensitive natural communities are usually identified in local or regional plans, policies, or regulations, or by the CDFW (i.e., CNDDDB) or the USFWS. The CNDDDB identifies a number of natural communities as rare, which are given the highest inventory priority (Holland 1986; CDFW 2016). Impacts to sensitive natural communities and habitats must be considered and evaluated under CEQA (CCR: Title 14, Div. 6, Chap. 3, Appendix G).

3.2.8 California Fish and Game Code Sections 1600-1607

Sections 1600-1607 of the California Fish and Game Code require that a Notification of Lake or Streambed Alteration application be submitted to CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” CDFW reviews the proposed actions in the application and, if necessary, prepares a Lake or Streambed Alteration Agreement (LSAA or SAA), that includes measures to protect affected fish and wildlife resources.

3.2.9 Porter-Cologne Water Quality Control Act

The intent of the Porter-Cologne Water Quality Control Act (Porter-Cologne) is to protect water quality and the beneficial uses of water, and it applies to both surface and ground water. Under this law, the State Water Resources Control Board develops statewide water quality plans, and the RWQCBs develop basin plans, which identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of both statewide and basin plans. Waters regulated under Porter-Cologne, referred to as “waters of the State,” include isolated waters that are not regulated by the USACE. Projects that require a USACE permit, or fall under other federal jurisdiction, and have the potential to impact waters of the State are required to comply with the terms of the Water Quality Certification Program. If a proposed project does not require a federal license or permit, any person discharging, or proposing to discharge, waste (e.g., soil) to waters of the State must file a Notice of Intent (NOI) or a Report of Waste Discharge and receive either waste discharge requirements (WDRs) or a waiver to WDRs before beginning the discharge.

3.3 Local

3.3.1 Napa Municipal Code

The City of Napa's Municipal Code contains all ordinances for Napa. Title 12, Streets, Sidewalks, and Public Places, and Title 18, Zoning, include regulations relevant to biological resources in the project parcel as discussed below.

Protected Trees

Chapter 12.45 Trees on Private Property establishes regulations for the preservation of protected native trees and significant trees. Protected native trees are defined as:

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

A "significant tree" means any tree or grove of trees located within the city nominated by the Commission with the consent of the property owner upon whose land the tree is located and designated by the City Council. The following criteria shall be used in designating significant trees: 1. Historic significance associated with a person, place or event; 2. Unique or rare horticultural specimens; 3. Uniqueness of size or age; 4. Aesthetic value due to symmetry, form, color or other qualities; 5. Visibility or prominence to public view; 6. Significance for habitat protection; and 7. Native to Napa Valley.

Section 12.45.080 prohibits removing a protected native tree and any of the following actions without a permit:

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

Section 12.45.060 provides similar protection for significant trees.

Section 12.45.100 requires replacement of removed or damaged protected native trees as follows:

- A. For each six inches or fraction thereof of the protected native tree, two trees of the same species as the protected tree (or any other species with approval) and a minimum 15-gallon container or larger size as determined by the Director shall be planted on the project site.
- B. If the project site is inadequate in size to accommodate the replacement trees, with the recommendation of the Director, the trees shall be planted on public property. The Director may accept an in-lieu fee, per 15-gallon replacement tree with the moneys to be used for tree-related educational projects and/or planting programs. In lieu fees shall be set by City Council resolution and adjusted on an annual basis as necessary and include the cost of planting.
- C. Each protected native tree approved for removal shall be replaced within 60 days or at a reasonable time approved by the Director or according to the conditions of any discretionary permit allowing removal of a protected native tree.
- D. The Director shall ensure that security is posted in an amount sufficient to secure the maintenance and protection of any replacement tree not planted on public property for a period of three years. Said security shall be returned at the end of the three-year period if, in the Director's judgment, the replacement trees are healthy and free of any defects. Any replacement tree that is not healthy or free of defects at the end of the three-year period shall be replaced, and security shall be held for another three-year period or until, in the Director's judgment, the tree has been well established. (O2003 4)

Section 12.45.070 has similar replacement requirements for removed or damaged significant trees.

Creeks and Other Watercourses

Chapter 17.52, Section 110 Creeks and other watercourses, implements Napa General Plan policies and establishes regulations for development that may impact stream bank safety and the protection and enhancement of riparian habitat corridors within the City of Napa. Section 110 setback requirements as follows:

General Provisions. The following requirements shall apply to lots adjacent to perennial or intermittent "blue line" streams identified on USGS maps, and other watercourses identified during individual project review.

1. Streambank Stabilization. All development shall comply with public works streambank stabilization requirements for setbacks from banks of watercourses. These standards require a structure setback of 20 feet, except for an accessory structure less than 500 square feet in area, from the top of the creek, stream or riverbank. Top of bank means the highest elevation of land which confines flowing waters to their channel. Where the average depth of the bank is eight feet or greater, the required setback from the toe of the stream bank

shall be two times the depth of the bank plus 20 feet unless special provisions for bank stabilization are installed as approved by the Public Works Director.

2. Erosion Control. All development shall provide erosion control plans consistent with best management practices.
3. Creek or Other Watercourse Information. All subdivision and design review applications shall map creeks or other watercourses on the site plan, as well as areas of existing vegetation along the creek or watercourse. Plans shall identify proposed setbacks, fencing and vegetation, and shall be referred for comment to the State Department of Fish and Game [*sic*; CDFW]. A biologist report may be required to substantiate the design provided.
4. Riparian Setbacks. The following standards shall be used in evaluating subdivision and design review permit applications:
 - a. The project design provides setbacks from creeks and watercourses encompassing riparian habitat areas plus a root protection zone from the edge of the tree canopy;
 - b. Where existing riparian habitat is partial or lacking on site but is adjacent to off-site riparian areas, a setback is provided to permit regrowth of riparian habitat corridors (the stream bank stabilization setback from top of bank is considered a typical minimum but setbacks shall consider the width of the off-site riparian areas);
 - c. The setback area is retained as a habitat area, with development typically located outside of it, except for water-related construction such as bridges, docks;
 - d. Appropriate indigenous riparian vegetation is proposed where restoration is needed;
 - e. The riparian area is protected from casual access and encroachment through provision of attractive open fencing or similar barriers;
 - f. In new subdivisions, yard requirements are met outside of the riparian setback.
5. Exempt: Where on-site conditions clearly demonstrate that the lot is not occupied by riparian vegetation and/or is not appropriate to revegetate (e.g., a parking lot or floodwall exists), the decision making body may determine that riparian setbacks are unnecessary.
6. Waiver: The decision making body may grant a waiver of riparian setbacks if:
 - a. An alternative project design adequately protects the value of the creek or watercourse to the satisfaction of the city after review by public wildlife agencies, or,
 - b. Proposed setbacks would permit no reasonable use of the property.

3.3.2 City of Napa General Plan

The City of Napa General Plan (City of Napa 2015) includes goals and policies focused on natural resources factors potentially affected by the proposed project. Those relevant to the proposed project include the following:

Goal NR-1: To manage the natural resources, wetlands, and open space areas in and around the city to preserve and enhance plant and wildlife habitats.

Policies:

- NR-1.1 The City shall protect riparian habitat along the Napa River and its tributaries from incompatible urban uses and activities.
- NR-1.2 The City shall identify existing wildlife habitat corridors and seek to protect them from being severed or significantly obstructed.
- NR-1.3 The City shall encourage the planting of native plant species in natural habitats.
- NR-1.4 The City shall review all future waterway improvement projects (e.g., flood control, dredging, private development), as well as all projects that are within 100 feet of the waterway, to ensure that they protect and minimize effects on the riparian and aquatic habitats. The City shall also encourage native plantings along the river and creek banks to stabilize the banks, reduce sedimentation, reduce stormwater runoff volumes, and enhance aquatic habitats.
- NR-1.6 The City shall require as a condition of approval that development provide protection for significant on-site natural habitat whenever possible.
- NR-1.7 During development review, the City shall endeavor to identify and protect significant species and groves or clusters of trees on project sites.
- NR-1.11 The City shall continue to enforce the Fire Prevention Abatement program to protect riparian habitat from destruction by fire.
- NR-1.13 The City shall require that the composting and recycling of landscape maintenance debris be located so as to avoid adverse impacts on wetland, riparian, and fish habitat.

Goal NR-2: To recognize and support the preservation of rare, endangered, and threatened species and of other unique and fragile biological environments.

Policies:

- NR-2.3 The City shall continue to refer development proposals in sensitive areas to state and federal wildlife agencies for review and comment.
- NR-2.4 When acting as a project proponent or when reviewing proposals for private projects requiring discretionary review by the City, the City shall ensure that its environmental review documents identify any feasible means of avoiding any net loss of habitat or of habitat value for endangered, threatened, and rare species. Where necessary or desirable, such avoidance can be achieved through off-site mitigation measures. As part of the environmental review, the City shall determine whether the Department of Fish and Game [*sic*; CDFW], in implementing the California Endangered Species Act, and/or the United States Fish and Wildlife Service, in implementing the Federal Endangered Species Act, will likely require mitigation sufficient to avoid any net loss of habitat or of habitat value for such species. Where these agencies are likely to require such a level of mitigation, the

City may formulate its own mitigation measures so as to minimize the extent to which those measures duplicate the efforts of these agencies.

Goal NR-4: To protect and enhance surface water and ground water quality.

Policies

- NR-4.1 The City shall support the maintenance and improvement of surface and ground water quality.
- NR-4.4 The City shall adopt standards and regulations for the reduction and/or elimination of nonpoint sources of pollution.
- NR-4.5 Encourage design of projects to avoid covering creeks and drainageways whenever possible.

3.3.3 Napa Countywide Stormwater Pollution Prevention Program

To more effectively reduce stormwater pollution in the Napa River watershed, the City of Napa joined with the City of American Canyon, Town of Yountville, City of St Helena, Town of Calistoga and County of Napa to establish a county-wide stormwater pollution prevention program. The Napa Countywide Stormwater Pollution Prevention Program (NCSPPP) is a joint effort of Napa's cities, towns and unincorporated areas to:

- Comply with State and Federal regulations
- Preserve beneficial uses of local waterways
- Prevent stormwater pollution
- Protect and enhance water quality in creeks and wetlands

Though the County and each of the five cities and towns carry out their own individual stormwater pollution prevention programs, NCSPPP provides for the coordination and consistency of approaches between the individual participants and documents their efforts in annual reports. NCSPPP is funded by the member agencies and is administered by the Napa County Flood Control and Water Conservation District.

4 Methods

This section describes the methods used to complete the general biological resources assessment. Methods include a database and literature review, field survey, an assessment of plant communities and wildlife habitats and corridors, an assessment of sensitive habitats and aquatic features, and a habitat evaluation for special-status species.

4.1 Background Review

Available background information pertaining to the biological resources on and near the project was reviewed prior to conducting field surveys. Information was compiled and subsequently compared against site conditions during field surveys. The following sources were consulted:

- City of Napa Municipal Code (City of Napa 2021);
- City of Napa General Plan (City of Napa 2015);
- CNDDDB record search for 9-quadrangles including: *Napa, Yountville, Capell Valley, Mt. George, Cordelia, Cuttings Wharf, Sears Point, Sonoma, and Rutherford* (CNDDDB 2021);
- CNPS Rare Plant Program *Inventory of Rare and Endangered Plants of California* record 9-quadrangle search, including: *Napa, Yountville, Capell Valley, Mt. George, Cordelia, Cuttings Wharf, Sears Point, Sonoma, and Rutherford* (CNPS 2021);
- NOAA Fisheries ESA Critical Habitat Mapper (NOAA Fisheries 2021a);
- NOAA Fisheries Essential Fish Habitat Mapper (NOAA Fisheries 2021b);
- USFWS Information for Planning and Consultation (IPaC) tool (USFWS 2021a);
- USFWS Environmental Conservation Online System (ECOS): USFWS Threatened & Endangered Species Active Critical Habitat Report Online Mapper (USFWS 2021b);
- USFWS National Wetland Inventory (NWI 2021);
- United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2021);
- Other relevant scientific literature, technical databases, resource agency reports, and Federal Register notices and other information published by USFWS and NOAA Fisheries to assess the current distribution of special-status plants and animals in the project vicinity.

4.2 Field Surveys

Field surveys of the approximately 4-acre project parcel were conducted by MIG, Inc. (MIG) biologists Melinda Mohamed, M.S. and Alex Broskoff, B.S on August 11, 2021, and by MIG

biologist Megan Kalyankar, M.S. on August 26, 2021. The surveys were conducted to provide a project-specific impact assessment for the development of the site as described in the project description. Specifically, surveys were conducted to (1) assess existing biotic habitats and plant and animal communities in the parcel, (2) assess the parcel for its potential to support special-status species and their habitats, and (3) identify potential jurisdictional habitats (e.g., Waters of the state or U.S.), and other sensitive biological resources.

4.2.1 Sensitive Habitats and Aquatic Features

All plant communities observed in the parcel were evaluated to determine if they are considered sensitive. Sensitive natural communities are communities that are especially diverse; regionally uncommon; or of special concern to local, state, and federal agencies. Elimination or substantial degradation of these communities would constitute a significant impact under CEQA.

The parcel was also inspected for the presence of wetlands, drainages, streams, coastal waterways, and other aquatic features, including those that support stream-dependent (i.e., riparian) plant species that could be subject to jurisdiction by the USACE, RWQCB, and/or CDFW. Wetlands are defined for regulatory purposes in the 33 CFR 328.3 and 40 CFR 230.3 as “areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” To be considered subject to federal jurisdiction, a wetland must normally exhibit positive indicators for hydrophytic vegetation, hydric soil, and wetland hydrology.

4.2.2 Special-Status Species Habitat Evaluation

During the field surveys, Ms. Mohamed, Mr. Broskoff and Ms. Kalyankar evaluated the suitability of the habitat to support special-status species documented to occur within the 9-quad region. For the purposes of this assessment, special-status species include those plant and animals listed, proposed for listing or candidates for listing as threatened or endangered by the USFWS or NOAA Fisheries under FESA, those listed or proposed for listing as rare, threatened or endangered by CDFW under CESA, animals designated as CFP or CSSC by CDFW, and plants listed as Rank 1A, 1B, 2, 3, or 4 in the CNPS Inventory.

The potential occurrence of special-status plant and animal species in the parcel was initially evaluated by developing a list of special-status species that are known to or have the potential to occur in the vicinity of the parcel based on a 9-quad search of current database records (e.g., CNDDDB and CNPS Electronic Inventory records at a minimum) and review of the USFWS list of federal endangered and threatened species (i.e., IPaC). The potential for occurrence of those species included on the 9-quad list was then evaluated based on the habitat requirements of each species relative to the habitat conditions documented in the parcel.

Special-status species evaluated for occurrence on the parcel are listed in Tables 1 and 2 in Appendix C. CNPS Inventory Rank 3 and 4 plants were evaluated for potential to occur but were not included in the list if they were found to be unlikely to occur.

California Red-legged Frog Site Assessment. In addition to the more general special-status evaluation described above, MIG biologists performed a site assessment and field surveys for California red-legged frogs following USFWS protocol in August 2021. This involved evaluating known occurrences and potential habitat within one mile of the project site and a day and nighttime field survey to determine the likelihood of occurrence red-legged frogs on the project site. The USFWS reviewed the Site Assessment and determined that additional protocol surveys for California red-legged frogs were not necessary (Ryan Olah, USFWS, pers. comm., 10/6/2021).

5 Existing Land Uses, Natural Communities, and Habitats

5.1 General Study Area Description

The biological study area included the entire project site parcel at 3090 Browns Valley Road, referred to as the parcel or the project site in this report. The approximately 4-acre project parcel is located in the *Napa*, California 7.5-minute USGS quadrangle. It is in a Mediterranean climate zone typical of central coastal California. This climate zone is characterized by cool, wet winters and hot, dry summers. Most of the rainfall typically occurs between October 15 and April 15. Influenced by marine air about 85 percent of the time, the region is generally protected from the hot weather of the Central Valley by the interior Coast Ranges. Climate conditions in the parcel include a 30-year average (1991 to 2020) of approximately 26.66 inches of annual precipitation with an average temperature range from 47.7°F to 72.9°F (NOAA 2021).

Browns Valley Creek flows west to east along the northern border of the site and eventually flows into Napa Creek, a tributary to the Napa River. The project site and the entire City of Napa is located within the Napa River watershed, defined by Mt. St. Helena to the north, the Mayacamas Mountains to the west, Howell Mountain, Atlas Peak, and Mt. George to the east, and the Napa-Sonoma Marsh to the south (Figure 4). The Napa River runs through the center of the watershed on the valley floor, draining numerous tributaries along a 55 mile run from the headwaters on Mt. St. Helena to the San Pablo Bay. The Napa River winds through many types of landscapes: forested mountain slopes, vineyards, urban areas, open pasture, grasslands, industrial zones, and marshes (WICC 2005-2021).

Soils present on the project site are shown in Figure 5. Most of the project site (3.78 acres) is mapped as 118- Cole silt loam, 0 to 2 percent slopes, MLRA 14 (NRCS 2021). The northern portion of the site (0.551 acre) is mapped 104- Bale clay loam, 0 to 2 percent slopes (NRCS 2021). The northwestern edge of the site where the creek is present (0.095 acre) is mapped as 165- Millsholm loam, 6 to 55 percent slopes, MLRA 15 (NRCS 2021). The project site is relatively level, ranging from approximately 90 feet in elevation at Browns Valley Road to approximately 83 feet at the northern border of the property.

Photographs of the parcel are included in Appendix A.

5.2 Existing Land Uses, Vegetation Communities, and Habitats

The parcel is located within the San Francisco Bay Area Subregion of the Central Western Californian Region, both of which are contained within the larger California Floristic Province (Baldwin et al. 2012). Where applicable, vegetation communities were mapped using CDFW's Vegetation Classification and Mapping Program's (VegCAMP) currently accepted list of vegetation

alliances (CDFW 2021a). The field surveys identified four vegetation communities, habitats, and land cover types in the parcel, three of which are in VegCAMP, and one (planted redwoods) that is not: (1) developed/landscaped, (2) wild oats and annual brome grassland (*Avena spp.*-*Bromus spp.* Semi-Natural Stands), (3) planted coast redwoods, and (4) coast live oak woodland (*Quercus agrifolia* Alliance). These communities, habitats, and land cover types are described below and shown on Figure 9. See Appendix B for a complete list of plant species observed on the parcel.

Developed/Landscaped (0.911 Acre). This land cover type is not a natural community but includes built areas and associated landscaping. This land cover type occurs mostly in the middle of the project parcel and along the eastern edge of the parcel in the front. The parcel is currently developed with a single-family residence, a cottage, and barns. There is also a private road leading to the house and other buildings, and landscape vegetation associated with the buildings. Landscape vegetation is non-native ornamental or garden plants that were deliberately planted by the former occupant(s) of the property. Landscape plants include trees, shrubs, herbs, and vines from all over the world planted for aesthetic reasons or because they are edible. Some examples on the project site include lemon (*Citrus limon*), persimmon (*Diospyros virginiana*), maple (*Acer* sp.), boxwood (*Buxus* sp.), European holly (*Ilex aquifolium*), rosemary (*Salvia rosmarinus*), stinking iris (*Iris foetidissima*), cast iron plant (*Aspidistra elatior*), and climbing fig (*Ficus pumila*).

