

Appendix B. Biological Resources Technical Report

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Biological Resources Technical Report

The Grange Campground

August 2024

Prepared for:



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Acronyms and Abbreviations

°F	degrees Fahrenheit
AF-	aquatic feature
amsl	above mean sea level
BMP	best management practice
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFGF	California Fish and Game Code
City	City of Napa
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
FE	federally endangered
FT	federally threatened
GPS	Global Positioning System
Harris	Harris & Associates
MBTA	Migratory Bird Treaty Act
NCCP	Natural Community Conservation Planning
NHD	National Hydrography Dataset
NWI	National Wetlands Inventory
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
project	The Grange Campground
RWQCB	Regional Water Quality Control Board
SE	state endangered
SR	state rare
SSC	species of special concern
SWPPP	Stormwater Pollutant Prevention Plan
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
W-	wetland

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Executive Summary

At the request of the City of Napa (City), Harris & Associates (Harris) prepared this Biological Resources Technical Report in support of The Grange Campground (project) in the City of Napa, California. The project includes the construction of “glamping” campground with up to five permanent buildings, up to 100 fixed recreational lodging units, a recreational activity space, and a pervious parking area. Project access components include a driveway to serve as primary access from Silverado Trail (State Route 121), an internal two-way drive aisle, and a sidewalk along the highway frontage with connections to the internal trail space for pedestrian access.

This Biological Resources Technical Report provides an environmental baseline of biological resources found on the project site and in the 100-foot survey buffer (together herein referred to as the survey area) and presents an analysis of impacts to sensitive biological resources from development of the project. The analysis was prepared in accordance with the California Environmental Quality Act (CEQA) of 1970 and the CEQA Guidelines (as amended).

Literature and database reviews, a general biological reconnaissance survey, vegetation mapping, and an aquatic resources delineation were conducted in 2023 in support of this Biological Resources Technical Report.

Seven vegetation communities and land cover types were mapped in the survey area. Of the seven total vegetation communities and land cover types, four are designated as sensitive and include non-vegetated channel, fresh water, vernal marsh, and coast live oak woodland. The remaining three vegetation communities and land cover types are non-sensitive and include non-native grassland, agriculture/orchard, and developed land.

Aquatic resources delineated in the survey area include approximately 0.64 acre of non-wetland waters that occur within Milliken Creek and two non-vegetated channels and 1.51 acre of wetland waters that occur within three vernal marshes. There is the potential that the aquatic resources in the survey area may be considered jurisdictional by the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and/or California Department of Fish and Wildlife (CDFW) pursuant to Sections 404 and 401 of the Clean Water Act (CWA) and Section 1602 of the California Fish and Game Code (CFGF). However, only these agencies can make a final determination of jurisdictional boundaries.

No sensitive plant species were observed in the survey area during the 2023 biological resources survey. However, no focused rare plant surveys were conducted. Based on the literature and database review, one sensitive plant species, small spikerush (*Eleocharis parvula*), was determined to have a high potential to occur in the survey area but were not observed during the biological resources survey.

No sensitive wildlife species were observed in the survey area during the 2023 biological resources survey. Based on the literature and database review, three sensitive wildlife species were determined to have a high potential to occur in the survey area but were not observed during the biological resources survey. The sensitive wildlife species with high potential to occur include monarch butterfly (*Danaus plexippus*), California freshwater shrimp (*Syncaris pacifica*), and California red-legged frog (*Rana draytonii*).

The survey area provides suitable nesting habitat for bird and raptor species protected under the CFGC and Migratory Bird Treaty Act (MBTA) and roosting habitat for sensitive roosting bats. Overall, the survey area likely functions as a local and regional wildlife movement corridor for both sensitive and common wildlife species. The survey area likely provides movement opportunities for wildlife because of its available nesting, foraging, and dispersal habitat, its connections to nearby open space areas and the Milliken Creek riparian corridor, and the presence of high-quality native vegetation communities.

No designated critical habitat occurs in or within a 1-mile radius of the survey area.

Implementation of the project has the potential to result in direct and indirect impacts to biological resources, including sensitive wildlife species, nesting birds and raptors, sensitive roosting bats, sensitive vegetation communities, potentially jurisdictional aquatic resources, and wildlife movement corridors and habitat linkages. These impacts are considered significant, and mitigation measures are proposed to reduce impacts to below a level of significance.

The project would have less than significant impacts to sensitive plant species and would not conflict with local policies and ordinances or regional conservation plans, and no mitigation is required.

Implementation of Mitigation Measures BIO-1 through BIO-5 would reduce direct and indirect project impacts to the sensitive wildlife species with a high potential to occur to below a level of significance. Further, direct and indirect impacts to sensitive nesting birds and raptors and roosting bats would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-1, BIO-3, and BIO-5.

Implementation of Mitigation Measures BIO-1 and BIO-4 would reduce direct and indirect impacts to sensitive vegetation communities to below a level of significance.

Implementation of Mitigation Measures BIO-1, BIO-4, and BIO-6 would reduce direct and indirect impacts to potentially jurisdictional aquatic resources to below a level of significance.

Implementation of Mitigation Measures BIO-1 through BIO-5 and BIO-7 would reduce direct and indirect impacts to wildlife movement corridors and habitat linkages to below a level of significance.

Implementation of the project would not result in cumulative impacts to biological resources because impacts would be reduced to below a level of significance with implementation of Mitigation Measures BIO-1 through BIO-7.

Section 1 Introduction

This Biological Resources Technical Report for The Grange Campground (project) addresses the potential biological resources impacts associated with construction and operation of the project.

1.1 Project Description

The City of Napa (City) is proposing the construction of the project on an approximately 12.5-acre site in the City of Napa, California (Assessor's Parcel Number 052-010-011) (Appendix A, Figures; Figure 1, Regional Location, and Figure 2, Project Location). The project would construct a permitted "glamping" campground with up to five permanent buildings, up to 100 fixed recreational lodging units, a recreational activity space, and a pervious parking area. Building 1, the Main Office, would consist of guest check-in, a gathering space, and a small market, totaling approximately 4,418 square feet. Building 2, the Meeting Room, would provide approximately 1,440 square feet of indoor/outdoor meeting space. Building 1 and 2 outdoor space would include an outdoor lounge area with a permanent deck (8,000 square feet) and pool area (3,500 square feet, including the pool and pool deck). Buildings 3 through 5 would consist of back-of-house and administration/maintenance space (up to 640 square feet each). The 100 fixed recreational lodging units could be a mix of tent spaces, canvas tents on platforms (yurts), and stationary camper trailers. The project would exclude the use of personal travel trailers and recreational vehicles. The recreational activity space would consist of a children's playground, bocce ball courts, an internal trail space, a lawn, and outdoor game areas. The pervious parking area would be an extension of drive aisle surface. The drive aisle surface is proposed to be a permeable surface that is all weather and can be used by emergency vehicles.

The project would be constructed in two phases. Phase 1 would include construction of the five permanent buildings, 80 fixed recreational lodging units, pool, recreational activity space, and pervious parking area. Phase 2 would include removal of 10 camper trailers (e.g., Airstream units) and installation of approximately 30 luxury tent/yurt spaces. Phase 2 would not involve additional grading or alterations to the drive aisle; however, it would involve alterations to the utilities associated with Phase 1 to connect to the reconfigured recreational lodging units in Phase 2. The analysis in this Biological Resources Technical Report assumes that all 100 fixed recreational lodging units would be constructed at one time, which represents a conservative, worst-case scenario.

1.1.1 Site Access

The project includes one driveway to serve as primary access from Silverado Trail (State Route 121). A two-way, 20-foot-wide drive aisle would be extended from the driveway around the parcel providing access to the buildings and parking lot areas. A pedestrian path would be constructed

along the highway frontage, extending pedestrian access from the northern side of the parcel to the south with connections to the internal trail space.

1.1.2 Project Location

The project site is on the western side of Silverado Trail (State Route 121) between Stonecrest Drive and Hagen Road and is depicted on the U.S. Geological Survey (USGS) 7.5-minute Napa quadrangle in Township 6 North, Range 4 West, Section 35 (Figure 3, USGS Topographic Map). The project site consists of undeveloped open space, predominantly native habitats (Figure 2). The project site is bounded by rural single-family residential to the north and Milliken Creek and unincorporated Napa County land to the west.

Section 2 Environmental Setting

This section includes a description of the climate, surrounding land uses, topography and soils, and hydrology present on the project site.

2.1 Climate

The project site is in Napa County. On a regional level, Napa County has a Mediterranean climate, which is characterized by cool, wet winters and warm, dry summers. This is largely because of a semi-permanent high-pressure zone that sits over the Pacific Ocean during much of the year and forms a fog belt (marine layer). Generalized climate in the region is regarded as dry, subhumid mesothermal, with warm dry summers and cold moist winters, which pushes the growing season to the wet months of the year (late winter to early spring). Vegetation often goes dormant (senescent) during the later summer months until initial rains start in the fall. The rainy season typically lasts from October through April.

The closest weather station to the project site is at the Napa State Hospital meteorological station approximately 3.5 miles south of the project site (NRCS 2024). Between 2003 and 2023, the average maximum temperature was 73 degrees Fahrenheit (°F), and the minimum temperature was 48°F. The average annual precipitation between 2003 and 2023 was approximately 25.6 inches. In 2022, the total rainfall was approximately 14.3 inches, approximately 10.6 inches less than the previous year.

2.2 Topography and Soils

The topography on the project site is primarily flat, with a slight decrease in elevation along the western side of the project site. The elevation range on the project site ranges between 5 and 52 feet above mean sea level. Figure 3 shows the topographic variation on the project site.

The project site is underlain by Hambright rock-outcrop complex and Yolo loam (zero to 10 percent slopes) (USDA 2019). The soil units on the project site are presented on Figure 4, Soils. Hambright rock-outcrop complex (30 to 75 percent slopes) occurs on the majority of the project site. Yolo loam (zero to 10 percent slopes) occurs on the eastern edge of the project site. These soils are defined as well-drained and are not defined as hydric (wetland) soil types (USDA 2019).

2.3 Hydrology

The project site is in the Napa River Watershed (Hydrologic Unit 202) (SWRCB 2024). The Napa River Watershed encompasses a land area of approximately 430 square miles within Napa County. The Napa River, a significant freshwater tributary to San Francisco Bay, runs 55 miles southwest from Calistoga to San Pablo Bay, with the lower 17 miles being estuarine. Numerous tributaries enter the main stem of the Napa River from the mountains that rise abruptly on both sides of Napa

Valley. The Napa River Watershed is largely rural and agricultural, with several fast growing urban areas, including the City of Napa and City of American Canyon.

The National Wetlands Inventory (NWI) mapping results shows several features within the vicinity of the project site (Figure 5, National Wetlands Inventory Results). The NWI results show Milliken Creek (riverine feature) along the western side of the project site, the Napa River (riverine feature) to the west, Sarco Creek (riverine feature) to the northeast, an unnamed riverine feature running adjacent to the northern portion of the site, and another unnamed riverine feature running through the project site from the east.

Based on a review of the U.S. Geological Survey National Hydrography Dataset (NHD), Milliken Creek is documented flowing north to south to the west of the project site and connects to the Napa River approximately 500 feet southwest of the project site. The NHD results document Milliken Creek as a perennial stream with downstream connectivity to the Napa River, which flows into the Pacific Ocean via San Pablo Bay approximately 16 miles south of the project site (USGS 2024).

Milliken Creek, which is documented in both the NWI and NHD results, was observed along the western edge of the survey area during the 2023 aquatic resources delineation survey (Figure 5). The two unnamed riverine features running north of and through the project site and connecting to Milliken Creek, as documented in the NWI results but not in the NHD results, were not observed during the 2023 survey. However, two unnamed non-vegetated channels were observed running east to west through the southern portion of the survey area where they connect to Milliken Creek to the west. These channels begin at the outlets of two separate stormwater culverts on the eastern and southeastern sides of the survey area. While the observed flow paths of these channels are not documented in the NWI or NHD results, it is likely the installation of the stormwater features altered the historic drainage patterns on site, resulting in the current hydrologic conditions in the survey area. While historical disturbance is evident in the survey area, the drainage patterns in the survey area appear to be natural in origin and continue to discharge surface water into Milliken Creek along the western side of the survey area.

The three vernal marshes observed in the northern and southern portions of the survey area were not documented in the NWI or NHD results. These vernal marshes appear to have formed in discrete topographic lows in the survey area and may have developed relatively recently as a result of changes in upstream drainage patterns.

Section 3 Regulatory Framework

This section summarizes federal, state, regional, and local regulations, plans, policies, and programs that provide protection and management of sensitive biological resources that are applicable to the project. The federal government administers nonmarine plant- and wildlife-related issues through the U.S. Fish and Wildlife Service (USFWS), while waters of the United States issues are administered by the U.S. Army Corps of Engineers (USACE). California law relating to wetland, water, and wildlife issues is administered by the California Department of Fish and Wildlife (CDFW). Under the California Environmental Quality Act (CEQA), impacts associated with a proposed project or program are assessed regarding significance criteria determined by the CEQA lead agency (in this case, the City of Napa) pursuant to the CEQA Guidelines. Biological resources-related laws and regulations that apply include the federal Endangered Species Act, Migratory Bird Treaty Act (MBTA), Clean Water Act (CWA), CEQA, California Endangered Species Act, and California Fish and Game Code (CFGF).

3.1 Federal

CWA, Section 404 (33 CFR 328.3[a]). These provisions regulate the discharge of dredged or fill material in waters of the United States (U.S.), including wetlands. Activities that discharge dredge or fill material into waters of the U.S. can be authorized by the USACE.

On August 29, 2023, the U.S. Environmental Protection Agency (USEPA) and the USACE issued a final rule to amend the final “Revised Definition of Waters of the U.S.” The 2023 final rule became effective on September 8, 2023. Under the 2023 final rule:

(a) Waters of the U.S. are defined as:

1. Waters which are:
 - i. Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
 - ii. The territorial seas; or
 - iii. Interstate waters;
2. Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under (a)(5) of this section;
3. Tributaries of waters identified in (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;
4. Wetlands adjacent to the following waters:
 - i. Waters identified in (a)(1) of this section; or
 - ii. Relatively permanent, standing or continuously flowing bodies of water identified in (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;
 - iii. Intrastate lakes and ponds not identified in (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in (a)(1) or (a)(3) of this section.

Federal Endangered Species Act, Sections 7 and 9 (16 USC 1531 et seq.; 50 CFR Part 402). This prohibits the “take” (i.e., harm, harass, or kill individuals, or destroy associated habitat) of species federally listed as threatened or endangered. Take incidental to otherwise lawful activities can be authorized by the USFWS through a permit under Sections 4(d), 7, or 10(a).

MBTA (16 USC 703–712; 50 CFR 10). The federal MBTA prohibits the direct or indirect take of migratory birds and their active nests unless permitted.

3.2 State

Birds of Prey Protection Provision (CFGC Section 3503.5). This provision prohibits the taking of birds of prey (Order Falconiformes and Strigiformes), including their nests and eggs.

California Endangered Species Act (CFGC Section 2050 et seq.). Section 2050 of the CFGC prohibits any activities that would jeopardize or take a species designated as threatened or endangered by the state.

Streambed Alteration Agreement (CFGC Section 1600). The CFGC requires any person who proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or their tributaries, or use materials from a streambed, to submit a notification for a Streambed Alteration Agreement to the CDFW.

CFGC Section 1602. Section 1602 regulates water resources in the State of California. Activities that divert or obstruct the natural flow of or change or use material from the bed, channel, or bank of any river stream or lake may be authorized by the CDFW. CDFW jurisdiction includes intermittent and perennial watercourses and extends to the top of the bank of a stream or lake if unvegetated or to the limit of the adjacent riparian vegetation, located contiguous to the watercourse, if the stream or lake is vegetated.

CFGC Section 3503. Section 3503 of the CFGC prohibits the take, possession, or needless destruction of the nests or eggs of any birds, except as otherwise provided by the code or any regulation made pursuant thereto.

CEQA, as amended (California Public Resources Code, Section 21000 et seq.). The goal of CEQA is to assist California public agencies in identifying potential significant negative environmental impacts caused by their actions and avoiding or mitigating those impacts when feasible.

California Fully Protected Wildlife Species Provision (CFGC Sections 3511, 4700, 5050, and 5515). These provisions prohibit the taking of fully protected birds, mammals, amphibians, and fish.

California Native Plant Protection Act of 1977 (CFGC Section 1900–1913). These provisions preserve, protect, and enhance endangered or rare native plants of the state.

Regional Water Quality Control Board (RWQCB). The RWQCB regulates impacts to water quality under Section 401 of the CWA. A project must comply with Section 401 of the CWA before the USACE can issue a Section 404 Permit. The RWQCB will issue a Section 401 Water Quality Certification or Waiver of Certification depending on the extent of impacts to waters of the United States. The RWQCB also regulates impacts to waters of the state (usually limited to “isolated” waters or swales that may not fall under USACE jurisdiction) under the Porter-Cologne Water Quality Control Act (Porter-Cologne).

Natural Community Conservation Planning (NCCP) Act, as amended (CFGC Section 2800–2835). The primary objective of the NCCP program is to conserve natural communities at the ecosystem level while accommodating compatible land use. The program seeks to anticipate and prevent the controversies and gridlock caused by species’ listing by focusing on the long-term suitability of wildlife and plant communities and including key interests in the process.

Porter-Cologne. This act is regulated by the RWQCB for impacts to waters of the state. Although water quality issues related to impacts to waterways are normally addressed during Section 401 Water Quality Certification, should a water of the State of California be determined by the USACE not to have CWA jurisdiction, Porter-Cologne would be addressed under a Construction General Permit, State General Waste Discharge Order, or Waste Discharge Requirements, depending on the level of impact and the properties of the waterway.

3.3 Local Regulations

3.3.1 City of Napa 2040 General Plan

The following are goals and policies from the Natural Resources Conservation Element in the City of Napa 2040 General Plan (City of Napa 2022) relevant to biological resources in the survey area:

- **Goal NRC-1.** Manage natural resources, including riparian corridors, wetlands, and open space areas in and around the city to preserve and enhance plant and wildlife habitats.
 - **Policy NRC-1-1.** Continue efforts to protect and enhance the riparian habitat along waterways in the City and the Napa River.
 - **Policy NRC-1-2.** Review future waterway improvement projects (e.g., flood control, dredging, private development), as well as all development adjacent to the waterways, to protect and minimize effects on the riparian and aquatic habitats.
 - **Policy NRC-1-5.** Promote controlled access points in designated areas to prevent unrestricted public access to riparian habitat.
 - **Policy NRC-1-7.** Identify and protect wildlife habitat corridors from being severed or significantly obstructed. Prioritize the re-establishment of disconnected habitat corridors wherever feasible, including in conjunction with stormwater management improvements.

- **Policy NRC-1-8.** Require development projects to provide protection for significant on-site natural habitat whenever feasible and protect significant species and groves or clusters of trees on project sites. Establish and support citywide training and support programs that provide the tools to help existing homeowners associations and residents accomplish habitat protection.
- **Goal NRC-2.** Recognize and support the preservation of rare, endangered, and threatened species.
 - **Policy NRC-2-2.** As part of development review on sites with sensitive species, require project proponents to either conserve any habitat areas, or identify any feasible means of avoiding any net loss of habitat or habitat value for endangered, threatened, and rare species. Establish programs that provide for the use of off-site mitigation when in the best interest of the public.

3.3.2 City of Napa Protected Native Tree Program

The City's Protected Native Tree Program, pursuant to the City of Napa Municipal Code, Section 12.45, prohibits the removal or pruning of protected native trees without a permit from the City (City of Napa 2024a, 2024b). Applications are reviewed by City staff to determine whether it is part of a discretionary development application or if the application will need to be brought before the Parks, Recreation and Trees Advisory Commission for a final determination.

The City's Protected Native Tree Program designates a protected tree as specific species of trees located on private property 1 acre in size or larger, zoned for residential or agricultural purposes, or located on property zoned for commercial or industrial purposes (City of Napa 2024a). City of Napa Municipal Code, Section 12.45, defines protected native trees as the following native tree species with specified diameters:

- Black oak (*Quercus kelloggii*) – 12 inches or greater
- Black walnut (*Juglans hindsii*) – 12 inches or greater
- Blue oak (*Quercus douglasii*) – 6 inches or greater
- California bay (*Umbellularia californica*) – 12 inches or greater
- Coast live oak (*Quercus agrifolia*) – 12 inches or greater
- Coast redwood (*Sequoia sempervirens*) – 36 inches or greater
- Valley oak (*Quercus lobata*) – 12 inches or greater

Section 4 **Methods**

Before the biological resources survey was performed, sensitive biological resources with potential to occur on the project site were identified through a review of existing maps, literature and other biological studies conducted in the area, and sensitive species occurrence databases.

4.1 Database Review

The following databases were reviewed before the biological resources survey was performed:

- Calflora Database (Calflora 2024)
- California Natural Diversity Database (CDFW 2024a)
- California Native Plant Society (CNPS) Rare Plant Program Inventory of Rare Plants (CNPS 2024)
- CDFW Biogeographic Information and Observation System (CDFW 2024b)
- U.S. Department of Agriculture Soil Survey (USDA 2019)
- USFWS NWI Mapper (USFWS 2024a)
- USFWS Information for Planning and Consultation (USFWS 2024b)
- U.S. Geological Survey NHD (USGS 2024)

Plant and wildlife species sensitivity statuses are from CNPS (CNPS 2024), CDFW (CDFW 2024b, 2024c), and USFWS (USFWS 2024b).

A summary of the results of the database and document review is detailed in Section 5, Results.

4.2 Biological Resources Survey

During the site visit on March 22, 2023, Harris & Associates (Harris) biologists conducted a general biological reconnaissance survey by walking transects throughout the project site and a 100-foot survey buffer (together herein referred to as the “survey area”). The biologists mapped vegetation communities, documented plant and wildlife species, and evaluated the potential for occurrence of sensitive plant and wildlife species.

Plant and wildlife species observed or otherwise detected during the survey were recorded, are discussed in Section 5.3, Observed Species, and are provided in Appendix B, Species Observed. Wildlife identifications were made in the field directly through visual observation or indirectly through call, burrow, track, or scat detection. Plant and wildlife species observed or otherwise identified as present in the survey area were recorded. Plants unable to be identified in the field by the surveyors were collected and subsequently identified using The Jepson Manual: Vascular Plants of California, Second Edition (Baldwin et al. 2012). Plant nomenclature follows Baldwin et al. (2012).

4.2.1 Survey Limitations

Plants and wildlife were identified by direct observation, vocalizations, or other observance including tracks, scat, and other sign. Therefore, lists of observed species are not necessarily comprehensive because species can be nocturnal, secretive, or within the region (survey area) seasonally/during migration only and, therefore, may not have been observed.

Some areas were not surveyed (i.e., developed areas) due to a lack of habitat, and other areas contained impenetrable vegetation stands. These areas were either not reviewed because of lack of habitat or were only able to be visually scanned rather than walked.

4.3 Vegetation Mapping

Vegetation community boundaries for the project site were documented using an iSxBlue II Global Positioning System (GPS) receiver. The project site was surveyed on foot to obtain total coverage. Vegetation community types include the Holland vegetation classification code (Holland 1986). Plant species nomenclature used in this report generally comes from Baldwin et al. (2012) and The Jepson Online Interchange for California Floristics (Jepson Flora Project 2014).

