

Appendix B

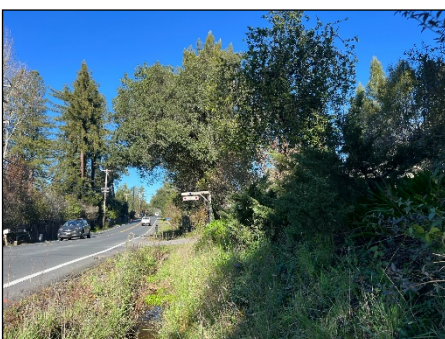
Biological Resources Report



H. T. HARVEY & ASSOCIATES

Ecological Consultants

50 years of field notes, exploration, and excellence



**Mirabel Road Corridor
Improvements and West
County Trail Project
Biological Resources Report**

Project #3328-25

Prepared for:

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May 2025

List of Abbreviated Terms

BMPs	best management practices
Cal-IPC	California Invasive Plant Council
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
ESA	environmentally sensitive areas
FESA	Federal Endangered Species Act
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
RWQCB	Regional Water Quality Control Board
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
MMP	Mitigation Monitoring Plan

Table of Contents

Section 1.	Introduction	1
1.1	Project Location	1
1.2	Project Description	1
1.2.1	Stormwater	3
1.2.2	Utilities	3
1.2.3	Project Construction.....	3
Section 2.	Methods	2
2.1	Background Review	2
2.2	Site Visits.....	2
Section 3.	Environmental Setting.....	3
3.1	General Project Area Description	3
3.2	Land Cover.....	3
3.2.1	California Annual Grassland	5
3.2.2	Landscaped.....	6
3.2.3	Developed	6
3.2.4	Oak Woodland.....	7
3.2.5	Roadside Ditch	8
3.2.6	Forested Wetland	9
3.2.7	Seasonal Wetlands	10
3.2.8	Mixed Riparian.....	11
3.2.9	Perennial Emergent Wetland.....	11
3.2.10	Intermittent Stream.....	12
3.3	Wildlife Movement.....	12
Section 4.	Special-Status Species and Sensitive Habitats	14
4.1	Special-Status Plant Species	17
4.2	Special-Status Animal Species	17
4.3	Sensitive Natural Communities, Vegetation Alliances, and Habitats in the Plan Area.....	27
4.3.1	Sensitive Natural Communities.....	27
4.3.2	Sensitive Vegetation Alliances.....	28
4.3.3	CDFW Riparian Habitat	28
4.3.4	Sensitive Habitats (Waters of the U.S./State).....	28
4.3.5	Nonnative and Invasive Species	29
Section 5.	Impacts and Mitigation Measures.....	30
5.1	Impacts on Special-Status Species	30
5.1.1	Impacts on Regionally Common Habitats and Associated Common Plant and Wildlife Species (Less than Significant).....	31
5.1.2	Impacts on Special-Status Plants (No Impact).....	31
5.1.3	Impacts on the California Red-legged Frog, California Giant Salamander, and Northwestern Pond Turtle (Less than Significant with Mitigation).....	31
5.1.4	Impacts on Nesting Birds (Less than Significant).....	33
5.1.5	Impacts on Roosting Bats (Less than Significant)	34
5.1.6	Impacts on Special-Status Species Downstream from the Project Site (Less than Significant).....	34
5.2	Impacts on Sensitive Communities	35
5.3	Impacts on Wetlands	37
5.4	Impacts on Wildlife Movement	39
5.5	Impacts due to Conflicts with Local Policies.....	39
5.6	Impact due to Conflicts with an Adopted Habitat Conservation Plan	40

5.7 Cumulative Impacts	40
Section 6. References.....	41

Figures

Figure 1. Vicinity Map.....	2
Figure 2. Biotic Habitats.....	4
Figure 3. CNDDDB-Mapped Records of Special-Status Plants	15
Figure 4. CNDDDB-Mapped Records of Special-Status Animals	16

Tables

Table 1. Special-status Animal Species, Their Status, and Potential Occurrence within the Project Alignment.....	19
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Appendices

Appendix A. Plants Observed.....	A-1
Appendix B. Special-Status Plants Considered for Potential Occurrence.....	B-1

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Section 1. Introduction

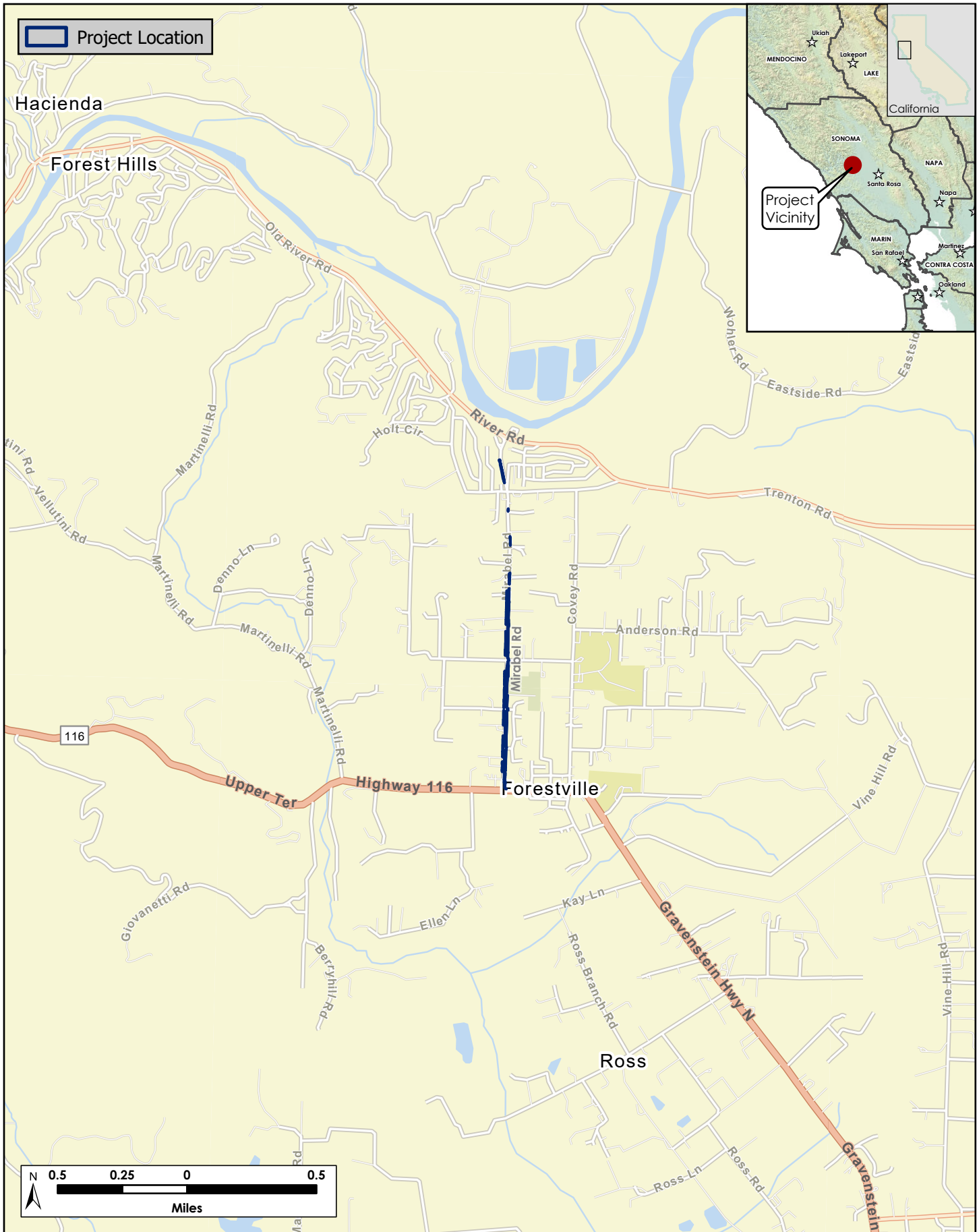
This report describes the biological resources present in the area of the proposed Mirabel Road Corridor Improvement and West County Trail Project (project), as well as the potential biological impacts of the proposed project and measures necessary to reduce these impacts to less-than-significant levels under the California Environmental Quality Act (CEQA). This assessment is based on the field site visit and the background database search for the study area, as well as the description provided to H. T. Harvey & Associates by Circlepoint and Mark Thomas & Company, Inc. through April 2025.