Wild Oats and Annual Brome Grassland (1.48 Acre). This community corresponds to *Avena spp.*-*Bromus spp.* Semi-Natural Stands (wild oats and annual brome grasslands) on CDFW's California Natural Communities List (VegCAMP). On the project parcel this community occurs at the front (southern side) of the parcel near Browns Valley Road, and in the middle part of the back (northern part) of the parcel near the riparian zone. Dominant species include wild oats (*Avena* sp.), foxtail brome (*Bromus madritensis*), chicory (*Cichorium intybus*), and bristly ox-tongue (*Helminotheca echioides*). This community has been subject to regular mowing on the parcel.

Planted Coast Redwoods (0.543 Acre). This community would correspond to the *Sequoia sempervirens* Alliance (redwood forest and woodland) on CDFW's California Natural Communities List (VegCAMP) if it were classified as a natural community, which is listed as a sensitive natural community. However, the coast redwoods (*Sequoia sempervirens*) on the project parcel are too far from the coast to be within the natural range of this species and were planted for landscaping purposes and/or to define the property borders. They occur in a linear formation not common in natural forests or woodlands and are too small to be long established. Planted coast redwoods are present in the front (southern side) of the project parcel along the eastern, western, and southern borders as well as in the middle of the parcel near the developed area. They are called out separately in this particular case because they provide habitat qualities that are distinct from typical landscaping and from the other vegetation communities on the property.

Coast Live Oak Woodland (0.846 Acre). This community corresponds to the *Quercus agrifolia* Alliance (coast live oak woodland and forest) on CDFW's California Natural Communities List (VegCAMP). This community is present in the riparian zone, but also extends along the eastern border in the northern part of the parcel (Figure 9). Dominant tree species include coast live oak (*Quercus agrifolia*), California buckeye (*Aesculus californica*), and planted coast redwood. The understory is mostly barren with patches of non-native annual grasses.

5.3 Wildlife

The parcel may provide cover and foraging habitat for a wide variety of terrestrial vertebrates (e.g., amphibians, reptiles, and mammals), as well as several guilds of birds, including insectivores (e.g., warblers, flycatchers), seedeaters (e.g., finches), and raptors. Cavity-nesting birds (e.g., swallows and woodpeckers) may nest in the large trees or vacant buildings on the parcel. Browns Valley Creek provides habitat for fish and other aquatic species.

Several species of amphibians and reptiles may occur in the parcel, particularly in the oak woodland vegetation community. Leaf litter, downed tree branches, low-growing forbs, and fallen logs provide cover for the ensatina (*Ensatina eschscholtzii*), California newt (*Taricha torosa*), western toad (*Anaxyrus boreas*), and Northern Pacific tree frog (*Pseudacris regilla*). Reptile species often found in this habitat include the Western fence lizard (*Sceloporus occidentalis*), Skilton's skink (*Plestiodon skiltonianus skiltonianus*), San Francisco alligator lizard (*Elgaria coerulea coerulea*), and Pacific ring-necked snake (*Diadophis punctatus amabilis*).

Mammals likely present in the project area include Northern raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), fox squirrel (*Sciurus niger*) and a variety of other rodents. Black-tailed deer (*Odocoileus hemionus*) may also be present in the project area and use the riparian habitat for access to water and forage. Scat of a species of rabbit or hare was observed during the August 26, 2021, field survey. Unknown species of bats were observed on the parcel during the August 11, 2021, nighttime field survey. Domestic cats (*Felis catus*) were also observed during the field surveys.

Birds observed on the parcel include American crow (*Corvus brachyrhynchos*), Anna's hummingbird (*Calypte anna*), bushtit (*Psaltiriparus minimus*), California scrub jay (*Aphelocoma californica*), chestnut-backed chickadee (*Poecile rufescens*), dark-eyed junco (*Junco hyemalis*), mourning dove (*Zenaida macroura*), oak titmouse (*Baeolophus inornatus*), red-shouldered hawk (*Buteo lineatus*), and turkey vulture (*Cathartes aura*). Trees on the parcel provide limited nesting opportunities for smaller raptors, such as the Cooper's hawk (*Accipiter cooperii*) and red-shouldered hawk.

Species observed in Browns Valley Creek in August 2021 include crayfish (unknown species), riffle sculpin (*Cottus gulosus*), and small fish that were likely mosquito fish (*Gambusia affinis*).

Wildlife species observed on the parcel are listed in Appendix B.

6 Special-Status Species and Sensitive Habitats

CEQA requires assessment of the effects of a project on species that are “threatened, rare, or endangered”; such species are typically described as “special-status species”. To assess the impacts of the proposed project, special-status species have been defined as described below. Impacts on these species are regulated by some of the federal, state, and local laws and ordinances described under Regulatory Setting above.

6.1 Special-Status Plants

The USFWS (2021), CNDDB (2021) and CNPS (2021) identify 49 special-status plant species as potentially occurring in the nine 7.5-minute quadrangles containing and/or surrounding the project parcel. All of these species were found to be unlikely to occur on the parcel for at least one of the following reasons: (1) a lack of specific habitat (e.g., freshwater marsh) and/or edaphic requirements (e.g., serpentine soils) for the species in question, (2) suitable habitat may be present but is of poor quality due to past disturbance, (3) the geographic range and/or elevation range of the species does not overlap the parcel, (4) the species is known to be extirpated from the site vicinity, and/or (5) records of the species are far from the parcel and/or old (i.e., from 50 years ago or more). All special-status plant species evaluated for their potential occurrence on the project site are included in Appendix C along with listing status, range, habitat requirements, blooming period, and potential to occur in the study area. Protocol level surveys for rare plants were determined unwarranted due to past development/disturbance of the parcel.

6.2 Special-Status Animals

The USFWS (2021) and CNDDB (2021) databases produced a list of 44 special-status animal species with records in the project area. Thirty-six (36) special-status animal species are unlikely to occur for at least one of the following reasons: (1) a lack of suitable habitat (e.g., freshwater or salt marsh, vernal pools, etc.), (2) the geographic range of the species does not overlap the parcel, (3) the species is known to be extirpated from the site vicinity, and/or (4) records of the species are far from the parcel and/or old (i.e., from 50 years ago or more) and/or there are significant movement barriers between known occurrences and the parcel. All special-status animal species evaluated for their potential occurrence on the project site are included in Appendix C along with listing status, range, habitat requirements, and potential to occur in the parcel.

Two special-status animal species were observed on the parcel and are presumed to be present (riffle sculpin and Central California roach). Six special-status animal species have a moderate potential to occur in the parcel based on nearby recorded occurrences and/or suitable habitat in the parcel. The listing status, range, habitat requirements, nearby occurrences, and potential occurrence in the parcel is provided below for each of these eight species. In addition, USFWS required avoidance measures for California red-legged frog in response to the required site assessment and field surveys

performed; therefore it is also described below although it was found to have a low potential to occur on the parcel based on the site assessment and field surveys.

6.2.1 Special-Status Aquatic Animals

California Freshwater Shrimp (*Syncaris pacifica*). Federal Status: Endangered; State Status: Endangered. The California freshwater shrimp is endemic to Marin, Sonoma, and Napa counties. Seventeen coastal streams currently support the shrimp. The historic distribution of the shrimp is unknown, but it probably inhabited most perennial lowland streams in the area. The shrimp is found in low elevations (less than 116 meters, 380 feet), low gradient (generally less than 1 percent) perennial freshwater streams or intermittent streams with perennial pools where banks are structurally diverse with undercut banks, exposed roots, overhanging woody debris, or overhanging vegetation. Most of the occupied stream reaches flow through private lands. Existing populations are threatened by introduced fish, deterioration or loss of habitat resulting from water diversion, impoundments, livestock and dairy activities, agricultural activities and developments, flood control activities, gravel mining, timber harvesting, migration barriers, and water pollution (USFWS 1998).

Within the project area, California freshwater shrimp has been found in the Napa River and certain tributaries including Garnett Creek and Huichica Creek. The closest CNNDDB record to the project site is about 4.3 miles southwest of the site in Huichica Creek. According to the Recovery Plan prepared for the species, unsampled and inadequately sampled streams within Marin, Sonoma, and Napa Counties could contain additional shrimp populations. Therefore, as a tributary to the Napa River, Browns Valley Creek is within the possible range of this species. Browns Valley Creek has some of the habitat requirements of this species, such as being in a low elevation range, low gradient, and a perennial freshwater creek. However, within the project site the creek banks are steep and rocky (not undercut) and not very structurally diverse. There is some overhanging woody debris and/or vegetation in the riparian zone on the parcel. California freshwater shrimp is considered to have a moderate potential to occur on the parcel based on the species range and nearby occurrences, and the presence of some suitable habitat on the parcel.

Riffle sculpin (*Cottus gulosus*). Federal Listing Status: None; State Listing Status: California Species of Special Concern. Riffle sculpins are 'generic' sculpins with no single definitive identifying external characteristics, although quite distinct genetically. California populations of riffle sculpin potentially represent four species or subspecies (associated with San Joaquin, Sacramento, Pajaro-Salinas, and Russian river watersheds); however, they are currently all treated as one species. The sculpins grouped together here as riffle sculpins are found exclusively in permanent cold-water streams. Riffle sculpin is found in many increasingly isolated watersheds in the Central Valley drainages and the central coast. They live in permanent, cool, headwater streams where riffles and rocky substrates predominate; such streams are clear and shaded, with moderate gradients. Spawning takes place under rocks in swift riffles or inside cavities in submerged logs. Riffle sculpins eat mainly

benthic invertebrates, primarily active insect larvae such as those of caddisflies, stoneflies, and mayflies (CDFW 2015).

Riffle sculpins are known from the Napa River Watershed. This species was observed on the parcel in Browns Valley Creek during amphibian surveys in August 2021. Therefore, it is presumed to be present.

Central California roach (*Lavinia symmetricus symmetricus*).). Federal Listing Status: None; State Listing Status: California Species of Special Concern. Central California roach are found in tributaries to the Sacramento and San Joaquin rivers and tributaries to San Francisco Bay. They are generally found in small streams and are particularly well adapted to life in intermittent watercourses; dense populations are frequently observed in isolated pools. Roach are most abundant in mid-elevation streams in the Sierra Nevada foothills and in lower reaches of some San Francisco Bay streams but they may also be found in the main channels of some rivers, such as the Stanislaus. In the tributary streams to the San Francisco Bay, roach occupy suitable habitats from headwaters to the mouth but are intolerant of saline waters. Spawning activity is largely dependent on temperature and typically occurs in March through early July, when water temperatures exceed 16°C. Spawning occurs in riffles over small rock substrates, 3-5 cm in diameter. Roach are opportunistic omnivores whose diet varies greatly across watershed, habitat type and season (CDFW 2015).

Central California roach are known from the Napa River Watershed. This species was observed on the parcel in Browns Valley Creek during amphibian surveys in August 2021. Therefore, it is presumed to be present.

Steelhead (*Oncorhynchus mykiss irideus*)- Central California Coast Distinct Population Segment (DPS). Federal Listing Status: Threatened; State Listing Status: None. Steelhead is an anadromous form of the rainbow trout that spends part of its life cycle in freshwater and part in the ocean. The Central California Coast DPS includes all naturally-spawned populations (and their progeny) in California streams from the Russian River to Aptos Creek, and the drainages of San Francisco and San Pablo Bays eastward to the Napa River (inclusive); the Sacramento-San Joaquin River Basin is excluded. Browns Valley Creek lies within the drainage basin of the San Francisco Bay and within the geographical population range of central California steelhead. Steelhead typically migrate to marine waters after spending two years in freshwater, though they may stay there for up to seven years. Individuals then reside in marine waters for two or three years prior to returning to their natal stream to spawn as 4- or 5-year-olds. Steelhead adults typically spawn between December and June. In California, females typically spawn two times before they die. Successful reproduction requires abundant riffle areas (shallows with gravel or cobble substrate) for spawning, and deeper pools with sufficient riparian cover for rearing. High-quality spawning habitat occurs in perennial streams with cool to cold water temperatures, high dissolved oxygen levels, and fast-flowing water.

A technical report by Leidy et al. (2005a) summarizes known distribution information for steelhead in Napa County streams. The Napa River was historically considered “the most important steelhead

stream in the counties bordering San Francisco Bay” and it remains important today. Steelhead historically reproduced in most of the tributary and headwater drainages of the Napa River, although they now are reduced substantially in abundance. Within the Napa River Watershed, Dry Creek, Redwood Creek, Sulphur Creek, and Soda Creek were listed as major spawning areas by CDFW in 1962. Recent surveys carried out by the Friends of the Napa River (FONR) and Ecotrust indicated that *O. mykiss* are still present in numerous Napa River watershed tributaries, with the highest densities typically recorded in Napa Valley’s west-side tributaries such as Redwood and Dry creeks.

Although previous surveys by CDFW did not find steelhead in Browns Valley Creek, a 2001 survey of the Napa River tributaries by Ecotrust and FONR found a relative density of steelhead of “1”¹ in one reach of Browns Valley Creek (out of four surveyed). Based on previous assessments by CDFW and observed conditions during the August 2021 field surveys, Browns Valley Creek generally lacks sufficient flow to support spawning and juvenile steelhead. However, Browns Valley Creek is a tributary of the Napa River (via Napa Creek) which is known as to have important spawning habitat for steelhead. Based on the known range of steelhead Central California Coast DPS and past surveys, steelhead may sometimes occur in Browns Valley Creek at low densities. Therefore, it’s considered to have a moderate potential to occur on the project parcel.

California Red-legged Frog (*Rana Draytonii*). Federal Listing Status: Threatened; State Listing Status: California Species of Special Concern. The California red-legged frog occupies a fairly distinct habitat, combining both specific water (aquatic) and upland (terrestrial) components. California red-legged frog habitat includes nearly any area within 1-2 miles of a breeding site that stays moist and cool through the summer; this includes non-breeding aquatic habitat in pools of slow-moving streams, perennial or ephemeral ponds, and upland sheltering habitat such as rocks, small mammal burrows, logs, densely vegetated areas, and even, man-made structures (i.e. culverts, livestock troughs, spring-boxes, abandoned sheds) (USFWS 2017). Breeding sites are generally found in deep, still or slow-moving water (greater than 2.5 feet) and can have a wide range of edge and emergent cover amounts. California red-legged frogs can breed at sites with dense shrubby riparian or emergent vegetation, such as cattails, tules, or overhanging willows or can proliferate in ponds devoid of emergent vegetation and any apparent vegetative cover (i.e., stock ponds). California red-legged frogs enter a dormant state during summer or dry weather (estivate) in small mammal burrows and moist leaf litter (USFWS 2017).

¹ Relative density of steelhead was noted between 1 and 3, with 3 indicating greater than one individual per square meter.

There is one CNDDB record of California red-legged frog occurring within 5 miles of the parcel from 2004 to the southwest, although the exact location is not given. The nearest CNDDB is beyond the usual 1 mile dispersal distance for this species. In addition, there is no breeding habitat for red-legged frogs on the parcel, or in the surrounding area, and ground squirrel burrows commonly used as estivation habitat were not observed on the parcel. Non-breeding aquatic habitat is present on the parcel in Browns Valley Creek.

MIG biologists performed a USFWS protocol site assessment and field surveys for California red-legged frog on the parcel and in the surrounding areas, including Browns Valley Creek and a nearby off-site pond. The surveys included both a day and nighttime amphibian survey, and were conducted in August 2021. No amphibians were observed during the surveys. Ryan Olah, a Coast Bay Division Supervisor at the USFWS, reviewed the survey results, indicated via email that no additional surveys were required, and stated that as long as general avoidance measures were implemented by the project, the chance of encountering a California red-legged frog on the parcel was expected to be low (Olah 2021).

Western Pond Turtle (*Actinemys marmorata*). Federal status: None; State status: Species of Special Concern. The western pond turtle occurs in ponds, streams, and other wetland habitats in the Pacific slope drainages of California (Bury and Germano 2008). Ponds or slack-water pools with suitable basking sites (such as logs) are an important habitat component for this species, and western pond turtles do not occur commonly along high-gradient streams. Females lay eggs in upland habitats, in clay or silty soils in unshaded areas. Juveniles occur in shallow aquatic habitats with emergent vegetation and ample invertebrate prey. Nesting habitat is typically found within 600 feet of aquatic habitat (Jennings and Hayes 1994), but if no suitable nesting habitat can be found close by, adults may travel overland considerable distances to nest.

There are seven CNDDB occurrences within five miles of the parcel from 1996 to 2017, mostly in artificial ponds and reservoirs near the Napa River. The closest occurrence is about 2.7 miles south of the parcel. Although the parcel has suitable aquatic habitat in Browns Valley Creek, suitable nesting habitat is lacking due to the steep creek banks, development on the parcel and in the surrounding area, and a lack of emergent vegetation for juveniles. Western pond turtle has a moderate chance of occurring on the parcel based on nearby recent occurrences and the presence of some suitable aquatic habitat. Occurrences would likely be confined to the creek channel.

6.2.2 Special-Status and Nesting Birds

White-tailed Kite (*Elanus leucurus*). Federal Listing Status: None; State Listing Status: Fully Protected. White-tailed kite inhabits cismontane woodland, marsh and swamp, riparian woodland, valley and foothill grassland, wetland habitats, and agricultural areas. They are most common in rolling foothills and valley margins with scattered oaks, and in river bottomlands or marshes next to deciduous woodland. They prefer open grasslands, meadows, or marshes for

foraging close to isolated, dense-topped trees for nesting and perching (CNDDDB 2021). They also sometimes occur in urban areas.

There is one CNDDDB occurrence within 5 miles about 3.4 miles southeast of the parcel near Highway 221. The occurrence is from 2018. There is suitable nesting and foraging habitat in the project area. However, the habitat for white-tailed kite is marginal due to development on and surrounding the parcel. White-tailed kite is considered to have a moderate potential to occur on the parcel based on a recent nearby occurrence and the presence of some suitable habitat on and near the parcel.

Nesting Birds. Nesting birds may occur in trees and other vegetation, shallow scrapes on bare ground, and buildings in and around the parcel. All migratory bird species are protected under California Fish and Game code. Trees and other vegetation on the parcel, as well as vacant buildings, provide nesting habitat to a variety of bird species. Suitable nesting habitat is present throughout the parcel, including natural areas and buildings.

6.2.3 Pallid Bat and Other Roosting Bats

Pallid Bat (*Antrozous pallidus*). **Federal status: None; State status: Species of Special Concern.** Pallid bats are commonly found in oak savannah and in open dry habitats with rocky areas, trees, buildings, or bridge structures that are used for roosting (Zeiner et al. 1990; Ferguson and Azerrad 2004). Coastal colonies commonly roost in deep crevices in rocky outcroppings, in buildings, under bridges, and in the crevices, hollows, and exfoliating bark of trees. Night roosts often occur in open buildings, porches, garages, highway bridges, and mines. Colonies can range in size from a few individuals to over a hundred (Barbour and Davis 1969), and they usually consist of at least 20 individuals (Wilson and Ruff 1999). Pallid bats typically winter in canyon bottoms and riparian areas. After mating during the late fall and winter, females leave to form maternity colonies, often on ridge tops or other warmer locales (Johnston et al. 2006). Pallid bat roosts are considered very susceptible to human disturbance.