4.4 Aquatic Resources Delineation

Before conducting the aquatic resources delineation field survey, Harris biologists reviewed existing background information pertaining to potential aquatic resources from the following sources:

- Topographic maps
- Aerial photographs of the project site and vicinity
- Historical and current aerial imagery (Historic Aerials 2024)
- USFWS NWI to identify areas mapped as aquatic resources features (USFWS 2024a)
- U.S. Geological Survey NHD (USGS 2024)
- U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey for the survey area, which lists hydric soils (USDA 2019)

A Harris aquatic resources specialist conducted the aquatic resources delineation fieldwork on March 22, 2023, to identify and map aquatic resources in the survey area. The aquatic resources delineation was conducted using the routine on-site determination method described in the Corps of Engineers Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Arid West Region (USACE 2008). The Harris aquatic resources specialist completed Arid West region ordinary high water mark and wetland datasheets for each unique aquatic resource feature in the survey area. The survey area was surveyed on foot to obtain total coverage.

As detailed in the 1987 USACE Wetlands Delineation Manual, 2008 Arid West Regional Supplement, and 2008 Ordinary High Water Mark Guide, the surveyors collected and recorded

data on vegetation, soil, and hydrological characteristics. The aquatic resources data was collected using an iSXBlue II GPS receiver. The aquatic resources delineation results are detailed in Section 5.2, Jurisdictional Aquatic Resources, and Appendix C, Aquatic Resources Delineation Report.

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Section 5 Results

The results presented below provide data from the biological and aquatic resources surveys conducted in the survey area.

5.1 Vegetation Communities and Land Cover Types

The survey area is in the central western California region of the California Floristic Province (Jepson Flora Project 2014). Seven vegetation communities and land cover types were observed in the survey area: non-vegetated channel, fresh water, vernal marsh, coast live oak woodland, non-native grassland, agriculture/orchard, and developed land (Holland 1986). Table 1, Vegetation Communities and Land Cover Types on the Project Site and in the Survey Buffer, presents the acreages of the vegetation communities and land cover types that occur in the survey area. Figure 6, Vegetation Communities and Land Cover Types, presents the vegetation community and land cover type boundaries.

Table 1. Vegetation Communities and Land Cover Types on the Project Site and in the Survey Buffer

Vegetation Community and Land Cover Type	Project Site (acres) ¹	Survey Buffer (acres) ¹
Freshwater Wetlands and Waters		
Non-vegetated channel ²	0.03	<0.01
Fresh water ²	0.00	0.61
Vernal marsh ²	0.71	0.16
<i>Subtotal</i>	<i>0.74</i>	<i>0.77</i>
Woodland and Forest		
Coast live oak woodland ²	7.20	4.76
Grassland		
Non-native grassland	3.28	0.92
Disturbed/Developed		
Agriculture/Orchard	0	0.14
Developed land	0.10	1.69
<i>Subtotal</i>	<i>0.10</i>	<i>1.83</i>
Total	11.32	8.28

Sources: Holland 1986; CDFW 2024d.

Notes:

¹ Acreages rounded up to one-hundredth.

² Considered a sensitive vegetation community by CDFW.

The vegetation communities and land cover types observed in the survey area are described in the following sections.

5.1.1 Non-Vegetated Channel

Non-vegetated channel consists of predominantly sandy, gravelly, or rocky channels lacking or with reduced vegetation. Variable water lines inhibit the growth of vegetation, although some

weedy species of grasses may grow along the outer edges of the channel. Vegetation may exist here but is usually less than 10 percent total cover (Holland 1986). Non-vegetated channel is considered a sensitive vegetation community by the CDFW and may fall under the regulatory jurisdiction of the USACE, USFWS, RWQCB, or CDFW (CDFW 2024d).

Two non-vegetated channels, AF-1 and AF-2, occur in the southern portion of the survey area (Figure 6 and Figure 7). Approximately 0.03 acre of non-vegetated channel occurs in the project site, with less than 0.01 acre in the survey buffer.

5.1.2 Fresh Water

Fresh water includes year-round bodies of fresh water in the form of lakes, streams, ponds, or rivers. This includes those portions of water bodies that are usually covered by water and contain less than 10 percent vegetated cover. Fresh water is considered a sensitive vegetation community by the CDFW and may fall under the regulatory jurisdiction of the USACE, USFWS, RWQCB, or CDFW (CDFW 2024d).

Approximately 0.61 acre of fresh water, contained entirely within the banks of Milliken Creek, occurs along the western edge of the survey buffer, outside of the project site. As discussed in Section 2.3, Hydrology, Milliken Creek is a perennial stream with downstream connectivity to the Napa River, approximately 500 feet southwest of the survey area. No fresh water occurs on the project site.

5.1.3 Vernal Marsh

Vernal marsh is an annual, marshy wetland that forms as a result of standing water that follows winter rains but are greatly reduced or completely dry by summer, exhibiting high seasonal fluctuation (Holland 1986). Vernal marsh is made up of mostly low growth, primarily annual herbs that contrasts with taller perennials in more permanent marshes like coastal and valley freshwater marsh. This community is similar to vernal pools in species composition and timing of flowering, which often occurs behind the retreating water's edge as the marsh dries. Vernal marshes are often larger and less ephemeral than vernal pools as well. The growing season for vernal marsh species varies with water input but is usually spring and early summer, which is later than for vernal pools and earlier than other marshes.

Vernal marsh species include both native and non-native annual and herbaceous plants, with low to moderate levels of perennial cover. Common vernal marsh plant species include watershield (*Brasenia schreberi*), sedges (*Carex* and *Scirpus* species), eryngo (*Eryngium* species), hedge hyssops (*Gratiola* species), calico flowers (*Downingia* species), rushes (*Juncus* species), California damsonium (*Damasonium californicum*), hairy waterclover (*Marsilea vestita*), navarretia (*Navarretia* species), arrowheads (*Sagittaria* species), and bladderworts (*Utricularia* species) (Holland 1986).

Vernal marshes are considered a sensitive vegetation community by the CDFW and may fall under the regulatory jurisdiction of the USACE, USFWS, RWQCB, or CDFW (CDFW 2024d).

Approximately 0.71 acre across three vernal marshes (W-1 through W-3) occur on the project site, with the remaining 0.16 acre in the survey buffer. The largest vernal marsh, W-1 (0.63 acre), occurs within the valley oak woodland in the southern portion of the survey area (Figure 6 and Figure 7). The two other smaller vernal marshes, W-2 (0.17 acre) and W-3 (0.07 acre), occur within the non-native grassland in the northern portion of the survey area (Figure 6 and Figure 7).

Vernal marsh W-1 appears to have formed in a topographic low in the flow path of a stream (AF-1) that begins at the outlet of a culvert on the eastern side of the project site and runs southwest through the southern portion of the site where it connects to Milliken Creek to the west. Both flowing and ponded water (varying between 0.25 foot and 2 feet deep) was observed in vernal marsh W-1 during the March 2023 survey. Characteristic plant species in vernal marsh W-1 include Baltic rush (*Juncus balticus*), spreading rush (*Juncus patens*), curly dock (*Rumex crispus*), miner's lettuce (*Claytonia perfoliata*), and catchweed bedstraw (*Galium aparine*), with greater periwinkle (*Vinca major*) and non-native grasses around the edges. Western raspberry (*Rubus leucodermis*) and poison oak (*Toxicodendron diversilobum*) also occur along the eastern and northeastern edges of vernal marsh W-1.

Vernal marshes W-2 and W-3 in the northern portion of the survey area appear to have formed in topographic lows within the non-native grassland where high-volume storm flows move through the project site toward Milliken Creek to the west. Ponded water (approximately 0.5 foot deep) was observed in vernal marshes W-2 and W-3 during the March 2023 survey. Vernal marshes W-2 and W-3 do not appear to have continuous surface connections to Milliken Creek or the other aquatic resources in the survey area. Characteristic plant species in vernal marshes W-2 and W-3 include wood sorrel (*Oxalis* species), miner's lettuce, blue grama (*Bouteloua gracilis*), clover (*Trifolium* species), lupin (*Lupinus* species), narrow leaved plantain (*Plantago lanceolata*), and vernal water-starwort (*Callitriche palustris*), with Baltic rush and curly dock around the edges.

5.1.4 Coast Live Oak Woodland

Coast live oak woodland is dominated by coast live oak (*Quercus agrifolia*), an evergreen, with a poorly developed understory and shrub layer. Many understory plants in a coast live oak woodland are shade tolerant and include wild blackberry (*Rubus ursinus*), snowberry (*Symphoricarpos mollis*), California walnut (*Juglans californica*), California-lilac (*Ceanothus* spp.), sumac (*Rhus* spp.), currant (*Ribes* spp.), toyon (*Heteromeles arbutifolia*), California bay (*Umbellularia californica*), Engelmann oak (*Quercus engelmannii*), manzanita (*Arctostaphylos* spp.), laurel sumac (*Malosma laurina*), poison oak (*Toxicodendron diversilobum*), and herbaceous plants, including bracken fern (*Pteridium aquilinum*), polypody fern (*Polypodium californicum*), fiesta flower (*Pholistoma auritum*), and miner's lettuce (Holland 1986). This habitat includes a variety

of grasses and soft shrubs that also are commonly found in other woodland vegetation communities. Coast live oak woodland is considered a sensitive vegetation community by the CDFW and is a riparian habitat that may fall under the regulatory jurisdiction of the USFWS or CDFW (CDFW 2024d).

Approximately 7.20 acres of coast live oak woodland occurs throughout the majority of the project site and within 4.76 acres of the survey buffer (Figure 6). Coast live oak woodland is absent only in the northeastern portion where non-native grassland is the dominant vegetation community. In the survey area, the coast live oak woodland is dominated by coast live oak with a moderately dense canopy, with California bay as a subdominant species, and valley oak and California walnut interspersed throughout. Approximately four red ironbark eucalyptus (*Eucalyptus sideroxylon*) occur along the southeastern edge of the survey area along the Silverado Trail roadway.

5.1.5 Non-Native Grassland

Non-native grasslands are primarily composed of annual grass species introduced from the Mediterranean basin and other Mediterranean climate regions, with variable presence of non-native and native herbaceous species (Holland 1986). Species composition of non-native grasslands may vary over time and place based on grazing or fire regimes, soil disturbance, and annual precipitation patterns. Non-native grasslands are likely to be dominated by several species of grasses—slender oat (*Avena barbata*), wild oat (*Avena fatua*), fox tail chess (*Bromus madritensis*), soft chess (*Bromus hordeaceus*), ripgut grass (*Bromus diandrus*), barley (*Hordeum* spp.), rye grass (*Lolium multiflorum*), English ryegrass (*Lolium perenne*), rat-tail fescue (*Vulpia myuros*), and Mediterranean schismus (*Schismus barbatus*)—that have evolved to persist in concert with human agricultural practices (Holland 1986). Non-native grasslands also typically support an array of annual forbs from Mediterranean climate regions (e.g., red-stemmed filaree [*Erodium cicutarium*], broad-lobed filaree [*Erodium botrys*], mustard [*Brassica* spp.], short-podded mustard [*Hirschfeldia incana*], wild radish [*Raphanus sativus*], cornflower [*Centaurea* spp.], Italian thistle [*Carduus pycnocephalus*], artichoke thistle [*Cynara cardunculus*], common catchfly [*Silene gallica*], bur clover [*Medicago* spp.], and cat’s ear [*Hypochaeris* spp.]). Low abundances of native species are sometimes present within non-native grasslands. These species usually include disturbance specialists with several different growth forms: subshrubs (e.g., lotus [*Lotus* spp.], buckwheat [*Eriogonum* spp.], lessingia [*Lessingia* spp.], goldenweed [*Isocoma* spp.], and rabbitbush [*Ericameria* spp.]), succulents (prickly-pear [*Opuntia* spp.]), perennial geophytes (e.g., blue dicks [*Dichelostemma capitatum*]), and herbaceous annuals (e.g., doveweed [*Eremocarpus setigerus*], vinegar weed [*Trichostema lanceolatum*], and tarweed [*Hemizonia* spp.]) (Holland 1986). Non-native grassland is not considered a sensitive vegetation community (CDFW 2024d).

Approximately 3.28 acres of non-native grassland occurs in the northeastern portion of the project site and 0.92 acre of the survey buffer (Figure 6). Non-native grassland in the survey area consists

mainly of meadow foxtail (*Alopecurus pralensis*), foxtail barley (*Hordeum murinum*), and rat-tail fescue (*Festuca myuros*) (Figure 6). Non-native grassland composes the herbaceous understory for most of the coast live oak woodland throughout the survey area as well.

5.1.6 Agriculture

Agricultural lands support an active agricultural operation and can include orchards, vineyards, planted fields, livestock pastures, or row crops. Agricultural land is not considered a sensitive land cover type (CDFW 2024d).

Approximately 0.14 acre of agricultural land occurs on the eastern edge of the survey buffer, outside of the project site. Agricultural land is limited to one parcel of land being used as a small vineyard on the eastern side of Silverado Trail. No agricultural land occurs on the project site.

5.1.7 Developed Land

Developed land represents areas that have been constructed on or otherwise physically altered to an extent that native vegetation communities are not supported. This land cover type generally consists of semi-permanent structures, residences, parking lots, pavement or hardscape, and landscaped areas that require maintenance and irrigation (e.g., ornamental greenbelts). Typically, this land cover type is unvegetated or supports a variety of ornamental plants and landscaping. Developed land is not considered a sensitive land cover type (CDFW 2024d).

Approximately 0.10 acre of developed land occurs along the eastern edge of the project site, with 1.69 acres in the survey buffer (Figure 6). Developed land in the survey area is primarily within the Silverado Trail roadway and residential driveways to the east.

5.2 Jurisdictional Aquatic Resources

An aquatic resources jurisdictional delineation was conducted during a site visit on March 22, 2023. Aquatic resources (Milliken Creek, two non-vegetated channels [AF-1 and AF-2], and three emergent wetlands [W-1 through W-3]) potentially subject to the regulatory jurisdiction of the USACE, RWQCB, and CDFW, pursuant to Sections 404 and 401 of the CWA and Section 1602 of the CFGC, occur in the survey area (Figure 7, Aquatic Resources). In addition, the riparian vegetation community, coast live oak woodland, that occurs in the survey area may fall under the regulatory jurisdiction of the CDFW (Figure 6). The wetland and non-wetland waters observed in the survey area are summarized in Table 2, Potentially Jurisdictional Aquatic Resources in the Survey Area.

Table 2. Potentially Jurisdictional Aquatic Resources in the Survey Area

Feature	Project Site (acres)	Survey Buffer (acres)	Survey Area (acres)	Potential Jurisdiction
Non-Wetland Waters				
Milliken Creek	0	0.61	0.61	USACE/RWQCB/CDFW
AF-1	0.03	<0.01	0.03	USACE/RWQCB/CDFW
AF-2	<0.01	0	<0.01	USACE/RWQCB/CDFW
<i>Subtotal</i>	<i>0.03</i>	<i>0.61</i>	<i>0.64</i>	—
Wetland Waters				
W-1	0.63	0	0.63	USACE/RWQCB/CDFW
W-2	<0.01	0.17	0.17	RWQCB/CDFW
W-3	0.07	0	0.07	RWQCB/CDFW
<i>Subtotal</i>	<i>0.70</i>	<i>0.17</i>	<i>0.87</i>	—
Total	0.73	0.78	1.51	—

Notes: CDFW = California Department of Fish and Wildlife; RWQCB = Regional Water Quality Control Board; USACE = U.S. Army Corps of Engineers

A detailed discussion of the aquatic resources delineation results and potential jurisdiction is included in Appendix C.

5.3 Observed Species

5.3.1 Plant Species

Appendix B lists the vascular plant species observed in the survey area during the biological resources survey. A total of 43 plant species were observed in the survey area, 16 (37 percent) of which were native and 27 (63 percent) of which were non-native. No sensitive plant species were observed in the survey area. However, no focused rare plant surveys were conducted. One sensitive plant species was determined to have a potential to occur in the survey area and is described in Section 5.4, Sensitive Plant and Wildlife Species.

5.3.2 Wildlife Species

Appendix B lists the wildlife species detected in the survey area during the biological resources survey. A total of 23 wildlife species, 22 birds and one mammal, were observed in the survey area during the biological resources survey, none of which are designated as sensitive. While no sensitive wildlife species were observed in the survey area, three sensitive species were determined to have a potential to occur and are described in Section 5.4.

5.4 Sensitive Plant and Wildlife Species

This section includes sensitive plant and wildlife species, including nesting birds and critical habitat, as defined by the CDFW, City, CNPS, and USFWS (CDFW 2024a, 2024b, 2024c; CNPS 2024; USFWS 2024b, 2024c). Sensitive species are those recognized by federal, state, or local agencies as

being potentially vulnerable to impacts because of rarity, local or regional reductions in population numbers, isolation/restricted genetic flow, or other factors. Sensitive plants include those listed as threatened or endangered, proposed for listing, or candidates for listing by the USFWS and CDFW; those considered sensitive by the CDFW; and those species included in the California Rare Plant Rank (CRPR) inventory maintained by the CNPS. Sensitive wildlife species include those listed as threatened or endangered, proposed for listing, or candidates for listing by the USFWS and CDFW; or those considered sensitive by the CDFW.

As described in Section 4.1, Database Review, distributions of historical sensitive species observations within the project vicinity were reviewed in preparation of this Biological Resources Technical Report. For the purposes of this biological resources assessment, those species that are either known to occur or have some potential to occur within the vicinity of the survey area are addressed in this section. Species returned during CNPS querying with elevation ranges exceeding that of the survey area were excluded. As previously discussed in Section 5.3, no sensitive plant or wildlife species were observed in the survey area. Figure 8, Species Potential to Occur, presents the database results for sensitive species with potentials to occur in the survey area and within a 1-mile radius. Table 3, Sensitive Plant and Wildlife Species Potential to Occur in the Survey Area, provides the list of sensitive plant and wildlife species that were observed and potentially occur along with an assessment of their potential for occurrence in the survey area. Listing status, habitat requirements, and potential for occurrence information are provided in Table 3.

Table 3. Sensitive Plant and Wildlife Species Potential to Occur in the Survey Area

Scientific Name	Common Name	Status Federal/State/CRPR	Habitat	Potential to Occur
Plants				
<i>Eleocharis parvula</i>	Small spikerush	None/None/4.3	Occurs in marshes and swamps at elevations between 5 and 9,910 feet amsl. Blooms April through September.	<i>High.</i> Freshwater vernal marshes are present in the survey area, however, are likely limited to the wet season during high-precipitation years. Other Cyperaceae species (tall flatsedge [<i>Cyperus eragrostis</i>]) observed in vernal marsh in the survey area. Historical locations exist in the region, but not within the survey area (CDFW 2024a).
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Delta tule pea	None/None/1B.2	Occurs in both brackish and freshwater marshes and swamps at elevations up to 15 feet amsl. Blooms May through September.	<i>Low.</i> Freshwater vernal marshes are present in the survey area, however, are likely limited to the wet season during high-precipitation years. Majority of the survey area is above this species' elevation range. Historical locations exist in the region, but not within the survey area (CDFW 2024a).

Table 3. Sensitive Plant and Wildlife Species Potential to Occur in the Survey Area

Scientific Name	Common Name	Status Federal/State/CRPR	Habitat	Potential to Occur
<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	None/SR/1B.1	Occurs in both brackish and freshwater marshes and swamps, and riparian scrub at elevations up to 35 feet amsl. Blooms April through November.	<i>Moderate.</i> Freshwater vernal marshes are present in the survey area; however, are likely limited to the wet season during high-precipitation years. No riparian scrub occurs. Historical locations exist in the Napa River riparian corridor approximately 0.5 mile and 0.75 mile southwest of the survey area, but not within (Figure 8) (CDFW 2024a).
<i>Symphyotrichum lentum</i>	Suisun Marsh aster	None/None/1B.2	Occurs in both brackish and freshwater marshes and swamps at elevations up to 10 feet amsl. Blooms April through November.	<i>Low.</i> Freshwater vernal marshes are present in the survey area, however, are likely limited to the wet season during high-precipitation years. Majority of the survey area is above this species' elevation range. Historical locations exist in the region, but not within the survey area (CDFW 2024a).
Wildlife				
Invertebrates				
<i>Danaus plexippus</i>	Monarch butterfly ¹ (California overwintering population)	None/ST/None	Occurs in a variety of habitats where patches of milkweed (<i>Asclepias</i> sp.), the monarch caterpillar host plant, are present. Overwinter in groves of eucalyptus, cypress, and pine along the California coast and high-elevation forests in Mexico.	<i>High.</i> Suitable nectar sources for foraging are present. No milkweed patches occur in the survey area suitable as host plants for caterpillars to occupy. A small number of eucalyptus trees suitable for overwintering occur. Historical locations occur within the region but not within the survey area (CDFW 2024a).
<i>Syncaris pacifica</i>	California freshwater shrimp	FE/SE/None	Occurs in low elevation, low gradient, freshwater streams in Marin, Napa and Sonoma counties, California. Typically shelters near the edges of stream pools and under stream banks, exposed root material, or submerged leafy branches.	<i>High.</i> A suitable freshwater stream (Milliken Creek) is present. Historical locations exist within the region but not in the survey area (CDFW 2024a). Not observed during the 2023 survey. No focused surveys were conducted for this biological assessment.

Table 3. Sensitive Plant and Wildlife Species Potential to Occur in the Survey Area

Scientific Name	Common Name	Status Federal/State/CRPR	Habitat	Potential to Occur
Amphibians				
<i>Rana draytonii</i>	California red-legged frog	FT/SSC/None	Occurs in lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11–20 weeks of permanent water for larval development. Must have access to estivate habitat.	<i>High.</i> Suitable permanent and ephemeral sources of water (Milliken Creek, channels, and vernal marshes) and surrounding riparian habitat are present. Survey area contains suitable upland habitats that lack barriers to movement to aquatic resources. Historical locations exist within the region but not in the survey area (CDFW 2024a). Not observed during the 2023 survey. No focused surveys were conducted for this biological assessment.

Notes: amsl = above mean sea level; FE = federally endangered; FT = federally threatened; None = no status indicated for species; SE = state endangered; SSC = species of concern; ST = state threatened; SR = state rare

CNPS CRPR

1B = rare, threatened, or endangered in California and elsewhere; 4 = watch list of species of limited distribution

Threat Ranks: .1 = seriously threatened; .2 = moderately threatened; 0.3 = not very threatened in California

5.4.1 Sensitive Plant Species Observed

As discussed in Section 5.1.3, Vernal Marsh, no sensitive plant species were observed in the survey area. However, no focused rare plant surveys were conducted.

5.4.2 Sensitive Plant Species Not Observed with a High Potential to Occur

Based on the literature and database review, four sensitive plant species were considered for potential to occur in the survey area, but only one species, small spikerush, was determined to have a high potential to occur in the survey area. This species was not observed during the biological resources survey. However, no focused rare plant surveys were conducted. This sensitive plant species with a high potential to occur in the survey area is described in the following section.

5.4.2.1 Small Spikerush (*Eleocharis parvula*)

Small spikerush, a CRPR 4.3 species, is a perennial herb that grows tufts of spongy, compressible stems approximately 10 centimeters tall. The flower cluster is an oval-shaped spikelet just 2 to 3 millimeters long, made up of several tiny flowers. This species occurs in marshes and swamps at elevations between 5 and 9,910 feet above mean sea level (amsl). This species blooms from April through September (CNPS 2024).

Suitable freshwater vernal marshes are present in the survey area; however, these marshes are likely limited to the wet season during high-precipitation years, diminishing greatly in size or

drying out entirely during the dry season when this species is expected to be observed above ground and blooming. In addition, the majority of the survey area where the vernal marshes occur at the lower end of the elevation range of this species. Historical locations for small spikerush exist in the region but not within the survey area (CDFW 2024a).