1.1 Project Location

The proposed project is located in the unincorporated locality of Forestville, Sonoma County, California (Figure 1). The project area extends along Mirabel Road from State Route 116 north to River Road. The surrounding areas include predominantly residential areas and agricultural lands. The parcels bordering Mirabel Road have a variety of land use designations. At the southern end of the project area, where Mirabel Road and Highway 116 intersect, and at the northern portion of the project area where River Road and Mirabel Road intersect, land use is Neighborhood Commercial District. The central portion of Mirabel Road is bordered by Rural Residential designations. The study area is located within the *Camp Meeker, California* U.S. Geological Survey (USGS) 7.5-minute quadrangle.

1.2 Project Description

The proposed project would implement roadway and intersection improvements along Mirabel Road right-of-way and within portions of adjacent parcels. The proposed project would address pedestrian and bicycle mobility and safety by widening Mirabel Road to accommodate Class 2 bike lanes, constructing an 8-foot-wide Class I pathway along the east side of the road, and improving pedestrian facilities to meet Americans with Disabilities Act requirements. These enhancements aim to provide safer and more efficient transportation options for all users to enhance mobility and safety for of the existing roadway for all modes of transportation. Bicycle facilities would be consistent with the Countywide Active Transportation Plan, adopted May 2008 and updated in 2014. In addition, the proposed project would add left turn lanes at the intersections of Davis Road and Giusti Road to improve traffic flow, reduce congestion, and enhance overall intersection safety.



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Figure 1. Vicinity Map
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The proposed project would include the following roadway improvements:

- Roadway widening to accommodate Class 2 bike lanes and improve pedestrian and bicycle safety along the entire 1.38-mile stretch of Mirabel Road.
- Construction of dedicated northbound and southbound left-turn lanes at the intersections of Davis Road and Giusti Road to reduce travel time delays and improve intersection safety.
- Installation of an 8-foot-wide Class I pathway along the east side of Mirabel Road from State Route 116 to Davis Road to enhance pedestrian access.
- Relocation of roadway drainage facilities and utility poles to accommodate the widened roadway.

Tree removal is anticipated throughout the project site. Approximately 37 trees would be removed. The sizes and species are unknown at this time. Utility poles would be relocated to accommodate construction of the proposed improvements. The project will comply with Sonoma County's Tree Protection Ordinance as appropriate.

1.2.1 Stormwater

Under the proposed project, existing roadside ditches will be re-graded and new roadside ditches will be constructed. To accommodate construction of the proposed improvements, retaining walls and drainage modifications will also be required. Extension of a box culvert conveying an unnamed intermittent stream across Mirabel Road is also proposed. Both the existing headwalls of this culvert will be reconstructed and extended and a new stormwater pipe will be constructed. However, the project is not anticipated to change the project area's general flow pattern. Dewatering will be via a cofferdam/culvert system, and an active channel flow will be maintained during all work.

1.2.2 Utilities

The proposed project, as needed, would tie into existing utilities for electrification of the relocated utility poles. The proposed project does not propose any tie into existing water, sewer, or gas facilities because the project does not include new land uses. The proposed project would realign the above ground utility lines and poles adjacent to the widened roadway.

1.2.3 Project Construction

Project construction would not be phased and would occur over a period of 6 months, beginning in the 1st quarter of 2026. The project would involve grading of 4,300 cubic yards of soil and would not include any soil imported from off-site sources. No demolition would be required for the proposal project. Construction work would only take place on Mondays through Friday from 7:00 am to 5:00 pm.

Excavation and grading would be required for this project. Some excavation to a maximum depth of 5 feet may be required to construct the storm drain pipe and the proposed retaining walls. An excavation depth of approximately 1.25 feet is required to construct the pavement structure. Equipment that may be used to accomplish project work is listed below:

- Backhoes
- Cement and Mortar Mixers
- Compactors
- Dozers
- Off-Highway Trucks
- Pavers
- Paving Equipment
- Rollers
- Sweepers/Scrubbers
- Trenchers
- Dumpers/Tenders
- Excavators
- Generators
- Front End Loaders

Section 2. Methods

2.1 Background Review

Prior to conducting field work, H. T. Harvey & Associates ecologists reviewed the project description provided by Circlepoint and Mark Thomas & Company, Inc.; aerial images (Google LLC 2025 and University of California Santa Barbara 2025); the *Camp Meeker, California* 7.5-minute USGS topographic quadrangle map (USGS 2021); the California Department of Fish and Wildlife’s (CDFW’s) California Natural Diversity Database (CNDDDB 2025); the General Plan for unincorporated Sonoma County *General Plan 2020* (Sonoma County 2008); the Sonoma Vegetation Mapping program (CDFW 2025); and other relevant reports, scientific literature, and technical databases. For the purposes of this report, the “project vicinity” is defined as the area within a 5-mile radius surrounding the project alignment.

In addition, for plants, we reviewed all species on current California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) 1A, 1B, 2A, 2B, 3 and 4 lists occurring in the project region (CNPS 2025), which is defined as the *Camp Meeker, California* USGS 7.5-minute quadrangles and surrounding eight quadrangles (*Sebastopol, Guerneville, Cazadero, Duncans Mills, Valley Ford, Bodega Head, Two Rock, and Healdsburg, California*). We queried the CNDDDB (2025) for natural communities of special concern that occur along the project alignment, and we perused records of birds reported in nearby areas, such as at the Russian River, on eBird (Cornell Lab of Ornithology 2025).

2.2 Site Visits

Reconnaissance-level field surveys of the project alignment were conducted by H. T. Harvey & Associates senior plant ecologist Katie Gallagher, M.S. and plant ecologist Katie Tyree, B.A., on January 8, 2025; and K. Tyree and wildlife ecologist Jazmine Jensen, B.A., on January 9, 2025. The purpose of these surveys was to provide an impact assessment specific to the proposed construction of the road widening as described above. Specifically, surveys were conducted to (1) assess existing biotic habitats and plant and animal communities along the project alignment, (2) assess the project alignment for its potential to support special-status species and their habitats, and (3) identify potential jurisdictional and sensitive habitats, such as waters of the U.S./state and riparian habitat.