There are ten CNDDDB occurrences within 5 miles of the parcel ranging from 1937 to 2008; the closest one is about 1.7 mile to the southeast. The trees and vacant buildings on the parcel could provide suitable roosting habitat (see Bat Colonies description below for more information), although this species is sensitive to disturbance and the parcel is in an urban area. Bats of unknown species were observed on the parcel during the August 2021 nighttime survey for amphibians. Pallid bats have a moderate potential to occur on the parcel based on nearby occurrences, some suitable habitat on the parcel, and bats detected on the site during the August 2021 nighttime survey.

Bat Colonies. Bats tend to forage and roost near freshwater sources. Browns Valley Creek provides a permanent source of freshwater within and adjacent to the parcel. Existing empty and accessible

structures, cavities within trees, or trees with exfoliating bark on site or nearby may provide suitable day and maternity roost habitat for many species of bats.

Roost sites play a critical role in mating, hibernation, rearing young, conserving energy, and protection from adverse weather and predators. Selection of roost sites is influenced by the distribution and abundance of food resources, risks of predation, as well as the physical attributes of the roost itself. Roost selection is paramount to the success of a species and the removal of roost habitat could adversely impact the survivorship of a species (Kunz 1982).

Depending upon species, maternity roosts can host from a few to thousands of reproductive female bats that congregate during spring and summer months to give birth and nurse their young. In California, maternity roosts may remain active from April through August. As a potentially uncommon and limited resource, maternity roosts may be the limiting resource for a local population of bats, and thus may be essential to the survival of a local bat population. Maternity roosts tend to have sensitivity to disturbance, with documented instances of abandonment even during the presence of flightless young. As bats have a low reproductive rate of typically one pup per year, negative impacts to maternity roosts can have profound impacts on a local population of bats (Szewczak 2013).

Disturbance of roosting habitat of any bat species would be considered significant under CEQA guidelines. Bats of unknown species were observed on the parcel during the August 2021 nighttime survey for amphibians.

6.3 Critical Habitat and Essential Fish Habitats

Browns Valley Creek is designated as critical habitat for steelhead Central California Coast DPS for rearing and migration habitat (NOAA Fisheries 2021a). See Section 6.2.1 above for more information about steelhead in Browns Valley Creek.

Browns Valley Creek and the project parcel are within Essential Fish Habitat (EFH) for Chinook salmon (*Oncorhynchus tshawytscha*) and coho salmon (*Oncorhynchus kisutch*) (NOAA Fisheries 2021b). More information on Chinook and coho salmon in the Napa River watershed and Browns Valley Creek is provided below.

Chinook Salmon. Little is known about the historical abundance and distribution of Chinook salmon in the Napa River watershed. Based on accounts of the Napa River's historical conditions and its proximity to the entrance to the Sacramento/San Joaquin River systems, it is likely that the watershed once supported a relatively large, sustainable population of Chinook salmon. Napa River salmon populations were not well documented during the early twentieth century and may have been extinguished completely for some period. During the last decade, however, juvenile salmon have been regularly collected in the Napa River and adult spawning has been observed in most years, suggesting that a process of recolonization may be underway (NCRCD 2016).

The Napa River Chinook salmon population is not included in either of the nearby Chinook salmon Evolutionarily Significant Units (ESU), the Central Valley Fall/Late Fall Run, or the California Coastal Chinook Salmon ESUs. However, recent genetic analysis of Napa River Chinook samples found that ancestry of Chinook salmon from the Napa River is primarily from the Central Valley Fall/Late Fall Run (NCRCD 2016).

Chinook salmon enter the Napa River from San Francisco Bay to spawn in the fall, typically around late September and early October. Peak Chinook spawning activity occurs from November through early January. Juvenile Chinook salmon spend several months rearing in the Napa River from January through June. Outmigration occurs throughout the spring with a peak occurring in May (NCRCD 2016).

Browns valley Creek is likely usually too shallow and slow moving to support spawning and migrating Chinook salmon. However, Browns Valley Creek is a tributary of Napa Creek, and Chinook salmon are known to inhabit Napa Creek (NCRCD 2006), downstream of Browns Valley Creek. Chinook salmon may occasionally occur in Browns Valley Creek in high flow conditions.

Coho Salmon. The Napa River historically supported an annual run of coho salmon, but the run has since been determined to be extirpated. Suitable habitat for coho salmon within the Napa River watershed includes several tributary streams flowing east and west to the mainstem Napa River from the narrow, well-shaded canyons of the Sonoma, Mayacama, and Vaca ranges. Coast redwood-Douglas fir, white alder, and oak-tanoak riparian communities characterize the tributaries (Leidy et al. 2005b). Since coho salmon has been determined to be extirpated from the Napa River, it is not expected to be found in Browns Valley Creek.

6.4 Sensitive and Regulated Plant Communities

Natural communities have been considered part of the Natural Heritage Conservation triad, along with plants and animals of conservation significance since the state inception of the Natural Heritage Program in 1979. CDFW determines the level of rarity and imperilment of vegetation types; and tracks sensitive communities in its Rarefind database (CNDDDB 2021). Global rankings (G) of natural communities reflect the overall condition (rarity and endangerment) of a habitat throughout its range, whereas state (S) rankings reflect the condition of a habitat within California. Natural communities are defined using NatureServe's standard heritage program methodology as follows (CDFG 2007):

- G1/S1: Less than 6 viable occurrences or less than 2,000 acres.
- G2/S2: Between 6 and 20 occurrences or 2,000 to 10,000 acres.
- G3/S3: Between 21 and 100 occurrences or 10,000 to 50,000 acres.
- G4/S4: The community is apparently secure, but factors and threats exist to cause some concern.

- G5/S4: The community is demonstrably secure to ineradicable due to being common throughout the world (for global rank) or the state of California (for state rank).

State rankings are further described by the following threat code extensions:

- S1.1: Very threatened.
- S1.2: Threatened.
- S1.3: No current threats known.

In addition to tracking sensitive natural communities, CDFW also ranks vegetation alliances, defined by repeating patterns of plants across a landscape that reflect climate, soil, water, disturbance, and other environmental factors (Sawyer et al. 1995). If an alliance is marked G1-G3, all the vegetation associations within it will also be of high priority (CDFG 2007). CDFW provides the Vegetation Classification and Mapping Program's (VegCAMP) currently accepted list of vegetation alliances and associations (CDFW 2021a).

Natural Communities of Special Concern. There are no natural communities of special concern on the parcel, such as those listed by the CNDDDB.

Sensitive Vegetation Alliances. The portion of the coast live oak woodland (*Quercus agrifolia* Alliance) in the riparian zone on the parcel may fall under the *Quercus agrifolia-Umbellularia californica* Association on CDFW's Vegetation Classification and Mapping Program Natural Communities List, which is listed as sensitive (G3/S3). The portion of the coast live oak woodland on the parcel outside of the riparian zone most closely matches the *Quercus agrifolia-Aesculus californica* Association (G5/S4), which is not listed as sensitive. Additionally, riparian corridors, regardless of vegetation alliances and associations present, are classified as sensitive habitats (see below).

6.5 Jurisdictional Waters and Riparian Habitat

Browns Valley Creek is classified as R4SBC in the USFWS National Wetlands Inventory (NWI). It is characterized in the NWI as an intermittent riverine feature that is seasonally flooded (NWI 2021; see Figure 10), but is shown as a perennial drainage (solid blue line) on the USGS Napa quadrangle. NWI maps are based on interpretation of aerial photography, limited verification of mapped units, and/or classification of wetland types using the classification system developed by Cowardin et al. (1979). These data are available for general reference purposes and do not necessarily correspond to the presence or absence of jurisdictional waters.

Based on the site investigation, approximately 0.119 acre and 511 linear feet of potentially USACE and RWQCB jurisdictional features were identified in the parcel. These include approximately 0.101 acre of Section 401 and 404 waters situated south of the creek centerline and below the OHWM of Browns Valley Creek (at the north end of the parcel), and a 0.018 acre potential wetland north of the creek centerline within the creek channel. At a minimum, RWQCB jurisdiction extends an additional 0.155 acre between the OHWM and the top of bank. If the RWQCB takes jurisdiction to the edge

of riparian habitat, an additional 0.248 acre falls within RWQCB jurisdiction (for a total of 0.504 acre and 555 linear feet). Potential waters of the U.S./ State are shown in Figure 11.

As described above under Regulatory Setting above the California Fish and Game Code includes regulations governing the use of, or impacts to, many of the state's fish, wildlife, and sensitive habitats, including the bed and banks of rivers, lakes, and streams. Browns Valley Creek and its associated riparian habitat is subject to CDFW jurisdiction under Section 1600 et seq. of State Fish and Game Code.

6.6 Wildlife Corridors and Nursery Sites

Wildlife corridors are segments of land that provide a link between different habitats while also providing cover. Development that fragments natural habitats (i.e., breaks them into smaller, disjunct pieces) can have a twofold impact on wildlife: first, as habitat patches become smaller, they are unable to support as many individuals (patch size); and second, the area between habitat patches may be unsuitable for wildlife species to traverse (connectivity).

The parcel is within the City of Napa and is in an area with low density residential development and roads. However, Westwood Hills Park (an open space area) is across Browns Valley Road from the parcel to the southwest. There are also vineyards and other open space areas to the southwest of the parcel, although the areas to the north, northwest, and east of the parcel are developed with houses and roads. In other words, areas to the southwest of the parcel may provide wildlife movement opportunities for terrestrial wildlife, but movement barriers such as roads and buildings are prominent to the north, northwest, and east.

Browns Valley Creek could provide a movement corridor for aquatic and avian wildlife and is connected to Napa Creek and the Napa River downstream. Roads and culverts could be partial movement barriers along Browns Valley Creek, but there are no apparent complete barriers to movement through the creek. Low water flows, particularly during the dry season and/or during drought conditions, may also present a movement barrier to aquatic wildlife in Browns Valley Creek.

The creek likely provides a corridor for aquatic and avian wildlife movement, however, there is no evidence that the project site supports a major wildlife corridor. This is not surprising due to surrounding suburban development that includes barriers (roads, fences and other structures) to wildlife movement.

There are no known wildlife nursery sites on or near the parcel. Browns Valley Creek is generally too shallow to provide fish spawning habitat, and more suitable spawning habitat is available elsewhere in the Napa River watershed. There are no known nesting bird colonies such as heron rookeries or blackbird colonies in the project area, and no known bat maternity roosts or mammal denning sites in the area.

7 Biological Impact Assessment

This section describes potential impacts to sensitive biological resources that may occur as a result of implementing the project.

The CEQA Guidelines define which impacts are considered significant. The Act defines “significant effect on the environment” as “a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.” Potential impacts to biological resources were determined in accordance with Appendix G of the CEQA Guidelines. Impacts would be considered potentially significant if the proposed project will:

- A. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- B. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- C. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- D. Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- E. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- F. Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan.

Direct take of a federal or state listed species is considered a significant impact. Per Section 3(18) of FESA, the term take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Temporary and/or permanent habitat loss is not considered a significant impact to sensitive species (other than for listed or candidate species under the FESA and CESA), unless a significant percentage of total suitable habitat throughout the species’ range is degraded or somehow made unsuitable, or areas supporting a large proportion of the species’ population are substantially and adversely impacted. Potential impacts to nesting bird species and bat colonies would be considered significant due to their protection under California Fish and Game Code.

7.1 Impacts to Aquatic Special-Status Species

Riffle sculpin and Central California roach, both California species of special concern, were observed in Browns Valley Creek on the project parcel and are presumed to be present. Other aquatic special-status species including California freshwater shrimp, steelhead Central California Coast DPS, and western pond turtle have a moderate potential to occur in Browns Valley Creek within the parcel (see Section 6.2.1 in Chapter 6 Special-Status Species and Sensitive Habitats). In addition, Ryan Olah of USFWS recommended that avoidance measures for California red-legged frog be implemented, although its potential to occur on the parcel was confirmed by USFWS to be low based on the CNDDDB records search, on-site habitat assessment, and day and nighttime amphibian surveys.

7.1.1 Short-Term Impacts- Less than Significant with Mitigation Incorporated

Due to the assessment that special-status aquatic species could be present in Browns Valley Creek, the project could result in direct impacts when crews and equipment are working near the creek bank during structure demolition. Project construction could also adversely impact aquatic species as a result of water quality impacts such as erosion and sedimentation or accidental release of construction fuels and fluids.

The proposed project will comply with Section 402 of the CWA (see Section 3.1.3 in Chapter 3 Regulatory Setting), including preparation of a SWPPP and implementation of BMPs for erosion control and water quality protection during and following construction. The BMPs included in the project that will protect biological resources are listed in Section 2.1 of Chapter 2 Project Description.

Special-status aquatic species could also be impacted by construction noise, lighting, trash, and monofilament netting that is often used in erosion control materials, such as filament wrapped straw wattles.

Implementation of the following mitigation measures (MMs) to protect California red-legged frog and other aquatic species would prevent significant impacts to aquatic special-status species during project construction. The MMs are based on the relevant conservation measures in the *Programmatic Biological Opinion for Issuance of Permits under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, including Authorizations Under 22 Nationwide Permits, for Projects that May Affect the Threatened California Red-Legged Frog in Nine San Francisco Bay Area Counties, California* (USFWS, 2014). Although geared towards California red-legged frog, the avoidance measures offer protection for all aquatic animals and have been modified to include the other special-status aquatic species that could occur on the parcel.

MM BIO-1: Preconstruction Survey. No more than twenty-four (24) hours prior to the date of initial ground disturbance, a qualified biologist shall perform a pre-construction

survey for the California freshwater shrimp, steelhead, California red-legged frog, and western pond turtle. The survey shall consist of walking the project limits and within the project site to ascertain the possible presence of the species. The qualified biologist shall investigate all potential areas that could be used by aquatic special-status species for feeding, breeding, sheltering, movement, and other essential behaviors. Results of the survey shall be documented. Comply with MM BIO-8 if species are detected.

MM BIO-2: Worker Environmental Awareness Program. All construction personnel shall participate in a worker environmental awareness program. These personnel shall be informed about the possible presence of all special-status species and habitats associated with the species identified to be potentially present in the project area and that unlawful take of the animal or destruction of its habitat is a violation of federal and state laws. Prior to construction activities, the qualified biologist shall instruct all construction personnel about (1) the description and status of the species; (2) the importance of their associated habitats; and (3) a list of measures being taken to reduce impacts on these species during project construction and implementation. A fact sheet conveying this information shall be prepared for distribution to the construction crew and anyone else who enters the project site.

MM BIO-3: Minimize Area of Disturbance. Project activities shall be limited to the smallest area necessary for equipment staging, site access, construction equipment and personnel parking, debris storage, etc.

MM BIO -4: Noise and Lighting Restrictions. Construction noise shall be limited to daylight hours, and construction lighting shall be minimized and directed away from the riparian corridor.

MM BIO-5. Food and Trash. To eliminate an attraction for the predators of special-status species, all food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in solid, closed containers (trash cans) and removed from the construction site daily.

MM BIO -6. Prohibition of Plastic Mono-filament Netting. Plastic mono-filament netting (erosion control matting, wattles), rolled erosion control products or similar material shall not be used at the project site to prevent trapping California red-legged frogs, or other wildlife species.

MM BIO-7: Construction Monitoring. If an aquatic special-status species listed under the federal or state endangered species act(s) is confirmed to be present in or near the parcel, a qualified biologist shall be onsite during all construction activities, depending on the species. The qualified biologist shall be given the authority to freely communicate verbally, by telephone, electronic mail, or in writing at any time with construction personnel, any other person(s) at the project site, otherwise associated with the project, CDFW and/or USFWS, or their designated agents. The qualified biologist shall have oversight over implementation of all the conservation measures and shall have the authority and responsibility to stop project activities if they determine any of the associated requirements are not being fulfilled.

MM BIO-8: Relocation of Aquatic Special-Status Species. If an aquatic special-status species is found during construction, all work shall cease in the area where the individual was

found until the animal leaves the impact area on its own. If this is not possible, a qualified biologist shall contact CDFW/USFWS as appropriate to determine if the animal can be moved to an appropriate relocation site. If moving the animal is approved, the project proponent shall ensure the qualified biologist is given sufficient time to complete the task. Only qualified biologists shall capture, handle, and move listed species. The qualified biologist shall monitor any relocated individual until it is determined that it is safe.

MM BIO-9: Biological Monitor during Demolition in the Riparian Zone. A biological monitor shall be present during the removal of structures within the riparian zone (Figure 4). The monitor shall ensure that silt fencing, snow fencing, or equivalent is installed to prevent debris from entering the creek during demolition activities. If debris falls into the creek, demolition shall stop and additional methods shall be employed to prevent debris from falling into the creek. The biological monitor shall have the authorization to stop demolition activities.

7.1.2 Long-Term Impacts- Less than Significant Impact

Potential long-term impacts to water quality in Browns Valley Creek could occur due to runoff containing petroleum products from parking lots, fertilizers or herbicides used for landscaping, pet waste, or other urban pollutants. Water quality impacts could degrade aquatic species habitat. Another potential long-term impact could include altered habitat such as reduced shade or overhanging vegetation on the creek if riparian habitat is impacted by the project. Reduced shade could increase the water temperature, making it unsuitable for anadromous fish such as steelhead and potentially other aquatic special-status species.

The proposed project includes stormwater bioretention and detention, and a rock dissipator for stormwater flows. This would prevent significant impacts to water quality in Browns Valley Creek over the long term. BMPs incorporated into the project to protect biological resources are listed in Table 1 and Chapter 2.

A creek structural setback is incorporated in the project consistent with the City of Napa Municipal Code, including Chapter 17.52, Section 110 Creeks and other watercourses; the setback is shown in Figures 3 and 4. This ordinance requires a creek setback of two times the depth of the bank plus 20 feet where the average creek bank depth is over 8 feet (as it is on the project parcel) for structures. The project will also comply with Chapter 12.45 Trees on Private Property, which requires a permit and tree replacement if protected or significant trees are removed or damaged. Coast live oaks and California bay trees over 12 inches are protected by this ordinance, inside or outside of the riparian zone. The project does not propose to remove riparian vegetation.

As explained in Chapter 2, the project will also remove existing structures and paving in the creek structural setback, including structures in the riparian zone and near the top of bank. The removal of

these potential sources of pollution or human disturbance will benefit aquatic species in Browns Valley Creek.

With the proposed creek structural setback and stormwater treatment measures the project would have less than significant long-term impacts to aquatic special-status species.

7.2 Impacts to Special-Status and Nesting Birds

White-tailed kite has a moderate potential to occur on the parcel based on nearby CNDDB records, the presence of some suitable habitat, and a tolerance for residential uses as long as there are areas to forage in the region (see Section 6.2.2 in Chapter 6 Special-Status Species and Sensitive Habitats). In addition, trees and other vegetation on the parcel provide habitat for nesting birds. All native birds and their nests are protected by the federal MBTA, California MBPA, and California Fish and Game Code (see Chapter 3 Regulatory Setting).