5.4.3 Sensitive Wildlife Species Observed

As discussed in Section 5.3.2, Wildlife Species, no sensitive wildlife species were observed in the survey area.

5.4.4 Sensitive Wildlife Species Not Observed with a High Potential to Occur

Three sensitive wildlife species, including two invertebrates and one amphibian, were determined to have a high potential to occur in the survey area and are described in the following sections.

5.4.4.1 Monarch Butterfly (*Danaus plexippus*)

On December 15, 2020, the USFWS found that adding the monarch butterfly to the list of threatened and endangered species is warranted but precluded by higher-priority species reviews and work. Monarch butterfly occurs in patches of milkweed (*Asclepias* sp.), the monarch caterpillar host plant. Monarch butterflies are found across North America wherever suitable feeding, breeding, and overwintering habitat exists. Monarchs overwinter in groves of eucalyptus, cypress, and pine along the California coast and high-elevation forests in Mexico (Xerces Society 2017). Threats to this species include habitat loss, climate change, and agriculture.

Nectar sources suitable for monarch butterfly foraging are present in the survey area, however, no milkweed patches occur in the survey area suitable as host plants for caterpillars to occupy. A small number of eucalyptus trees suitable for overwintering occur along the southeastern edge of the survey area. Historical locations for monarch butterfly occur within the region but not within the survey area (CDFW 2024a).

5.4.4.2 California Freshwater Shrimp (*Syncaris pacifica*)

California freshwater shrimp is a federally endangered and state endangered species. This species can be distinguished from other shrimp species by the tiny tufts of hair-like structures on the claws of the first and second pairs of legs (USFWS 2024d). California freshwater shrimp occurs in low elevation, low gradient, freshwater streams in Marin, Napa, and Sonoma Counties of California. California freshwater shrimp typically shelters near the edges of stream pools and under stream banks, exposed root material, or submerged leafy branches.

A freshwater stream (Milliken Creek) suitable for California freshwater shrimp habitat is present in the survey area. Historical locations for California freshwater shrimp exist within the region but not in the survey area (CDFW 2024a). This species was not observed during the 2023 survey; however,

no focused surveys were conducted for this biological assessment. Milliken Creek is outside the survey area, and as this is a strictly aquatic species requiring freshwater streams, this species is not expected to occur on the project site.

5.4.4.3 California Red-Legged Frog (*Rana draytonii*)

California red-legged frog is a federally threatened species and CDFW species of special concern. This species' abdomen and hind legs are often red or salmon pink, with small black flecks and larger irregular dark blotches on its back, and indistinct outlines on a brown, gray, olive or reddish-brown background color (USFWS 2024e). California red-legged frog occurs in lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. This species requires 11–20 weeks of permanent water for larval development and must have access to estivation habitat (Calherps 2024).

Permanent and ephemeral sources of water (Milliken Creek, non-vegetated channels, and vernal marshes) and surrounding riparian habitat suitable for California red-legged frog are present in the survey area. In addition, a majority of the survey area provides uninhibited upland movement potential for individuals dispersing or moving through during breeding season. Historical locations for California red-legged frog exist within the region but not in the survey area (CDFW 2024a). This species was not observed during the 2023 survey; however, no focused surveys were conducted for this biological assessment.

5.4.5 Nesting Birds

The survey area contains nesting habitat for several bird and raptor species protected under the CFGC and MBTA. The highest quality habitat for nesting birds in the survey area is the coast live oak woodland throughout most of the survey area and surrounding the Milliken Creek corridor in the western portion of the survey area. The availability of large amounts of high-quality nesting habitat with access to nearby food and water sources indicates birds and raptors likely use the survey area for nesting.

5.4.6 Sensitive Roosting Bats

The project site contains suitable roosting and foraging habitat for both common and sensitive bat species. The numerous trees within the coast live oak woodland throughout the majority of the survey area and surrounding the Milliken Creek corridor in the western survey area could provide suitable roosting habitat for tree-roosting bats, such as the hoary bat (*Lasiurus cinereus*) and western red bat (*Lasiurus blossevillii*). Western red bat is a California species of special concern. Milliken Creek also provides suitable foraging habitat for bats roosting in the area that forage over sources of open water, including western yellow bat (*Lasiurus xanthinus*), which is a California species of special concern. While no bats were observed using the survey area for roosting or

foraging during the biological resources survey, no nighttime focused acoustic surveys, radio-tracking, mist-netting, or emergence surveys were conducted.

5.4.7 Critical Habitat

The potential presence of critical habitat in the survey area was analyzed. No critical habitat occurs in the survey area. Critical habitat for the sensitive plant species Contra Costa goldfields (*Lasthenia conjugens*; CRPR 1B.1) occurs approximately 4 miles south of the survey area.

5.5 Wildlife Corridors and Linkages

Wildlife corridors provide routes for local movement and regional linkages and corridors and often following linear topographic, vegetation, or water features. These corridors can be continuous habitats features, or “stepping stone” areas, providing critical rest and foraging areas for, for example, birds traveling along migratory routes. Local routes of movement provide constant connections to resources that include sources of water, home/cover sites, and foraging areas. Regional linkages and movement corridors provide larger patches of open space to allow relatively free movement of wildlife species along multiple paths between important resources. These areas allow for not only long-term genetic flow between subpopulations but also critical pathways of seasonal/migratory movements. Larger predatory mammals often use regional corridors for hunting and reproduction needs. Potential wildlife corridors can include streams, riparian areas, and culverts under roadways. Habitat characteristics considered included topography, habitat quality, and adjacent land uses.

The survey area is likely to be used as a movement corridor and provides suitable nesting, foraging, and dispersal areas for both sensitive and common wildlife species because of its connections to nearby open space areas and the presence of native vegetation communities. The project site provides stopover habitat for migrating birds flying through the region to wintering grounds. Further, the project site supports a variety of vegetation communities, ranging from grasslands to woodlands and aquatic areas (including vernal marshes), most of which are high-quality contiguous patches of these habitats.

The Milliken Creek riparian corridor, non-vegetated channels, and vernal marshes that occur in the survey area provide foraging and periodic water sources for a variety of mammal, avian, reptile, and amphibian species, including sensitive species. The presence of the large agricultural field to the northwest of the survey area has the potential to limit large-scale east–west wildlife movement in the surrounding area. However, the Milliken Creek riparian corridor along the western side of the survey area likely functions as an important north–south movement corridor in the survey area and to the surrounding open space areas, especially to the southeast. The riparian corridor in the survey area has been documented to support both sensitive and common wildlife species and provides suitable nesting habitat for a variety of bird species protected by the MBTA and CFGC

and roosting habitat for both common and sensitive bat species. Further, Milliken Creek connects to the Napa River approximately 500 feet southwest of the survey area. The Napa River and its surrounding riparian corridor is likely to function as a significant movement route for the region due to the dense residential development limiting other movement opportunities for wildlife.

The survey area is not documented as a California Essential Habitat Connectivity Area by the CDFW (CDFW 2024e). However, a CDFW Small Natural Connectivity Area occurs at the confluence of Milliken Creek and the Napa River approximately 500 feet southwest of the survey area and Essential Connectivity Area occurs approximately 2 miles to the east. Therefore, the survey area likely functions as a wildlife corridor and habitat linkage in the region.

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Section 6 **Thresholds of Significance**

Appendix G of the CEQA Guidelines (CEQA Guidelines, Section 15000 et seq.) defines “significant effect on the environment” as a “substantial, or potentially substantial adverse change in the environment.” Appendix G of the CEQA Guidelines further indicates that there may be a significant effect on biological resources if the project would:

1. 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.
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
3. 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.
4. 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.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
6. 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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Section 7 Impacts

Impacts to biological resources from implementation of the project are categorized quantitatively as direct and indirect impacts.

Direct impacts to biological resources occur when significant alterations or destruction occurs during the course of, or because of, project implementation. Examples of such impacts include removing, disturbing, or grading vegetation; dredging or grading a stream bank; filling wetlands with any materials; erecting any structures, including in a stream; and severing or physically restricting wildlife corridors and the distribution of individual species or resources. Other direct impacts may include loss of foraging or nesting habitat and loss of individual species as a result of habitat clearing.

Indirect impacts may include elevated levels of noise or lighting, change in surface water hydrology within a floodplain, and increased erosion or sedimentation. These types of indirect impacts can affect vegetation communities or their potential use by sensitive species. They can also cause the disruption of normal wildlife functions or activities, impacting individual species.

Within the direct and indirect quantitative impacts categories, impacts are also qualified temporally as permanent and temporary impacts.

Permanent impacts may result in irreversible damage to biological resources, including habitat or removal of species from a particular area. Specific to the project, permanent impacts are those that occur within the on-site maintenance access roads footprints as these areas would be graded and maintained to allow access to pipeline infrastructure for periodic maintenance activities.

Temporary impacts are interim changes in the local environment due to construction and would not extend beyond project-associated construction, including revegetation of temporarily disturbed areas adjacent to native habitats. Specific to the project, temporary impacts are those that occur during construction of the project outside the on-site maintenance access roads permanent impact areas.

7.1 Threshold 1: Sensitive Plant and Wildlife Species

7.1.1 Guidelines for Determination of Significance

Significant impacts to sensitive plant and wildlife species could result if the project has a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the CDFW and USFWS.

7.1.2 Impact Analysis

7.1.2.1 Sensitive Plant Species

Direct Impacts. No sensitive plant species were observed. However, one sensitive plant species, small spikerush, was determined to have a high potential to occur in the survey area. Implementation of the project could result in the direct loss of this sensitive plant species with a high potential to occur in the survey area. Figure 9, Impacts to Biological Resources, shows the extent of impacts on the project site from project construction.

Small spikerush is a CRPR 4.3 species and is not state or federally listed or not listed as rare by the CNPS. Small spikerush is relatively common in the state and is not considered significantly rare. Therefore, impacts to this plant species would not be significant under CEQA due to its lack of sensitivity listing, and direct impacts would be less than significant with no mitigation required.

Indirect Impacts. As previously discussed under Direct Impacts, no sensitive plant species were observed, and the plant species determined to have a high potential to occur in the survey area is not considered sensitive under CEQA. Therefore, indirect impacts to sensitive plant species would be less than significant, and no mitigation is required.

7.1.2.2 Sensitive Wildlife Species

Direct Impacts. No sensitive wildlife species were observed in the survey area. However, three sensitive species, monarch butterfly, California freshwater shrimp, and California red-legged frog, were determined to have a high potential to occur. The project has the potential to directly impact these species during construction activities and operation of the project through displacement of individual wildlife or elimination of portions of their habitat (Figure 9). In addition, the three wildlife species with a high potential to occur are smaller species, including two invertebrates and one amphibian, which could be impacted by clearing, grading, and other construction activities. Implementation of the project would result in direct loss of habitat, including overwintering, reproduction, and foraging habitat, for the three sensitive wildlife species with a high potential to occur in the survey area.

Approximately 4.54 acres of coast live oak woodland occurs in the project impact area (Figure 9). A stand of eucalyptus trees that provide suitable overwintering habitat for monarch butterfly are present in the coast live oak woodland along the southeastern edge of the project site and proposed impact area. If these eucalyptus trees are removed during project construction, direct impacts to monarch butterfly overwintering habitat would be significant, and mitigation is required.

Milliken Creek occurs outside of the project site and project impact area, and no impacts would occur. The freshwater stream habitat within Milliken Creek that provides suitable habitat for

California freshwater shrimp would not be impacted. Therefore, direct impacts to California freshwater shrimp would be less than significant, and no mitigation is required.

Approximately 0.01 acre of non-vegetated channel, 0.62 acre of vernal marsh, and 4.54 acres of coast live oak woodland that provide suitable habitat for California red-legged frog occur in the project impact area. Removal of these habitats would result in direct impacts to California red-legged frog. Therefore, direct impacts to California red-legged frog would be significant, and mitigation is required.

Indirect Impacts. Temporary construction-related and long-term operational indirect impacts to wildlife generally include lighting, increased human activity, hydrologic quality (increased turbidity, excessive sedimentation, flow interruptions, and changes in water temperature), noise, vibration, and trash and garbage, which can attract both introduced terrestrial and native terrestrial and avian predators (such as American crows, common ravens, coyotes, domestic dogs [*Canis familiaris*], raccoons [*Procyon lotor*], and striped skunks [*Mephitis mephitis*]). These indirect impacts in the form of habitat disturbance and potential predation could have a significant impact on the three sensitive wildlife species determined to have a high potential to occur in the survey area, monarch butterfly, California freshwater shrimp, and California red-legged frog. Therefore, indirect impacts to these sensitive wildlife species would be significant, and mitigation is required.

Nesting Birds

As previously discussed in Section 5.4.5, Nesting Birds, the survey area provides suitable nesting habitat for sensitive birds and raptors protected under the CFGC and MBTA. Suitable nesting habitat for sensitive birds and raptors occurs in the coast live oak woodland throughout most of the survey area and surrounding the Milliken Creek corridor in the western portion of the survey area. Although no nests were directly observed, the availability of suitable habitat and the number of bird species in general suggest that nesting is likely occurring.

If construction is initiated during the general nesting season (January 15 through September 15), temporary direct construction-related impacts could have a significant impact on the nesting birds and raptors observed or with a high potential to occur in the survey area. Impacts would occur through direct removal of nesting habitat and through disturbance to nesting birds from substantial sources of noise generated at the start of construction. Construction activities that begin during the general nesting season would have the potential to significantly impact nesting birds protected under the MBTA and CFGC, and mitigation is required.

Sensitive Roosting Bats

As previously discussed in Section 5.4.6, Sensitive Roosting Bats, suitable roosting and foraging habitat for sensitive tree-dwelling bat species, including western red bat and western yellow bat, occurs in the numerous trees within the coast live oak woodland throughout most of the survey

area and surrounding the Milliken Creek corridor. Impacts to 4.54 acres of coast live oak woodland and removal of those trees would result in direct impacts to sensitive roosting bats. Therefore, direct impacts to sensitive bat species from loss of roosting habitat would be significant, and mitigation is required.

Critical Habitat

No critical habitat for sensitive plants or wildlife occurs in the survey area. Critical habitat for sensitive plant species, Contra Costa goldfields, occurs 4 miles south of the survey area. Therefore, impacts would not occur to critical habitat for this species as a result of project implementation, and no mitigation is required.

7.1.3 Mitigation Measures

7.1.3.1 Sensitive Plant Species

Impacts to sensitive plant species would be less than significant, and no mitigation is required.

7.1.3.2 Sensitive Wildlife Species

The project would result in direct and indirect impacts to sensitive wildlife species with a high potential to occur, including overwintering monarch butterflies and California red-legged frog. Removal of these species' habitats, including the coast live oak woodland, non-vegetated channels, and vernal pools, that occur in the project impact area would result in significant impacts that require mitigation. Implementation of Mitigation Measures BIO-1 through BIO-5 would reduce direct and indirect impacts to these sensitive wildlife species on the project site to less than significant.

Implementation of Mitigation Measure BIO-1 would require monitoring by a qualified biologist, including installation of protective fencing, a worker environmental education program, tree and vegetation clearance surveys, confirming Stormwater Pollution Prevention Plan (SWPPP) compliance, application of standard best management practices (BMPs) and requirements that address erosion and runoff, and wildlife entrapment avoidance. Mitigation Measure BIO-2 requires California red-legged frog avoidance and protection measures be implemented prior to and during construction. Mitigation Measure BIO-3 would implement pre-construction general nesting bird and raptor season surveys. Implementation of BIO-4 would require the acquisition of off-site mitigation credits for sensitive vegetation community and jurisdictional aquatic resource impacts. Mitigation Measure BIO-5 would require pre-construction roosting bat surveys.

If constructed during the nesting bird season, the project would potentially result in significant impacts to sensitive nesting birds and raptors. Impacts to sensitive nesting birds and raptors would be reduced to less than significant through implementation of Mitigation Measures BIO-3, which requires pre-construction nesting bird and raptor surveys during the general bird breeding season.

Potential direct impacts to sensitive roosting bats would occur during removal of trees within the coast live oak woodland. Impacts to sensitive roosting bats would be reduced to less than significant through implementation of Mitigation Measures BIO-1 and BIO-5, which requires monitoring by a qualified biologist and roosting bat clearance surveys prior to the removal of trees and vegetation.

Potential indirect impacts would occur to sensitive wildlife species that have a high potential to occur, including overwintering monarch butterflies and California red-legged frog. Indirect impacts to these species could result from increased lighting, human activity, hydrologic quality changes, noise, vibration, and trash and garbage attracting predators introduced during construction activities. These indirect impacts would be reduced to a less than significant level with implementation of Mitigation Measure BIO-1. Application of Mitigation Measure BIO-1 would reduce indirect impacts to sensitive wildlife species to a less than significant level through biological monitoring, installation of protective fencing, a worker environmental education program, tree and vegetation clearance surveys, confirming SWPPP compliance, application of standard BMPs and requirements that address erosion and runoff, and wildlife entrapment avoidance.

Implementation of Mitigation Measures BIO-1 through BIO-5 would reduce direct and indirect impacts to sensitive wildlife species to below a level of significance. Mitigation Measures BIO-1 through BIO-5 are as follows:

BIO-1: Qualified Biologist. To prevent inadvertent disturbance to areas outside the limits of construction, all activities shall be monitored by an approved biologist. Prior to the start of construction, the City of Napa shall retain a qualified biological monitor who shall be on site during clearing, grubbing, trenching, and/or initial ground disturbance. The qualified biologist shall attend all pre-construction meetings and monitor all clearing, grubbing, trenching, and/or initial ground disturbance activities on the project site. The qualified biologist shall monitor these activities to ensure compliance with the appropriate standard conditions and mitigation measures, including the following:

1. **Resource Marking/Protection:** Prior to clearing and grading operations or other activities involving significant soil disturbance, the construction contractor shall install fencing (solid silt fencing) along the perimeter of the construction area, 6 inches below grade and 3 feet above grade, with wooden stakes at intervals of not more than 12 feet. Prominently colored, well-installed fencing or flagging and signage shall be in place wherever the limits of grading are adjacent to sensitive vegetation communities or other biological resources, as identified by the qualified biologist. Fencing/flagging shall remain in place and be maintained to ensure proper functioning throughout the duration of construction, and shall be shown on grading plans. No construction access, parking, or storage of equipment or materials shall be permitted outside the marked construction perimeter.

2. **Worker Environmental Education Program:** A worker environmental education program shall be implemented for all workers and subcontractors and shall include a description of environmental restrictions relevant to construction and the penalties for violations. A chain of command and protocol for communicating problems or potential construction changes that may affect biological resources shall be established with the contractor and the City of Napa. Workers shall be made aware of the sensitive resources requiring protection using photographs or on-the-ground demonstrations. Specifically, the training shall include a description of California red-legged frog and its habitat, as well as measures to protect the species.
3. **Tree Clearance Survey:** Prior to the issuance of any permit to allow for the removal or demolition of trees within the project impact area, the qualified monitoring biologist shall conduct clearance surveys to flush out any wildlife species nesting, roosting, or otherwise occupying the trees or structures. If wildlife species are encountered within any of the trees or structures (outside the general bird nesting season), the qualified monitoring biologist shall remove them, if possible, or provide them with a means of escape and allowed the species to disperse. For measures specific to nesting birds and tree-roosting bats, Mitigation Measures BIO-3, General Bird Breeding Season Surveys, and BIO-5, Roosting Bats, shall be implemented.
4. **Vegetation Clearing and Initial Ground Disturbance:** The qualified biologist shall be on site during any clearing of natural vegetation (i.e., trees, shrubs, or annual ground cover) and initial ground disturbance. The qualified biologist shall flush wildlife species (i.e., bird or other mobile species) from occupied habitat areas immediately before brush clearing and initial ground disturbance activities. The qualified biologist shall be authorized to halt all associated project activities that may impact sensitive wildlife species.
5. **Stormwater Pollution Prevention Plan Compliance:** The qualified biologist shall periodically monitor construction activities throughout construction to verify that the construction site is implementing the Stormwater Pollution Prevention Plan prepared for the project and the following best management practices:
 - a. Dust-control fencing
 - b. Removal of construction debris and a clean work area
 - c. Covered trash receptacles that are wildlife- and weather-proof
 - d. Prohibition of pets on the construction site
 - e. Maintenance of a speed limit of 15 miles per hour
 - f. Use of water truck to spray vegetated areas in dust drift radius to prevent accumulation of dust
6. **Protected Native Tree Program Compliance:** The qualified biologist shall review the specific species and sizes of trees required to be removed for the project. The

qualified biologist shall prepare the appropriate application(s) for permit(s) to be approved by the Director of the Parks & Recreation Services Department and shall include a plan describing each protected native tree on the property, its species, size, drip line area, and location. The location of all other trees on the site and in the adjacent public right-of-way and trees located on adjacent property with drip lines over the property shall be shown on the plan and identified by species. The qualified biologist shall include such other information as the Director of the Parks & Recreation Services Department may determine is necessary to further the purposes of the City's Protected Native Tree Program including, but not limited to, photographs and arborist reports.

7. **Cover Trenches:** Construction personnel shall cover and/or escape routes for wildlife from excavated areas are be provided daily. All steep trenches, holes, and excavations during construction shall be covered at night with backfill, plywood, metal plates, or other means, and if plastic sheeting is used, the edges must be covered with soils such that small wildlife cannot access the excavated hole. Soil piles shall be covered at night to prevent wildlife from burrowing in. The edges of the sheeting shall be weighed down by sandbags. These areas may also be fenced to prevent wildlife from gaining access. Exposed trenches, holes, and excavations shall be inspected twice daily (i.e., each morning and before sealing the exposed area) by the qualified biologist to monitor for wildlife entrapment. Excavations shall provide an earthen ramp to allow for a wildlife escape route. The qualified biologist shall verify that the contractor has covered all steep-walled trenches or excavations prior to the end of construction when on site. If wildlife species are encountered within any trenches or excavated areas, the qualified biologist shall remove them, if possible, or provide them with a means of escape (e.g., a ramp or sloped surface at no greater than a 30-degree angle) and allowed to disperse. In addition, the qualified biologist shall provide training to construction personnel to increase awareness of the possible presence of wildlife beneath vehicles and equipment and to use best judgment to avoid killing or injuring wildlife (refer to item 2 in Mitigation Measure BIO-2).

BIO-2: California Red-legged Frog Avoidance and Protection. To avoid unlawful "take" of California red-legged frog, the following California red-legged frog avoidance and protection measures shall be implemented prior to and during project construction activities:

1. Prior to the start of construction, the City of Napa shall retain a qualified biologist approved by U.S. Fish and Wildlife Service and California Department of Fish and Wildlife to monitor for California red-legged frog.
2. Prior to initial ground disturbance, the California red-legged frog biologist shall confirm the areas to be protected with exclusion fencing (requirements specified in

item 1 in Mitigation Measure BIO-1) are adequate to prevent California red-legged frog from entering the construction site.

3. If feasible, construction activities in and adjacent to the aquatic resources shall take place during the dry season and before the first rain of the season, especially vegetation removal.
4. Work during the nighttime or rain events when California red-legged frog is generally more active shall be avoided to the greatest extent feasible. Weather forecasts from the National Weather Service shall be consulted at least 72 hours prior to performing work during the wet season.
5. During vegetation removal in or adjacent to the aquatic resources, with the authorization of the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife, the California red-legged frog biologist shall be present (or on call) to relocate California red-legged frog as needed. The California red-legged frog biologist shall have the authority to stop work that may result in the “take” of California red-legged frog. The biologist shall thoroughly check all vegetation for California red-legged frog prior to vegetation removal activities.
6. The California red-legged frog biologist or construction monitor shall check under all equipment for California red-legged frog and other wildlife before use. If any California red-legged frog are observed under equipment or within the work area, the California red-legged frog biologist shall relocate it to suitable habitat outside of the construction site.