Because the proposed project is located within Sonoma County, the Sonoma County Vegetation Map, which provides a fine scale vegetation and habitat map with minimum mapping units for certain land cover types, was reviewed, field-verified, and modified as necessary based upon site conditions observed during the field survey.

During the January 8 and 9, 2025 site visit, K. Gallagher and K. Tyree performed a technical delineation of wetlands and other waters within the project alignment. The full delineation report is a separate document (H. T. Harvey & Associates 2025).

Section 3. Environmental Setting

3.1 General Project Area Description

The 2.64-acre (ac) project site is located in the unincorporated locality of Forestville in Sonoma County, California (Figure 1). The climate in the project vicinity is coastal Mediterranean, with most rain falling in the winter and spring. Mild cool temperatures are common in the winter. Hot to mild temperatures are common in the summer. Climate conditions in the vicinity include a 30-year average of approximately 42 inches of annual precipitation with a monthly average temperature range from 44.5°F to 71.1°F (PRISM Climate Group 2025). Elevations along the project alignment range from 80 feet above mean sea level at the northern end of the site, 225 feet at the Forestville Youth Park in the middle the project area, and 195 feet at the southern end near the Highway 116 (Google LLC 2025). The Natural Resource Conservation Service (NRCS) has mapped four soil units in the project site: (1) Goldridge fine sandy loam, 2 to 9% slopes; hydric, (2) Goldridge fine sandy loam, 9 to 15% slopes, (3) Goldridge fine sandy loam, 15 to 30% slopes; eroded, and (4) Josephine loam, 9 to 30% slopes (NRCS 2025). The Goldridge series consists of deep and very deep, moderately well drained soils formed in material weathered from sandstone. They are located in rolling uplands. Josephine series are deep, well drained soils formed in colluvium and residuum weathered from sedimentary and igneous rocks. They are located on ridgetops and slopes of mountains. Only one of these soil types are considered hydric by the NRCS: Goldridge fine sandy loam, 2 to 9 percent slopes (NRCS 2025).

3.2 Land Cover

As described above, biotic habitats along the project alignment were identified according to the land cover classification system described in the Sonoma Vegetation Mapping Program but were field verified to accurately convey habitat types and distributions in the project area. The reconnaissance-level survey identified 10 land cover types along the project alignment: (1) California annual grassland, (2) landscaped, (3) developed, (4) oak woodland, (5) roadside ditch, (6) forested wetland, (7) seasonal wetland, (8) mixed riparian, (9) perennial emergent wetland, and (10) intermittent stream (Figure 2). These land cover types are described in detail below. Plant species observed during all biological surveys are listed in Appendix A.



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Figure 2a. Biotic Habitats
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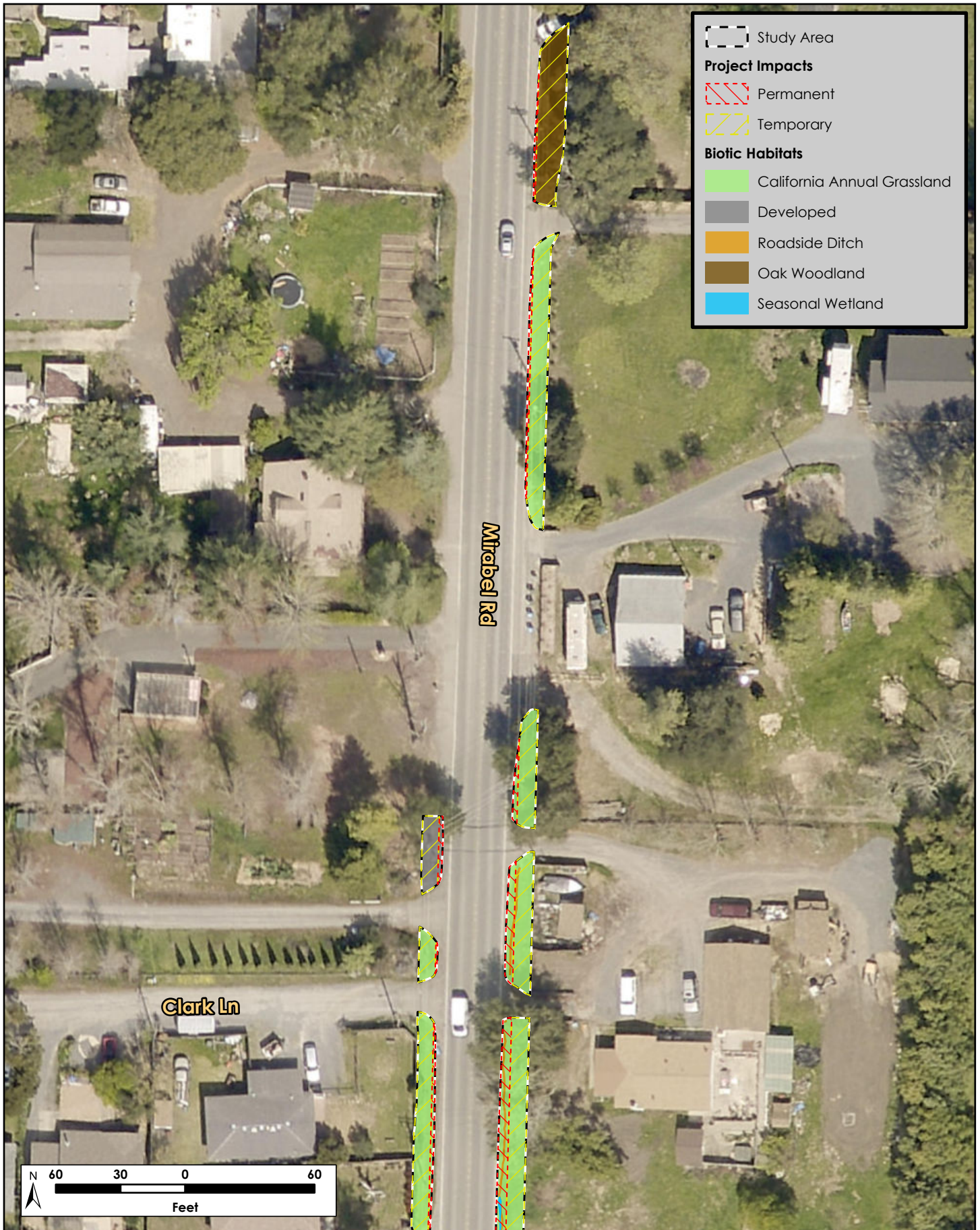
Figure 2b. Biotic Habitats
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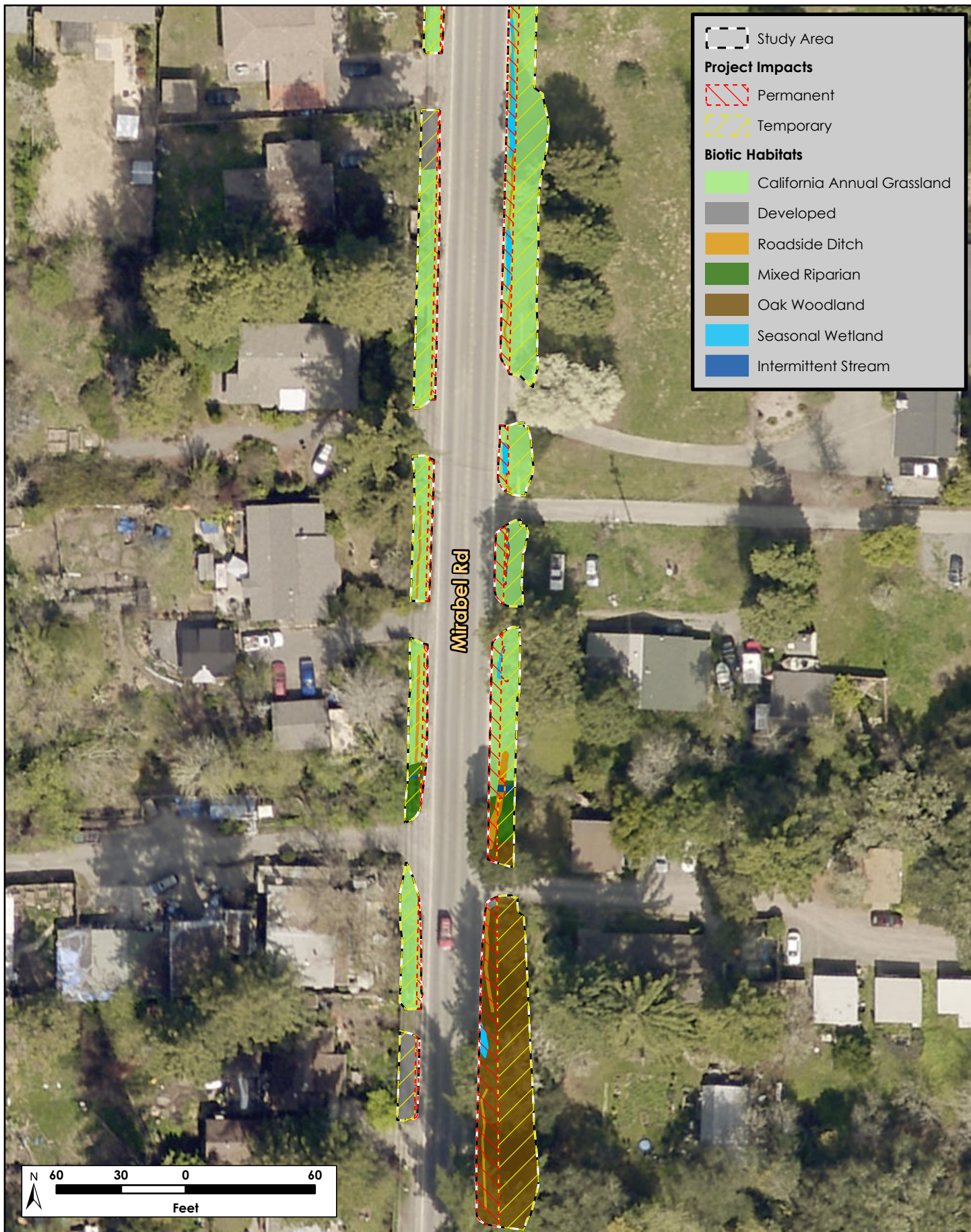
Figure 2c. Biotic Habitats
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Figure 2d. Biotic Habitats
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Figure 2e. Biotic Habitats
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Figure 2f. Biotic Habitats
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Figure 2g. Biotic Habitats
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 May 2025