7.2.1 Short-Term Impacts- Less than Significant with Mitigation Incorporated

Construction disturbance during the avian breeding season (February 1 through September 15, for most species) could impact special-status and common nesting birds. Construction disturbance could result in the incidental loss of eggs or nestlings, either directly through the destruction or disturbance of active nests or indirectly by causing the abandonment of nests. In addition, noise and increased construction activity could temporarily alter foraging behavior, potentially resulting in the abandonment of nest sites. MM-10. Pre-construction Survey for Nesting Birds, listed below, would prevent significant impacts to special-status and common nesting birds.

MM BIO-10. Pre-construction Survey for Nesting Birds. To avoid impacts to nesting birds and violation of state and federal laws pertaining to birds, all vegetation removal, use of heavy equipment, and ground disturbance should occur outside the avian nesting season (that is, prior to February 1 or after September 15). At a minimum, removal of trees and other woody vegetation outside of the nesting bird season is strongly recommended. If tree removal or ground disturbance occurs within the avian nesting season (from February 1 to September 15), all suitable habitats located within the project's area of disturbance including maintenance areas, staging and storage areas, and access routes plus a 250-foot (passerines) and 1,000-foot (raptor nests) buffer around these areas shall be thoroughly surveyed, as feasible, for the presence of active nests by a qualified biologist no more than five days before commencement of any site disturbance activities and equipment mobilization. If project activities are delayed by more than five days, an additional nesting bird survey shall be performed. Active nesting is present if a bird is building a nest, sitting in a nest, a nest has eggs or chicks in it, or adults are observed carrying food to the nest. The results of the surveys shall be documented.

If pre-construction nesting bird surveys result in the location of active nests, no vegetation removal or maintenance activities shall take place within 250 feet of non-raptor nests and 1,000 feet of raptor nests, or as determined by a qualified biologist in consultation with the CDFW, as appropriate, until the chicks have fledged. Monitoring shall be required to ensure compliance with relevant California Fish and Game Code requirements. Monitoring dates and findings shall be documented.

7.2.2 Long-Term Impacts- Less than Significant Impact

Potential long-term impacts to special-status and nesting birds include increased disturbance due to increased human activity at the site and altered or reduced habitat due to project-related removal of trees and other vegetation. The project site was used for a single-family residence and business in an urban area, and common birds in the area are assumed to be adapted to development and human disturbance. A creek structural setback from the riparian zone is incorporated in the project consistent with the City of Napa Municipal Code, including Chapter 17.52, Section 110 Creeks and other watercourses; the setback is shown in Figures 3 and 4. The project will remove existing structures and paving within the riparian zone, creating space for riparian vegetation that provides nesting habitat to grow. In addition, the project will comply with Chapter 12.45 Trees on Private Property, of the City of Napa Municipal Code which protects larger sized native trees (see Section 7.1.2 above and Section 3.3.1 of Chapter 3 Regulatory Setting for more information). The project includes landscape trees and shrubs that will provide habitat for nesting birds. With compliance with the creek structural setback, which will preserve the natural riparian zone, and the proposed installation of landscaping with a diverse structure and nectar sources, potential long-term impacts to special-status and nesting birds is less than significant.

7.3 Impacts to Pallid Bat and Other Roosting Bats

Pallid bat has a moderate potential to occur on the parcel based on nearby CNDDDB records and the presence of some suitable habitat (see Section 6.2.3 in Chapter 6 Special-Status Species and Sensitive Habitats). In addition, trees and vacant buildings on the parcel could provide roosting habitat for common species of bats protected by the California Fish and Game Code. Bats of unknown species were observed on the parcel during the August 2021 nighttime amphibian survey.

7.3.1 Short-Term Impacts- Less than Significant with Mitigation Incorporated

Removal of trees or structures during project construction could impact pallid bat or other protected bat species if they are roosting in such trees or structures, particularly if maternity roosts are present. Disturbance-related impacts such as roost abandonment could also occur if construction occurs in close proximity to a special-status bat roost or a maternity colony. MM 11. Pre-construction Bat Roost Surveys, listed below, would prevent significant impacts to pallid bat and other roosting bats during project construction.

MM BIO-11. Bat Protection Measures. The following measures will prevent significant project impacts to bat species. No less than 30 days prior to construction activities on the project site, including removal of trees or structures, a roosting bat survey shall be conducted within the impact area and a 50-foot buffer. The survey may be conducted at any time of year, but should be conducted in such a way as to allow sufficient time to determine if special-status bat species or bat maternity colonies are present. The survey shall include observations of dusk emergence, a search for signs of bat activity, and the use of acoustic equipment to determine the types of bats present.

Six trees and five buildings on site have suitable roosting habitat for bats, all within the riparian zone. If possible, these buildings should not be removed during the bat torpor (“hibernation”) period between November 1 and March 1. No trees in the riparian zone are proposed to be removed.

If bats are detected, the project shall follow the recommendations of a qualified (5 years minimum experience) biologist to minimize impacts to bat species. Measures will be determined at the time in response to the situation, but may include exclusion or deterrence measures such as installing one-way exits or removing roost habitat features after bats emerge in the evening. If an active maternity colony is detected (5 or more bats), a disturbance-free buffer shall be implemented until after maternity season (April 15 – September 15).

7.3.2 Long-Term Impacts- Less than Significant Impact

Potential long-term impacts to pallid bat and other roosting bats include increased disturbance due to increased human activity at the site and altered or reduced habitat due to project-related removal of trees and vacant structures. The project site is in an urban area, and bats in the area are likely already adapted to development and human disturbance. A creek structural setback is incorporated in the project consistent with the City of Napa Municipal Code, including Chapter 17.52, Section 110 Creeks and other watercourses which will preserve the riparian zone where roosting bats are most likely to occur on this parcel; the setback is shown in Figures 3 and 4. In addition, the project will comply with Chapter 12.45 Trees on Private Property, of the City of Napa Municipal Code which protects larger sized native trees (see Section 7.1.2 above and Section 3.3.1 of Chapter 3 Regulatory Setting for more information). With protection of the creek and riparian zone proposed by the project, the potential long-term impacts to pallid bats and other roosting bats would be less than significant.

7.4 Impacts to Sensitive Communities

7.4.1 Sensitive Vegetation Communities and Riparian Habitat – Less Than Significant Impact

As described in Section 6.3 of Chapter 6 Special-Status Species and Sensitive Habitats, the portion of the coast live oak woodland (*Quercus agrifolia* Alliance) in the riparian zone on the parcel may fall under the *Quercus agrifolia-Umbellularia californica* Association on CDFW’s Vegetation Classification and Mapping Program Natural Communities List, which is listed as sensitive (G3/S3). All streams and associated riparian habitat, whether a sensitive vegetation alliance or association or not, is also

considered sensitive by CDFW and is protected under Section 1600 et seq. of State Fish and Game Code.

The project could impact sensitive riparian habitat directly if trees or other vegetation in the riparian zone are removed or damaged during demolition or construction. Indirect impacts could also occur due to pollutants entering runoff water that flows into the riparian zone during project construction or over the long term.

A creek structural setback is incorporated in the project consistent with the City of Napa Municipal Code, including Chapter 17.52, Section 110 Creeks and other watercourses; the setback is shown in Figures 3 and 4. This setback protects the riparian zone. The project will also comply with Chapter 12.45 Trees on Private Property, of the City of Napa Municipal Code which protects larger sized native trees (see Section 7.1.2 above and Section 3.3.1 of Chapter 3 Regulatory Setting for more information). By complying with the creek structural setback requirement, the project will protect sensitive riparian habitat.

The project will remove existing structures and pavement from the riparian zone and the creek structural setback, as described in Chapter 2. Measure BIO-9 requires protection of the creek with silt fencing or similar, and that a biological monitor be present during demolition to stop work if debris falls into the creek. The removal of structures and paving from the riparian zone will benefit the sensitive habitat by reducing human activity, removing a potential source of pollution, and allowing space for riparian vegetation to expand.

The project includes stormwater and erosion control measures, as described in Chapter 2. These include a bioretention area for stormwater treatment, stormwater detention, and a stormwater energy dissipator before stormwater flows to the creek. These measures protect the riparian zone and the creek from stormwater pollution and erosion. The project is also required to have a Stormwater Pollution Prevention Plan to protect water quality during construction. Best Management Practices that are included in the project are listed in Table 1 and Section 2.1 of Chapter 2 Project Description.

With the removal of existing structures from the riparian zone and compliance with the creek structural setback per local ordinance, the project would have less than significant impacts to sensitive vegetation communities and riparian habitat.

7.4.2 Critical Habitat and Essential Fish Habitat- Less than Significant with Mitigation Incorporated

As described in Section 6.3 of Chapter 6 Special-Status Species and Sensitive Habitats, Browns Valley Creek is designated as critical habitat for steelhead Central California Coast DPS for rearing and migration habitat (NOAA Fisheries 2021a). Browns Valley Creek and the project parcel are also within EFH for Chinook salmon and coho salmon (NOAA Fisheries 2021b).

Potential short-term and long-term impacts to critical habitat and EFH are the same as for aquatic special-status species; see Section 7.1 above for a detailed discussion of potential impacts, and compliance with applicable regulations to help avoid and minimize potential impacts. MMs BIO-1 through BIO-8 listed in Section 7.1.1 would further reduce potential impacts to critical habitat and EFH to less than significant levels.

7.5 Impacts to Jurisdictional Waters - Less Than Significant Impact

As described in Section 6.3 of Chapter 6 Special-Status Species and Sensitive Habitats, approximately 0.119 acre and 511 linear feet of potentially USACE and RWQCB jurisdictional features below the OHWM were identified in the parcel. At a minimum, Section 401 waters of the state extend from the creek bed to the top of the southern bank of the creek for an additional 0.155 acre of riparian habitat (linear feet is the same at 511 feet). If the RWQCB were to take jurisdiction to the edge of riparian habitat, an additional 0.248 acre of Section 401 waters are present (for a total of 0.504 acre and 622 linear feet).

The proposed project includes a bioretention area and stormwater detention outside of the creek structural setback and the edge of the riparian zone. The stormwater detention empties onto a 15 ft by 6 ft (90 sq ft) rock energy dissipater that is within the edge of riparian vegetation, but is set back from the top of bank by about 55 feet (see Chapter 2 Project Location and Description). The rock energy dissipater falls within the jurisdiction of the California Department of Fish and Wildlife, and may be within the jurisdiction of the Regional Water Quality Control Board.

The proposed project will remove existing structures and paving within the creek structural setback, including two structures that extend into the riparian zone totaling 989 square feet. Structures within the riparian area near the top of bank are within the jurisdiction of CDFW, and may be within the jurisdiction of the RWQCB.

The proposed project will be required to comply with Section 402 of the CWA (see Section 3.1.3 in Chapter 3 Regulatory Setting), including preparation of a SWPPP and implementation of BMPs for erosion control and water quality protection during and following construction, and incorporation LID design features such as green roofs, pervious surfaces, tree planters, grassy swales, and bioretention and/or detention basins, among other methods. Recommended BMPs for the SWPPP to protect biological resources are listed in Section 2.1 of Chapter 2 Project Description.

A creek structural setback is incorporated in the project consistent with the City of Napa Municipal Code, including Chapter 17.52, Section 110 Creeks and other watercourses; the setback is shown in Figures 3 and 4. The project will also comply with Chapter 12.45 Trees on Private Property, of the City of Napa Municipal Code which protects larger sized native trees, which are mostly in the riparian zone (see Section 7.1.2 above and Section 3.3.1 of Chapter 3 Regulatory Setting for more information).

With compliance with applicable regulations and agency requirements, the project would have less than significant impacts to jurisdictional waters.

7.6 Impacts to Wildlife Movement and Nursery Sites – Less than Significant Impact

As described in Section 6.4 of Chapter 6 Special-Status Species and Sensitive Habitats, there are movement opportunities for terrestrial wildlife in the project area, mostly to the southwest of the project site, although roads and residential development in the area constitute some movement barriers for wildlife. Browns Valley Creek provides movement opportunities for aquatic wildlife, although this may sometimes be limited by low flow conditions and/or road culverts.

Construction activities could temporarily restrict some wildlife species from moving between suitable habitat patches during project implementation. In addition, noise and disturbance associated with construction activities could cause a temporary reduction in habitat connectivity through the site for species that commonly use habitats in the project area. However, due to the short duration of construction, construction-related impacts on wildlife movement would be less than significant. Furthermore, because project construction will not occur at night, when many mammals, reptiles, and amphibians are active, use of the project area by dispersing nocturnal animals would not be diminished during construction. Compliance with applicable regulations and agency requirements to protect water quality, creeks and riparian habitat, and other biological resources would avoid and minimize impacts to wildlife movement during construction.

Over the longer term, human activity would increase on the parcel due to the new residences, leading to some reduction in wildlife movement opportunity, particularly for species sensitive to human disturbance. However, the proposed project does not include any substantial new barriers to wildlife movement such as roads or long walls or fences. A new fence would be constructed to protect the riparian zone, but it would be designed to allow wildlife to pass through or under it. In addition, human activity is normally diminished at night, when many mammals, reptiles, and amphibians are active, therefore use of the project area by dispersing nocturnal animals would not be significantly diminished over the long term.

With compliance with the creek structural setback the creek and riparian habitat will be protected, allowing for continued movement along the riparian corridor and the project would have less than significant impacts on wildlife movement.

There are no known wildlife nursery sites on or near the parcel; therefore, potential impacts to wildlife nursery sites are not anticipated. Potential impacts to nesting birds or roosting bats would be avoided by MMs BIO-10 and BIO-11, respectively (see Sections 7.2 and 7.3 above).

7.7 Impacts due to Conflicts with Local Policies – Less than Significant with Mitigation Incorporated

The proposed project could damage or remove trees protected by the City of Napa Municipal Code, Chapter 12.45 Trees on Private Property. Coast live oaks and California bay trees 12 inches or more in diameter and coast redwoods 36 inches in diameter or more are protected by this ordinance. MM BIO-12, listed below, would prevent significant impacts to protected trees.

As discussed in Sections 7.1 to 7.6 above, short- and long-term impacts to special-status species, nesting birds, roosting bats, sensitive habitats, jurisdictional features, and wildlife movement would be reduced to less than significant levels through implementation of MMs BIO-1 through BIO-11, and/or compliance with applicable regulations and agency requirements. In addition, a creek structural setback is incorporated in the project consistent with the City of Napa Municipal Code, including Chapter 17.52, Section 110 Creeks and other watercourses; the setback is shown in Figures 3 and 4. Therefore, the project would not conflict with any other local policies or regulations protecting biological resources.

MM BIO-12. Arborist's Report. An arborist's report shall be prepared by a qualified arborist documenting the species, diameter at breast height (dbh), and health of each tree on the project parcel. The report shall include recommendations to protect retained trees during construction, particularly trees protected by the City of Napa Municipal Code (Chapter 12.45 Trees on Private Property). Removed or damaged protected trees shall be replaced consistent with the requirements of the Municipal Code.

7.8 Impact due to Conflicts with an Adopted Habitat Conservation Plan – No Impact

The project parcel is not within an area covered by an adopted habitat conservation plan or natural community conservation plan (CDFW 2021b). Therefore, the proposed project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

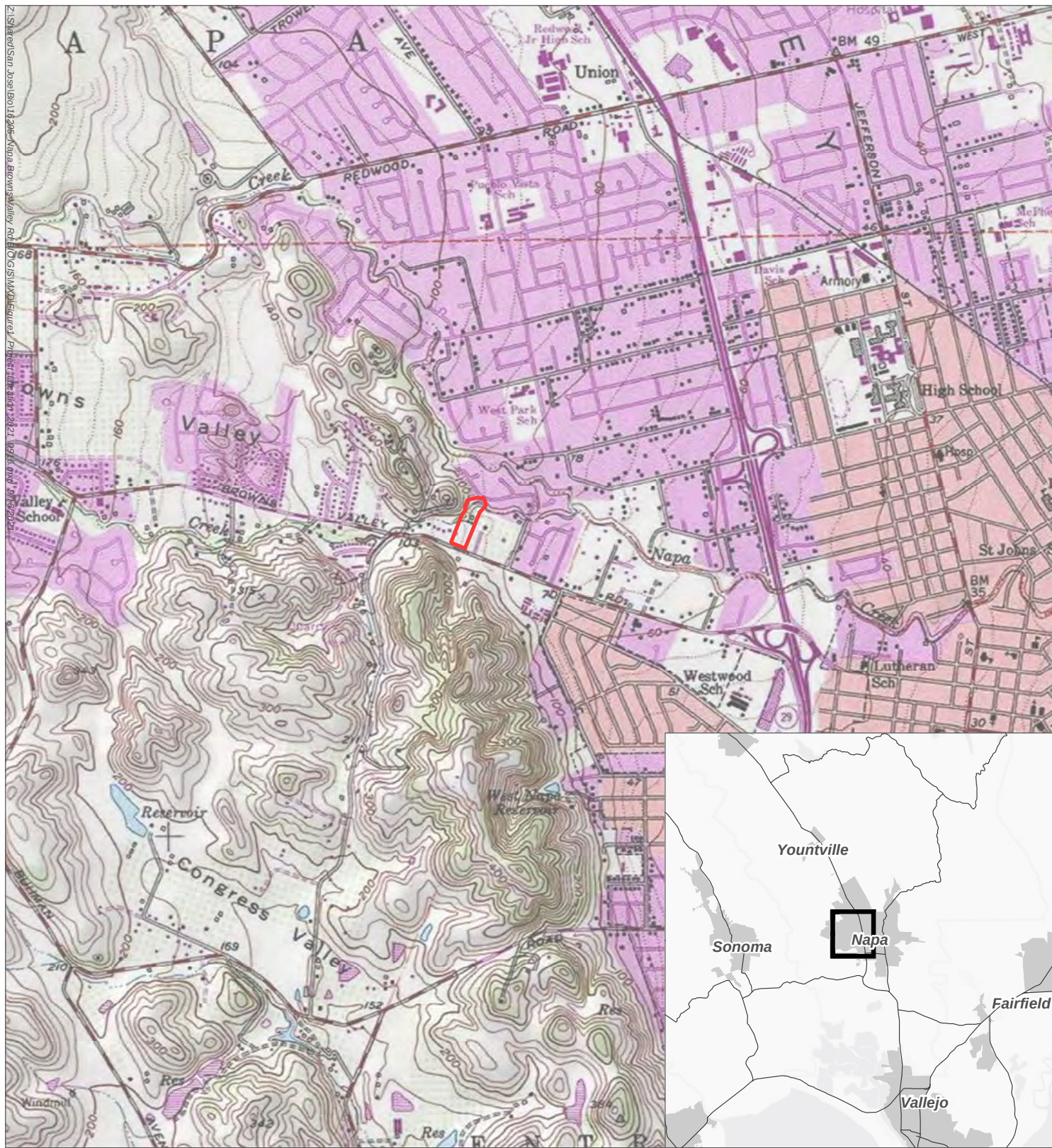
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Figures