BIO-3: General Bird Breeding Season Surveys. No grubbing, trimming, or clearing of vegetation from the project site shall occur during the raptor and bird breeding season (January 15 through September 1). If grubbing, trimming, or clearing of vegetation cannot feasibly occur outside the general bird breeding season, a qualified biologist shall perform a pre-construction nesting bird survey no more than 72 hours prior to the start of vegetation grubbing, trimming, or clearing to determine if active bird nests are present in the project site. Should an active bird nest be located, the qualified biologist shall establish a buffer and direct vegetation clearing or other construction activities away from the nest until it has been determined that the young have fledged or the nest has failed. If no nesting birds (including nest building or other breeding or nesting behavior) are in the construction area, grubbing, trimming, or clearing shall proceed.

BIO-4: Sensitive Vegetation Communities and Jurisdictional Aquatic Resources Mitigation. Any direct impacts to sensitive vegetation communities or jurisdictional aquatic resources would require mitigation to comply with state and/or federal authorizations, in accordance with the minimum ratios described in the following table (Mitigation Ratios for Potential Impacts to Sensitive Vegetation Communities and Jurisdictional

Aquatic Resources within the Project Impact Area), as well as the ratios defined in any state and/or federal permit(s) issued for the project.

Mitigation Ratios for Potential Impacts to Sensitive Vegetation Communities and Jurisdictional Aquatic Resources within the Project Impact Area

Vegetation Community	Potential Jurisdiction	Minimum Mitigation Ratio
Non-Vegetated Channel	USACE/RWQCB/CDFW	2:1
Vernal Marsh	USACE/RWQCB/CDFW	2:1
Coast Live Oak Woodland	CDFW	1:1

Potential direct impacts to sensitive vegetation communities, including jurisdictional aquatic resources, resulting from project implementation shall be mitigated through the acquisition of mitigation bank credits via a resource agency-approved mitigation site within the Napa River Watershed or by acquisition of other approved off-site mitigation credits. Prior to implementation of project construction impacts that would require compensatory mitigation, documentation demonstrating the availability of mitigation credits (i.e., credit ledger) at the approved mitigation site must be submitted to the City of Napa for confirmation.

BIO-5: Roosting Bats. An evening exit count survey should be conducted for the coast live oaks and other trees in the project impact area prior to removal due to the presence of suitable roosting habitat for sensitive tree-roosting bats. It is recommended that the single exit count survey be conducted within a 14-day window prior to tree removal starting at 30 minutes before sunset and ending 1 hour after sunset. If bats are observed exiting the coast live oak woodland impact area, then a suitable mitigation plan to humanely exclude the bats from trees planned for removal would be recommended. Such a plan may also involve providing alternative bat roosting habitat in the form of artificial bat houses on or near the site.

Additionally, if tree-roosting bat species that are difficult to detect (i.e., western red bat) are suspected, then prior to the removal of trees in the project impact area, a qualified biologist shall conduct clearance surveys to attempt to flush out any roosting bat species in trees. This shall include tapping on the trees to encourage the bats to flush and exit. To allow any that have not been flushed to escape, tree removal shall start slowly by gently pushing the tree over with heavy equipment. Smallest trees should be pushed over or removed first, or the lowest branches on large trees should be cut first to give roosting bats a chance to escape unharmed.

7.1.4 Significance after Mitigation

Implementation of Mitigation Measures BIO-1 through BIO-5 would mitigate direct and indirect impacts to sensitive wildlife species to less than significant.

7.2 Threshold 2: Riparian Habitat or Other Sensitive Natural Community

7.2.1 Guidelines for Determination of Significance

A significant impact would result if the project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or USFWS.

7.2.2 Impact Analysis

Direct Impacts. Implementation of the project would result in permanent impacts to approximately 8.41 acres of sensitive and non-sensitive vegetation communities and land cover types that occur in the project impact area (Table 4, Impacts to Vegetation Communities and Land Cover Types; Figure 9). These permanent impacts would result from grading and construction of the project.

Sensitive vegetation communities that would be permanently impacted in the project impact area include coast live oak woodland, non-vegetated channel, and vernal marsh (Table 4; Figure 9). As previously discussed, no impacts would occur to Milliken Creek (designated as the fresh water vegetation community) during implementation of the project. All direct permanent impacts to sensitive vegetation communities would be significant, and mitigation is required.

Agriculture, non-native grassland, and developed land are not considered sensitive vegetation communities or land cover types, and thus, impacts would not be significant. Therefore, no mitigation for impacts to these vegetation communities or land cover types is required.

Table 4. Impacts to Vegetation Communities and Land Cover Types

Vegetation Community and Land Cover Type	Project Site (acres)¹	Impacts (acres)¹
Freshwater Wetlands and Waters		
Non-vegetated channel ²	0.03	0.01
Fresh water ²	0	0
Vernal marsh ²	0.71	0.62
<i>Subtotal</i>	<i>0.74</i>	<i>0.63</i>
Woodland and Forest		
Coast live oak woodland ²	7.20	4.54
Grassland		
Non-native grassland	3.28	3.14
Disturbed/Developed		
Agriculture/Orchard	0	0
Developed land	0.10	0.10

Table 4. Impacts to Vegetation Communities and Land Cover Types

Vegetation Community and Land Cover Type	Project Site (acres)¹	Impacts (acres)¹
<i>Subtotal</i>	<i>0.10</i>	<i>0.10</i>
Total	11.32	8.41

Sources: Holland 1986; CDFW 2024d.

Notes:

¹ Acreages rounded up to one-hundredth.

² Considered a sensitive vegetation community by the CDFW.

Indirect Impacts. Indirect impacts to sensitive vegetation communities could result from invasion by exotic species, exposure to construction-related pollutant discharges, and trampling by humans. Permanent indirect impacts to riparian habitats and other sensitive natural communities from development of the project would be potentially significant, and mitigation is required.

7.2.3 Mitigation Measures

The project would result in direct and indirect impacts to sensitive vegetation communities, including approximately 4.54 acres of coast live oak woodland, 0.01 acre of non-vegetated channel, and 0.62 acre of vernal marsh that occur in the project impact area. Implementation of Mitigation Measures BIO-1 and BIO-4 (listed in Section 7.1.3, Mitigation Measures) would mitigate direct and indirect impacts to riparian habitats and other sensitive natural communities to below a level of significance.

Implementation of Mitigation Measure BIO-1 would reduce direct and indirect impacts to sensitive vegetation communities to a less than significant level through biological monitoring, installation of protective fencing, a Worker Environmental Education Program, confirming SWPPP compliance, and application of standard BMPs and requirements that address erosion and runoff.

Implementation of Mitigation Measure BIO-4 would reduce direct impacts to sensitive vegetation communities to a less than significant level through the acquisition of off-site mitigation credits for sensitive vegetation community and jurisdictional aquatic resource impacts.

7.2.4 Significance after Mitigation

Implementation of Mitigation Measures BIO-1 and BIO-4 would mitigate direct and indirect impacts to riparian habitats and other sensitive natural communities to below a level of significance.

7.3 Threshold 3: Jurisdictional Aquatic Resources

7.3.1 Guidelines for Determination of Significance

A significant impact would result if the project would have a substantial adverse effect on state or federally protected wetlands (including but not limited to marsh, vernal pool, coastal) through direct removal, filling, hydrological interruption, or other means of disturbance.

7.3.2 Impact Analysis

Direct Impacts. A total of 0.73 acre of wetland and non-wetland waters and riparian vegetation that are potentially under the jurisdiction of the USACE, RWQCB, and CDFW, pursuant to Sections 404 and 401 of the CWA and Section 1602 of the CFGC, occur in the survey area. The project has been designed to avoid aquatic resources to the greatest extent feasible. No impacts would occur to Milliken Creek or vernal marsh W-2. Further, the majority of non-vegetated channel AF-1 would be avoided during project implementation.

As discussed in Section 7.2, Threshold 2: Riparian Habitats or Other Sensitive Natural Communities, and shown in Table 4, implementation of the project would result in impacts to approximately 0.01 acre of non-vegetated channel, 0.62 acre of vernal marsh, and 4.54 acres of coast live oak woodland which constitute the potentially jurisdictional aquatic resources and riparian zone in the project impact area. Based on the aquatic resources delineation results and as summarized in Table 3, Potentially Jurisdictional Aquatic Resources in the Survey Area, non-vegetated channel AF-1, non-vegetated channel AF-2, and vernal marsh W-1 that are in the project impact area have a continuous surface connection to the Napa River (the closest traditionally navigable water) via Milliken Creek. Therefore, it is likely these three aquatic resources would be considered jurisdictional by the USACE, RWQCB, and/or CDFW. Vernal marsh W-2 in the project impact area was determined to be an isolated feature that formed in upland and does not have a continuous surface connection to a traditional navigable water. Therefore, it is likely that vernal marsh W-2 would not be jurisdictional by USACE, but it has the potential to be under the jurisdiction of the RWQCB and CDFW. The riparian zone within the coast live oak woodland has the potential to be under the jurisdiction of the RWQCB and CDFW. However, only the regulatory agencies can make a final determination of jurisdictional boundaries.

The project would be required to consult with and obtain regulatory permits from the USACE, RWQCB, and CDFW and provide compensatory mitigation for impacts prior to the start of construction that would ensure that no net loss of aquatic resources would result from implementation of the project. Therefore, direct impacts to jurisdictional aquatic resources would be potentially significant, and mitigation is required.

Indirect Impacts. Most of the indirect impacts to sensitive vegetation communities described in Section 7.2.2, Impact Analysis, also result in potentially significant indirect impacts to jurisdictional aquatic resources. Indirect impacts to jurisdictional aquatic resources could result from generation of fugitive dust, changes in hydrology resulting from construction (including sedimentation and erosion), and exposure to construction-related pollutant discharges. Permanent indirect impacts to jurisdictional aquatic resources from development of the project would be potentially significant.

7.3.3 Mitigation Measures

The project would result in impacts to approximately 0.01 acre of non-vegetated channel, 0.62 acre of vernal marsh, and 4.54 acres of coast live oak woodland, which constitute the potentially jurisdictional aquatic resources and riparian zone in the project impact area. Implementation of Mitigation Measures BIO-1, BIO-4, and BIO-6 would mitigate direct and indirect impacts to jurisdictional aquatic resources to below a level of significance.

Implementation of Mitigation Measure BIO-1 would reduce direct and indirect impacts to jurisdictional aquatic resources to a less than significant level through biological monitoring, installation of protective fencing, a Worker Environmental Education Program, confirming SWPPP compliance, and application of standard BMPs and requirements that address erosion and runoff.

Implementation of Mitigation Measure BIO-4 would reduce direct impacts to jurisdictional aquatic resources to a less than significant level through the acquisition of off-site mitigation credits for jurisdictional aquatic resource impacts.

Implementation of Mitigation Measures BIO-6 would require consultation with and regulatory permits from the USACE, RWQCB, and CDFW and provide compensatory mitigation for impacts prior to the start of construction that would ensure that no net loss of aquatic resources would result from implementation of the project.

BIO-6: Aquatic Resources Permitting. Prior to the issuance of land development permits, including clearing or grubbing and grading permits that impact potentially jurisdictional waters of the United States and state, the project applicant shall obtain regulatory permits from the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife under Sections 401 and 404 of the federal Clean Water Act, Porter-Cologne Water Quality Act, and Section 1602 of the California Fish and Game Code. Regulatory agency permits would include compensatory mitigation for impacts and a Compensatory Mitigation Plan prior to the start of construction that would ensure that no net loss of resources would result from implementation of the project. Compensatory Mitigation Plan shall be prepared to the satisfaction of the City of Napa, U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife for impacts prior to the start of construction. The Compensatory Mitigation Plan shall include, at a minimum, an implementation plan, estimated completion time, and any relevant contingency measures.

Areas under the jurisdictional authority of the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife shall be

delineated on all grading plans. Jurisdictional aquatic resources outside of the project impact area shall be flagged for avoidance, consistent with Mitigation Measure BIO-1.

7.3.4 Significance after Mitigation

Implementation of Mitigation Measures BIO-1, BIO-4, and BIO-6 would mitigate direct and indirect impacts to potentially jurisdictional aquatic resources to below a level of significance.

7.4 Threshold 4: Wildlife Corridors and Habitat Linkages

7.4.1 Guidelines for Determination of Significance

A significant impact would occur if the project would 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.

7.4.2 Impact Analysis

Direct Impacts. As discussed in Section 5.5, Wildlife Corridors and Linkages, the survey area likely functions as a local wildlife movement corridor and provides suitable nesting, foraging, and dispersal areas for both sensitive and common wildlife species because of its connections to nearby open space areas and the variety of native vegetation communities. Further, the dense woodland that comprises most of the survey area provides stopover habitat for migrating birds flying through the region to wintering grounds. The presence of the large agricultural field to the northwest of the survey area has the potential to limit large-scale east–west wildlife movement in the surrounding area. However, the Milliken Creek riparian corridor along the western side of the survey area likely functions as an important north–south movement corridor in the survey area and to the surrounding open space areas, especially to the southeast. Milliken Creek connects to the Napa River just southwest of the survey area, which function as a significant movement route for the region due to the dense residential development limiting other movement opportunities for wildlife.

Implementation of the project would remove the majority of the open space and high-quality habitat within the survey area and potentially discourage future use of the area by both sensitive and common wildlife species during local and regional movement. Therefore, implementation of the project would result in significant impacts to wildlife movement corridors and linkages, and mitigation is required.

Indirect Impacts. Wildlife movement would be impacted by many of the other indirect effects discussed in Section 7.1.2.2 for indirect impacts to sensitive wildlife species. These indirect impacts include noise, vibration, lighting, increased human activity, hydrologic and water quality (e.g., chemical pollution, increased turbidity, excessive sedimentation, flow interruptions, and changes in water temperature), and trash and garbage, which can attract predators. These indirect impacts would result in significant impacts to wildlife movement corridors and linkages, and mitigation is required.

7.4.3 Mitigation Measures

The project would result in direct and indirect impacts wildlife movement corridors and linkages in the project impact area. Implementation of Mitigation Measures BIO-1 through BIO-5 and BIO-7 would mitigate direct and indirect impacts to wildlife movement corridors and linkages to below a level of significance.

Implementation of Mitigation Measure BIO-1 would reduce impacts to habitats that function as potential wildlife movement corridors and linkages through monitoring by a qualified biologist, including installation of protective fencing, a worker environmental education program, tree and vegetation clearance surveys, confirming SWPPP compliance, application of standard BMPs and requirements that address erosion and runoff, and wildlife entrapment avoidance.

Implementation of Mitigation Measures BIO-2 through BIO-5 would reduce impacts to habitats that function as potential wildlife movement corridors and linkages by requiring California red-legged frog avoidance and protection, pre-construction general nesting bird and raptor season surveys, roosting bat surveys, and acquisition of off-site mitigation credits for sensitive vegetation community and jurisdictional aquatic resource impacts.

Implementation of Mitigation Measure BIO-7 would reduce impacts to habitats that function as potential wildlife movement corridors and linkages through the installation of permanent wildlife corridor avoidance fencing along the perimeter of the project impact area.

BIO-7: Wildlife Corridors Avoidance. Prior to the completion of construction activities, the construction contractor, with guidance from the qualified biologist, shall install permanent avoidance fencing along the perimeter of the project site. The fencing shall consist of materials and design that would not limit wildlife movement through the area (i.e., split-rail fencing). The installation of visual/physical barriers (such as appropriate native vegetation) may also be installed to discourage human encroachment into undeveloped areas outside the project site. A qualified biologist or restoration ecologist familiar with native plant species must review and approve of any plant species proposed to be installed for this purpose. In addition, educational signage shall be posted at a minimum of 100-foot intervals along the perimeter fencing that identifies the areas outside the park as important wildlife movement corridors and entry by humans or pets is prohibited. The perimeter fencing and signage shall remain in place and be maintained in perpetuity by project applicant with oversight by the City of Napa.

7.4.4 Significance after Mitigation

Potential direct and indirect impacts to wildlife corridors and habitat linkages would be less than significant with implementation of Mitigation Measures BIO-1 through BIO-5 and BIO-7.

7.5 Threshold 5: Local Policies or Ordinances

7.5.1 Guidelines for Determination of Significance

A significant impact would result if the project would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

7.5.2 Impact Analysis

The project would comply with local policies and ordinances protecting biological resources in the City of Napa 2040 General Plan Natural Resources Conservation Element (City of Napa 2022) and the City's Protected Native Tree Program (City of Napa 2024a). Section 3.3, Local Regulations, outlines the local policies and ordinances related to biological resources and implementation of the project.

As discussed in Section 7.1, Threshold 1: Sensitive Plant and Wildlife Species, the project's potential impacts to sensitive wildlife species are potentially significant before implementation of mitigation measures. Therefore, with implementation of Mitigation Measures BIO-1 through BIO-5, impacts to sensitive wildlife species would be fully mitigated to a less than significant level. With implementation of these mitigation measures, the project would not conflict with the City of Napa 2040 General Plan Natural Resources Conservation Element Goal NRC-1, Policy NRC-1-8, regarding protection of sensitive wildlife species in the City.

As discussed in Section 7.2, the project's potential impacts to sensitive vegetation communities are potentially significant before implementation of mitigation measures. Therefore, with implementation of Mitigation Measures BIO-1 and BIO-4, impacts to sensitive vegetation communities would be fully mitigated to a less than significant level. With implementation of these mitigation measures, the project would not conflict with the City of Napa 2040 General Plan Natural Resources Conservation Element Goal NRC-1, Policy NRC-1-1, Policy NRC-1-2, Policy NRC-1-5, Policy NRC-1-8, Goal NRC-2, and Policy NRC-2-2 regarding protection of sensitive vegetation communities in the City.

As discussed in Section 7.3, Threshold 3: Jurisdictional Aquatic Resources, the project has been designed to avoid impacts to jurisdictional aquatic resources to the greatest extent feasible. Unavoidable impacts to potentially jurisdictional aquatic resources would be mitigated through implementation of Mitigation Measures BIO-1, BIO-4, and BIO-6. Therefore, the project would comply with the City of Napa 2040 General Plan Natural Resources Conservation Element Goal NRC-1, Policy NRC-1-1, and Policy NRC-1-2 regarding protection and avoidance of aquatic resources in the City.

As discussed in Section 7.4, Threshold 4: Wildlife Corridors and Habitat Linkages, the project's potential impacts to wildlife corridors and habitat linkages are potentially significant before

implementation of mitigation measures. Therefore, with implementation of Mitigation Measures BIO-1 through BIO-5 and BIO-7, impacts to wildlife corridors and habitat linkages would be fully mitigated to a less than significant level. With implementation of these mitigation measures, the project would not conflict with the City of Napa 2040 General Plan Natural Resources Conservation Element Goal NRC-1, Policy NRC-1-7, Policy NRC-1-8, Goal NRC-2, and Policy NRC-2-2 regarding avoidance and protection of wildlife corridors and habitat linkages in the City.

The City's Protected Native Tree Program (Napa Municipal Code, Section 12.45) designates as "protected" specific species of trees located on private property one acre in size or larger, zoned for residential or agricultural purposes, or located on property zoned for commercial or industrial purposes. Protected tree species include black oak (*Quercus kelloggii*) 12 inches or greater, black walnut (*Juglans hindsii*) 12 inches or greater, blue oak (*Quercus douglasii*) 6 inches or greater, California bay 12 inches or greater, coastal live oak 12 inches or greater, coast redwood (*Sequoia sempervirens*) 36 inches or greater, and valley oak 12 inches or greater (refer to Section 3.3.2, City of Napa Protected Native Tree Program). The project is subject to the City's Protected Native Tree Program and would require obtaining applicable permits for tree removal. Approximately eight existing trees would be removed to facilitate the proposed development. With implementation of Mitigation Measure BIO-1 (item 6), which includes obtaining tree removal permits in compliance with the City's Protected Native Tree Program, impacts related to conflict with the City's Protected Native Tree Program would be fully mitigated to a less than significant level. Therefore, with implementation of Mitigation Measure BIO-1 (item 6), the project would not result in conflicts with any local policies or ordinances protecting biological resources.

7.5.3 Mitigation Measures

Mitigation Measures BIO-1 through BIO-7.

7.5.4 Significance after Mitigation

Implementation of Mitigation Measures BIO-1 through BIO-7 would mitigate all direct and indirect impacts to biological resources to below a level of significance, thereby resulting in the project's compliance with local policies or ordinances.

7.6 Threshold 6: Regional Conservation Planning

7.6.1 Guidelines for Determination of Significance

A significant impact would result if the project would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan.

7.6.2 Impact Analysis

The project site is not within an area that is covered by an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan. Therefore, implementation of the project would not conflict with a Regional Conservation Plan, and no mitigation is required.

7.6.3 Mitigation Measures

No mitigation is required.

7.6.4 Significance after Mitigation

No mitigation is required.

7.7 Cumulative Impacts

Cumulative projects were evaluated to determine the extent of cumulative impacts to biological resources in the cumulative project study area. The cumulative project study area was defined as areas with similar biological resources within 1 mile of the proposed project site. Cumulative projects within 1 mile of the proposed project include the Alta East Subdivision at 1568 East Avenue and the Ritz-Carlton hotel at 1215 Silverado Trail.

7.7.1 Cumulative Threshold 1: Sensitive Plant and Wildlife Species

Cumulative projects within 1 mile of the project site would have the potential to result in impacts to sensitive plant and wildlife species, including loss of habitat. For example, the Ritz-Carlton hotel at 1215 Silverado Trail is planned in an undeveloped area adjacent to the Napa River and, therefore, may result in cumulative loss of habitat and edge effects that would impact special-status plant and wildlife species. However, cumulative projects would be required to comply with CEQA and applicable federal and/or state regulations that provide protections for sensitive plant and wildlife species, such as the federal Endangered Species Act, the California Endangered Species Act, and the California NCCP Act. In addition, some projects that impact sensitive species require approval from the USFWS and CDFW. If significant impacts occur from a cumulative project, then mitigation measures are required to be prepared and implemented to reduce impacts to the extent feasible in compliance with CEQA.

As discussed in Section 7.1, while implementation of the project would have the potential to impact sensitive wildlife species, project impacts to sensitive plant species would be less than significant with implementation of Mitigation Measures BIO-1 through BIO-5. Because cumulative projects, as well as the proposed project, would be required to incorporate project-specific mitigation measures to reduce impacts to sensitive wildlife species to below a level of significance, the project

would not contribute to a cumulatively significant impact. Therefore, the project's contribution to impacts on sensitive plant and wildlife species would not be cumulatively considerable.

7.7.2 Cumulative Threshold 2: Riparian Habitat or Other Sensitive Natural Community

Cumulative projects within 1 mile of the project site have the potential to result in impacts associated with riparian habitat and other sensitive natural communities through direct and indirect loss or degradation. Cumulative projects with the potential to result in cumulative impacts to riparian habitat and other sensitive natural communities include the Ritz-Carlton hotel at 1215 Silverado Trail. This project would occur in an undeveloped area and would likely result in impacts to riparian habitat and other sensitive natural communities.

Cumulative projects would be required to comply with applicable federal and/or state regulations, such as the California Lake and Streambed Alteration Program or the California NCCP Act. These programs provide protections for riparian and other sensitive habitats. In addition, many projects that affect riparian or other protected habitat types require approval from the USFWS and CDFW. If potentially significant impacts would occur from a cumulative project, then mitigation measures would be implemented to reduce impacts to the extent feasible.