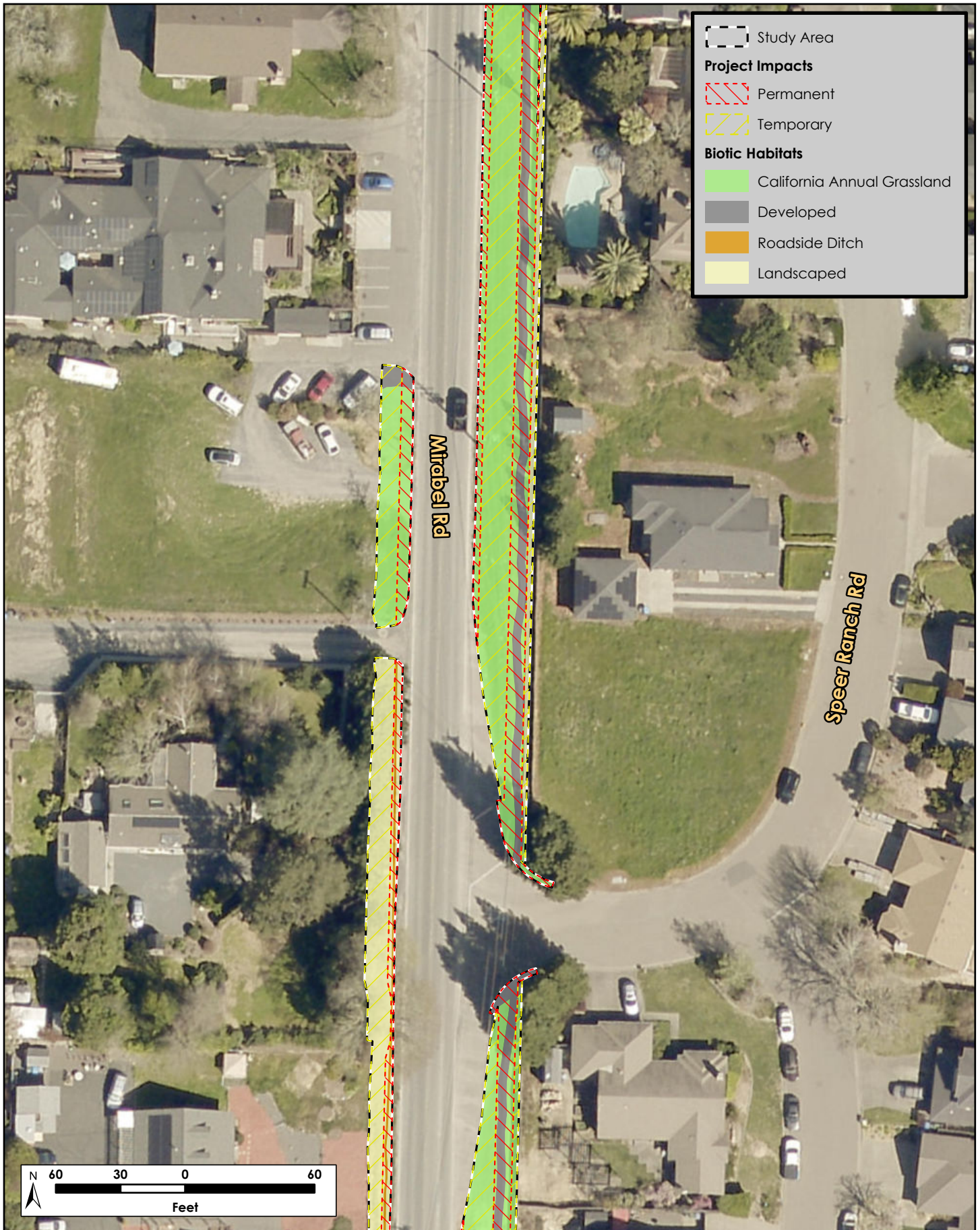


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Figure 2i. Biotic Habitats
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Figure 2j. Biotic Habitats
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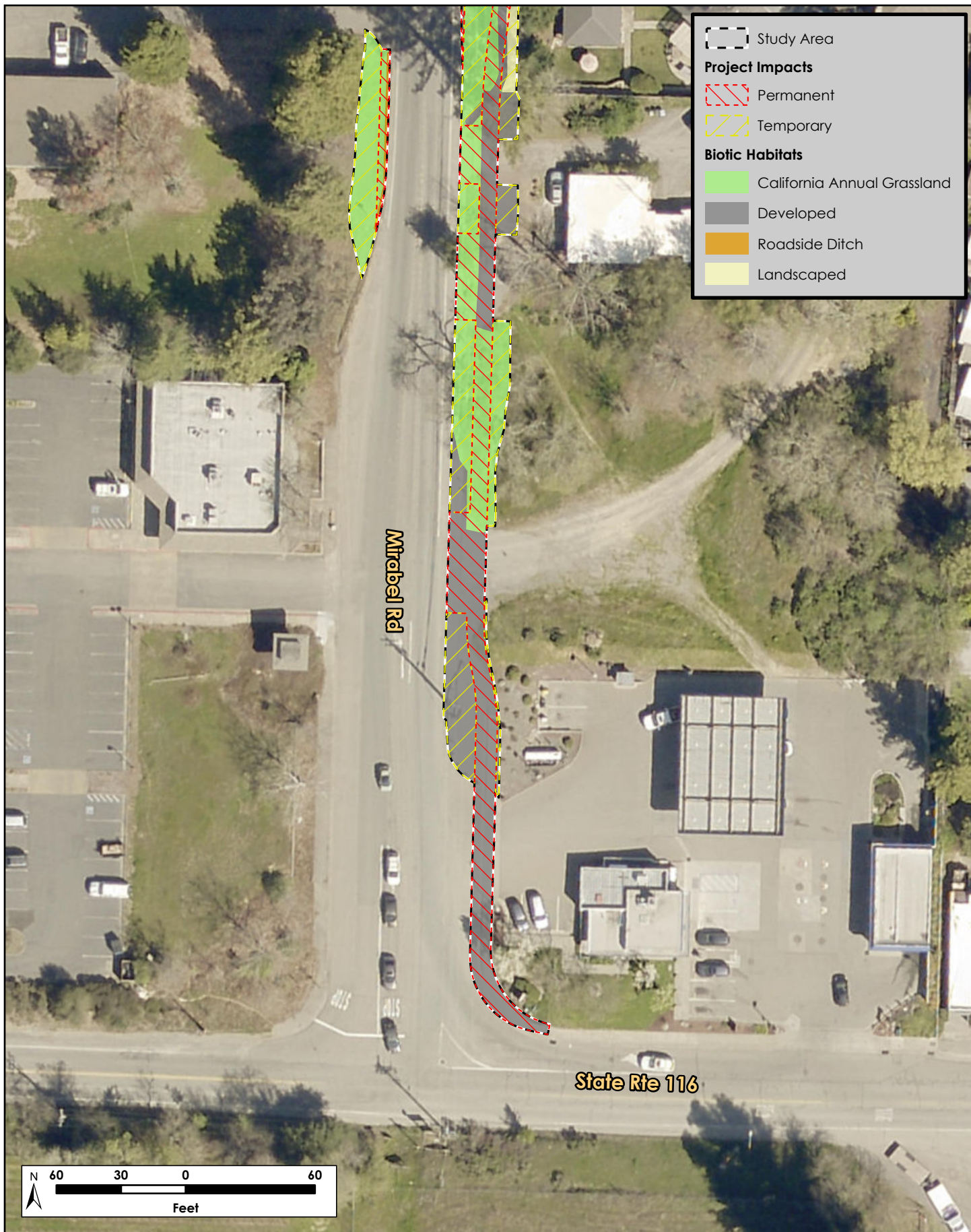
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Figure 2k. Biotic Habitats
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 May 2025



3.2.1 California Annual Grassland

Vegetation. California annual grassland habitat (1.56 ac) is located on either side of Mirabel Road within the project site (Photo 1). This habitat type, while a roadside land cover, is mostly not landscaped or planted, and is dominated by non-native grasses such as bromes (*Bromus* spp.) and wild oat (*Avena* spp.) species, non-native herbs such as prickly lettuce (*Lactuca serriola*), filarees (*Erodium moschatum*, *E. botrys*), geraniums (*Geranium mole*, *G. robusta*), summer mustard (*Hirschfeldia incana*), and wild radish (*Raphanus sativus*). Scattered patches of Himalayan blackberry (*Rubus armeniacus*) also grow within this biotic habitat. The California annual grassland appears to be both regularly and frequently mowed, presumably by city maintenance.

Wildlife. Some of the California annual grassland in the project area is located between the road and pedestrian

pathway pavement; due to the limited extent of such habitats and heavy human disturbance (i.e., mowing), such ruderal areas have limited wildlife habitat value. Where more extensive ruderal grasslands are present further from high human activity, these habitats are used as foraging, burrowing, and nesting locations by moderate numbers of species. California annual grassland habitat in the study area is used by reptiles and amphibians such as the western fence lizard (*Sceloporus occidentalis*) and southern alligator lizard (*Elgaria multicarinata*), that feed on invertebrates