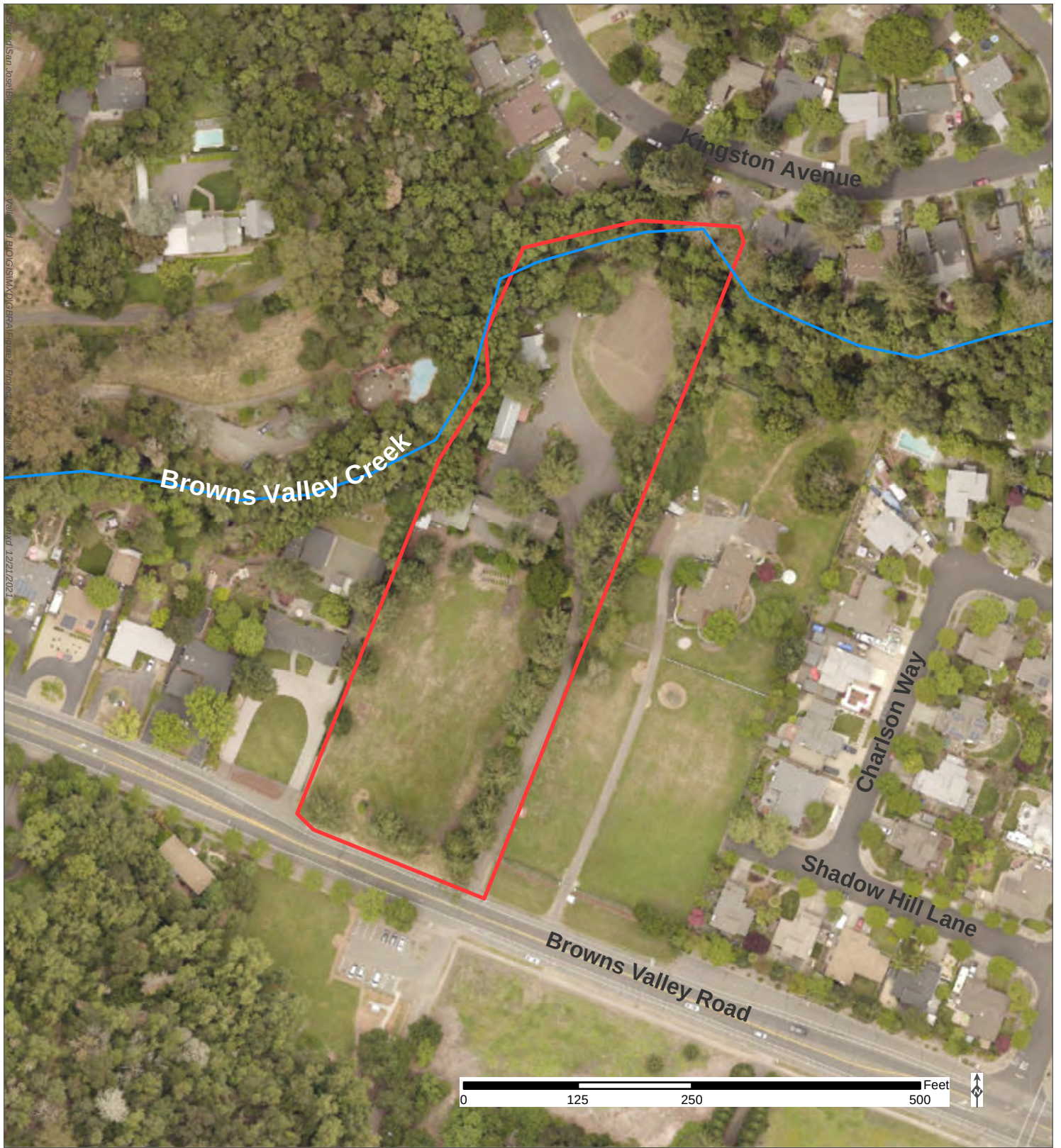
Source: ESRI 2021; MIG 2021

Map Features

Project Boundary

Figure 1 Project Location

3090 Browns Valley Road Subdivision Project
General Biological Resources Assessment

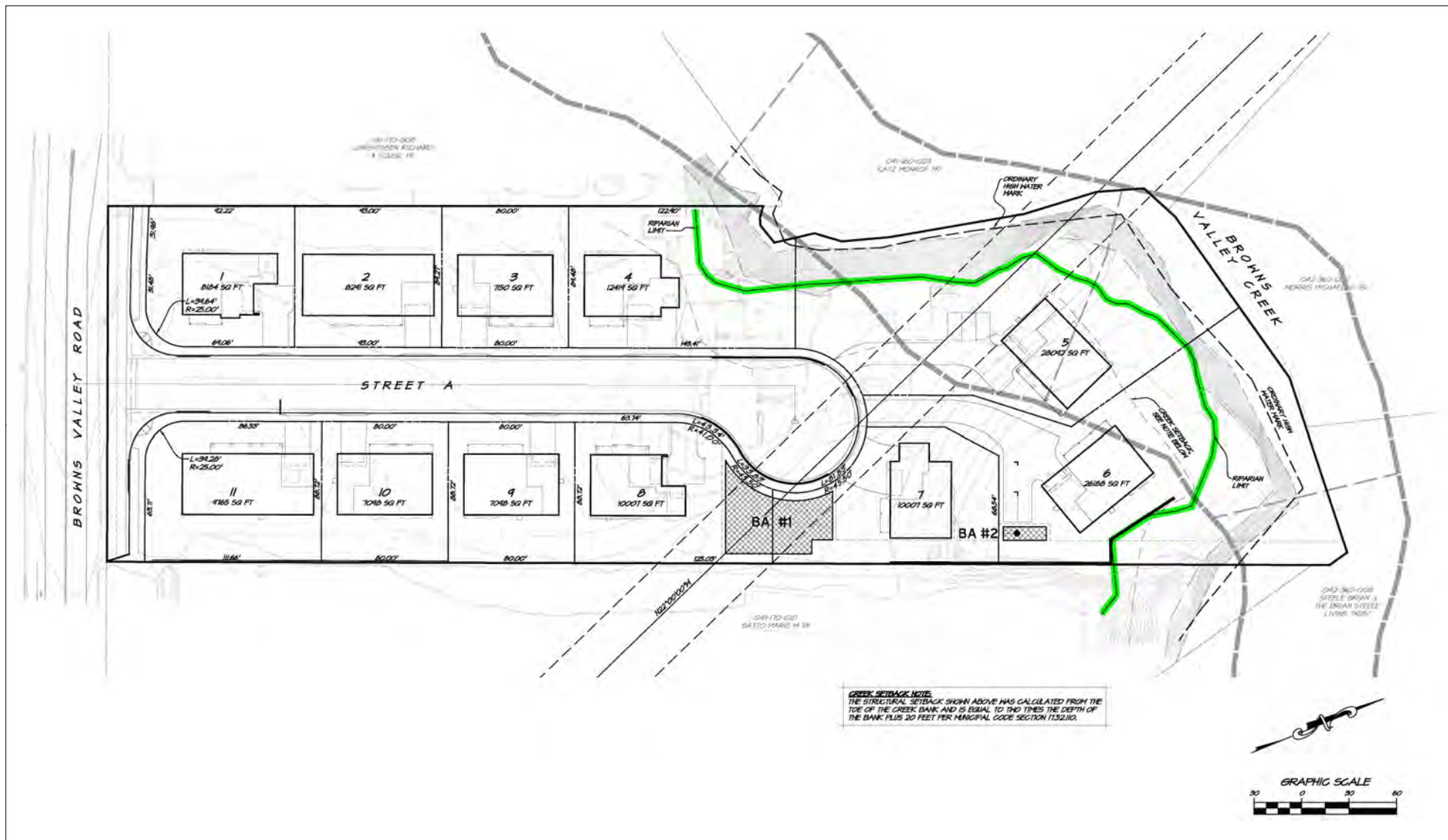


Source: ESRI 2021; MIG 2021

 Project Boundary (3.78 acres)

Figure 2 Aerial View of Project Site

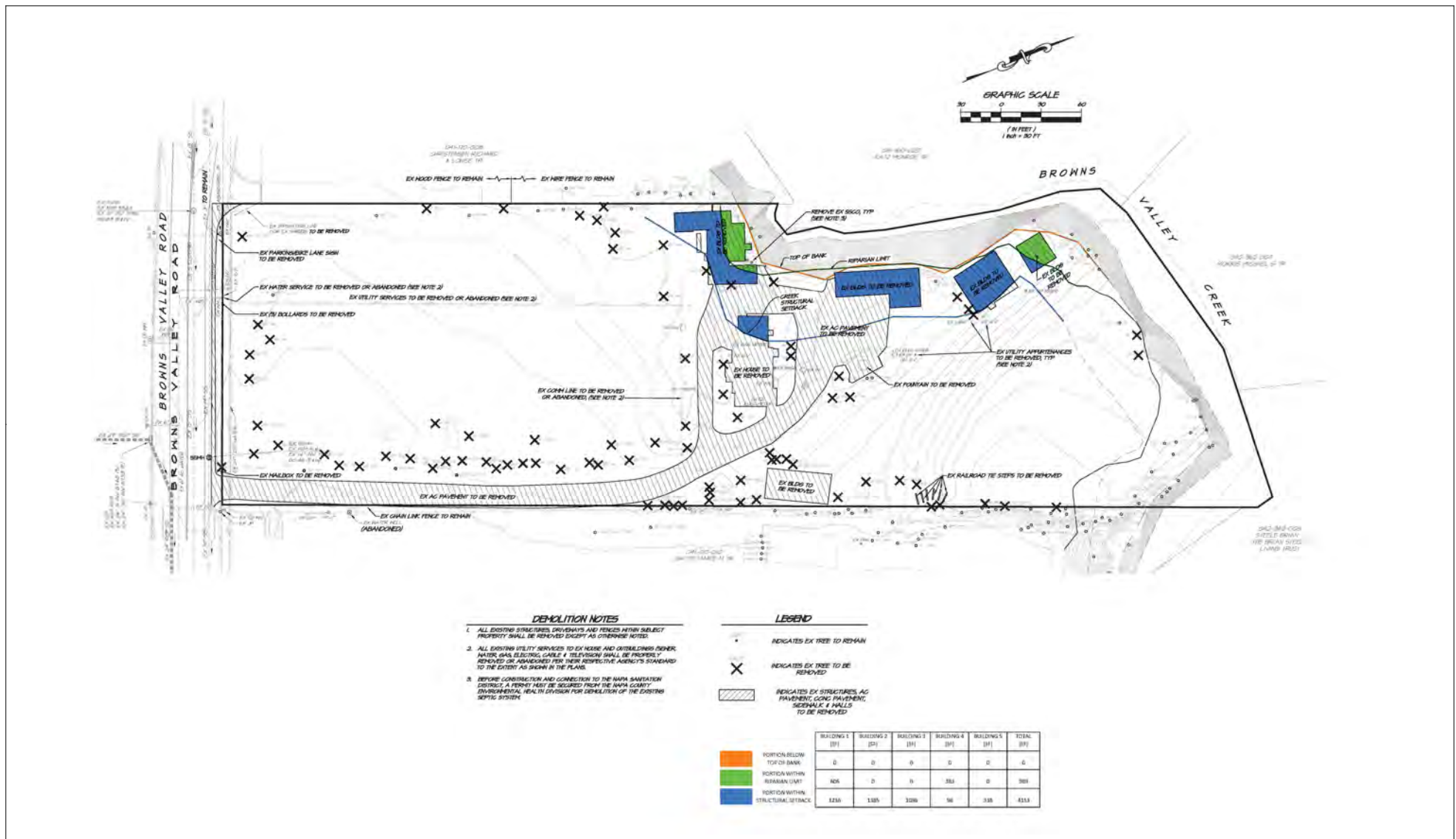
3090 Browns Valley Road Subdivision Project
General Biological Resources Assessment



Source: RSA December 2021

Figure 3 Conceptual Site Plan with Creek Setback

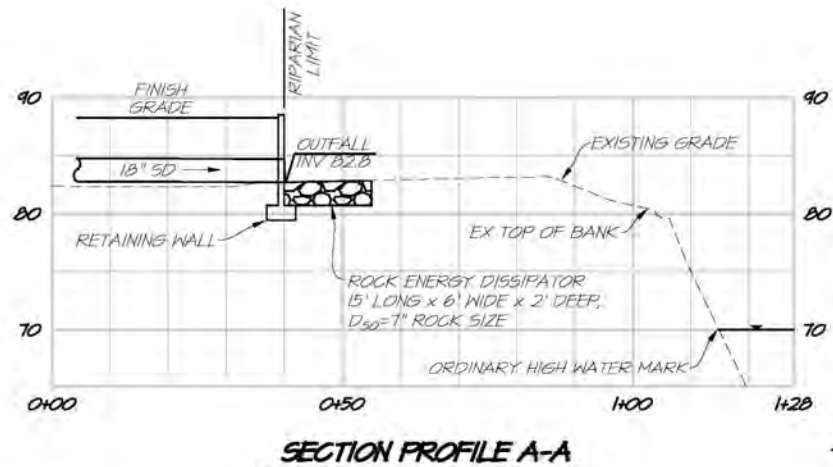
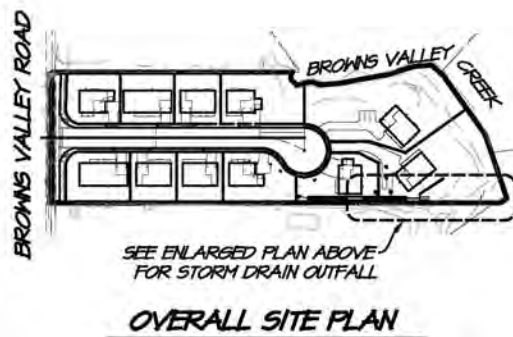
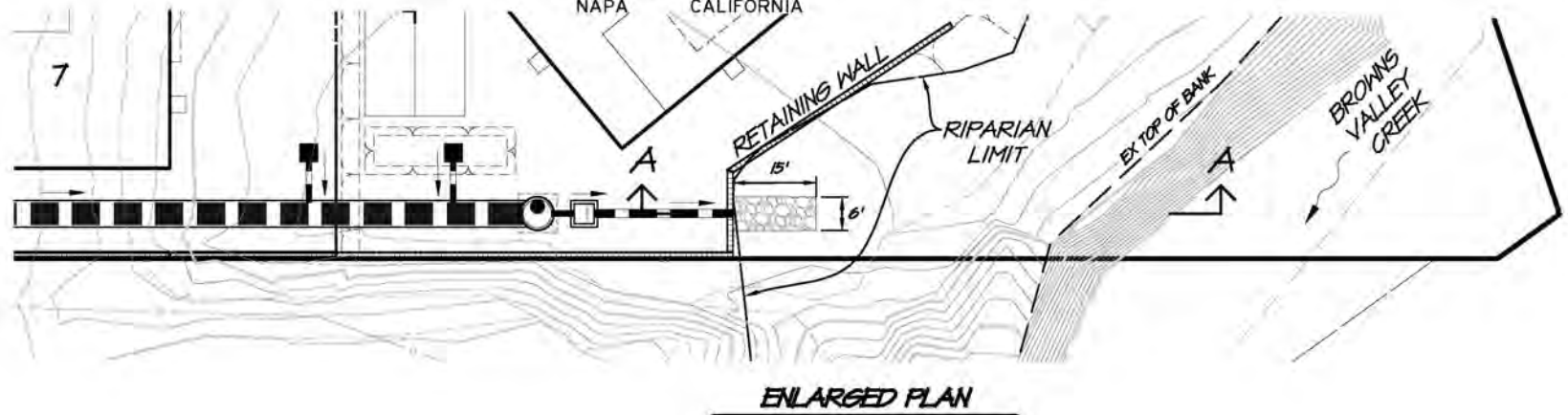
3090 Browns Valley Road Subdivision Project
 General Biological Resources Assessment



Source: RSA 6/23/2022

BROWNS VALLEY RD SUBDIVISION OUTFALL EXHIBIT

NAPA CALIFORNIA



Source: RSA 7/1/2022

Figure 5 Outfall Exhibit

3090 Browns Valley Road Subdivision Project



1. FINAL TREE LOCATIONS TO BE DETERMINED WHEN FINAL UTILITY LOCATIONS ARE APPROVED.
2. PROPOSED TREE CANOPIES ARE SHOWN AT 75% MATURE GROWTH DIAMETER IN ORDER TO ENSURE THERE IS SUFFICIENT ROOM FOR TREE GROWTH AND HEALTH.
3. ALL ABOVE GRADE UTILITIES WILL BE SCREENED WITH EVERGREEN SHRUBS AS PER CITY REQUIREMENTS.

 8' GOOD NEIGHBOR FENCE ;
SEE DETAIL A / SHEET L-3
 8' GOOD NEIGHBOR FENCE ON RETAINING WALL ;
SEE DETAIL C / SHEET L-3
 8' GOOD NEIGHBOR FENCE WITH GATE ;
SEE DETAIL B / SHEET L-3
 VIEW FENCE - SEE DETAIL E / SHEET L-3

1. THE IRRIGATION DESIGN FOR THE SITE SHALL COMPLY WITH THE GOVERNORS WATER CONSERVATION, MANDATE AND CURRENT LOCAL WATER DISTRICT REGULATIONS (MWELO)
2. THE IRRIGATION SYSTEM WILL BE AUTOMATICALLY CONTROLLED BY AN IRRIGATION CONTROLLER CAPABLE OF MULTIPLE PROGRAMMING AND INDEPENDENT TIMING OF INDIVIDUAL IRRIGATION SYSTEMS. THE CONTROLLER WILL HAVE A 24-HOUR CLOCK, TO ALLOW FOR MULTIPLE STARTS TIMES AND REPEAT CYCLES TO ADJUST FOR SOIL PERCOLATION RATES.
3. THE IRRIGATION SYSTEM WILL CONSIST OF LOW VOLUME, LOW FLOW BUBBLERS FOR TREES AND POINT SOURCE DRIP IRRIGATION FOR SHRUBS AND GROUNDCOVERS

4. PLANTS WILL BE GROUPED ONTO SEPERATE VALVES ACCORDING TO SUN EXPOSURE AND WATER USE TO ALLOW FOR IRRIGATION APPLICATION(S) BY HYDROZONE. THE IRRIGATION SCHEDULING WILL REFLECT THE REGIONAL EVAPOTRANSPIRATION RATES.
5. ALL MMWO DOCUMENTATION INCLUDING IRRIGATION PLANS AND WATER USE CALCULATIONS SHALL BE INCLUDED WITH THE LANDSCAPE CONSTRUCTION DOCUMENTS FOR REVIEW AND APPROVAL.