As discussed in Section 7.2, implementation of the project would have the potential to impact sensitive vegetation communities. With implementation of Mitigation Measures BIO-1 and BIO-4, project-specific impacts to wildlife corridors or habitat linkages would be less than significant. Cumulative projects and the proposed project would be required to incorporate project-specific mitigation measures that would mitigate potential impacts to riparian habitat or other sensitive communities to below a level of significance. Therefore, the project would not contribute to a cumulatively significant impact, and the project's contribution would not be cumulatively considerable.

7.7.3 Cumulative Threshold 3: Jurisdictional Aquatic Resources

Cumulative projects within 1 mile of the project site would have the potential to result in a cumulative impact associated with federally or state protected wetlands. The Ritz-Carlton hotel at 1215 Silverado Trail would occur in an undeveloped area adjacent to the Napa River and, therefore, was determined to have potential to result in disturbances to these aquatic resources.

Cumulative projects would be required to comply with applicable federal and/or state regulations, such as Sections 401 and 404 of the CWA and the Porter-Cologne Act. Existing regulations would ensure that a significant cumulative impact associated with federally or state protected aquatic resources would not occur. If potentially significant impacts would occur from a cumulative project, then mitigation measures would be implemented to reduce impacts as required to meet the regulatory agency's no-net-loss standard. As discussed in Section 7.3, the project would avoid impacts to jurisdictional aquatic resources to the greatest extent feasible, providing compensatory mitigation at

an approved ratio for unavoidable impacts, and would not contribute to cumulative impacts to jurisdictional aquatic resources with implementation of Mitigation Measures BIO-1, BIO-4, and BIO-6. Therefore, the project's contribution would not be cumulatively considerable.

7.7.4 Cumulative Threshold 4: Wildlife Corridors and Habitat Linkages

Cumulative projects located within 1 mile of the project site would have the potential to result in a cumulative impact associated with wildlife movement corridors and habitat linkages. For example, the Ritz-Carlton hotel at 1215 Silverado Trail would occur in an undeveloped area adjacent to the Napa River and have the potential to impact a regional wildlife movement corridor and habitat linkage. Therefore, development of the proposed project in combination with cumulative projects would potentially impact wildlife movement corridors and habitat linkages.

However, cumulative projects would be required to comply with applicable federal and/or state regulations, such as the California NCCP Act, which supports the continued provision of wildlife movement corridors. If potentially significant impacts would occur from a cumulative project, then mitigation measures would be implemented to reduce impacts to the extent feasible.

As discussed in Section 7.4, development of the project would have the potential to impact wildlife corridors or habitat linkages. With implementation of Mitigation Measures BIO-1 through BIO-5 and BIO-7, project-specific impacts to wildlife corridors or habitat linkages would be less than significant. Cumulative projects would also be required to incorporate project-specific mitigation measures to mitigate potential impacts to wildlife corridors or habitat linkages to below a level of significance. Therefore, the project would not contribute to a cumulatively significant impact, and the project's contribution would not be cumulatively considerable.

7.7.5 Cumulative Threshold 5: Local Policies or Ordinances

Cumulative projects located within 1 mile of the project site would have the potential to result in a cumulative impact related to conflicts with local policies or ordinances protecting biological resources. One cumulative project, the Ritz-Carlton hotel at 1215 Silverado Trail, would occur in an undeveloped area that has the potential to result in conflicts with local policies or ordinances protecting biological resources. Development of the project in combination with cumulative projects would potentially result in conflicts with these local policies or ordinances.

Cumulative projects would be required to comply with applicable local policies or ordinances. If potentially significant impacts would occur from cumulative projects, then mitigation measures would be implemented to reduce impacts to the extent feasible.

As discussed in Section 7.5, with implementation of Mitigation Measures BIO-1 through BIO-7, the project would comply with local policies and ordinances protecting biological resources in the City of Napa 2040 General Plan Natural Resources Conservation Element. A significant

cumulative impact associated with a conflict with a local policy or ordinance would not occur. Therefore, the project in combination with other cumulative projects would not result in a significant cumulative impact. The project's contribution would not be cumulatively considerable.

7.7.6 Cumulative Threshold 6: Regional Conservation Planning

As discussed in Section 7.6, the project site is not within an area that is covered by an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan. Therefore, impacts would not occur from conflicts with regional conservation plans. Therefore, the project in combination with other cumulative projects would not result in a significant cumulative impact. The project's contribution would not be cumulatively considerable.

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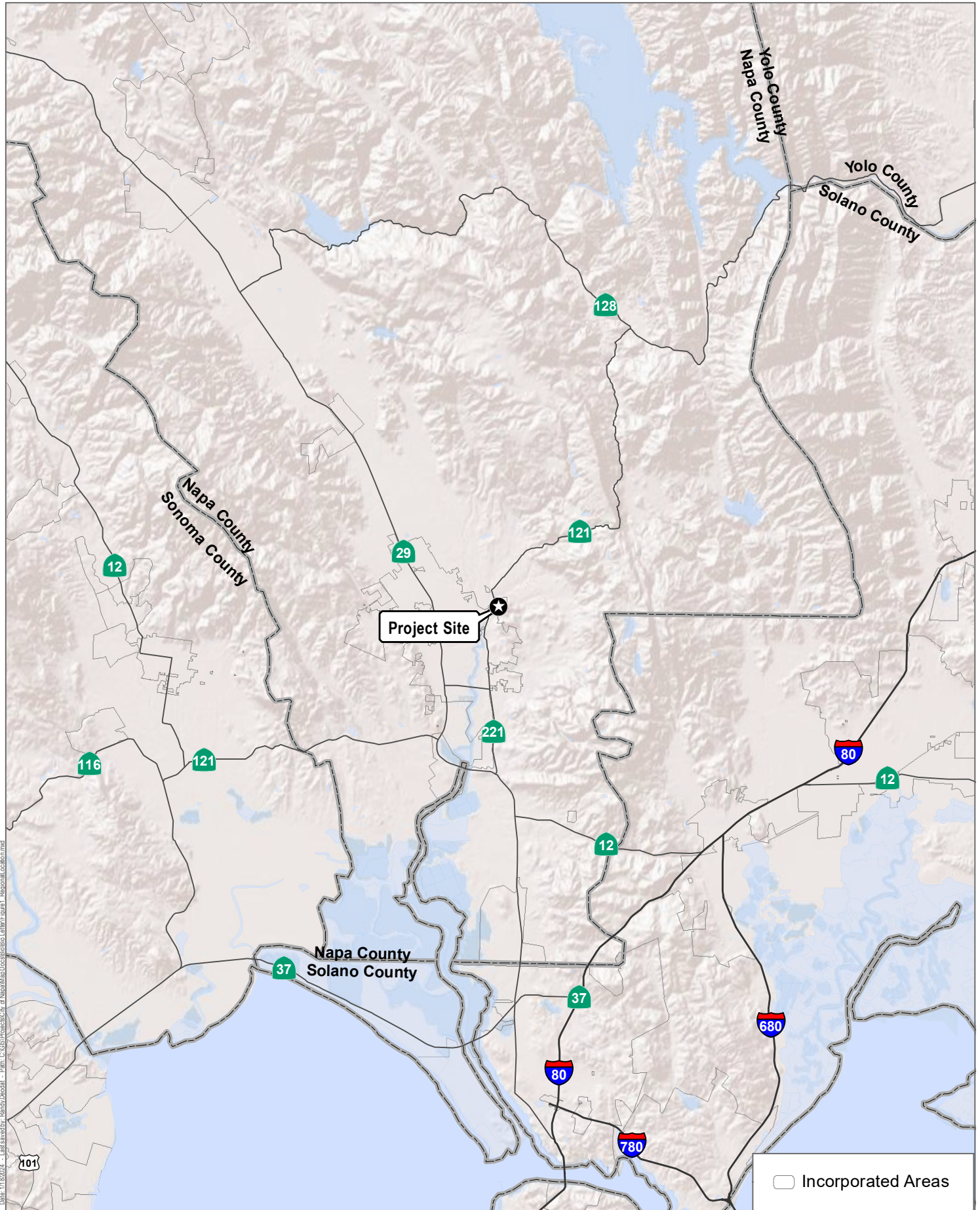
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Appendix A. Figures

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Source: ESRI 2021.



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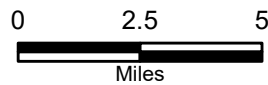


Figure 1

Regional Location

The Grange Campground



 Project Site

Source: Napa County Imagery 2021.

Figure 2

Project Location

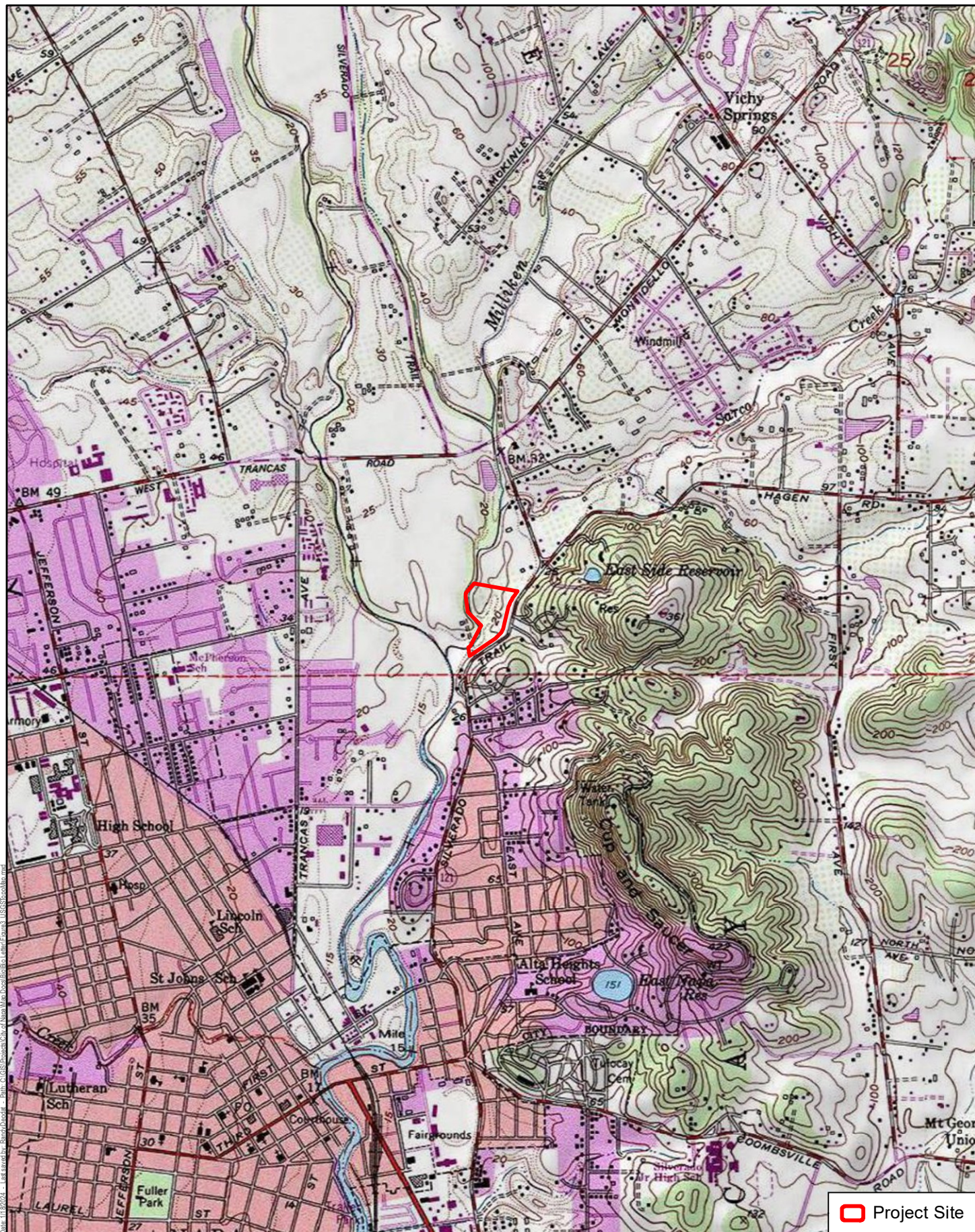
The Grange Campground



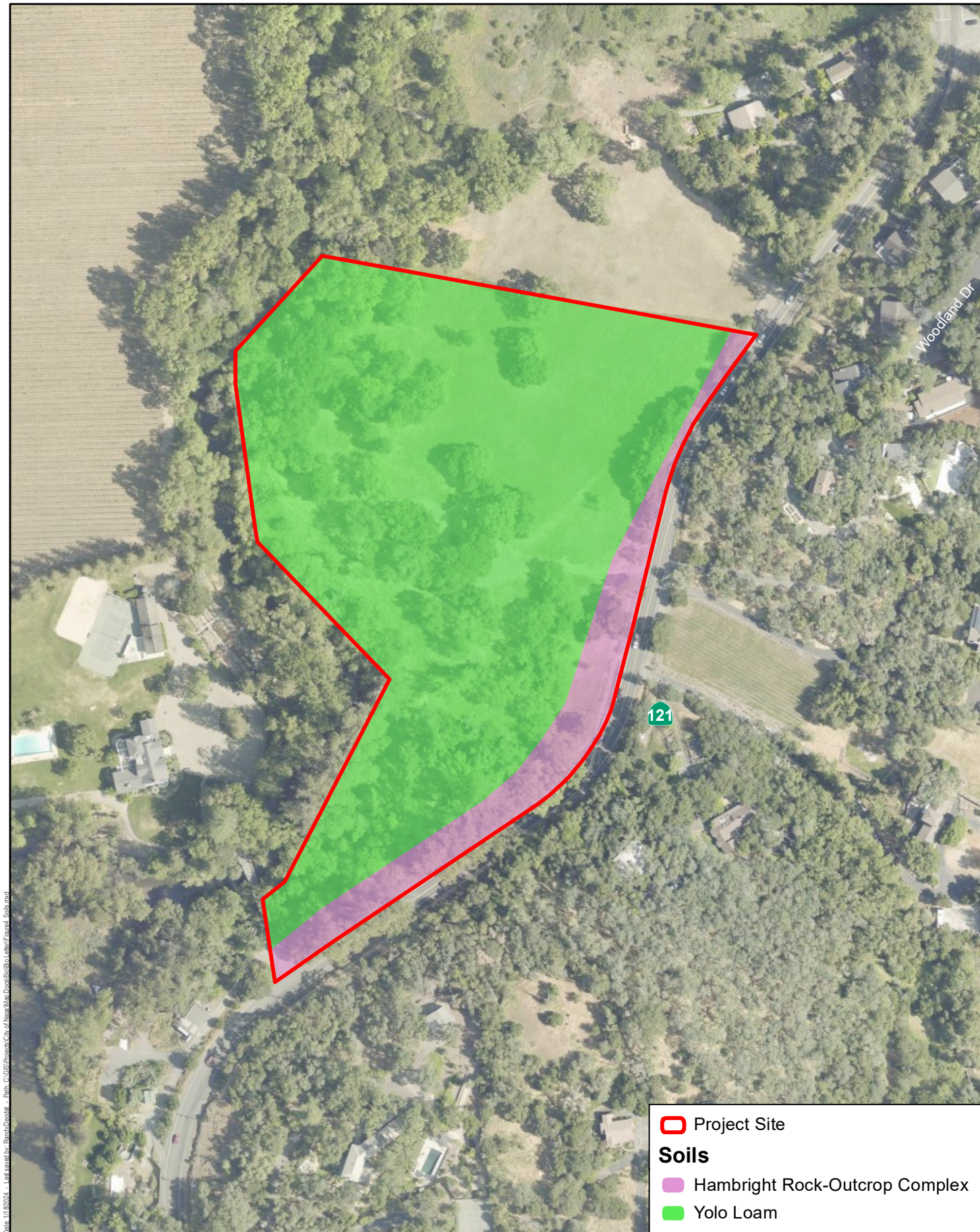
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Source: USGS Napa 7.5 Minute Quadrangle 1980.



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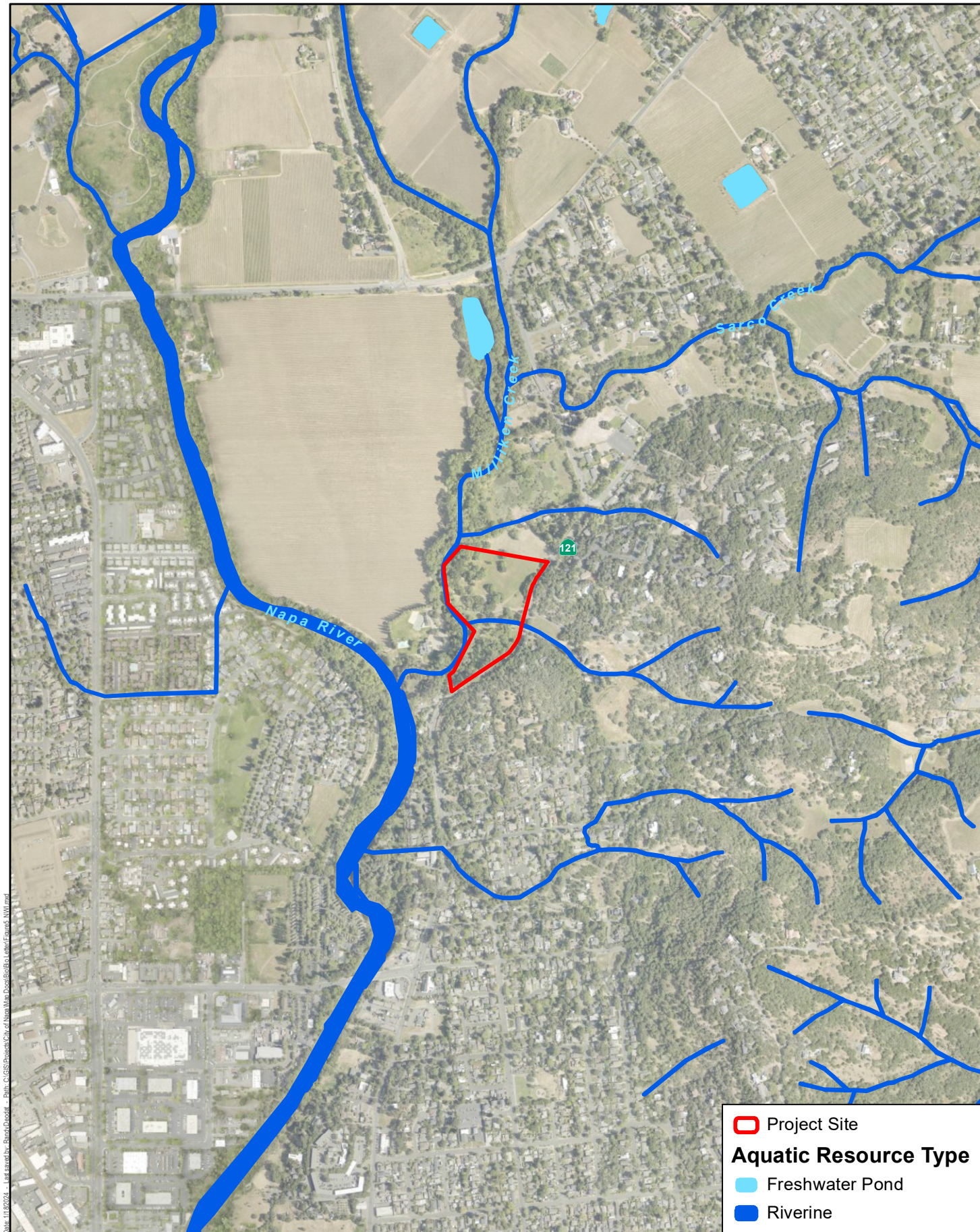


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Figure 4

Soils

The Grange Campground



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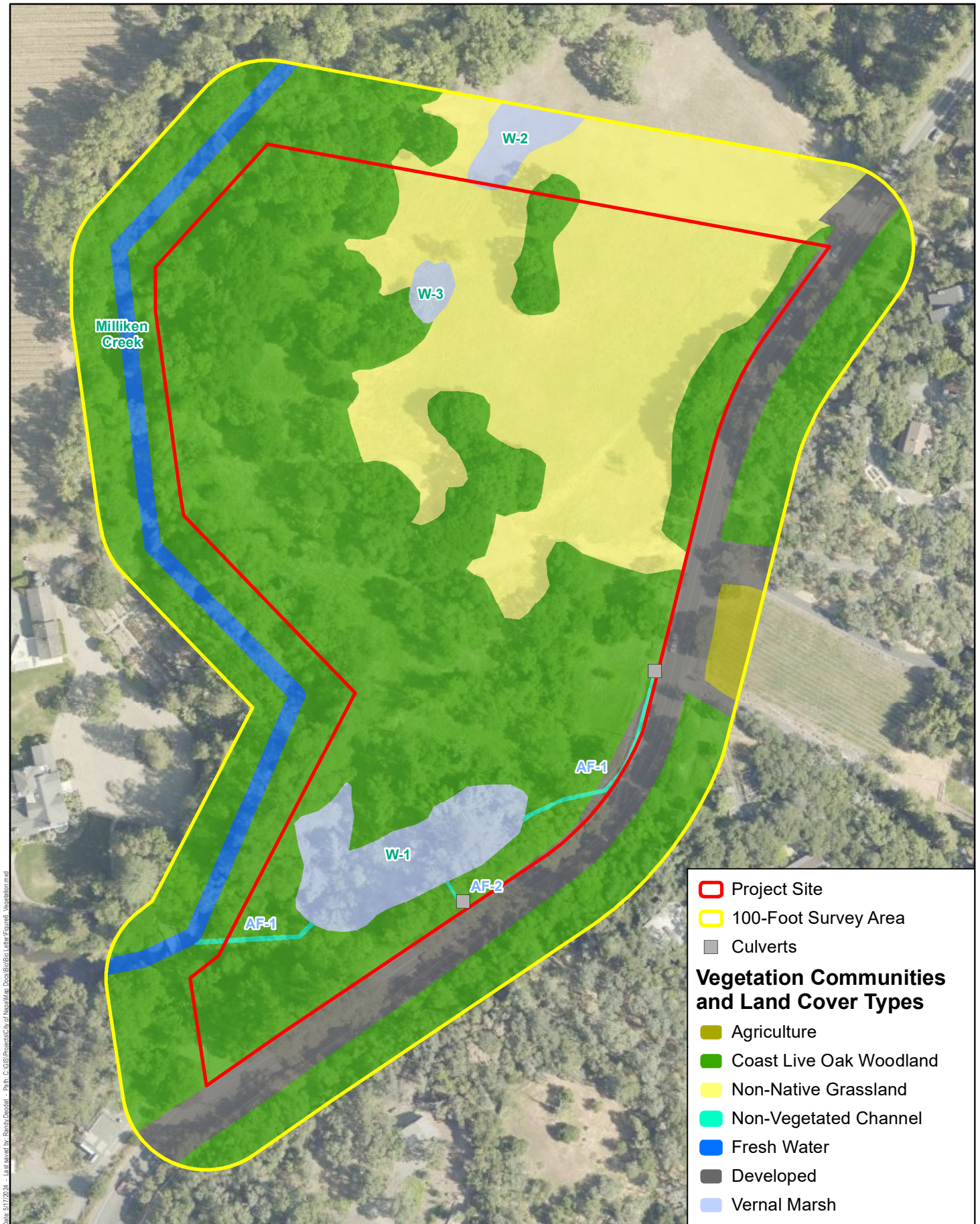


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Figure 5
 National Wetlands Inventory Results
 The Grange Campground



Source: Maxar Imagery 2022.