Photo 1. Path alongside Mirabel Road (developed), adjacent to California annual grassland. January 9, 2025.

found within and beneath debris in the vegetation. Insect-eating birds, such as the California scrub-jay (*Aphelocoma californica*), western bluebird (*Sialia mexicana*), and western kingbird (*Tyrannus verticalis*), also use this habitat for foraging. Other bird species such as the mourning dove (*Zenaidura macroura*), western meadowlark (*Sturnella neglecta*), and lesser goldfinch (*Spinus psaltria*) forage on the seed crop this community provides. The ruderal vegetation and scattered shrubs provide nesting habitat for several common nesting bird species. Mammal species, such as the deer mouse (*Peromyscus maniculatus*), California ground squirrel (*Otospermophilus beecheyi*), and striped skunk (*Mephitis mephitis*) forage within these grasslands. These species, in turn, attract predators such as the gopher snake (*Pituophis catenifer*), various raptors, and coyote (*Canis latrans*).

3.2.2 Landscaped

Vegetation. The majority of the project site is located adjacent to private residential properties with landscaped yards or a public park (Photo 2). In some cases, these intentionally planted areas extend into the roadside areas of the project site. Areas mapped as landscaped (0.36 ac) have been planted with ornamental trees, shrubs, and groundcovers common to the region, including privet (*Ligustrum* sp.), acacia (*Acacia* spp.), ornamental rose (*Rosa* sp.), and greater periwinkle (*Vinca major*).