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Figure 6a Schematic Landscape Design
3090 Browns Valley Road Subdivision Project



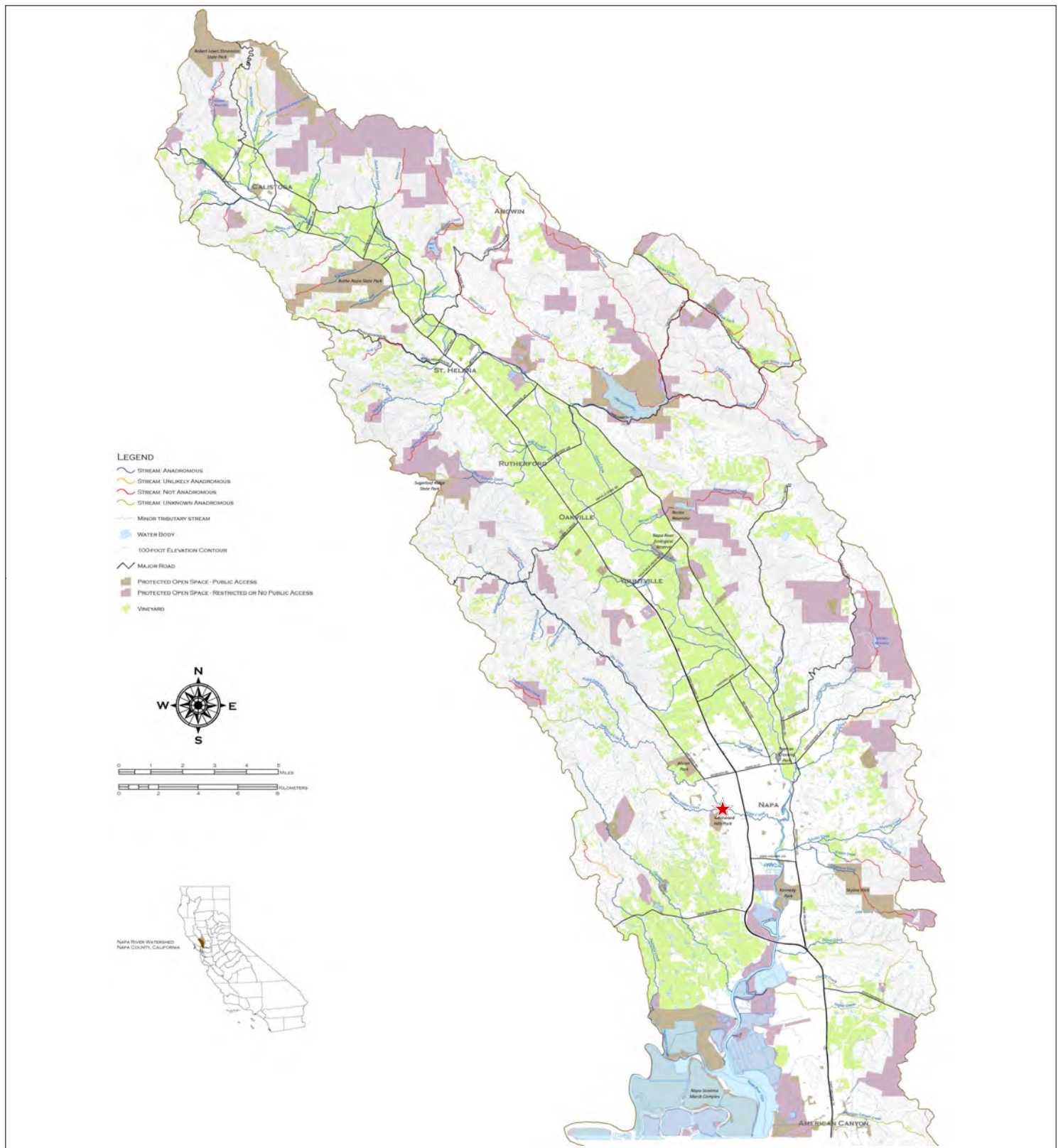
- 1 FINAL TREE LOCATIONS TO BE DETERMINED WHEN FINAL UTILITY LOCATIONS ARE APPROVED.
- 2 PROPOSED TREE CANOPIES ARE SHOWN AT 75% MATURE GROWTH DIAMETER IN ORDER TO ENSURE THERE IS SUFFICIENT ROOM FOR TREE GROWTH AND HEALTH.
- 3 ALL ABOVE GRADE UTILITIES WILL BE GREENED WITH EVERGREEN SHRUBS AS PER CITY REQUIREMENTS.

 6' GOOD NEIGHBOR FENCE -
SEE DETAIL A / SHEET L-3
 6' GOOD NEIGHBOR FENCE ON RETAINING WALL -
SEE DETAIL C / SHEET L-3
 6' GOOD NEIGHBOR FENCE WITH GATE -
SEE DETAIL B / SHEET L-3
 VIEW FENCE - SEE DETAIL E / SHEET L-3

1. THE IRRIGATION DESIGN FOR THE SITE SHALL COMPLY WITH THE GOVERNORS WATER CONSERVATION MANDATE AND CURRENT LOCAL WATER DISTRICT REGULATIONS (AMLEO).
2. THE IRRIGATION SYSTEM WILL BE AUTOMATICALLY CONTROLLED BY AN IRRIGATION CONTROLLER CAPABLE OF MULTIPLE PROGRAMMING AND MONITORING TANKING AND PUMPING. THE IRRIGATION SYSTEMS CONTROLLER WILL HAVE A 24-HOUR CLOCK TO ALLOW FOR MULTIPLE START TIMES AND REPEAT CYCLES FOR SOIL PERCOLATION RATES.
3. THE IRRIGATION SYSTEM WILL CONSIST OF LOW VOLUME, LOW FLOW BUBBLERS FOR TREES, AND POINT SOURCE DRIP IRRIGATION FOR SHRUBS AND GROUNDCOVERS.
4. PLANTS WILL BE GROUPOUT ONTO SEPARATE VALVES ACCORDING TO SUN EXPOSURE AND WATER USE TO ALLOW FOR IRRIGATION APPLICATIONS HYDROZONE. THE IRRIGATION SCHEDULING WILL REFLECT THE REGIONAL EVAPOTRANSPIRATION RATES.

ALL AMLEO DOCUMENTATION INCLUDING IRRIGATION PLANS AND WATER USE INFORMATION SHALL BE INCLUDED WITH THE LANDSCAPE CONSTRUCTION DOCUMENTS FOR REVIEW AND APPROVAL.

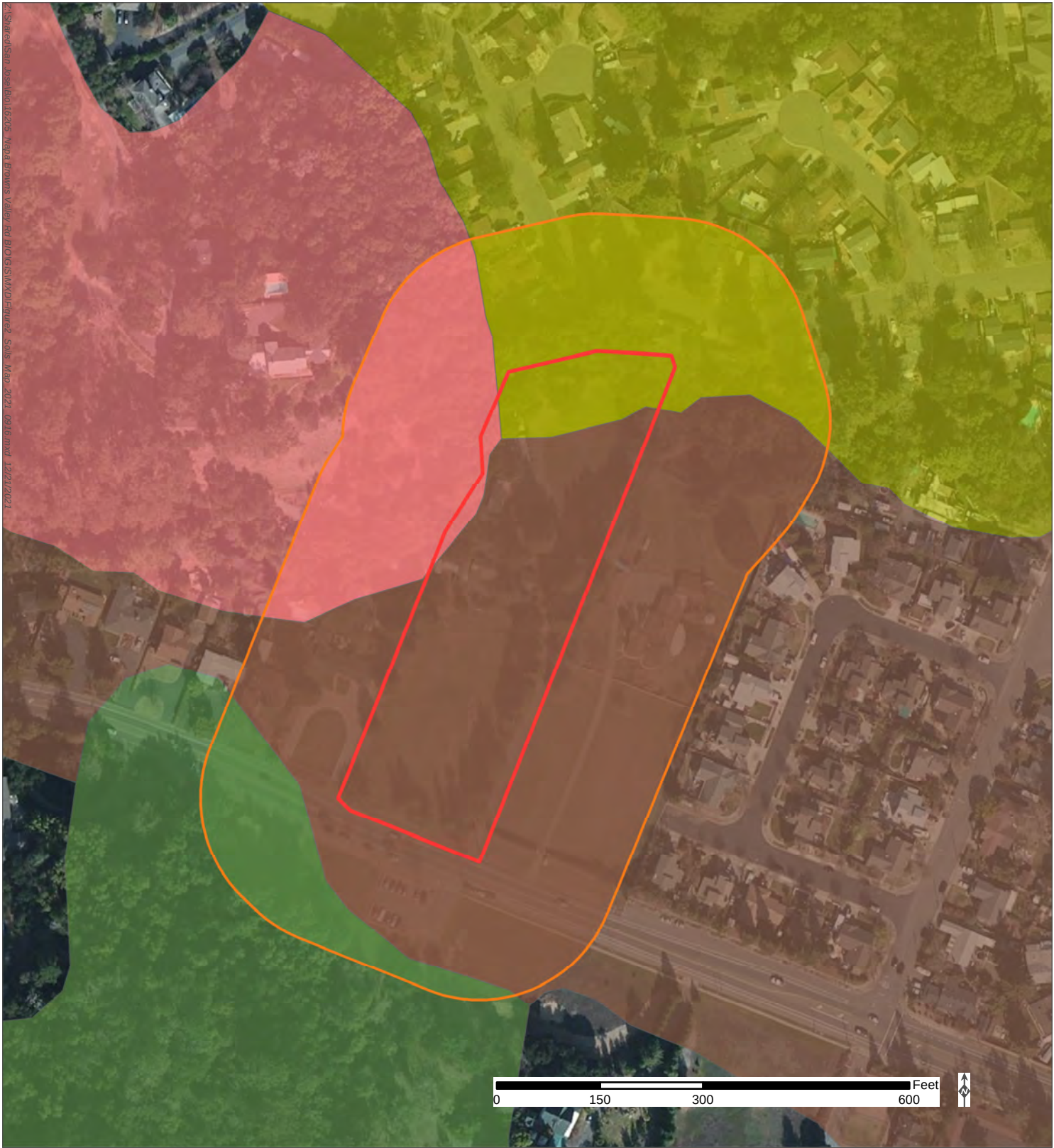
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Source: NCRCD 1/12/2012

★ Project Location

Figure 7 Napa River Watershed
 3090 Browns Valley Road Subdivision Project
 General Biological Resources Assessment



Source: ESRI 2021; MIG 2021; NRCS 2021

Map Features

- Project Boundary
- Survey Area

NRCS Soils

- Bale clay loam, 2 to 5 percent slopes (~ .551 acres within Project Area)- Hydric
- Cole silt loam, 0 to 4 percent slopes MLRA 14 (~ 3.13 acres within Project Area)- Hydric
- Forward-kidd complex, 11 to 60 percent slopes MLRA 15 (~ 0 acres within Project Area)
- Millsholm loam, 6 to 55 percent slopes MLRA 15 (~ .095 acres within Project Area)

Figure 5 Soils Map

3090 Browns Valley Road Subdivision Project
General Biological Resources Assessment



Vegetation Communities

- Coast Live Oak Woodland (.846 acres)
- Planted Coast Redwood (.543 acres)
- Developed and Landscaped (.911 acres)
- Wild Oats and Annual Brome Grassland (1.48 acres)

Map Features

- Project Boundary (3.78 acres)
- Edge of Riparian Habitat



Source: ESRI 2021; NWI 2021; MIG 2021

Wetland Type

- Freshwater Pond
- Riverine

Map Features

- Project Boundary

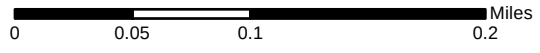
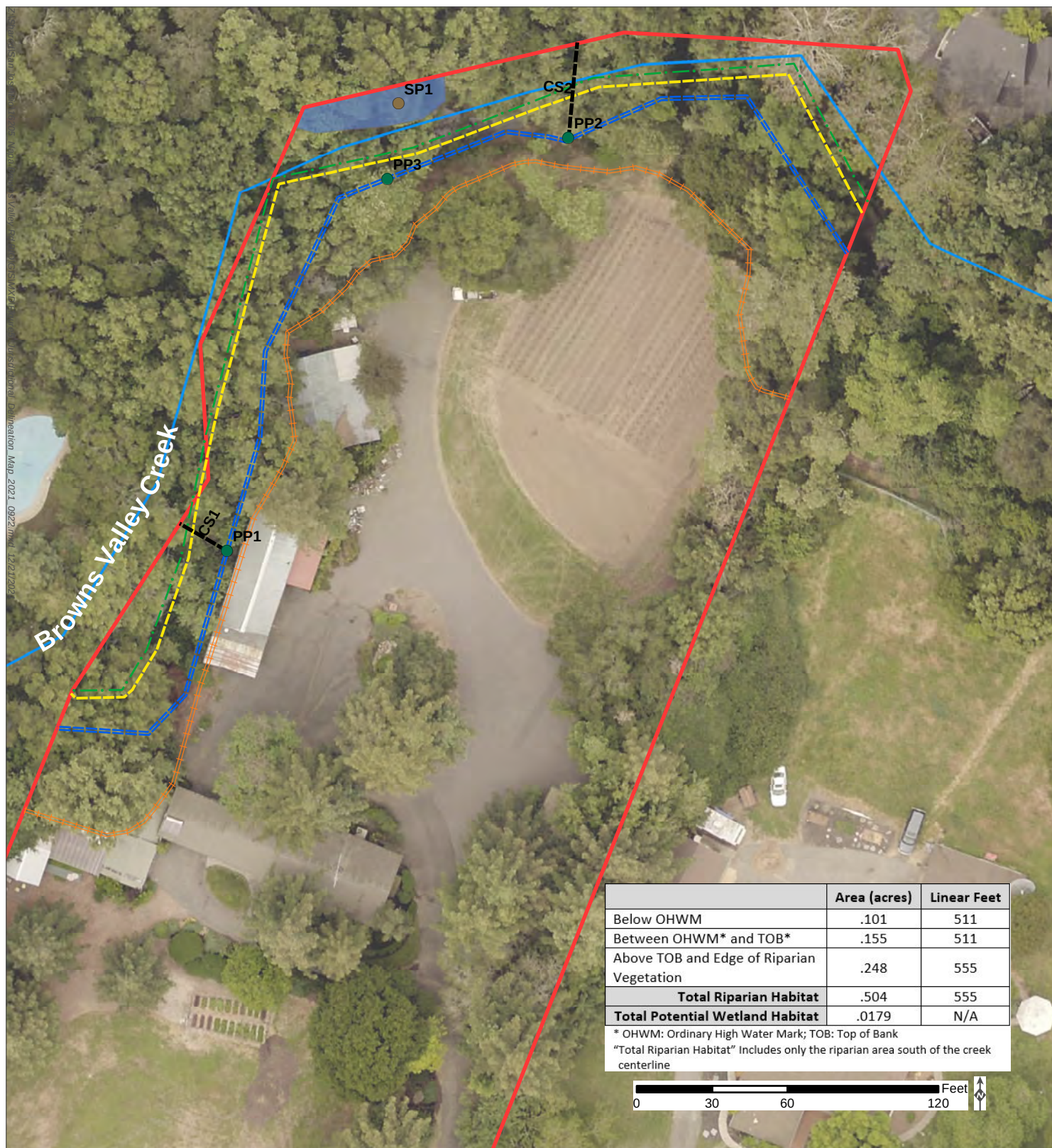


Figure 10 USFWS National Wetlands Inventory Map

3090 Browns Valley Road Subdivision Project
General Biological Resources Assessment





Source: ESRI 2021; MIG 2021

- Project Boundary (3.78 acres)
- Potential Wetland (.018 acres)
- Top of Bank
- Toe of Bank
- Ordinary High Water Mark
- Stream Cross Section
- Wetland Sample Point
- Photo Point

Figure 11 Jurisdictional Delineation Map

3090 Browns Valley Road Subdivision Project
 General Biological Resources Assessment

Appendix A Photographs



Looking west at 3090 Browns Valley Road property frontage.



Looking northeast at front (southwestern) part of parcel showing planted coast redwoods, annual grassland, and the existing residence.



Looking northeast at existing residence on the parcel.



Looking southwest at back (northeastern) part of parcel showing annual grassland, coast live oak woodland, and existing residence and driveway.



Looking southwest in Browns Valley Creek at riparian vegetation and existing barn and cottage located at the top of the eastern bank on the western side of the parcel.



Looking east at Browns Valley Creek and riparian vegetation on northern border of parcel.

Appendix B. Species Observed on the Project Parcel

Common Name	Scientific Name
Plants	
Apple seedlings*	<i>Malus domestica</i>
Bigleaf maple	<i>Acer macrophyllum</i>
Black locust*	<i>Robinia psuedoacacia</i>
Black nightshade*	<i>Solanum nigrum</i>
Boxwood*	<i>Buxus</i> sp.
Brazilian water weed*	<i>Egeria densa</i>
Bristly ox-tongue*	<i>Helminthotheca echioides</i>
Bull thistle*	<i>Cirsium vulgare</i>
California bay tree	<i>Umbellularia californica</i>
California buckeye	<i>Aesculus californica</i>
Cast iron plant*	<i>Aspidistra elatior</i>
Chicory*	<i>Cichorium intybus</i>
Climbing fig*	<i>Ficus pumila</i>
Coast live oak	<i>Quercus agrifolia</i>
Coast redwood	<i>Sequoia sempervirens</i>
Common horsetail	<i>Equisetum arvense</i>
Duckweed	<i>Lemna</i> sp.
English ivy*	<i>Hedera helix</i>
European holly*	<i>Ilex aquifolium</i>
Fan palm*	<i>Washingtonia</i> sp.
Fig seedling*	<i>Ficus carica</i>
Fir tree*	<i>Abies</i> sp.
Foxtail brome*	<i>Bromus madritensis</i>
Field bindweed*	<i>Convolvulus arvensis</i>

Common Name	Scientific Name
Fishbone fern*	<i>Nephrolepis exaltata</i>
Golden bamboo*	<i>Phyllostachys aurea</i>
Hairy crabgrass*	<i>Digitaria sanguinalis</i>
Hen and chicks echveria*	<i>Echeveria elegans</i>
Heavenly bamboo*	<i>Nandina domestica</i>
Himalayan blackberry*	<i>Rubus armeniacus</i>
Italian cypress*	<i>Cupressus sempervirens</i>
Italian thistle*	<i>Carduus pycnocephalus</i>
Japanese aucuba*	<i>Aucuba japonica</i>
Lemon tree*	<i>Citrus limon</i>
Maple (ornamental)*	<i>Acer</i> sp.
Olive tree*	<i>Olea europaea</i>
Persimmon tree*	<i>Diospyros virginiana</i>
Poison oak	<i>Toxicodendron diversilobum</i>
Prickly lettuce*	<i>Lactuca serriola</i>
Purple needlegrass	<i>Stipa pulchra</i>
Rose*	<i>Rosa</i> sp.
Rosemary*	<i>Salvia rosmarinus</i>
Smoketree*	<i>Cotinus</i> sp.
Soft chess*	<i>Bromus hordeaceus</i>
Spreading rush	<i>Juncus patens</i>
Stinging nettle	<i>Urtica dioica</i>
Stinking iris*	<i>Iris foetidissima</i>
Tall flatsedge	<i>Cyperus eragrostis</i>
Tree of Heaven*	<i>Ailanthus altissima</i>

Common Name	Scientific Name
Valley oak	<i>Quercus lobata</i>
Western sword fern	<i>Polystichum munitum</i>
Wild oats*	<i>Avena</i> sp.
Yucca*	<i>Yucca</i> sp.
Animals	
<i>Invertebrates</i>	
Anise swallowtail	<i>Papilio zelicaon</i>
Cabbage white	<i>Pieris rapae</i>
Common checkered-skipper	<i>Pyrgus communus</i>
Crayfish*	Unknown species
Dragonfly	Unknown species
European honeybee*	<i>Apis mellifera</i>
<i>Fish</i>	
Central California roach ^{csc}	<i>Lavinia symmetricus symmetricus</i>
Rifle sculpin ^{csc}	<i>Cottus gulosus</i>
Western mosquitofish*	<i>Gambusia affinis</i>
<i>Birds</i>	
American crow	<i>Corvus brachyrhynchos</i>
Anna's hummingbird	<i>Calypte anna</i>
Bushtit	<i>Psaltiriparus minimus</i>
California scrub jay	<i>Aphelocoma californica</i>
Chestnut-backed chickadee	<i>Poecile rufescens</i>
Dark-eyed junco	<i>Junco hyemalis</i>
Mourning dove	<i>Zenaida macroura</i>

Common Name	Scientific Name
Oak titmouse	<i>Baeolophus inornatus</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
Turkey vulture	<i>Cathartes aura</i>
<i>Mammals</i>	
Bat	Unknown species
Cat*	<i>Felis catus</i>
Rabbit (scat observed)	Unknown species

*= species that are not native to California; many plants on the property are ornamental landscaping or garden plants, although some are weeds and/or invasive plants.