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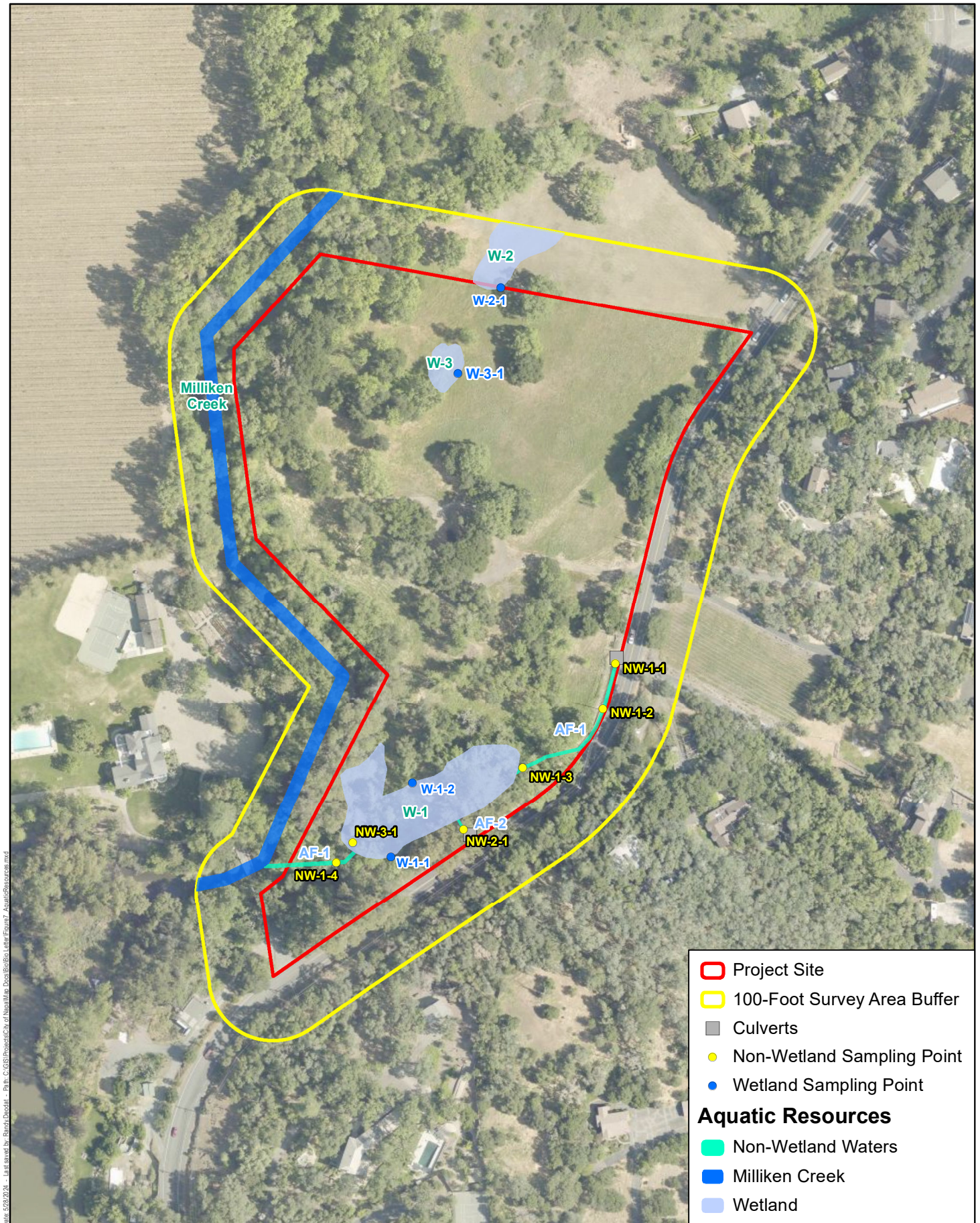


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Figure 6

Vegetation Communities and Land Cover Types

The Grange Campground



Source: Maxar Imagery 2022.



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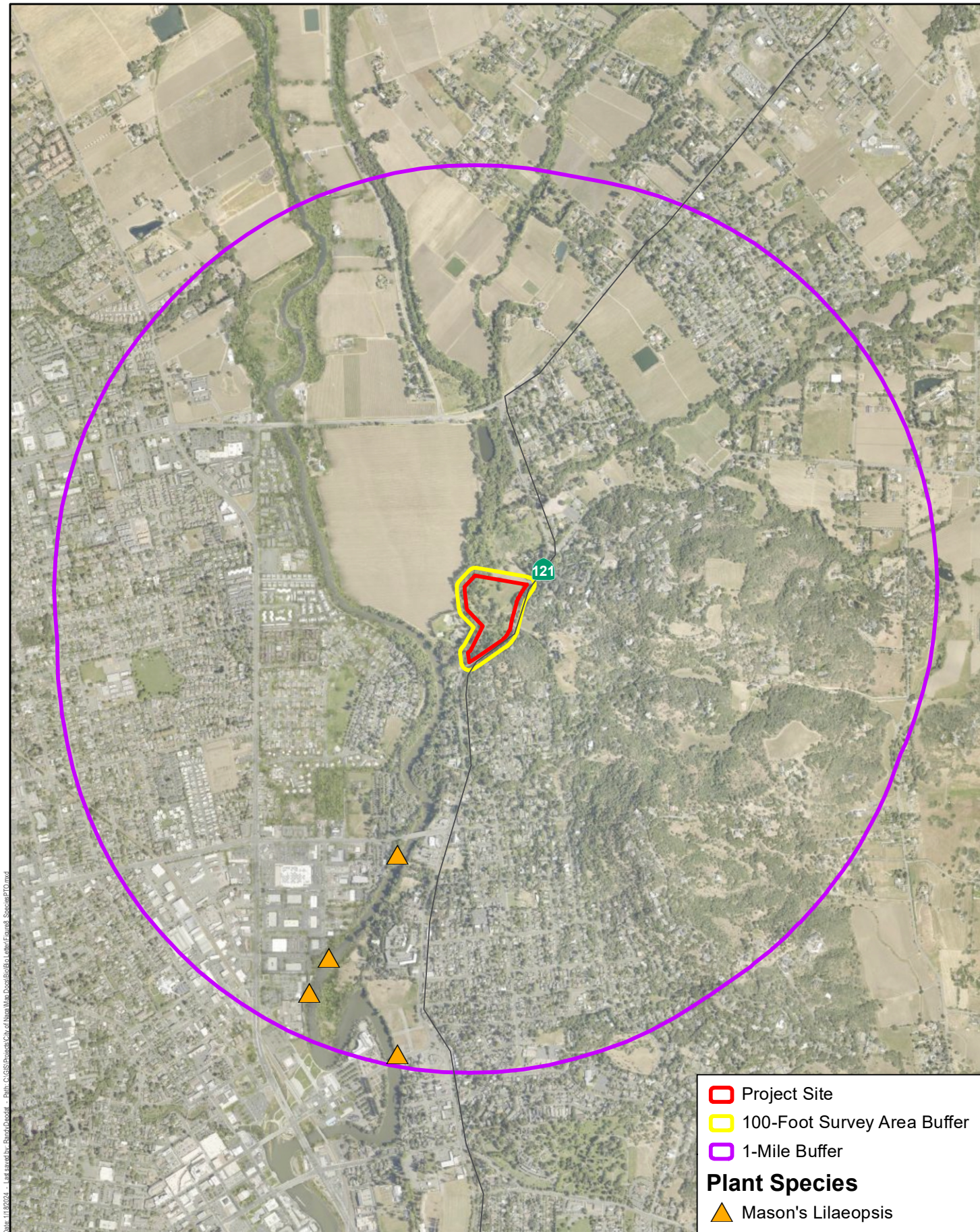


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Figure 7

Aquatic Resources

The Grange Campground



Source: CNDDDB 2023; Maxar Imagery 2022.



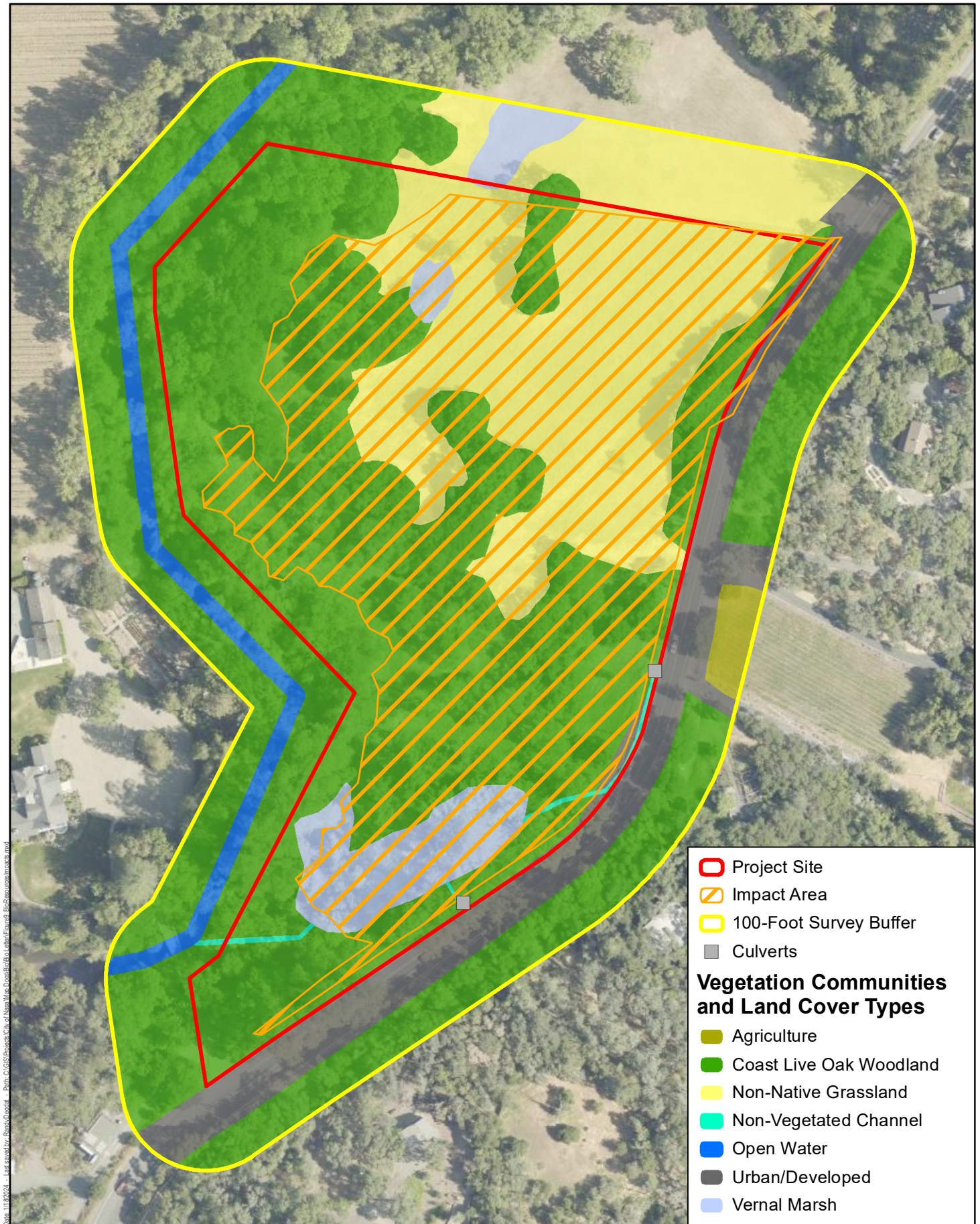
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Figure 8

Species Potential to Occur
The Grange Campground



Source: Maxar Imagery 2022.



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Figure 9

Impacts to Biological Resources

The Grange Campground

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Appendix B. Species Observed

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Plant Species Observed

Scientific Name	Common Name
Dicots	
Anacardiaceae	Cashew or Sumac Family
<i>Toxicodendron diversilobum</i>	Poison oak
Apiaceae	Carrot, Celery, or Parsley Family
<i>Conium maculatum</i> ¹	Poison hemlock
Apocynaceae	Dogbane Family
<i>Vinca major</i>	Greater periwinkle
Araliaceae	Ginseng Family
<i>Hedera helix</i> ¹	English ivy
Asteraceae	Sunflower Family
<i>Baccharis pilularis</i>	Coyote brush
<i>Carduus pycnocephalus</i> ¹	Italian thistle
<i>Eclipta prostrata</i>	False daisy
<i>Helminthotheca echioides</i> ¹	Bristly ox-tongue
<i>Lactuca serriola</i> ¹	Prickly lettuce
<i>Senecio vulgaris</i> ¹	Common groundsel
<i>Silybum marianum</i> ¹	Milk thistle
Brassicaceae	Mustard Family
<i>Barbarea vulgaris</i> ¹	Yellow rocket
<i>Hirschfeldia incana</i> ¹	Shortpod mustard
<i>Raphanus sativa</i> ¹	Wild radish
Caprifoliaceae	Honeysuckle Family
<i>Symphoricarpos albus</i>	Common snowberry
Euphorbiaceae	Spurge Family
<i>Euphorbia oblongata</i> ¹	Eggleaf spurge
Fabaceae	Legume Family
<i>Acacia melanoxylon</i> ¹	Blackwood acacia
<i>Lupinus</i> spp.	Lupine
<i>Vicia</i> spp.	Vetch
Fagaceae	Oak Family
<i>Quercus agrifolia</i>	Coast live oak
<i>Quercus lobata</i>	Valley oak
Geraniaceae	Geranium Family
<i>Erodium botrys</i> ¹	Long-beak filaree/storksbill
<i>Erodium moschatum</i> ¹	Musk's storksbill
Lamiaceae	Mint Family
<i>Lamium purpureum</i> ¹	Purple dead nettle
Lauraceae	Laurel Family
<i>Umbellularia californica</i>	California bay
Malvaceae	Mallow Family
<i>Malva parviflora</i> ¹	Cheeseweed mallow

Plant Species Observed

Scientific Name	Common Name
Montiaceae	Caladrine Family
<i>Claytonia perfoliata</i>	Miner's-lettuce
Myrtaceae	Myrtle Family
<i>Eucalyptus camaldulensis</i> ¹	Red river gum
Oleaceae	Olive Family
<i>Olea europaea</i> ¹	Olive
Oxalidaceae	Wood Sorrel Family
<i>Oxalis pes-caprae</i> ¹	Bermuda buttercup
Papaveraceae	Poppy Family
<i>Fumaria capreolata</i> ¹	White ramping fumitory
Plantaginaceae	Plantain Family
<i>Plantago lanceolata</i> ¹	Narrow leaved plantain
Polygonaceae	Buckwheat Family
<i>Rumex crispus</i> ¹	Curly dock
Rosaceae	Rose Family
<i>Rubus armeniacus</i> ¹	Himalayan blackberry
Rubiaceae	Madder Family
<i>Galium aparine</i>	Cleavers
Sapindaceae	Soapberry Family
<i>Aesculus californica</i>	California buckeye
Monocots	
Araceae	Arum Family
<i>Arum italicum</i> ¹	Italian lords and ladies
Cyperaceae	Sedge Family
<i>Cyperus eragrostis</i>	Tall flatsedge
Juncaceae	Rush Family
<i>Juncus balticus</i>	Baltic rush
Poaceae	Grass Family
<i>Alopecurus pralensis</i> ¹	Meadow foxtail
<i>Festuca myuros</i> ¹	Rat-tail fescue
<i>Hordeum murinum</i> ¹	Foxtail barley
Fungi	
Stereaceae	Corticoid Fungi
<i>Stereum hirsutum</i>	False turkey tail

Notes:

¹ = Non-native

Wildlife Species Observed

Family	Common Name	Scientific Name
Birds		
Accipitriformes (Hawks, Kites, Eagles, and Allies)		
Accipitridae Hawk, Eagle, Kite, and Allies	Red-shouldered hawk	<i>Buteo lineatus</i>
	Red-tailed hawk	<i>Buteo jamaicensis</i>
Cathartidae New World Vultures	Turkey vulture	<i>Cathartes aura</i>
Caprimulgiformes (Nightjars)		
Trochilidae Hummingbirds	Anna's hummingbird	<i>Calypte anna</i>
Passeriformes (Perching Birds)		
Columbiformidae Doves and Pigeons	Mourning dove	<i>Zenaida macroura</i>
	Rock pigeon	<i>Columba livia</i>
Corvidae Jays, Magpies, and Crows	American crow	<i>Corvus brachyrhynchos</i>
	California scrub-jay	<i>Aphelocoma californica</i>
	Common raven	<i>Corvus corax</i>
Passerellidae New World Sparrows	Dark-eyed junco	<i>Junco hyemalis</i>
	Song sparrow	<i>Melospiza melodia</i>
	White-crowned sparrow	<i>Zonotrichia leucophrys</i>
Tyrannidae Tyrant Flycatchers	Black phoebe	<i>Sayornis nigricans</i>
	Western kingbird	<i>Tyrannus verticalis</i>
Parulidae Wood Warblers	Oak titmouse	<i>Baeolophus inornatus</i>
	Yellow-rumped warbler	<i>Setophaga coronata</i>
Turdidae Thrushes	American robin	<i>Turdus migratorius</i>
	Western bluebird	<i>Sialia mexicana</i>
Piciformes (Woodpeckers)		
Picidae Woodpeckers	Acorn woodpecker	<i>Melanerpes formicivorus</i>
	Northern flicker	<i>Colaptes auratus</i>
	Nuttall's woodpecker	<i>Dryobates nuttallii</i>
Strigiformes (Owls)		
Strigidae True Owls	Great horned owl	<i>Bubo virginianus</i>
Mammals		
Cervidae (Deer)		
Capreolinae New World Deer	Mule deer	<i>Odocoileus hemionus</i>

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Appendix C. Aquatic Resources Delineation Report

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Aquatic Resources Delineation Report

The Grange Campground

August 2024

Prepared for:



**City of Napa
1600 1st Street
Napa, California 94559**

Prepared by:



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Acronyms and Abbreviations

°F	degrees Fahrenheit
CDFW	California Department of Fish and Wildlife
CFGF	California Fish and Game Code
CWA	Clean Water Act
GPS	Global Positioning System
NHD	National Hydrography Data
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	ordinary high water mark
project	The Grange Campground
RWQCB	Regional Water Quality Control Board
SDAM	Streamflow Duration Assessment Method
SR-	State Route
TNW	traditional navigable water
USACE	U.S. Army Corps of Engineers

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Section A Site Description, Landscape Setting

A.1 Project Location

The Grange Campground (project) site is an approximately 12.5-acre site in the City of Napa, California (Assessor's Parcel Number 052-010-011), along the western side of Silverado Trail (State Route [SR-] 121) between Stonecrest Drive and Hagen Road (Attachment A, Figures; Figure 1, Regional Location, and Figure 2, Project Location). The project site is depicted on the U.S. Geological Survey 7.5-minute Napa quadrangle in Township 6 North, Range 4 West, Section 35 (Figure 3, USGS Topographic Map). The survey area for this Aquatic Resources Delineation Report includes the project site plus a 100-foot buffer around the project site boundary.

A.2 Project Description

The City of Napa is proposing the construction of a permitted “glamping” campground with up to five permanent buildings, up to 100 fixed recreational lodging units, a recreational activity space, and a pervious parking area. Building 1, the Main Office, would consist of guest check-in, a gathering space, and a small market, totaling approximately 4,418 square feet. Building 2, the Meeting Room, would provide approximately 1,440 square feet of indoor/outdoor meeting space. Buildings 1 and 2 outdoor space would include an outdoor lounge area with a permanent deck (8,000 square feet) and pool area (3,500 square feet, including the pool and pool deck). Buildings 3 through 5 would consist of back-of-house and administration/maintenance space (up to 640 square feet each). The 100 fixed recreational lodging units could be a mix of tent spaces, canvas tents on platforms (yurts), and stationary camper trailers. The project would exclude the use of personal travel trailers and recreational vehicles. The tent spaces would be within a flat gravel or dirt pad area developed with a permeable surface. The recreational activity space would consist of a children's playground, bocce ball courts, an internal trail space, a lawn, and outdoor game areas. The pervious parking area would be an extension of drive aisle surface. The drive aisle surface is proposed to be a permeable surface that is all weather and can be used by emergency vehicles.

The project would be constructed in two phases. Phase 1 would include construction of the five permanent buildings, 80 fixed recreational lodging units, pool, recreational activity space, and pervious parking area. Phase 2 would include removal of 10 camper trailers (e.g., Airstream units) and installation of 30 luxury tent/yurt spaces. Phase 2 would not involve additional grading or alterations to the drive aisle; however, it would involve alterations to the utilities associated with Phase 1 to connect to the reconfigured recreational lodging units in Phase 2. The analysis in this Aquatic Resources Delineation Report assumes that all 100 fixed recreational lodging units would be constructed at one time, which represents a conservative, worst-case scenario.

The project would construct one driveway to serve as primary access from Silverado Trail (SR-121). A two-way, 20-foot-wide drive aisle would be extended from the driveway around the parcel, providing access to the buildings and parking lot areas. A pedestrian path would be constructed along the highway frontage, extending pedestrian access from the northern side of the parcel to the south with connections to the internal trail space.

A.3 Landscape Setting

The project site consists of undeveloped open space and predominantly undisturbed native habitats and is surrounded by rural residential development to the north, single-family residential development and Silverado Trail (SR-121) to the east and south, and Milliken Creek and unincorporated Napa County land to the west (Figure 2).

The topography on the project site is primarily flat, with a slight decrease in elevation along the western side of the project site toward Milliken Creek. The elevation on the project site ranges between 5 and 52 feet above mean sea level. Figure 3 shows the topographic variation on the project site.

A.4 Survey Area Access

The property owner, the City of Napa, has granted regulatory agency personnel access to the project site, as documented in Attachment B, Statement of Access.

Section B Site Alterations, Current and Past Land Use

Natural drainage patterns in the project site show evidence of alteration, primarily from the installation of two stormwater culverts on the eastern and southeastern sides of the survey area. While historical disturbance is evident in the survey area, the drainage patterns in the survey area appear to be natural in origin and continue to discharge surface water into Milliken Creek along the western side of the survey area.

B.1 Soils

The project site is underlain by Hambright rock-outcrop complex and Yolo loam (zero to 10 percent slopes) (USDA 2019). The soil units on the project site are presented on Figure 4, Soils. Hambright rock-outcrop complex (30 to 75 percent slopes) occurs on the majority of the project site. Yolo loam (zero to 10 percent slopes) occurs on the eastern edge of the project site. These soils are defined as well drained and are not defined as hydric (wetland) soil types (USDA 2019).

B.2 Hydrology

The project site is in the Napa River Watershed (Hydrologic Unit 202) (San Francisco Bay RWQCB 2011). The Napa River Watershed encompasses a land area of approximately 430 square miles in Napa County. The Napa River, a significant freshwater tributary to the San Francisco Bay, runs 55 miles southwest from Calistoga to the San Pablo Bay, with the lower 17 miles being estuarine. Numerous tributaries enter the main stem of the Napa River from the mountains that rise abruptly on both sides of Napa Valley. The Napa River Watershed is largely rural and agricultural, with several fast-growing urban areas including the City of Napa and City of American Canyon.

The National Wetlands Inventory (NWI) mapping results shows several features within the vicinity of the project site (Figure 5, National Wetlands Inventory Results) (USFWS 2024). The NWI results show Milliken Creek (riverine feature) adjacent to the western side of the project site, the Napa River (riverine feature) farther to the west, Sarco Creek (riverine feature) to the north and east, one unnamed riverine feature running east to west and connecting to Milliken Creek just north of the project site, and one unnamed riverine feature running through center of the project site from the east and connecting to Milliken Creek.