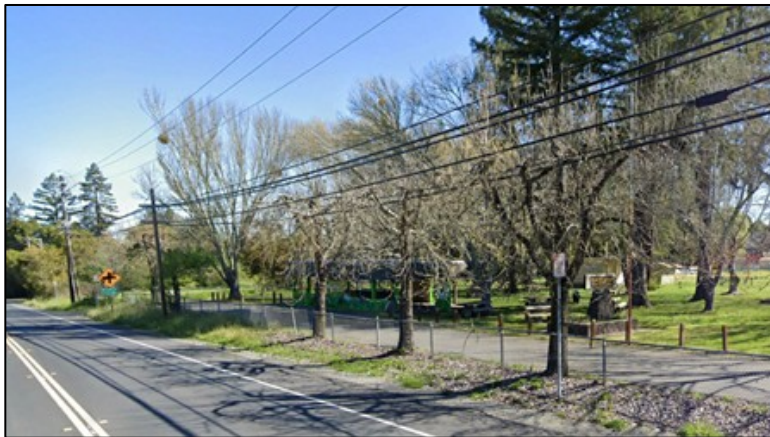


Photo 2. Photo depicts the landscaped areas, which include these deciduous trees and gravel/mulch landcover. Photo is taken from Google Earth imagery from April 2024.

Wildlife. The landscaped areas within the project alignment serve as wildlife habitat only in a very limited capacity, and most wildlife species that occur in these areas are tolerant of frequent human disturbances. Species that use these areas include the nonnative European starling (*Sturnus vulgaris*), rock pigeon (*Columba livia*), house mouse (*Mus musculus*), and Norway rat (*Rattus norvegicus*), as well as the native raccoon (*Procyon lotor*) and striped skunk. A variety of birds, including the Anna's hummingbird (*Calypte anna*), California towhee (*Melospiza crissalis*), bushtit (*Psaltriparus minimus*), chestnut-backed chickadee (*Poecile rufescens*), and house finch (*Haemorhous mexicanus*) will nest and forage in landscape vegetation. Additionally, large nonnative trees adjacent to the project alignment provide potential nesting sites for raptors, such as Cooper's hawks (*Accipiter cooperii*), although no old, existing nests of raptors were observed within or adjacent to the project alignment during the focused survey. Although some trees near the project site provide cavities or bark crevices that could support small numbers of roosting bats, no features that provide high-quality or expansive roost sites are present, and therefore no large bat colonies are present in trees in areas where bats could potentially be impacted.

3.2.3 Developed

Vegetation. Developed areas (0.29 ac) are comprised of the paved Mirabel Road that runs through the project site, cross-streets, driveways, and paved pedestrian pathways adjacent to Mirabel Road (Photo 1). Developed land cover types within the project site are minimal and on the margins of the various impact areas. They are typically devoid of vegetation.

Wildlife. Developed areas generally provide very little wildlife habitat value, and the wildlife most often associated with developed areas are those that are tolerant of periodic human disturbances, including introduced species such as the European starling, rock pigeon, Norway rat, and black rat (*Rattus rattus*). Several common, native species are also able to utilize these habitats, including the western fence lizard, striped skunk, and a

variety of birds, such as the American crow (*Corvus brachyrhynchos*), Anna’s hummingbird, California towhee, mourning dove, killdeer (*Charadrius vociferus*), and Brewer’s blackbird (*Euphagus cyanocephalus*). Reptiles such as western fence lizards and gopher snakes may bask on road or parking lot surfaces to raise their body temperature. In addition, human-made structures associated with developed areas are often attractive to nesting or roosting birds and bats. Eaves and corners of buildings provide attractive nesting sites for black phoebes (*Sayornis nigricans*). Although some buildings near the project site could potentially support small numbers of roosting bats, no high-quality or expansive roost sites are present in these buildings, and therefore no large bat colonies are present in buildings where bats could potentially be impacted.

3.2.4 Oak Woodland

Vegetation. Oak woodland habitat (0.25 ac) is located in scattered areas alongside Mirabel Road within the project site (Photo 3). Oak woodland habitat is predominantly comprised of coast live oak (*Quercus agrifolia*) and an occasional valley oak (*Q. lobata*). The understory is generally comprised of wild non-native annual grasses such as brome and wild oat species, ornamental plants, or paved and gravel areas.



Photo 3. Photo depicts representative oak woodland habitat within the study area. January 9, 2025

Wildlife. Woodlands dominated by oaks typically support diverse animal communities in California. Coast live oaks provide cavities, bark crevices, and complex branching growth that create

shelter for wildlife species, and these trees produce mast crops that are an important food source for many birds and mammals. However, the coast live oak woodland habitat on the project site is limited in extent and surrounded by development. As a result, this habitat provides fewer structural resources and foraging opportunities for wildlife species compared to more natural and/or more extensive oak woodlands in the region.

Birds such as the white-breasted nuthatch (*Sitta carolinensis*), California scrub-jay, Bewick’s wren (*Thryomanes bewickii*), chestnut-backed chickadee, acorn woodpecker (*Melanerpes formicivorus*), California quail (*Callipepla californica*), and oak titmouse (*Baeolophus inornatus*) may nest and forage in oaks on the project site. Other birds expected to use this habitat are the wintering ruby-crowned kinglet (*Regulus calendula*) and Townsend’s warbler (*Setophaga townsendi*). Raptors such as the red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), and Cooper’s hawk may forage for prey in this woodland. No active or inactive raptor nests were detected during the site visit, suggesting that raptors have not nested on the site in recent years.

Because the oak woodland habitat on the site lacks understory cover and vegetation, amphibian and reptile species that are typically associated with dense leaf cover and coarse woody debris in wooded habitats are not expected to occur here. Reptiles associated with the adjacent grassland habitat, such as the western fence lizard and gopher snake, may forage in the mown understories. Mammals such as the striped skunk and coyote, as well as the nonnative Virginia opossum (*Didelphis virginiana*) and feral cat (*Felis catus*) are also expected to forage in this habitat. No cavities or crevices were observed in oaks on the site that provide high-quality roosting habitat for bats.

3.2.5 Roadside Ditch

Vegetation. The roadside ditches (0.10 ac) within the project area are excavated in uplands (Photo 4) and generally contain the same community of plants found within the California annual grassland biotic habitat described above. They range from 0.5 to 4 feet deep and appear to convey storm runoff from Mirabel Road and adjacent driveways and sidewalks. Some of the ditches contained an ordinary high water mark with distinct bed and bank, change in vegetation, and evidence of recent storm flow (i.e., bent grass stems and wrack). Many of the ditches were flowing at the time of the site visit from recent storms and some had ponded long enough to support wetland vegetation, hydric soils, and wetland hydrology. Those wetlands are scattered within ditches through the project area and are described below.



Photo 4. Photo depicts representative roadside ditch with no jurisdictional aquatic features. January 9, 2025.

Wildlife. The roadside ditches in the project area provide habitat that is of limited value to wildlife due to their structural simplicity, steep walls that prevent small wildlife access, regularly mowed vegetation (i.e., short stature with only one canopy layer), periodic human disturbance, position within the road corridor, and low levels of flowing water in the dry season. However, wildlife species that utilize the surrounding annual grassland, riparian, and wetland habitats may be found opportunistically using these ditches. Reptiles such as gopher snake and western fence lizard may bask on the concrete surfaces, and birds, such as the black phoebe, Bewick's wren, and California towhee may forage in the widely dispersed vegetation. Killdeer may nest in the dry substrate of gravel-lined ditches. If water is present, mammals such as the coyote and striped skunk may opportunistically drink from this source.

3.2.6 Forested Wetland

Vegetation. The forested wetland (0.04 ac) within the project area is rooted outside and several feet above an adjacent roadside ditch on a terrace at a low point on sloped private property (Photo 5). The forested wetland was dominated by large established willow (*Salix* sp.) trees with an understory of Himalayan blackberry.