CSSC= California Species of Special Concern

Appendix C. Special-Status Species Considered

Appendix C. Table 1: Special-status Plant Species Considered

Species	Listing Status
Franciscan onion <i>Allium peninsulare</i> var. <i>franciscanum</i>	CRPR 1B.2
Napa false indigo <i>Amorpha californica</i> var. <i>napensis</i>	CRPR 1B.2
bent-flowered fiddleneck <i>Amsinckia lunaris</i>	CRPR 1B.2
Rincon Ridge manzanita <i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i>	CRPR 1B.1
Clara Hunt's milk-vetch <i>Astragalus claranus</i>	FE; ST; CRPR 1B.1
alkali milkvetch <i>Astragalus tener</i> var. <i>tener</i>	CRPR 1B.2
big-scale balsamroot <i>Balsamorhiza macrolepis</i>	CRPR 1B.2
Sonoma sunshine <i>Blennosperma bakeri</i>	FE; SE; CRPR 1B.1

Species	Listing Status
narrow-anthered brodiaea <i>Brodiaea leptandra</i>	CRPR 1B.2
Lyngbye's sedge <i>Carex lyngbyei</i>	CRPR 2B.2
Tiburon paintbrush <i>Castilleja affinis</i> var. <i>neglecta</i>	FE, ST, CRPR 1B.2
Mead's owl's- clover <i>Castilleja ambigua</i> var. <i>meadii</i>	CRPR 1B.1
Rincon Ridge ceanothus <i>Ceanothus confusus</i>	CRPR 1B.1
Calistoga ceanothus <i>Ceanothus divergens</i>	CRPR 1B.2
holly-leaved ceanothus <i>Ceanothus purpureus</i>	CRPR 1B.2
Sonoma ceanothus <i>Ceanothus sonomensis</i>	CRPR 1B.2
pappose tarplant <i>Centromadia parryi</i> ssp. <i>parryi</i>	CRPR 1B.2

Species	Listing Status
soft salty bird's beak <i>Chloropyron molle ssp. molle</i>	FE, SR, CRPR 1B.2
dwarf downingia <i>Downingia pusilla</i>	CRPR 2B.2
Green's narrow-leaved daisy <i>Erigeron greenei</i>	CRPR 1B.2
Jepson's coyote thistle <i>Eryngium jepsonii</i>	CRPR 1B.2
San Joaquin spearscale <i>Extriplex joaquinana</i>	CRPR 1B.2
Diablo helianthella <i>Helianthella castanea</i>	CRPR 1B.2
congested-headed hayfield tarplant <i>Hemizonia congesta ssp. congesta</i>	CRPR 1B.2
two-carpellate western flax <i>Hesperolinon bicarpellatum</i>	CRPR 1B.2
Brewer's western flax <i>Hesperolinon breweri</i>	CRPR 1B.2
Sharsmith's western flax <i>Hesperolinon sharsmithiae</i>	CRPR 1B.2
thin-lobed horkelia <i>Horkelia tenuiloba</i>	CRPR 1B.2

Species	Listing Status
Carquinez goldenbush <i>Isocoma arguta</i>	CRPR 1B.1
Contra Costa goldfields <i>Lasthenia conjugens</i>	FE, CRPR 1B.1
Delta tule pea <i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	CRPR 1B.2
legenere <i>Legenere limosa</i>	CRPR 1B.1
Jepson's leptosiphon <i>Leptosiphon jepsonii</i>	CRPR 1B.2
Mason's lilaeopsis <i>Lilaeopsis masonii</i>	SR; CRPR 1B.1
Sebastopol meadowfoam <i>Limnanthes vinculans</i>	FE; SE; CRPR 1B.1
Napa lomatium <i>Lomatium repostum</i>	CRPR 1B.2
Cobb Mountain lupine <i>Lupinus sericatus</i>	CRPR 1B.2

Species	Listing Status
few-flowered navarretia <i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	FE; ST; CRPR 1B.1
Sonoma beardtongue <i>Penstemon newberryi</i> var. <i>sonomensis</i>	CRPR 1B.3
California beaked-rush <i>Rhynchospora californica</i>	CRPR 1B.1
Sanford's arrowhead <i>Sagittaria sanfordii</i>	CRPR 1B.2
Napa checkerbloom <i>Sidalcea hickmanii</i> ssp. <i>napensis</i>	CRPR 1B.1
Keck's checkerbloom <i>Sidalcea keckii</i>	FE; CRPR 1B.1
green jewelflower <i>Streptanthus hesperidis</i>	CRPR 1B.2
Suisun Marsh aster <i>Symphyotrichum lentum</i>	CRPR 1B.2
Napa bluecurls <i>Trichostema ruygtii</i>	CRPR 1B.2

Species	Listing Status
two-fork clover <i>Trifolium amoenum</i>	FE; CRPR 1B.1
saline clover <i>Trifolium hydrophilum</i>	CRPR 1B.2
oval-leaved viburnum <i>Viburnum ellipticum</i>	CRPR 2B.3
<i>Federal:</i> FE = Listed as endangered under the Federal Endangered Species Act. FT = Listed as threatened under the Federal Endangered Species Act. <i>California:</i> SE = Listed as endangered under the California Endangered Species Act. ST = Listed as threatened under the California Endangered Species Act. SR = Listed as rare in California.	

SOURCES:

1. United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPAC) Species List (September 28, 2021).
2. California Natural Diversity Database (CNDDB) Rarefind 5 search of Napa USGS 7.5 Minute Quad and eight surrounding quads; BIOS five mile radius search (September & October 2021).

3. California Native Plant Society (CNPS) Rare and Endangered Plant Inventory search of Napa USGS 7.5 Minute Quad and eight surrounding quads (September 28, 2021).

Appendix C Table 2: Special-status Wildlife Species Considered

Species	Listing Status
western bumblebee <i>Bombus occidentalis</i>	FCE
Conservancy fairy shrimp <i>Branchinecta conservatorio</i>	FE
vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT
monarch- California overwintering population <i>Danaus plexippus pop. 1</i>	FC
valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT
Callipe silverspot <i>Speyeria callippe callippe</i>	FE
California freshwater shrimp <i>Syncaris pacifica</i>	FE, FE
rifle sculpin <i>Cottus gulosus</i>	CSSC
Delta smelt <i>Hypomesus transpacificus</i>	FT, SE

Species	Listing Status
Central California roach <i>Lavinia symmetricus symmetricus</i>	CSSC
steelhead- central California coast Distinct Population Segment (DPS) <i>Oncorhynchus mykiss irideus</i>	FT
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	CSSC
longfin smelt <i>Spirinchus thaleichthys</i>	FC, ST
California giant salamander <i>Dicamptodon ensatus</i>	CSSC
western pond turtle <i>Emys marmorata</i>	CSSC
foothill yellow-legged frog <i>Rana boylei</i>	SE, CSSC
California red-legged frog <i>Rana draytonii</i>	FT; CSSC
red-bellied newt <i>Taricha rivularis</i>	CSSC

Species	Listing Status
tricolored blackbird <i>Agelaius tricolor</i>	ST, CSSC
golden eagle <i>Aquila chrysaetos</i>	CFP; WL
burrowing owl <i>Athene cunicularia</i>	CSSC
ferruginous hawk <i>Buteo regalis</i>	WL
Swainson's hawk <i>Buteo swainsoni</i>	ST
western snowy plover <i>Charadrius nivosus nivosus</i>	FT
Northern harrier <i>Circus hudsonius</i>	CSSC
yellow rail <i>Coturnicops noveboracensis</i>	CSSC
black swift <i>Cypseloides niger</i>	CSSC

Species	Listing Status
white-tailed kite <i>Elanus leucurus</i>	CFP
American peregrine falcon <i>Falco peregrinus anatum</i>	FD, CFP
saltmarsh common yellowthroat <i>Geothlypis trichas sinuosa</i>	CSSC
bald eagle <i>Haliaeetus leucocephalus</i>	FD; SE; CFP
California black rail <i>Laterallus jamaicensis coturniculus</i>	ST, CFP
Suisun song sparrow <i>Melospiza melodia maxillaris</i>	CSSC
San Pablo song sparrow <i>Melospiza melodia samuelis</i>	CSSC
double-crested cormorant <i>Phalacrocorax auritus</i> (nesting colony)	WL
California Ridgeway's rail <i>Rallus obsoletus obsoletus</i>	FE, SE, CFP

Species	Listing Status
bank swallow <i>Riparia riparia</i>	ST
California least tern <i>Sterna antillarum browni</i>	FE, SE, CFP
Northern spotted owl <i>Strix occidentalis caurina</i>	FT
pallid bat <i>Antrozous pallidus</i>	CSSC
western red bat <i>Lasiurus blossevillei</i>	CSSC
saltmarsh harvest mouse <i>Reithrodontomys raviventris</i>	FE, SE, CFP
Suisun shrew <i>Sorex ornatus sinuosus</i>	CSSC
American badger <i>Taxidea taxus</i>	CSSC

SOURCES:

1. United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPAC) Species List (September 28, 2021).
2. California Natural Diversity Database (CNDDDB) Rarefind 5 search of Napa USGS 7.5 Minute Quad and eight surrounding quads; BIOS five mile radius search (September & October 2021).

3090 Browns Valley Road Subdivision Project
General Biological Resources Assessment
December 2021

3. <http://www.sfestuary.org/wp-content/uploads/2013/10/1PosterAbstractsNapaRiverWatershedRestoration.pdf> Bound on-line April 2022.

B.2 - Arborist Report

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Kielty Arborist Services LLC

Certified Arborist WE#0476A

P.O. Box 6187

San Mateo, CA 94403

650- 515-9783

November 23, 2021

Edenbridge INC
Attn: Mr. Eric Zweig
21771 Stevens Creek Boulevard
Cupertino, CA 95014

Site: 3090 Browns Valley Road, Napa, CA

Dear Mr. Zweig,

As requested on Sunday, November 21, 2021, I visited the above site for the purpose of inspecting and commenting on the trees. Several new homes are being designed for this site and your concern as to the future health and safety of the trees has prompted this visit.

Method:

All inspections were made from the ground; the trees were not climbed for this inspection. The trees in question were located on a map provided by you. The trees were then measured for diameter at 48 inches above ground level (DBH or diameter at breast height). The trees were given a condition rating for form and vitality. The trees condition rating is based on 50 percent vitality and 50 percent form, using the following scale.



1	-	29	Very Poor
30	-	49	Poor
50	-	69	Fair
70	-	89	Good
90	-	100	Excellent

The height of the trees were measured using a Nikon Forestry 550 Hypsometer. The spread was paced off. Comments and recommendations for future maintenance are provided.

Row of redwoods along existing driveway. The redwoods may have to be removed due to their location.

Summary:

The trees on site are a mix of native oaks and several species of imported trees. The trees are in poor to fair condition with no excellent trees on site. Most of the trees are on the perimeter of the property, ideal for construction. The lot has riparian areas on two sides and an earthquake fault running through the center of the lot. These restrictions will result in a large number of trees to be removed to facilitate the plans.



The redwoods along the existing drive will be removed as the existing driveway will be abandoned. The new driveway will be in the center of the lot. The redwoods in the front of the property are on the road and utilities easement. The trees have been topped and severely trimmed for utility line clearance, destroying the overall form of the redwoods. Removal of these trees will be required for road expansion.

The redwoods in the front of the property have been topped and severely trimmed for utility line clearance.



The trees along the riparian areas are quite crowded and most of the trees have a suppressed form. Thinning of the riparian areas would improve the health of the trees. The trees of heaven should be removed as the species is quite invasive and will be a continual problem. The black locust trees have severe decay and should be removed. All dead trees should be removed.

Tree of heaven in the riparian easement. The species is very invasive and should be removed from the site.



The coast live oaks and the bay laurels that share canopies are good candidates to spread sudden oak death. The pathogen propagates on the leaves of the bays and washes onto the trunks of the oaks. The pathogen kills the oaks but has no effect on the bays. Trimming and removal of insignificant bays will help to reduce the spread of the disease.

The Leyland cypress trees on site have cypress bark canker. Cypress bark canker is a stem and trunk disease that results in the death of cypress trees and their related species. The disease is non-treatable and eventual removal is the only option.

This large valley oak has a history of large limb failure. Regular maintenance will help to relive the chances of failure.

For several year organic debris (limbs, cuttings, and trunks of removed trees) has been dumped at the edge of the riparian areas at the top of the steep creek bank. The piling of organic debris will eventually cause the decline of the oaks from crown rot. Removal of the debris where possible is highly recommended.

The following tree protection plan will help to reduce impacts to the retained trees.

Tree Protection Plan:

Tree Protection Zones

Tree protection zones should be established and maintained throughout the entire length of the project for trees to be preserved. Fencing for the protection zones should be minimum 3-foot-tall orange plastic mesh supported by metal t-posts. The t-posts should be spaced no more than 10 feet apart on center. This detail shall appear on grading, demolition, and building permit plans. The location for the protection fencing shall be 10 feet from the perimeter of the trunk on any side adjacent to construction and should extend to 6XDBH where possible. Any deviation in determining the tree protection zone will require approval by the City Arborist and Site Arborist. On this site large areas will be protected with entire stands of trees being protected by one tree protection zone.

Excavation

No excavation shall be allowed inside tree protection zones without the Site Arborist consent. Signs should be placed on fencing signifying "Tree Protection Zone - Keep Out". No materials or equipment should be stored or cleaned inside the tree protection zones. It is recommended to mulch the tree protection zones using 4-6 inches of wood chips. Tree protection fencing can only be removed at the end of the project by approval from the City Arborist.

Root cutting

Any roots to be cut should be monitored and documented. Large roots measuring 2 inches in diameter or larger will need to be inspected by the site arborist before cut. If possible roots should be cut back to sound lateral roots under the supervision of the Site Arborist. The site arborist will likely recommend irrigation if root cutting is significant. Cut all roots clean with a saw or loppers. Roots to be left exposed for a period of time should be covered with layers of burlap and kept moist. The site arborist will be on site for excavation near all protected trees on site. If injury is to take place to tree roots proper mitigation measures will need to be applied.

Trenching

Trenching for irrigation, electrical, drainage or any other reason should be hand dug in combination with an air spade when beneath the driplines of protected trees. Hand digging and carefully laying pipes below or beside protected roots will dramatically reduce root loss of desired trees thus reducing trauma to the entire tree. Trenches should be backfilled as soon as possible with native material and compacted to near its original level. Plywood over the top of the trench will also help protect exposed roots below. All trenching within a tree protection zone will need to be observed by the project arborist so that proper mitigation measures can be applied.

Grading

The Project Arborist shall perform an inspection during the course of rough grading adjacent to the tree protection zone to ensure trees will not be injured by compaction, cut or fill, drainage and trenching, and if required, inspect aeration systems, tree wells, drains and special paving. The Site Arborist shall be notified at least 48 hours before an inspection is needed. If compaction from grading has taken place within a tree protection zone proper mitigation measures will need to be applied.

Irrigation

Normal irrigation should be maintained throughout the entire length of the project. The imported trees on this site will require irrigation during the warm season months. Some irrigation may be required during the winter months depending on the seasonal rainfall. During the summer months the trees on this site should receive heavy flood type irrigation 2 times a month. During the fall and winter 1 time a month should suffice. Mulching the root zone of protected trees will help the soil retain moisture, thus reducing water consumption. The native oak trees on site shall not be irrigated unless their root zone is traumatized. Any existing irrigation underneath native oak trees should be permanently suspended.

Tree Trimming

All trimming of the protected trees shall be carried out by a licensed contractor under the supervision of the project arborist. ANSI Standards and Best Management Practices shall be followed for all trimming applications. Any trimming that exceeds the ANZI Standards shall have project arborist and city arborist approval.

3090 Browns Valley/11/23/21

(5)

Contacts

Kielty Arborist Services can be reached at (650) 515-9783 (Kevin), (650) 532-4418 (David), or by email at kkarbor0476@yahoo.com. This information should be kept on site at all times. The information included in this report is believed to be true and based on sound arboricultural principles and practices.