Based on a review of the U.S. Geological Survey National Hydrography Dataset (NHD), Milliken Creek is documented flowing north to south adjacent to and west of the project site, which connects to the Napa River approximately 500 feet southwest of the project site. The NHD mapping results document Milliken Creek as a perennial stream with downstream connectivity to the Napa River, which flows into the Pacific Ocean via the San Pablo Bay approximately 16 miles south of the project site (USGS 2024).

Milliken Creek, which is documented in both the NWI and NHD mapping results, was observed along the western edge of the survey area during the 2023 aquatic resources delineation survey (Figure 5). The unnamed riverine feature running through the center of the project site and connecting to Milliken Creek, as documented in the NWI mapping results but not in the NHD mapping results, was not observed during the 2023 survey. However, two unnamed non-vegetated channels were observed running east to west through the southern portion of the survey area where they connect to Milliken Creek to the west. These channels begin at the outlets of two separate stormwater culverts on the eastern and southeastern sides of the survey area. While the observed flow paths of these channels are not documented in the NWI or NHD mapping results, it is likely that the construction of Silverado Trail (SR-121) and the installation of the stormwater features altered the historical drainage patterns on site, resulting in the current hydrologic conditions in the survey area.

The three vernal marshes observed in the northern and southern portions of the survey area were not documented in the NWI or NHD mapping results. These vernal marshes appear to have formed in discrete topographic lows in the survey area and may have developed relatively recently as a result of changes in upstream drainage patterns.

B.3 Vegetation

The survey area is in the central western California region of the California Floristic Province (Jepson Online 2024). Seven vegetation communities and land cover types were observed in the survey area: non-vegetated channel, fresh water, vernal marsh, coast live oak woodland, non-native grassland, agriculture/orchard, and developed land (Holland 1986). Table 1, Vegetation Communities and Land Cover Types on the Project Site and in the Survey Area, presents the acreages of the vegetation communities and land cover types that occur in the survey area. Figure 6, Vegetation Communities and Land Cover Types, presents the vegetation community and land cover type boundaries.

Table 1. Vegetation Communities and Land Cover Types on the Project Site and in the Survey Area

Vegetation Community and Land Cover Type	Project Site (acres) ¹	Survey Area (acres) ¹
Freshwater Wetlands and Waters		
Non-Vegetated Channel ²	0.03	<0.01
Fresh Water ²	0	0.61
Vernal Marsh ²	0.71	0.87
<i>Subtotal</i>	<i>0.74</i>	<i>1.47</i>
Woodland and Forest		
Coast Live Oak Woodland ²	7.20	12
Grassland		
Non-Native Grassland	3.30	4.20

Table 1. Vegetation Communities and Land Cover Types on the Project Site and in the Survey Area

Vegetation Community and Land Cover Type	Project Site (acres) ¹	Survey Area (acres) ¹
Disturbed/Developed		
Agriculture/Orchard	0	0.14
Developed Land	0.10	1.80
<i>Subtotal</i>	<i>0.10</i>	<i>1.94</i>
Total	11.34	19.62

Sources: Holland 1986; CDFW 2023.

Notes:

¹ Acreages rounded up to one-hundredth.

² Considered a sensitive vegetation community by the California Department of Fish and Wildlife (CDFW).

The vegetation communities and land cover types observed in the survey area that are applicable to aquatic resources are described in the following subsections.

B.3.1 Non-Vegetated Channel

Non-vegetated channel consists of predominantly sandy, gravelly, or rocky channels lacking or with reduced vegetation. Variable water lines inhibit the growth of vegetation, although some weedy species of grasses may grow along the outer edges of the channel. Vegetation may exist here but is usually less than 10 percent total cover (Holland 1986).

Two non-vegetated channels (AF-1 and AF-2) occur in the southern portion of the survey area (Figure 6). Approximately 0.03 acre of non-vegetated channel occurs in the project site and survey area.

B.3.2 Fresh Water

Fresh water includes year-round bodies of fresh water in the form of lakes, streams, ponds, or rivers. This includes those portions of water bodies that are usually covered by water and contain less than 10 percent vegetated cover.

Approximately 0.61 acre of fresh water, contained entirely within the banks of Milliken Creek, occurs along the western edge of the survey area. As discussed in Section B.2, Hydrology, Milliken Creek is a perennial stream with downstream connectivity to the Napa River, approximately 500 feet southwest of the survey area.

B.3.3 Vernal Marsh

Vernal marsh is an annual, marshy wetland that forms as a result of standing water that follows winter rains but is greatly reduced or completely dry by summer, exhibiting high seasonal fluctuation (Holland 1986). Vernal marsh is made up of mostly low growth, primarily annual herbs that contrasts with taller perennials in more permanent marshes like coastal and valley freshwater marsh. This community is similar to vernal pools in species composition and timing of flowering, which often occurs behind the retreating water's edge as the marsh dries. In addition, vernal

marshes are often larger and less ephemeral than vernal pools. The growing season for vernal marsh species varies with water input but is usually spring and early summer, which is later than vernal pools and earlier than other marshes.

Vernal marsh species include both native and non-native annual and herbaceous plants, with low to moderate levels of perennial cover. Common vernal marsh plant species include watershield (*Brasenia schreberi*), sedges (*Carex* and *Scirpus* species), eryngo (*Eryngium* species), hedge hyssops (*Gratiola* species), calico flowers (*Downingia* species), rushes (*Juncus* species), California damsonium (*Damasonium californicum*), hairy waterclover (*Marsilea vestita*), navarretia (*Navarretia* species), arrowheads (*Sagittaria* species), and bladderworts (*Utricularia* species) (Holland 1986).

Three vernal marshes, approximately 0.87 acre in total, were observed in the survey area. The largest vernal marsh (0.63 acre) occurs within the coast live oak woodland in the southern portion of the survey area (Figure 6). The two other smaller vernal marshes occur within the non-native grassland in the northern portion of the survey area (Figure 6).

The largest vernal marsh appears to have formed in a topographic low in the flow path of a stream that begins at the outlet of a culvert on the eastern side of the project site and runs southwest through the southern portion of the site where it connects to Milliken Creek to the west. Both flowing and ponded water (varying between 0.25 and 2 feet deep) was observed in the largest vernal marsh during the March 2023 survey. Characteristic plant species in the largest vernal marsh include Baltic rush (*Juncus balticus*), spreading rush (*Juncus patens*), curly dock (*Rumex crispus*), miner's lettuce (*Claytonia perfoliata*), and catchweed bedstraw (*Galium aparine*), with greater periwinkle (*Vinca major*) and non-native grasses around the edges. Western raspberry (*Rubus leucodermis*) and poison oak (*Toxicodendron diversilobum*) also occur along the eastern and northeastern edges of the largest vernal marsh.

The two smaller vernal marshes (0.24 acre) in the northern portion of the survey area appear to have formed in topographic lows within the non-native grassland where high-volume storm flows move through the project site toward Milliken Creek to the west. Ponded water (approximately 0.5 foot deep) was observed in the smaller vernal marshes during the March 2023 survey. Characteristic plant species in the two smaller vernal marshes include wood sorrel (*Oxalis* species), miner's lettuce, blue grama (*Bouteloua gracilis*), clover (*Trifolium* species), lupin (*Lupinus* species), narrow-leaved plantain (*Plantago lanceolata*), and vernal water-starwort (*Callitriche palustris*), with Baltic rush and curly dock around the edges.

B.3.4 Coast Live Oak Woodland

Coast live oak woodland is dominated by coast live oak (*Quercus agrifolia*), an evergreen, with a poorly developed understory and shrub layer. Many understory plants in a coast live oak woodland

are shade tolerant and include wild blackberry (*Rubus ursinus*), snowberry (*Symphoricarpos mollis*), California walnut (*Juglans californica*), California-lilac (*Ceanothus* spp.), sumac (*Rhus* spp.), currant (*Ribes* spp.), toyon (*Heteromeles arbutifolia*), California bay (*Umbellularia californica*), Engelmann oak (*Quercus engelmannii*), manzanita (*Arctostaphylos* spp.), laurel sumac (*Malosma laurina*), poison oak, and herbaceous plants, including bracken fern (*Pteridium aquilinum*), polypody fern (*Polypodium californicum*), fiesta flower (*Pholistoma auritum*), and miner's lettuce (Holland 1986). This habitat includes a variety of grasses and soft shrubs that are commonly found in other woodland vegetation communities.

Approximately 12 acres of coast live oak woodland occurs throughout the majority of the survey area, absent only in the northeastern portion where non-native grassland is the dominant vegetation community (Figure 6). In the survey area, the coast live oak woodland is dominated by coast live oak with a moderately dense canopy, with California bay as a subdominant species, and valley oak (*Quercus lobata*) and California walnut interspersed throughout. Approximately four red ironbark eucalyptus (*Eucalyptus sideroxylon*) occur along the southeastern edge of the survey area along Silverado Trail (SR-121).

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Section C Precipitation Data and Analysis

C.1 Climate and Growing Season

The project site is in Napa County. On a regional level, Napa County has a Mediterranean climate, which is characterized by cool, wet winters and warm, dry summers. This is largely because of a semi-permanent high pressure zone that sits over the Pacific Ocean during much of the year and forms a fog belt (marine layer). Generalized climate in the region is regarded as dry, subhumid mesothermal, with warm dry summers and cold moist winters, which pushes the growing season to the wet months of the year (late winter to early spring). Vegetation often goes dormant (senescent) during the later summer months until initial rains start in the fall. The rainy season typically lasts from October through April.

The closest weather station to the project site is the Napa State Hospital meteorological station approximately 3.5 miles south of the project site (NRCS 2024). Between 2003 and 2023, the average maximum temperature was 73 degrees Fahrenheit (°F), and the minimum temperature was 48°F. The average annual precipitation between 2003 and 2023 was approximately 25.6 inches. In 2022, the total rainfall was approximately 14.3 inches, approximately 10.6 inches less than the previous year.

C.2 Antecedent Precipitation Tool and NRCS WETS Table Results Summary

Historically, a typical rainfall year in Napa County is approximately 26 inches of annual precipitation. To calculate whether the aquatic resources delineation fell into a wet, dry, or typical rainfall year, the Antecedent Precipitation Tool, Version 1.0.19 (USACE 2023), was used, and the National Integrated Drought Information System was reviewed (NOAA 2024). The Antecedent Precipitation Tool and National Integrated Drought Information System results determined that the aquatic resources delineation was conducted in wetter than normal conditions for precipitation in the wet season during non-drought conditions (Attachment C, Antecedent Precipitation Tool and NRCS WETS Table Results).

The Natural Resources Conservation Service (NRCS) Wetland Climate Table for 2003–2023 at Napa State Hospital is in Attachment C. As of March 22, 2023, when the aquatic resources delineation fieldwork was conducted, total precipitation in the area was 17.7 inches, approximately 16.5 inches greater than that same time period in 2022. It should be noted that approximately 9.8 inches of precipitation occurred in Napa County in January 2023, resulting in flooding throughout the region.

C.3 Wetland Hydrology and Analysis

As previously discussed in Section B.2, a review of historical and current aerial imagery, topographic maps, and NWI and NHD maps was conducted prior to the aquatic resource delineation (USFWS

2024; USGS 2024). Milliken Creek, which is documented in both the NWI and NHD mapping results, was observed along the western edge of the survey area during the 2023 aquatic resources delineation survey (Figure 5). The flow paths of the two unnamed non-vegetated channels (NW-1 and NW-2) observed running east to west through the southern portion of the survey area were not documented in the NWI or NHD mapping results. Similarly, the three vernal marshes in the northern and southern portions of the survey area were not documented in the NWI or NHD mapping results. It is likely that the installation of the stormwater features on the eastern side of the survey area and other upstream development resulted in alteration of the historical drainage patterns on site. No other aquatic resources were identified in the NWI and NHD mapping results or observed in the survey area during the aquatic resources delineation fieldwork in March 2023.

Section D Methods

D.1 Pre-Field Review

Before conducting fieldwork, a Harris & Associates aquatic resources specialist referenced the following materials:

- Topographic maps
- Aerial imagery (Google Earth from 1994 to 2023)
- Historical aerial imagery (Historic Aerials 2024)
- U.S. Fish and Wildlife Service NWI Wetlands Mapper (USFWS 2024)
- U.S. Geological Survey NHD (USGS 2024)
- U.S. Department of Agriculture NRCS Web Soil Survey for the survey area, which lists hydric soils found in the County (USDA 2019)

D.2 On-Site Aquatic Resources Delineation

The aquatic resources delineation was conducted using the routine on-site determination method described in the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Arid West Region (USACE 2008a). A Harris & Associates aquatic resources specialist conducted aquatic resources delineation fieldwork on March 22, 2023, to identify aquatic resources in the survey area. An Arid West region ordinary high water mark (OHWM) datasheet and a USACE three-parameter wetland determination datasheet for the Arid West region were completed at each sampling point (non-wetland [NW] sampling points or wetland [W] sampling points) for each unique aquatic feature (AF) observed in the survey area (Attachment D, Arid West Wetland Determination and Ordinary High Water Mark Datasheets). Each sampling point was collected to investigate the presence and extent of potential wetland and non-wetland waters.

Figure 7, Aquatic Resources for The Grange Campground, show the sampling points associated with the on-site aquatic resources. Figure 7 was created in adherence with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program and can be referenced in Attachment A (USACE 2016).

Attachment E, Photographic Log, includes representative photographs of the sampling points collected in the following aquatic resources observed in the survey area: AF-1 (Photographs 1 through 6), AF-2 (Photographs 7 and 8), W-1 (Photographs 9 through 12), W-2 (Photographs 13 and 14), and W-3 (Photographs 15 and 16).

The delineation methods conducted at each of the sampling points collected in the survey area are described in detail below.

Sampling Point NW-1-1 was collected where AF-1 enters the survey area from the east and is directed southwest through a culvert under Silverado Trail (SR-121) along the eastern edge of the project site. Sampling Point NW-1-1 was collected in the center of AF-1 where an OHWM was observed to determine the extent of the non-wetland feature (Figure 7; Photographs 1 and 2).

Sampling Point NW-1-2 was collected in the center of AF-1 where the width of the channel decreased compared to Sampling Point NW-1-1 to determine the extent of the non-wetland feature (Figure 7; Photograph 3).

Sampling Point NW-1-3 was collected in the center of AF-1 where the channel becomes undefined as it enters the eastern limit of the wetland water W-1 to determine the extent of the non-wetland feature (Figure 7; Photograph 4).

Sampling Point NW-1-4 was collected in the center of AF-1 where the channel is re-established at the western limit of W-1 to determine the extent of the non-wetland feature (Figure 7; Photographs 5 and 6).

Sampling Point NW-2-1 was collected in the center of AF-2 where the channel enters the survey area from the east to determine the extent of the non-wetland feature (Figure 7; Photographs 7 and 8). AF-2 enters the survey area through a culvert under Silverado Trail (SR-121) along the southeastern edge of the project site and extends approximately 38 linear feet northwest where it then becomes undefined as it enters the southeastern limit of W-1.

Sampling Point W-1-1 was collected in the southern portion of W-1, and a wetland determination datasheet was completed to determine the presence and limits of the emergent wetland (Figure 7; Photographs 9 and 10).

Sampling Point W-1-2 was collected in the northern portion of W-1, and a wetland determination datasheet was completed to determine the presence and limits of the emergent wetland (Figure 7; Photographs 11 and 12).

Sampling Point W-2-1 was collected at the southeastern edge of W-2, and a wetland determination datasheet was completed to determine the presence and limits of the emergent wetland (Figure 7; Photographs 13 and 14).

Sampling Point W-3-1 was collected at the eastern edge of W-3, and a wetland determination datasheet was completed to determine the presence and limits of the emergent wetland (Figure 7; Photographs 15 and 16).

The delineation results for Sampling Points NW-1-1 through NW-1-4 in AF-1, NW-2-1 in AF-2, W-1-1 and W-1-2 in W-1, W-2-1 in W-2, and W-3-1 in W-3 are included in Section E, Aquatic Resources Descriptions.

Approximately 0.61 acre (1,338 linear feet) of Milliken Creek was observed along the western edge of the survey area during the 2023 aquatic resources delineation survey. Milliken Creek is a well-documented perennial stream, as evidenced by the NWI and NHD mapping results, and has a documented downstream connection to the Napa River approximately 500 feet southwest of the project site (Figure 5; USGS 2024). Milliken Creek is outside the project site and not proposed as part of the proposed project activity. Therefore, aquatic resources datasheets were not completed for the reach of Milliken Creek that occurs along the western edge of the survey area. Instead, the outer limits of the creek banks within the survey area were mapped using sub-meter Global Positioning System (GPS) unit for vegetation and land use mapping purposes.

D.3 On-Site Ordinary High Water Mark Investigation

The aquatic resources delineation was conducted using the routine on-site determination method described in A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual (USACE 2008b). As described in Section B, Site Alterations, Current and Past Land Use, the survey area is primarily composed of and surrounded by coast live oak woodland, with small areas of non-native grassland, agriculture/orchard, and developed land in the northeast and east.

Data on vegetation, soil, and hydrologic characteristics was collected and recorded following the guidance in A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual (USACE 2008b). OHWM datasheets were completed to document the extents of non-wetland waters AF-1 and AF-2 in the survey area (Attachment D). The OHWMs in AF-1 (Sampling Points NW-1-1 through NW-1-4) and AF-2 (Sampling Point NW-2-1) were identified based on field observations of the presence of an OHWM or defined non-wetland water indicators, including changes in sediment texture, vegetation species or cover, break in bank slope, and floodplain contours, in each non-wetland feature (USACE 2008b). Results of the OHWM identifications conducted for the non-wetland sampling points are in Section E.

D.4 Streamflow Duration Assessment

The Streamflow Duration Assessment Method (SDAM) for the Arid West was completed for each of the unique non-wetland waters in the survey area, including AF-1 and AF-2 (USEPA 2023) (Attachment F, SDAM for the Arid West Forms). SDAMs are rapid field assessment methods that use hydrological, geomorphological, and/or biological indicators, observable in a single site visit, to classify streamflow duration as perennial, intermittent, or ephemeral at the reach scale. The SDAM results for AF-1 and AF-2 are presented in Section E.

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Section E Aquatic Resources Descriptions

The non-wetland and wetland waters documented in the survey area are discussed in the following subsections.

E.1 Non-Wetland Waters

Non-vegetated channels AF-1 and AF-2 observed in the survey area were determined to be non-wetland waters. The non-wetland waters observed in the survey area are summarized in Table 2, Non-Wetland Waters in the Survey Area, and described in the following subsections.

Table 2. Non-Wetland Waters in the Survey Area

Feature	Non-Wetland Waters (acres) ¹	Linear Feet
Milliken Creek	0.61	1,338
AF-1	0.03	427
AF-2	<0.01	38
Total¹	0.64	1,803

Notes:

¹ Total rounded to one-hundredth of an acre.

The completed Arid West region OHWM datasheets for AF-1 (Sampling Points NW-1-1 through NW-1-4) and AF-2 (Sampling Point NW-2-1) are in Attachment D. As previously discussed in Section D.2, Milliken Creek is a well-documented perennial stream that is outside the project site and not proposed as part of the proposed project activity. Therefore, aquatic resources datasheets were not completed for the reach of Milliken Creek that occurs along the western edge of the survey area, and Milliken Creek is not discussed further in this section. Representative photographs of AF-1 and AF-2 are provided in Attachment E. Electronic spatial data of the aquatic resources in the survey area is included in Attachment G, Geographic Information Systems Data. The USACE Aquatic Resources Table for the aquatic resources observed in the survey area is provided in Attachment H, ORM Bulk Upload Aquatic Resources Spreadsheet.

E.1.1 AF-1

AF-1 is an earthen-bottom channel that enters the eastern edge of the project site through a concrete stormwater culvert under Silverado Trail (SR-121) and extends approximately 427 linear feet south and southwest through the southern portion of the survey area where it connects to Milliken Creek on the southwestern edge. The AF-1 channel becomes undefined approximately 253 feet downstream as it enters the eastern limit of the wetland water W-1 and is re-established approximately 296 feet southwest at the western limit of the wetland water W-1. Approximately 156 feet southwest of where the AF-1 channel reforms, it connects with Milliken Creek in the southwestern portion of the survey area.

The extent of AF-1 that occurs in the survey area is defined by an OHWM that varies in width between 3 feet at its narrowest and 4 feet at its widest (Figure 7). As discussed in Section D.4, Streamflow Duration Assessment, the SDAM conducted for AF-1 determined that it is an ephemeral feature (Attachment F).

E.1.1.1 Ordinary High Water Mark Analysis

AF-1 is an approximately 0.03-acre (427-linear-foot) non-wetland water that runs east to southwest through the survey area (Table 2; Figure 7). Figure 7 shows all sampling points (NW-1-1 through NW-1-4) collected in AF-1, which were in the OHWM of the channel. Attachment E, Photographs 1 through 6, provides representative views of the extent of AF-1 in the survey area. The OHWM indicators in AF-1 investigated at Sampling Points NW-1-1 through NW-1-4 and the results are described below.

Sampling Point NW-1-1: Sampling Point NW-1-1 was collected where the earthen-bottom channel AF-1 enters the eastern edge of the survey area through a culvert under Silverado Trail (SR-121) (Figure 7; Photographs 1 and 2). The OHWM is approximately 3.5 feet wide and 1.5 foot deep. The other OHWM indicators observed at Sampling Point NW-1-1 include a change in average sediment texture, a change in vegetation cover, a break in bank slope, and the presence of a defined bed and bank. Sampling Point NW-1-1 enters the survey area from the east and is directed southwest through a culvert under Silverado Trail (SR-121) along the eastern edge of the project site (Photographs 1 and 2). The channel at Sampling Point NW-1-1 has dense upland grasses growing on the banks. At Sampling Point NW-1-1, AF-1 is surrounded by coast live oak woodland and developed land of Silverado Trail (SR-121). AF-1 at this location is lower in elevation than the surrounding survey area, and the soil at Sampling Point NW-1-1 is loamy sand with some larger cobble and pebbles.

Sampling Point NW-1-2: Sampling Point NW-1-2 was collected where the earthen-bottom channel AF-1 decreases in width compared to Sampling Point NW-1-1 (Figure 7; Photograph 3). The OHWM is approximately 3 feet wide and 1.5 feet deep. The other OHWM indicators observed at Sampling Point NW-1-2 include a change in vegetation cover, a break in bank slope, and the presence of a defined bed and bank. The channel at Sampling Point NW-1-2 has dense upland grasses growing on the banks. At Sampling Point NW-1-2, AF-1 is surrounded by coast live oak woodland and developed land of Silverado Trail (SR-121). AF-1 at this location is lower in elevation than the surrounding survey area, and the soil at Sampling Point NW-1-2 is loamy sand.

Sampling Point NW-1-3: Sampling Point NW-1-3 was collected in the center of AF-1 where the channel becomes undefined as it enters the eastern limit of the wetland water W-1 (Figure 7; Photograph 4). The OHWM is approximately 3.5 feet wide and 0.5 foot deep. The other OHWM indicators observed at Sampling Point NW-1-3 include a change in vegetation cover, a break in bank slope, and the presence of a defined bed and bank. The channel at Sampling Point NW-1-3 has dense upland grasses and weeds growing in portions of the channel and on the banks. At

Sampling Point NW-1-3, AF-1 is surrounded by coast live oak woodland and vernal marsh. AF-1 at this location is slightly lower in elevation than the surrounding survey area, and the soil at Sampling Point NW-1-3 is loamy sand.