Wildlife. Normally, the presence of forested wetlands on a project site would provide habitat for a diverse suite of wetland-associated wildlife species. However, the relatively small size of the forested wetland in the project area precludes many wetland and aquatic wildlife species from using these features. Thus, waterbirds such as gulls and terns are not expected to occur. Similarly, passerine birds associated with more extensive wetlands, such as the marsh wren (*Cistothorus palustris*), are not expected to



Photo 5. Forested wetland habitat. January 9, 2025.

occur here. Nevertheless, more urban-adapted wetland-associated birds such as the red-winged blackbird (*Agelaius phoeniceus*) and song sparrow (*Melospiza melodia*) may be present. Amphibians such as the native Sierran chorus frog (*Pseudacris sierra*) and western toad (*Anaxyrus boreas*) may breed here and terrestrial species that occur in adjacent habitats, such as house finches, bushtits, yellow-rumped warblers (*Setophaga coronata*), black phoebes, white-crowned sparrows (*Zonotrichia leucophrys*), and golden-crowned sparrows (*Zonotrichia atricapilla*), will forage occasionally in the vegetation.

3.2.7 Seasonal Wetlands

Vegetation. The seasonal wetlands (0.03 ac) within the project area are located within the roadside ditches along Mirabel Road (Photo 6). The seasonal wetlands generally contain flowing water, but some only remain saturated and were observed to have no surface water at all during surveys. The seasonal wetlands were either dominated by a single herbaceous wetland species such as watercress (*Nasturtium officinale*) or a mix of wetland species including Himalayan blackberry, Italian rye grass (*Festuca perennis*), tall cyperus (*Cyperus eragrostis*), various rush species (*Juncus* spp.), and common velvet grass (*Holcus lanatus*).



Photo 6. Seasonal wetland located in a roadside ditch. January 9, 2025

The wetlands are situated in low depressions within the ditches where soil saturation or ponding occurs for time periods long enough to support wetland vegetation and hydric soils.

Wildlife. The seasonal wetlands in the project area provide only minimal quality habitat for most wildlife species due to their limited extent, and wildlife diversity is expected to be low. Many of the same animal species described in the California annual grassland and forested wetland habitats above may forage in the seasonal wetlands. Birds such as the black phoebe, western bluebird, white-crowned sparrow, and golden-crowned sparrow may forage there, and amphibians such as the native Sierran chorus frog and western toad may also be present in this habitat during wet times of the year.

3.2.8 Mixed Riparian

Vegetation. Mixed riparian habitat (0.01 ac) was mapped on the banks and adjacent areas on either side of the intermittent stream within the project area (Photo 7). The mixed riparian habitat primarily includes vegetation located above ordinary high water and below top of bank of the stream, and trees that are dependent on the stream near the top of bank. The intermittent stream at the eastern side of Mirabel Road included dense thickets of willows. The understory was not accessible as it was on private property. The intermittent stream on the east side of Mirabel Road contained a single coast live oak, Himalayan blackberry thickets, and greater periwinkle.



Photo 7. Photo depicts mixed riparian habitat surrounding intermittent stream habitat. The stream is culverted under Mirabel Road and continues flowing northwest. Google Earth imagery from March 2024 (Google LLC 2025).

Wildlife. Due to its small size and isolation, wildlife diversity in the mixed riparian habitat is generally low. However, the dense foliage provided by the willow stand, Himalayan blackberry, and the young coast live oak are likely to support several species of nesting birds and provide cover and foraging habitat for others. Bird species that may forage in this habitat include Bewick's wren, northern mockingbird (*Mimus polyglottos*), California quail, California scrub-jay, and the yellow-rumped warbler. Amphibians such as the native Sierran chorus frog and western toad may also be present in this habitat.

3.2.9 Perennial Emergent Wetland

Vegetation. A single perennial emergent wetland (0.001 ac) was mapped. This wetland is similar in vegetation composition and soil type to the seasonal wetlands (Photo 8). However, the water was deeper than the seasonal wetlands. The perennial emergent wetland appears to be situated in a deeper depression relative to the adjacent

seasonal wetlands. The soils in this freshwater wetland remain saturated for a period long enough, or is inundated regularly enough, to support a stand of cattails (*Typha* sp.) and willow saplings.

Wildlife. Similar to the forested wetlands mentioned above, many waterbirds such as gulls and terns are not expected to occur due to the relatively small size of the perennial emergent wetlands in the project area. However, more urban-adapted ducks such as the mallard (*Anas platyrhynchos*) may use the perennial emergent wetlands for foraging and nesting due to the deeper water that is present. Similarly, birds associated with more extensive wetlands, such as the marsh wren, are not expected to occur, but other urban-adapted wetland-associated birds such as the red-winged blackbird and song sparrow may occur. Amphibians such as the native Sierran chorus frog and western toad may also forage and breed here.



Photo 8. Photo depicts perennial emergent wetland. January 9, 2025

3.2.10 Intermittent Stream

Vegetation. The intermittent stream (0.001 ac) on site is an unnamed tributary of a larger system that flows to the northwest towards the Russian River (Photo 7). Areas mapped as intermittent stream are in the bed of this small stream within the ordinary high water marks. The portion of the intermittent stream closest to Mirabel Road is concrete lined, as the stream is box-culverted under Mirabel Road. The west terminus of the box culvert contains a small amount of accumulated sediment on concrete that supports one non-native water plantain (*Alisma lanceolatum*). Outside the concrete-lined area, the bottom of the stream is dominated by willow species, Himalayan blackberry, or non-native annual grasses. It flows from east to west with clear water about six inches to one foot deep.

Wildlife. While the intermittent stream in the project area flows into the Russian River to the northwest, the lack of large persistent flows and deep pools precludes the presence of fishes. Birds in adjacent habitats such as mallards, California scrub-jays, and black phoebes may forage in this area. During the brief periods when the stream contains water, amphibians such as the Sierran chorus frog and western toad are expected to occur here.

3.3 Wildlife Movement

Wildlife movement inside and within the vicinity of the project site takes many forms, and is different for the various suites of species associated with these lands. Bird and bat species move readily over the landscape in

the project vicinity, foraging over and within both natural lands and landscaped areas. Mammals of different species move within their home ranges, but also disperse between patches of habitat. Generally, reptiles and amphibians similarly settle within home ranges, sometimes moving to central breeding areas, upland refugia, or hibernacula in a predictable manner, but also dispersing to new areas. Some species, especially among the birds and bats, are migratory, moving into or through the project vicinity during specific seasons. Aside from bats, there are no other mammal species in the vicinity of the site that are truly migratory. However, the young of many mammal species disperse from their natal home ranges, sometimes moving over relatively long distances in search of new areas in which to establish.

Movement corridors are segments of habitat that provide linkage for wildlife through the mosaic of suitable and unsuitable habitat types found within a landscape while also providing cover. On a broader level, corridors also function as paths along which wide-ranging animals can travel, populations can move in response to environmental changes and natural disasters, and genetic interchange can occur. In California, environmental corridors often consist of riparian areas along streams, rivers, or other natural features.