Sincerely,


Kevin R. Kielty
Certified Arborist WE#0476A

David P. Beckham
Certified Arborist WE#10724A



Site: 3090 Browns Valley Road, Napa						
Tree #	Species	Botanical	DBH (inches)	Condition	Ht./ Spread	Comments/Recommendations
1	Redwood	<i>Sequoia sempervirens</i>	26.6	45%	40/35	Fair vigor, Poor form, Topped for utilities
2	Redwood	<i>Sequoia sempervirens</i>	13.6, 24.6	45%	40/35	Fair vigor, Poor form, Topped for utilities
3	Redwood	<i>Sequoia sempervirens</i>	33.2	45%	40/35	Fair vigor, Poor form, Topped for utilities
4	Redwood	<i>Sequoia sempervirens</i>	25.6	40%	35/35	Fair vigor, Poor form, Topped for utilities
5	Redwood	<i>Sequoia sempervirens</i>	30.3	60%	45/35	Fair vigor, Fair form, Single trunk
6	Redwood	<i>Sequoia sempervirens</i>	33.8	40%	35/35	Fair vigor, Poor form, Topped, Multi leader @ base
7	Redwood	<i>Sequoia sempervirens</i>	43.3, 34.5	40%	40/35	Fair vigor, Poor form, Topped
8	Redwood	<i>Sequoia sempervirens</i>	34.6	70%	50/35	Fair vigor, Fair form, Located on northwest property line
9	Redwood	<i>Sequoia sempervirens</i>	63.5	60%	50/40	Fair vigor, Poor to fair form, Codominant @ 5'
10	Redwood	<i>Sequoia sempervirens</i>	51.2	65%	60/35	Fair vigor, Poor to fair form, Topped @ 50'
11	Redwood	<i>Sequoia sempervirens</i>	41.7	65%	50/35	Fair vigor, Fair form, History of limb drop
12	Redwood	<i>Sequoia sempervirens</i>	29.5	60%	45/35	Fair vigor, Fair form, Topped
13	Redwood	<i>Sequoia sempervirens</i>	28.6	60%	45/35	Fair vigor, Fair form, Topped
14	Redwood	<i>Sequoia sempervirens</i>	29.6	60%	45/35	Fair vigor, Fair form, Topped
15	Redwood	<i>Sequoia sempervirens</i>	37.5	60%	45/35	Fair vigor, Fair form, Topped
16	Redwood	<i>Sequoia sempervirens</i>	26.6	60%	45/35	Fair vigor, Fair form, Topped
17	Persimmon	<i>Diospyros kaki</i>	10.5	55%	30/25	Fair vigor, Fair form, Leans south, Abundance of fruit
18	Coast live oak	<i>Quercus agrifolia</i>	30.2	60%	45/40	Fair vigor, Poor to fair form, Codominant @ 5', Poor crotch
19	Persimmon	<i>Diospyros kaki</i>	9.9	50%	30/30	Poor to fair vigor, Poor form, Suppressed
20	English walnut	<i>Juglans regia</i>	28.9	55%	35/40	Poor to fair vigor, Fair form, Grafted @ 5'
21	Redwood	<i>Sequoia sempervirens</i>	32.1	70%	45/35	Fair vigor, Fair form, Located along driveway
22	Redwood	<i>Sequoia sempervirens</i>	30.6	70%	50/35	Fair vigor, Fair form, Located along driveway
23	Redwood	<i>Sequoia sempervirens</i>	28.9	70%	50/35	Fair vigor, Fair form, Located along driveway
24	Redwood	<i>Sequoia sempervirens</i>	31.3	65%	45/35	Fair vigor, Poor form, Topped
25	Redwood	<i>Sequoia sempervirens</i>	28.8	60%	45/35	Fair vigor, Poor form, Topped
26	Redwood	<i>Sequoia sempervirens</i>	26.9	60%	45/35	Fair vigor, Poor form, Topped
27	Redwood	<i>Sequoia sempervirens</i>	22.6	65%	45/35	Fair vigor, Fair form, Single trunk
28	Redwood	<i>Sequoia sempervirens</i>	23.2	55%	40/30	Fair vigor, Poor form, Topped
29	Redwood	<i>Sequoia sempervirens</i>	29.9	65%	45/35	Fair vigor, Fair form, Single trunk
30	Apricot	<i>Prunus armeniaca</i>	8.9	55%	15/20	Fair vigor, Poor form, Suppressed
31	Italian buckhorn	<i>Rhamnus alaternus</i>	5.4, 7.5	45%	15/20	Fair vigor, Poor form, Codominant @ base
32	Olive	<i>Olea europaea</i>	7.3, 4.9	60%	20/25	Fair vigor, Fair form, Codominant @ base
33	Redwood	<i>Sequoia sempervirens</i>	29.8	70%	50/35	Fair vigor, Fair form, Single trunk
34	Redwood	<i>Sequoia sempervirens</i>	32.7	65%	45/35	Fair vigor, Fair form, Crook in trunk
35	Redwood	<i>Sequoia sempervirens</i>	24.8	60%	40/35	Fair vigor, Poor to fair form, Topped
36	Redwood	<i>Sequoia sempervirens</i>	32.9	55%	45/35	Fair vigor, Poor form, Topped, Multi leader
37	Redwood	<i>Sequoia sempervirens</i>	31.4	60%	55/35	Fair vigor, Poor form, Topped, Codominant
38	Redwood	<i>Sequoia sempervirens</i>	37.2	75%	55/40	Good vigor, Good form, Single trunk
39	Redwood	<i>Sequoia sempervirens</i>	36.2	60%	45/35	Fair vigor, Poor to fair form, Suppressed
40	Redwood	<i>Sequoia sempervirens</i>	30.5	65%	50/35	Fair vigor, Fair form, Single trunk
41	Redwood	<i>Sequoia sempervirens</i>	44.9	45%	75/35	Poor to fair vigor, Fair form, Large burl @ base
42	Redwood	<i>Sequoia sempervirens</i>	29.2	65%	60/35	Fair vigor, Fair form, Located near existing home
43	Redwood	<i>Sequoia sempervirens</i>	33.3	65%	70/35	Fair vigor, Fair form, Shares root zone with tree# 44
44	Redwood	<i>Sequoia sempervirens</i>	47.8	55%	75/40	Fair vigor, Poor form, Codominant @ 1'
45	English walnut	<i>Juglans regia</i>	40.4	60%	50/50	Fair vigor, Fair form, Grafted @ 15'
46	Redwood	<i>Sequoia sempervirens</i>	19.2	55%	60/35	Fair vigor, Poor to fair form, Multi leader @ 1'
47	Redwood	<i>Sequoia sempervirens</i>	26.4	60%	70/35	Fair vigor, Fair form, Located along property line
48	Redwood	<i>Sequoia sempervirens</i>	24.9	60%	70/35	Fair vigor, Fair form, Located along property line
49	Redwood	<i>Sequoia sempervirens</i>	19.8	55%	60/30	Fair vigor, Poor to fair form, Large leader removed

* = DONE

KIELTY ARBORISTS SERVICES, LLC
PO Box 6187
San Mateo, CA 94403

Kevin Kielty
Certified Arborist # WE-0476A
650-515-9783

Tree #	Species	Botanical	DBH (inches)	Condition	Ht./ Spread	Comments/Recommendations
50	Redwood	<i>Sequoia sempervirens</i>	40.6	65%	75/40	Fair vigor, Fair form, Largest of 5 trees
51	Redwood	<i>Sequoia sempervirens</i>	20, 20, 20	55%	65/40	Fair vigor, Poor to fair form, Multi leader @ 1'
52	Redwood	<i>Sequoia sempervirens</i>	27.9	60%	70/35	Fair vigor, Fair form
53	Redwood	<i>Sequoia sempervirens</i>	20.8	60%	65/30	Fair vigor, Fair form; Suppressed
54	Redwood	<i>Sequoia sempervirens</i>	15.5	55%	45/25	Fair vigor, Fair form; Suppressed
55	Redwood	<i>Sequoia sempervirens</i>	36.5	65%	70/40	Fair vigor, Fair form; Largest of grove
56	Redwood	<i>Sequoia sempervirens</i>	50.8	60%	70/45	Fair vigor, Poor to fair form, Topped in past
57	Redwood	<i>Sequoia sempervirens</i>	32.9	60%	70/35	Fair vigor, Fair form; Shares root zone with tree #56
58	Redwood	<i>Sequoia sempervirens</i>	42.2, 31.4	60%	70/45	Fair vigor, Poor to fair form, Multi leader @ 1'
59	Redwood	<i>Sequoia sempervirens</i>	22.2	55%	55/30	Fair vigor, Fair form; Suppressed
60	Redwood	<i>Sequoia sempervirens</i>	24.8	60%	60/35	Fair vigor, Fair form; Shares root zone with tree #61
61	Redwood	<i>Sequoia sempervirens</i>	28.1	60%	60/35	Fair vigor, Fair form; Shares root zone with tree #60
62	Bay laurel	<i>Umbellularium californica</i>	38 est	60%	60/35	Fair vigor, Fair form, Growing from creek bank
63	Redwood	<i>Sequoia sempervirens</i>	20, 20, 24	55%	75/45	Fair vigor, Poor to fair form, Multi leader @ base
64	Bay laurel	<i>Umbellularium californica</i>	38 est	45%	60/45	Fair vigor, Poor form, Decay in trunk
65	Coast live oak	<i>Quercus agrifolia</i>	26 est	45%	35/40	Fair vigor, Poor form, Bends south
66	Bay laurel	<i>Umbellularium californica</i>	6 x 14"	40%	50/50	Fair vigor, Poor form, Multi leader @ base
67	Coast live oak	<i>Quercus agrifolia</i>	8.8	40%	35/30	Fair vigor, Poor form, Entangled with tree #66
68	Black locust	<i>Robinia pseudoacacia</i>	12.2	40%	60/30	Poor to fair vigor, Poor form, Located on top of bank
69	Coast live oak	<i>Quercus agrifolia</i>	9.4	45%	30/30	Poor to fair vigor, Poor form, Suppressed
70	Coast live oak	<i>Quercus agrifolia</i>	26.5, 22.8	55%	50/55	Fair vigor, Poor to fair form, Codominant @ base
71	Black locust	<i>Robinia pseudoacacia</i>	9.8	45%	50/30	Poor to fair vigor, Poor form, Tall for DBH
72	Black locust	<i>Robinia pseudoacacia</i>	12.5	50%	50/35	Fair vigor, Fair form, Located top of creek bank
73	Bay laurel	<i>Umbellularium californica</i>	16.5	50%	40/45	Fair vigor, Fair form, Located top of creek bank
74	Coast live oak	<i>Quercus agrifolia</i>	4.9	40%	20-Oct	Fair vigor, Poor form, Suppressed
75	Coast live oak	<i>Quercus agrifolia</i>	38 est	45%	45/50	Good vigor, Poor to fair form, Leans heavy to southwest
76	Bay laurel	<i>Umbellularium californica</i>	6.5	40%	20-Oct	Fair vigor, Poor form, Suppressed
77	Coast live oak	<i>Quercus agrifolia</i>	11.3	45%	25/40	Good vigor, Poor form, Leans 45 degrees
78	Tree of heaven	<i>Ailanthus altissima</i>	11.6	55%	45/35	Good vigor, Fair form, Poor species, Invasive
79	Coast live oak	<i>Quercus agrifolia</i>	16.1	55%	35/35	Good vigor, Fair form, Suppressed
80	Bay laurel	<i>Umbellularium californica</i>	14, 12, 6	55%	45/35	Good vigor, Fair form, Located on top of creek bank
81	Almond	<i>Prunus dulcis</i>	8.2	45%	25/20	Poor vigor, Poor form, Suppressed
82	Coast live oak	<i>Quercus agrifolia</i>	8.3	45%	35/20	Fair vigor, Poor form, Suppressed
83	Bay laurel	<i>Umbellularium californica</i>	8, 10, 11	45%	35/20	Fair vigor, Poor form, Suppressed
84	Bay laurel	<i>Umbellularium californica</i>	13.2	50%	35/30	Fair vigor, Fair form, Located on top of creek bank
85	Black locust	<i>Robinia pseudoacacia</i>	26, 30	45%	35/50	Fair vigor, Poor to fair form, Heavily trimmed
86	Valley oak	<i>Quercus lobata</i>	30	55%	45/45	Good vigor, Fair form, History of limb loss
87	Black locust	<i>Robinia pseudoacacia</i>	14, 13	40%	30/40	Fair vigor, Poor form, Decay in trunk
88	Coast live oak	<i>Quercus agrifolia</i>	34.1	55%	55/60	Fair vigor, Fair form, Multi leader @ 30'
89	Black locust	<i>Robinia pseudoacacia</i>	18.2	0%	45/40	DEAD, snag
90	Buckeye	<i>Aesculus californica</i>	9.3, 11.5, 11.1	55%	35/45	Fair vigor, Fair form, Multi leader @ base
91	Black locust	<i>Robinia pseudoacacia</i>	14.5	0%	40/30	DEAD, snag
92	Black locust	<i>Robinia pseudoacacia</i>	16.6	45%	50/35	Fair vigor, Poor form, Leans heavy to southwest
93	Buckeye	<i>Aesculus californica</i>	19.1, 8, 8	60%	30/45	Good vigor, Fair form, Suppressed
94	Black locust	<i>Robinia pseudoacacia</i>	15.9	0%	35/30	DEAD, snag
95	Leyland cypress	<i>Cupressocyparis x leylandii</i>	16.2	45%	40/30	Poor to fair vigor, Poor form, Cypress bark canker
96	Redwood	<i>Sequoia sempervirens</i>	20.3	50%	40/35	Fair vigor, Poor to fair form, Leans west
97	Leyland cypress	<i>Cupressocyparis x leylandii</i>	9.1	45%	35/30	Poor to fair vigor, Poor form, Cypress bark canker
98	Leyland cypress	<i>Cupressocyparis x leylandii</i>	11.2	45%	35/30	Poor to fair vigor, Poor form, Cypress bark canker
99	Bay laurel	<i>Umbellularium californica</i>	25.8	55%	50/45	Good vigor, Fair form, Multi leader @ 25'

* = DONE

KIELTY ARBORISTS SERVICES, LLC
PO Box 6187
San Mateo, CA 94403

Kevin Kielty
Certified Arborist # WE-0476A
650-515-9783

Tree #	Species	Botanical	DBH (inches)	Condition	Ht./ Spread	Comments/Recommendations
100	Maple	<i>Acer campestre</i>	12.8, 16.9	40%	33/35	Poor vigor, Poor form, Decay in lower trunk
101	Coast live oak	<i>Quercus agrifolia</i>	32.7	50%	45/45	Fair vigor, Poor to fair form, Bleeding canker on trunk
102	Mediterranean fan	<i>Chamaerops humilis</i>	12	60%	15/15	Good vigor, Fair form, Suppressed
103	Redwood	<i>Sequoia sempervirens</i>	13.1	70%	35/30	Good vigor, Fair form, Single trunk
104	Redwood	<i>Sequoia sempervirens</i>	35.1	65%	70/35	Good vigor, Fair form, Single trunk
105	Leyland cypress	<i>Cupressocyparis x leylandii</i>	14.9	45%	35/30	Poor to fair vigor, Poor form, Cypress bark canker
106	White alder	<i>Alnus rhombifolia</i>	9.9, 9.6, 8	50%	40/35	Fair vigor, Fair form, Multi leader @ base
107	White alder	<i>Alnus rhombifolia</i>	13.3, 9.5, 8.3	50%	40/35	Fair vigor, Fair form, Multi leader @ base

* = DONE

NOTES

1. ELEVATION 740.00 FOR THE CITY OF WASH. CONTROL NETWORK RECORDED IN 1973. ELEVATION 740.00 FOR THE CITY OF WASH. CONTROL NETWORK RECORDED IN 1973. ELEVATION 740.00 FOR THE CITY OF WASH. CONTROL NETWORK RECORDED IN 1973.
2. CONTROL POINTS ARE SHOWN EVERY ONE FOOT (1) HIGHLIGHTED EVERY FIVE FEET (5).
3. BENCHMARK SHOWN IS RECORD INFORMATION.

HORIZONTAL AND VERTICAL BENCHMARKS

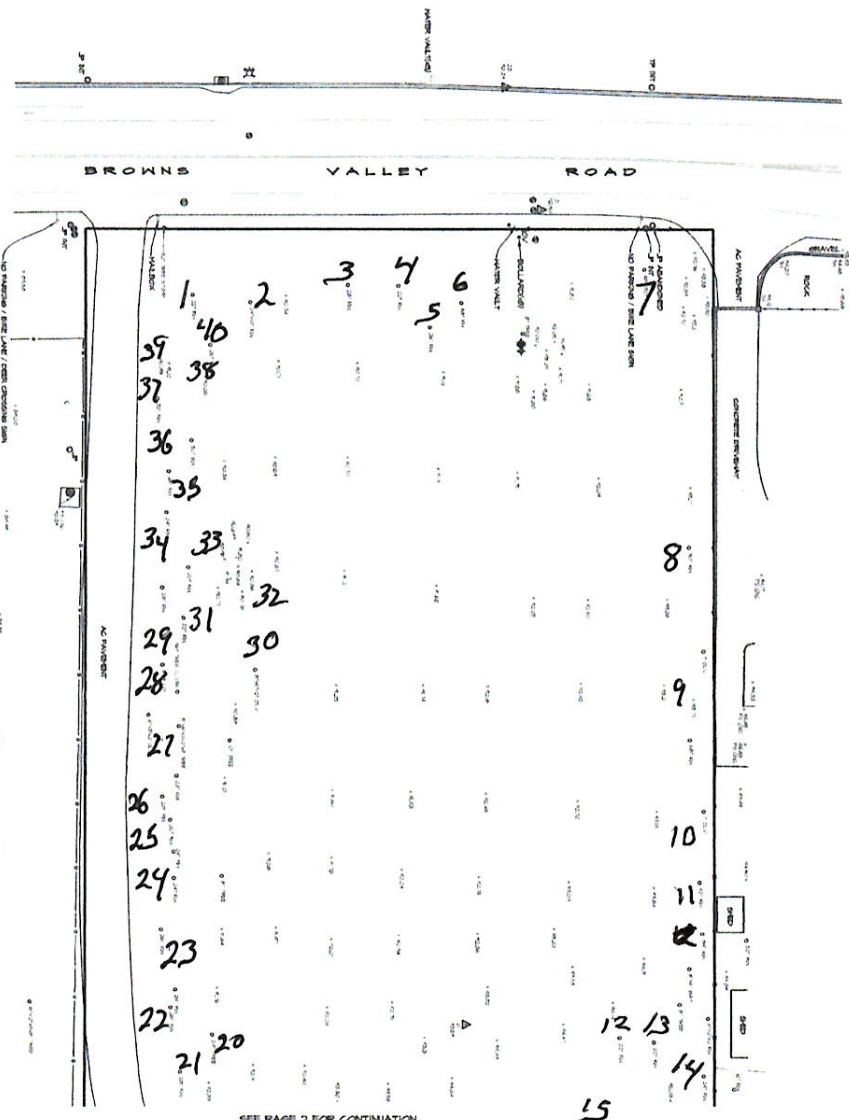
DATE	DATE	DATE	DATE
1973	1973	1973	1973
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1973	1973	1973	1973

LEGEND

- 1. SIGN
- 2. HOSE POND
- 3. LIGHT
- 4. WELL
- 5. WATER VALVE
- 6. FIRE HYDRANT
- 7. FISH WAREHOUSE
- 8. CATCH BASIN WAREHOUSE
- 9. SEWER CLEANOUT
- 10. TREE (AS NOTED)
- 11. UTILITY POLE
- 12. GUY WIRE
- 13. BREAKDOWN CONTROL VALVE
- 14. SANITARY CONTROL STATION
- 15. CONC. WALL
- 16. CONC. SURFACE
- 17. TOP OF BANK
- 18. ROCKS
- 19. FLOWLINE
- 20. EDGE OF GRAVEL
- 21. FISH PRIZE
- 22. CASHIUM PRIZE
- 23. FISH PRIZE
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LOCAL SITE CONTROL

GROUND	GROUND	ELEVATION	DESCRIPTION
NORTHING	EASTING		
1	1	740.00	1
2	2	740.00	2
3	3	740.00	3
4	4	740.00	4
5	5	740.00	5
6	6	740.00	6
7	7	740.00	7
8	8	740.00	8
9	9	740.00	9
10	10	740.00	10
11	11	740.00	11
12	12	740.00	12
13	13	740.00	13
14	14	740.00	14
15	15	740.00	15
16	16	740.00	16
17	17	740.00	17
18	18	740.00	18
19	19	740.00	19
20	20	740.00	20
21	21	740.00	21
22	22	740.00	22
23	23	740.00	23
24	24	740.00	24
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26	26	740.00	26
27	27	740.00	27
28	28	740.00	28
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31	31	740.00	31
32	32	740.00	32
33	33	740.00	33
34	34	740.00	34
35	35	740.00	35
36	36	740.00	36
37	37	740.00	37
38	38	740.00	38
39	39	740.00	39
40	40	740.00	40



SEE PAGE 2 FOR CONTINUATION

TOPOGRAPHIC MAP
OF THE LAND OF
BREIT / WIGGER
APRIL 10-10-04
WASH. REVISED BY:

GRAPHIC SCALE
1" = 20' FT
1" = 20' FT

RS&A
REGISTERED PROFESSIONAL SURVEYOR
WASHINGTON STATE
NO. 10000

SEE PAGE 17 FOR CONTINUATION

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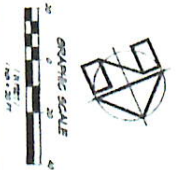
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TOPOGRAPHIC MAP
OF THE LAND OF
BREIT / WESSER
APN 041-00-004
SAN CLEMENTE, CALIFORNIA
PREPARED BY:
HSA⁺

[illegible]