Sampling Point NW-1-4: Sampling Point NW-1-4 was collected in the center of AF-1 where the channel is re-established at the western limit of the wetland water W-1 (Figure 7; Photograph 5). The OHWM is approximately 4 feet wide and 1 foot deep. The other OHWM indicators observed at Sampling Point NW-1-4 include a change in vegetation cover, a break in bank slope, and the presence of a defined bed and bank. The channel at Sampling Point NW-1-4 has sparse upland grasses, weeds, and oak saplings growing on the channel banks. At Sampling Point NW-4, AF-1 is surrounded by coast live oak woodland and the open water of Milliken Creek. AF-1 at this location is slightly lower in elevation than the surrounding survey area, and the soil at Sampling Point NW-1-4 is loamy sand. Approximately 156 feet southwest of where the AF-1 channel reforms and Sampling Point NW-1-4 was collected, the channel connects with Milliken Creek in the southwestern portion of the survey area (Photograph 6).

No hydrophytic vegetation or hydric soil indicators were observed in AF-1; therefore, no wetland sampling point was taken, and this feature was mapped as a non-wetland water.

E.1.2 AF-2

AF-2 is an earthen-bottom channel that enters the southeastern edge of the project site through a stormwater culvert under Silverado Trail (SR-121) and extends approximately 38 linear feet northwest until it becomes undefined as it enters the southeastern limit of the wetland water W-1. The entire AF-2 is defined by an OHWM with a width of 1.5 feet (Figure 7). As discussed in Section D.4, the SDAM conducted for AF-2 determined it is an ephemeral feature (Attachment F).

E.1.2.1 Ordinary High Water Mark Analysis

AF-2 is a 0.01-acre (38-linear-foot) non-wetland water that runs southeast to northwest in the southeastern portion of the survey area (Table 2). Figure 7 shows the sampling point (NW-2-1) collected in the OHWM of the AF-2 channel. Photographs 7 and 8 in Attachment E provide representative views of the extent of AF-2 in the survey area. The OHWM indicators investigated at Sampling Point NW-2-1 and the results are described below.

Sampling Point NW-2-1: Sampling Point NW-2-1 was collected where the channel AF-2 enters the survey area at the outlet of a stormwater culvert from the east. The OHWM is approximately 1.5 feet wide and 0.25 foot deep (Figure 7; Photograph 7). The other OHWM indicators observed at Sampling Point NW-2-1 include a change in vegetation cover, a break in bank slope, and the presence of a defined bed and bank. Sampling Point NW-2-1 was collected in the center of AF-2 where the shallow channel forms at the outlet of a concrete stormwater culvert under Silverado Trail (SR-121). The channel at Sampling Point NW-2-1 has sparse upland grasses and weeds

growing on the banks and a large amount of eucalyptus debris (leaves, sticks, and bark) covering the majority of the channel. At Sampling Point NW-2-1, AF-2 is surrounded by coast live oak woodland and developed land of Silverado Trail (SR-121). AF-2 is roughly at the same elevation as the surrounding survey area, and the soil at Sampling Point NW-2-1 is loamy sand. Approximately 38 linear feet northwest/downstream from where Sampling Point NW-2-1 was collected, the channel AF-2 becomes undefined as it enters the southeastern limit of the wetland water W-1 (Photograph 8).

No hydrophytic vegetation or hydric soil indicators were observed in AF-2; therefore, no wetland sampling point was taken, and this feature was mapped as a non-wetland water.

E.2 Wetland Waters

The vernal marshes (W-1 through W-3) observed in the northern and southern portions of the survey area were determined to be wetland waters. The wetland waters observed in the survey area are summarized in Table 3, Wetland Waters in the Survey Area, and described in the following subsection.

Table 3. Wetland Waters in the Survey Area

Feature	Wetlands (acres)
W-1	0.63
W-2	0.17
W-3	0.07
Total	0.87

The completed wetland determination datasheet for W-1 (Sampling Points W-1-1 and W-1-2), W-2 (W-2-1), and W-3 (W-3-1) are in Attachment D. Representative photographs of W-1 through W-3 in the survey area are provided in Attachment D. Electronic spatial data of the aquatic resources in the survey area is included in Attachment G. The USACE ORM Bulk Upload Aquatic Resources Spreadsheet for the aquatic resources observed in the survey area is provided in Attachment H.

E.2.1 W-1

An approximately 0.63-acre emergent wetland (W-1) occurs in the southern portion of the survey area (Table 3; Figure 7). This area is characterized by concave topography, loamy sand soils, and moderately dense vegetation that is dominated by upland grasses and weeds. The non-wetland water AF-1 flows through the center of W-1, ultimately connecting to Milliken Creek at the southern extent of AF-1 on the southwestern edge of the survey area (Figure 7). The emergent wetland was flooded during the March 2023 aquatic resources delineation, likely as a result of the heavy rains that occurred in Napa County in January 2023. The depth of the surface water accumulated in W-1 ranged from less than 0.25 foot at the edges to 1.5 feet deep in the center.

E.2.1.1 Aquatic Resources Delineation Results

Sampling Points W-1-1 and W-1-2 described below were collected at the southern and northern edges of W-1 during the aquatic resources delineation (Figure 7). The completed wetland determination datasheet for Sampling Point W-1-1 is in Attachment D.

Sampling Point W-1-1: The data collected at Sampling Point W-1-1 determined that wetland hydrology was present, but no hydrophytic vegetation or hydric soils occur (Figure 7; Photographs 9 and 10). No obligate wetland plants occur within the sampling point for W-1-1. While five facultative wetland plants, red river gum (*Eucalyptus camaldulensis*), California bay, miner's lettuce, curly dock, and Himalayan blackberry (*Rubus armeniacus*), occur at Sampling Point W-1-1, only miner's lettuce was the dominant plant species in its plant stratum. The plant species documented at Sampling Point W-1-1 did not meet the minimum hydrophytic vegetation indicators; therefore, hydrophytic vegetation was determined not to be present. A soil pit was dug at Sampling Point W-1-1 where the wetland's southern outer limit was determined to be based on the disappearance of wetland plants. The soil pit immediately filled with water and could not be dug below 6 inches due to the saturated soil collapsing in on the pit. Despite the soil saturation, the soils in and surrounding the pit dug at Sampling Point W-1-1 are loamy sand with none of the primary or secondary hydric soil indicators observed. Therefore, hydric soils were determined not to be present. The proximity to Milliken Creek and the Napa River to the southwest could cause a high water table in the survey area, where water moves through seasonally but does not persist for a long enough time to develop hydric soils. The presence of surface water and soil saturation observed at Sampling Point W-1-1 determined that wetland hydrology is present. Therefore, the emergent wetland documented at Sampling Point W-1-1 is considered a one-parameter wetland.

Sampling Point W-1-2: The data collected at Sampling Point W-1-2 determined that wetland hydrology was present, but no hydrophytic vegetation or hydric soils occur (Figure 7; Photographs 11 and 12). No obligate wetland plants occur within the sampling point for W-1-2. While three facultative wetland plants, curly dock, miner's lettuce, and Himalayan blackberry, occur at Sampling Point W-1-2, they were not the dominant plant species in the plant strata. The plant species documented at Sampling Point W-1-2 did not meet the minimum hydrophytic vegetation indicators; therefore, hydrophytic vegetation was determined not to be present. A soil pit was dug at Sampling Point W-1-2 where the wetland's northern outer limit was determined to be based on the disappearance of wetland plants. Similar to Sampling Point W-1-1, the soil pit immediately filled with water and could not be dug below 5 inches due to the saturated soil collapsing in on the pit. Despite the soil saturation, the soils in and surrounding the pit dug at Sampling Point W-1-2 are loamy sand with none of the primary or secondary hydric soil indicators observed. Therefore, hydric soils were determined not to be present. As discussed under Sampling Point W-1-1, the proximity to Milliken Creek and the Napa River to the southwest could cause a high water table in the survey area, where water moves through seasonally but does not persist for a long enough

time to develop hydric soils. The presence of surface water and soil saturation observed at Sampling Point W-1-2 determined that wetland hydrology is present. Therefore, the emergent wetland documented at Sampling Point W-1-2 is considered a one-parameter wetland.

E.2.2 W-2

An approximately 0.17-acre emergent wetland (W-2) occurs in the northern portion of the survey area (Table 3; Figure 7). This area is characterized by slightly concave topography, loamy sand soils, and moderately dense vegetation that is dominated by upland grasses and weeds. The emergent wetland was flooded during the March 2023 aquatic resources delineation, likely as a result of the heavy rains that occurred in Napa County in January 2023. The depth of the surface water accumulated in W-2 ranged from less than 0.25 foot at the edges to 0.5 feet deep in the center.

E.2.2.1 Aquatic Resources Delineation Results

Sampling Point W-2-1 described below was collected at the southeastern edge of W-2 during the aquatic resources delineation (Figure 7). The completed wetland determination datasheet for Sampling Point W-2-1 is in Attachment D.

Sampling Point W-2-1: The data collected at Sampling Point W-2-1 determined that wetland hydrology was present, but hydrophytic vegetation and hydric soils were not (Figure 7; Photographs 13 and 14). One obligate wetland plant, vernal water-starwort, occurs within the sampling point for W-2-1. However, this species is not the dominant species in the plant stratum. While four facultative wetland plants, Baltic rush, Bermuda buttercup (*Oxalis pes-caprae*), miner's lettuce, and curly dock, occur at Sampling Point W-2-1, they were not the dominant plant species in the plant strata. The plant species documented at Sampling Point W-2-1 did not meet the minimum hydrophytic vegetation indicators; therefore, hydrophytic vegetation was determined not to be present. A soil pit was dug at Sampling Point W-2-1 where the wetland's southern outer limit was determined to be based on the disappearance of wetland plants. Similar to the pits dug in W-1, the soil pit immediately filled with water and could not be dug below 8 inches due to the saturated soil collapsing in on the pit. Despite the soil saturation, the soils in and surrounding the pit dug at Sampling Point W-2-1 are loamy sand with none of the primary or secondary hydric soil indicators observed. Therefore, hydric soils were determined not to be present. As discussed under W-1, the proximity to Milliken Creek and the Napa River to the west and southwest could cause a high water table in the survey area, where water moves through seasonally but does not persist for a long enough time to develop hydric soils. The presence of surface water and soil saturation observed at Sampling Point W-2-1 determined that wetland hydrology is present. Therefore, the emergent wetland documented at Sampling Point W-2-1 is considered a one-parameter wetland.

E.2.3 W-3

An approximately 0.07-acre emergent wetland (W-3) occurs in the northern portion of the survey area (Table 3; Figure 7). This area is characterized by slightly concave topography, loamy sand soils, and moderately dense vegetation that is dominated by upland grasses and weeds. The emergent wetland was flooded during the March 2023 aquatic resources delineation, likely as a result of the heavy rains that occurred in Napa County in January 2023. The depth of the surface water accumulated in W-3 ranged from less than 0.25 foot at the edges to 0.5 feet deep in the center.

E.2.3.1 Aquatic Resources Delineation Results

Sampling Point W-3-1 described below was collected at the eastern edge of W-3 during the aquatic resources delineation (Figure 7). The completed wetland determination datasheet for Sampling Point W-3-1 is in Attachment D.

Sampling Point W-3-1: The data collected at Sampling Point W-3-1 determined that wetland hydrology was present, but hydrophytic vegetation and hydric soils were not (Figure 7; Photographs 15 and 16). No obligate wetland plants occur within the sampling point for W-3-1. While four facultative wetland plants, California bay, Baltic rush, narrow-leaved plantain, and curly dock, occur at Sampling Point W-3-1, they were not the dominant plant species in the plant strata. The plant species documented at Sampling Point W-3-1 did not meet the minimum hydrophytic vegetation indicators; therefore, hydrophytic vegetation was determined not to be present. A soil pit was dug at Sampling Point W-3-1 where the wetland's eastern outer limit was determined to be based on the disappearance of wetland plants. Similar to the pits dug in W-1 and W-2, the soil pit immediately filled with water and could not be dug below 4 inches due to the saturated soil collapsing in on the pit. Despite the soil saturation, the soils in and surrounding the pit dug at Sampling Point W-3-1 are loamy sand with none of the primary or secondary hydric soil indicators observed. Therefore, hydric soils were determined not to be present. As discussed under W-1 and W-2, the proximity to Milliken Creek and the Napa River to the west and southwest could cause a high water table in the survey area, where water moves through seasonally but does not persist for a long enough time to develop hydric soils. The presence of surface water and soil saturation observed at Sampling Point W-3-1 determined that wetland hydrology is present. Therefore, the emergent wetland documented at Sampling Point W-3-1 is considered a one-parameter wetland.

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Section F Deviation from Local Wetlands Inventory or National Wetlands Inventory

As previously discussed in Sections B.2 and C.3, the NWI and NHD mapping results identify Milliken Creek along the western edge of the survey area but do not identify observed extents of AF-1 and AF-2 or the vernal marshes in the survey area (Figure 5). No other aquatic resources were identified in the NWI and NHD mapping results or observed in the survey area during the aquatic resources delineation fieldwork.

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Section G Mapping Method

Limits of non-wetland, non-tidal waters were digitally mapped at the OHWM and top of bank using an iSXBlue II sub-meter GPS unit. Electronic spatial data collected in the field is in Attachment G.

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Section H Conclusions

Based on the investigation of non-wetland and wetland water indicators, the following aquatic resource areas (three non-wetland waters and three wetlands) occur in the survey area:

1. One non-wetland water (Milliken Creek) was observed running along the western edge of the survey area. Milliken Creek accounts for approximately 0.61 acre (1,338 linear feet) of the survey area. Based on database results, Milliken Creek is documented as a perennial stream with a documented downstream surface water connection to the Napa River approximately 500 feet southwest of the project site (USFWS 2024; USGS 2024).
2. One non-wetland water (AF-1) was observed running primarily northeast to southwest through the southern portion of the survey area. AF-1 accounts for approximately 0.03 acre (427 linear feet) of the survey area. Based on database and on-site delineation results, AF-1 is limited to the survey area; however, it has a surface water connection to Milliken Creek in the southwestern portion of the survey area. The SDAM conducted for AF-1 determined that it is an ephemeral feature.
3. One non-wetland water (AF-2) was observed in the southeastern portion of the survey area. AF-2 accounts for less than 0.01 acre (38 linear feet) of the survey area. Based on database and on-site delineation results, the full extent of AF-2 is limited to the survey area; however, it connects to and appears to contribute flows to AF-1. The SDAM conducted for AF-2 determined it is an ephemeral feature.
4. One one-parameter wetland water (W-1) was observed in the southern portion of the survey area. W-1 accounts for approximately 0.63 acre of the survey area.
5. One one-parameter wetland water (W-2) was observed in the northern portion of the survey area. W-2 accounts for approximately 0.17 acre of the survey area.
6. One one-parameter wetland water (W-3) was observed in the northern portion of the survey area. W-3 accounts for approximately 0.07 acre of the survey area.

Summaries of the jurisdictional aquatic resources delineated in the survey area are provided in Table 4, Summary of Non-Wetland Waters in the Survey Area, and Table 5, Summary of Wetland Waters in the Survey Area. Additional information can be provided upon request.

Table 4. Summary of Non-Wetland Waters in the Survey Area

Feature	Cowardin Type ¹	Acres	Linear Feet	Coordinates	Vegetation/ Land Cover Type	Summary
Milliken Creek	R3	0.61	1,338	38.316945, -122.276045	Fresh water	Previously mapped/documented non-wetland water.
AF-1	R6	0.03	427	38.8317881, -122.273759	Non-vegetated channel	Non-wetland water with OHWM indicators present. The OHWM is between approximately 3 and 4 feet wide and between approximately 0.5 and 1.5 feet deep.
AF-2	R6	<0.01	38	38.317148, -122.274543	Non-vegetated channel	Non-wetland water with OHWM indicators present. The OHWM is approximately 1.5 feet wide and 0.25 foot deep.
Non-Wetland Total²		0.64	1,803	—		

Notes: OHWM = ordinary high water mark

¹ **Cowardin Type:** R3 = Riverine, upper perennial; R6 = A wetland, spring, stream, river, pond, or lake that only exists for a short period of time.

Table 5. Summary of Wetland Waters in the Survey Area

Feature	Cowardin Type ¹	Acres	Coordinates	Vegetation/ Land Cover Type	Summary
W-1	R6	0.63	38.317052, -122.274971	Vernal marsh	Wetland water with one-parameter wetland indicator (wetland hydrology) present.
W-2	U	0.17	38.317370, -122.274856	Vernal marsh	Wetland water with one-parameter wetland indicator (wetland hydrology) present.
W-3	U	0.07	38.319483, -122.274385	Vernal marsh	Wetland water with one-parameter wetland indicator (wetland hydrology) present.
Wetland Total		0.87	—		

Notes:

¹ **Cowardin Type:** R6 = A wetland, spring, stream, river, pond, or lake that only exists for a short period of time. U= Upland – Not a wetland or deepwater habitat of the United States as described by Cowardin.

Section I Preliminary Jurisdictional Determinations

The aquatic resources observed in the survey area include non-wetland waters Milliken Creek, AF-1, and AF-2 and the wetland waters W-1, W-2, and W-3. Table 6, Potential Jurisdiction of Aquatic Resources in the Survey Area, provides a summary of the aquatic resources and potential jurisdiction of these features. The features preliminarily determined to be under federal and state jurisdiction are shown on Figure 8, Potential Jurisdictional Waters of the U.S. for The Grange Campground, and Figure 9, Potential Jurisdictional Waters of the State for The Grange Campground. It should be noted that only the resource agencies, the USACE, Regional Water Quality Control Board (RWQCB), and/or California Department of Fish and Wildlife (CDFW), can make a final determination of jurisdictional boundaries.

Table 6. Potential Jurisdiction of Aquatic Resources in the Survey Area

Feature	Feature Type	Vegetation/ Land Cover Type	Cowardin Type ¹	Agency Jurisdiction			Description
				USACE	RWQCB	CDFW	
Milliken Creek	Non-wetland water	Fresh water	R3	X	X	X	Perennial stream that flows from northeast to southwest. This stream flows along the western side of the survey area outside the project site, ultimately discharging into the Napa River to the southwest.
AF-1	Non-wetland water	Non-vegetated channel	R6	X	X	X	Ephemeral earthen-bottom channel that flows from northeast to southwest. This channel connects to the wetland water W-1 in its central reach and ultimately flows into Milliken Creek on the southwestern edge of the survey area.
AF-2	Non-wetland water	Non-vegetated channel	R6	X	X	X	Ephemeral earthen-bottom channel that flows from southeast to northwest. This channel connects to the southeastern edge of the wetland water W-1.
W-1	Wetland	Vernal marsh	R6	—	X	X	One-parameter emergent wetland in the southern portion of the survey area. This emergent wetland has downstream connectivity to Milliken Creek via non-wetland water AF-1.

Table 6. Potential Jurisdiction of Aquatic Resources in the Survey Area

Feature	Feature Type	Vegetation/ Land Cover Type	Cowardin Type ¹	Agency Jurisdiction			Description
				USACE	RWQCB	CDFW	
W-2	Wetland	Vernal marsh	U	—	X	X	One-parameter emergent wetland in the northern portion of the survey area. This emergent wetland is an isolated feature that formed in upland.
W-3	Wetland	Vernal marsh	U	—	X	X	One-parameter emergent wetland in the northern portion of the survey area. This emergent wetland is an isolated feature that formed in upland.

Notes: CDFW = California Department of Fish and Wildlife; USACE = U.S. Army Corps of Engineers; RWQCB = Regional Water Quality Control Board

¹ **Cowardin Type:** R3 = Riverine, upper perennial; R6 = A wetland, spring, stream, river, pond, or lake that only exists for a short period of time; U= Upland – Not a wetland or deepwater habitat of the United States as described by Cowardin.

Milliken Creek is a perennial non-wetland water with direct connectivity to the Napa River, a traditional navigable water (TNW), and therefore, is potentially under the jurisdiction of the USACE pursuant to the Clean Water Act (CWA), Section 404 (Figure 8). Milliken Creek conveys natural flows and urban stormwater through urban areas and undeveloped open space, providing water quality and habitat functions for the Napa River Watershed, and therefore, is potentially under the jurisdiction of the RWQCB and CDFW, pursuant to CWA Section 401 and California Fish and Game Code (CFGF), Section 1602, respectively (Figure 9).

AF-1 was determined to be an ephemeral non-wetland water that does not have a relatively permanent flow of water but does have a continuous surface connection to Milliken Creek, which has direct downstream connectivity to the Napa River, a TNW. Therefore, AF-1 is potentially under the jurisdiction of the USACE pursuant to CWA Section 404 (Figure 8). AF-1 conveys natural flows and urban stormwater through undeveloped open space, providing water quality and habitat functions for the Napa River Watershed, and therefore, is potentially under the jurisdiction of the RWQCB and CDFW, pursuant to CWA Section 401 and CFGF Section 1602, respectively (Figure 9).

AF-2 was determined to be an ephemeral non-wetland water that does not have a relatively permanent flow of water but does have a continuous surface connection to Milliken Creek via AF-1, which has direct downstream connectivity to the Napa River, a TNW. Therefore, AF-2 is potentially under the jurisdiction of the USACE pursuant to CWA Section 404 (Figure 8). AF-2 conveys primarily urban stormwater into undeveloped open space, potentially providing water quality and habitat functions for the Napa River Watershed, and therefore, is potentially under the jurisdiction of the RWQCB and CDFW, pursuant to CWA Section 401 and CFGF Section 1602, respectively (Figure 9).

W-1 was determined to be a one-parameter wetland water that has a continuous surface connection to a TNW, the Napa River, through AF-1 and Milliken Creek. Therefore, W-1 is potentially under the jurisdiction of the USACE pursuant to CWA Section 404 (Figure 8). W-1 contains natural surface waters and urban stormwater within undeveloped open space, providing water quality and habitat functions for the Napa River Watershed, and therefore, is potentially under the jurisdiction of the RWQCB and CDFW, pursuant to CWA Section 401 and CFGC Section 1602, respectively (Figure 9).

W-2 was determined to be a one-parameter wetland water that formed in upland and does not have a continuous surface connection to a TNW and, thereby, is defined as an isolated feature. Therefore, W-2 is potentially not under the jurisdiction of the USACE pursuant to CWA Section 404 (Figure 8). W-2 collects natural surface waters and urban stormwater within undeveloped open space, providing water quality and habitat functions for the Napa River Watershed, and therefore, is potentially under the jurisdiction of the RWQCB and CDFW, pursuant to CWA Section 401 and CFGC Section 1602, respectively (Figure 9).

W-3 was determined to be a one-parameter wetland water that formed in upland and does not have a continuous surface connection to a TNW and, thereby, is defined as an isolated feature. Therefore, W-2 is potentially not under the jurisdiction of the USACE pursuant to CWA Section 404 (Figure 8). W-2 collects natural surface waters and urban stormwater within undeveloped open space, providing water quality and habitat functions for the Napa River Watershed, and therefore, is potentially under the jurisdiction of the RWQCB and CDFW, pursuant to CWA Section 401 and CFGC Section 1602, respectively (Figure 9).

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Section J Disclaimer Statement

The aquatic resources delineation and preliminary jurisdictional determinations are subject to verification by the USACE, RWQCB, and CDFW. Harris & Associates advises all parties to treat the information in this Aquatic Resources Delineation Report as preliminary until the agencies provide written verification of their respective jurisdictional boundaries.

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Section K **References**

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Attachment A. Figures

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Attachment B. Statement of Access

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**Attachment C. Antecedent Precipitation Tool and
NRCS WETS Table Results**

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**Attachment D. Arid West Wetland Determination and
Ordinary High Water Mark Datasheets**

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Attachment E. Photographic Log

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Attachment F. SDAM for the Arid West Forms

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Attachment G. Geographic Information Systems Data

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Attachment H. ORM Bulk Upload Aquatic Resources Spreadsheet

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