Due to the development surrounding the project site, well-defined movement corridors for mammals or reptiles are not present. Wildlife species may move through the area using cover and refugia as they find them available, but houses, roads, and fences prevent large-scale movement between habitat fragments. Most dispersal by wildlife species in the region likely occurs along higher-quality habitats, such as the Russian River corridor north of the project site.

The Russian River and its associated riparian corridor serve as a movement corridor for several common and special-status species of birds, fish, mammals, reptiles, and amphibians in the project vicinity. In addition, several birds, mammals, reptiles, and amphibians utilize the riparian corridor of the Russian River for movement purposes, as it provides sufficient vegetative cover preferred by these species when navigating across the landscape. Specifically, migratory passerines, coyotes, striped skunks, raccoons, Sierran chorus frogs, and alligator lizards, amongst other species, are expected to move along this corridor.

In summary, the majority of the project site is not particularly important for movement by non-flying wildlife, and it does not contain any high-quality corridors allowing dispersal of such animals through the project area. However, the Russian River north of the site provides a higher-quality corridor for wildlife species to disperse.

Section 4. Special-Status Species and Sensitive Habitats

CEQA requires assessment of the effects of a project on species that are protected by state, federal, or local governments as “threatened, rare, or endangered”; such species are typically described as “special-status species”. For the purpose of the environmental review of the project, special-status species have been defined as described below. Impacts on these species are regulated by some of the federal, state, and local laws and ordinances described in Section 3 above.

For purposes of this analysis, “special-status” plants are considered plant species that meet at least one of the following criteria:

- Listed under the Federal Endangered Species Act (FESA) as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under the California Endangered Species Act (CESA) as threatened, endangered, rare, or a candidate species.
- Listed by the CNPS as CRPR 1A, 1B, 2, 3, or 4.

For purposes of this analysis, “special-status” animals are considered animal species that meet at least one of the following criteria:

- Listed under FESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under CESA as threatened, endangered, or a candidate threatened or endangered species.
- Designated by CDFW as a California species of special concern.
- Listed in the California Fish and Game Code as fully protected species (fully protected birds are provided in Section 3511, mammals in Section 4700, reptiles and amphibians in Section 5050, and fish in Section 5515).

Information concerning threatened, endangered, and other special-status species that potentially occur along the project alignment was collected from several sources and reviewed by H. T. Harvey & Associates biologists as described in Section 2.1 above. Figure 3 depicts CNDDDB records of special-status plant species in the general vicinity of the project alignment and Figure 4 depicts CNDDDB records of special-status animal species. These generalized maps show areas where special-status species are known to occur or have occurred historically.

4.1 Special-Status Plant Species

The CNPS (2025) and CNDDB (2025) identify 122 special-status plant species with CRPR 1-4 as potentially occurring in at least one of the 9 USGS 7.5-minute quadrangles (*Healdsburg, Two Rock, Camp Meeker, Bodega Head, Valley Ford, Duncan Mills, Cazadero, Guerneville, and Sebastopol*) containing or surrounding the project alignment. However, the site is dominated by low-quality, heavily disturbed habitat, which precludes the presence of special-status plant species that occur in more natural habitats in the region. All of the special-status plant species identified as potentially occurring in the region were determined to be absent from the project site for at least one of the following reasons: (1) absence of suitable habitat types or high level of disturbance at the project site; (2) lack of specific microhabitat or edaphic requirements, such as serpentine soils; (3) the elevation range of the species is outside of the range on the project site; and/or (4) the species is considered extirpated from the project region. A Considered but Rejected table in Appendix B shows why each species was determined to be absent.

4.2 Special-Status Animal Species

The legal status and likelihood of occurrence along the project alignment of special-status animal species known to occur, or potentially occurring, in the surrounding region are presented in Table 1. Most of the special-status species listed in Table 1 are not expected to occur along the project alignment because it lacks suitable habitat, is outside the known range of the species, and/or is isolated from the nearest known extant populations by development or otherwise unsuitable habitat.

The following special-status species that are present in less urbanized settings in Sonoma County, or in specialized habitats in Sonoma County, are absent from the project alignment due to a lack of suitable habitat and/or isolation of the site from populations by urbanization: Crotch's bumble bee (*Bombus crotchii*), western bumble bee (*Bombus occidentalis*), California tiger salamander (*Ambystoma californiense*), foothill yellow-legged frog (*Rana boylei*), tricolored blackbird (*Agelaius tricolor*), Swainson's hawk (*Buteo swainsoni*), bald eagle (*Haliaeetus leucocephalus*), burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanius ludovicianus*), American badger (*Taxidea taxus*), and golden eagle (*Aquila chrysaetos*). While some of the birds in this list likely fly over the project area at times, none are expected to nest in, or make regular/heavy use of, any resources within the project alignment.

The Central California Coast Coho salmon (*Oncorhynchus kisutch*), Central California Coast steelhead (*Oncorhynchus mykiss*), and Pacific lamprey (*Entosphenus tridentatus*) occur in the Russian River north of the project alignment. However, no suitable habitat for these species is present on or immediately adjacent to the project site.

The monarch butterfly (*Danaus plexippus*), yellow warbler (*Setophaga petechia*), and white-tailed kite (*Elanus leucurus*) can occasionally occur along the project alignment as nonbreeding foragers (i.e., they do not breed along the project alignment). The pallid bat (*Antrozous pallidus*) and Townsend's big-eared bat (*Corynorhinus townsendii*), California species of special concern, may also forage aerially over habitats along the project alignment, and the

mountain lion (*Puma concolor*), a California state candidate, can potentially disperse or forage within the alignment. These species are not expected to roost or breed in or immediately adjacent to the project alignment, and if they occur at all, they would occur irregularly and in low numbers. No high-quality habitat is present in the project alignment for the California red-legged frog (*Rana draytonii*), California giant salamander (*Dicamptodon ensatus*), or northwestern pond turtle (*Actinemys marmorata*), and if these species occur in the project area, they do so only very infrequently and in low numbers.

Table 1. Special-status Animal Species, Their Status, and Potential Occurrence within the Project Alignment

Name	*Status	Habitat	Potential for Occurrence within the Project Alignment
Federal or State Endangered, Threatened, or Candidate Species			
Monarch butterfly (<i>Danaus plexippus</i>)	FC	Requires milkweeds (<i>Asclepias</i> spp.) for egg-laying and larval development, but adults obtain nectar from a wide variety of flowering plants in many habitats. Individuals congregate in winter roosts, primarily in Mexico and in widely scattered locations on the central and southern California coast.	Absent as Breeder. The monarch butterfly occurs along the project area primarily as a migrant. Although small numbers of individuals may breed and forage in the vicinity year-round, no milkweed was observed in the project area, so the species is not expected to breed in the project footprint. There are no known current or historic overwintering sites or suitable groves of trees for wintering in the area.
California freshwater shrimp (<i>Syncares pacifica</i>)	FE	Low elevation freshwater streams with undercut banks that contain submerged vegetation, roots, or debris for shelter.	Absent. The California freshwater shrimp is known to occur in Green Valley Creek to the west which leads to the Russian River, but it would not occur on the project site as there are no high-quality, structurally diverse undercut banks in the roadside ditches. While there is water and occasional pools in the ditches, there were no strong flows that connect with the Russian River, resulting in stagnant water.
Crotch's bumble bee (<i>Bombus crotchii</i>)	SC	Open grassland and scrub habitats.	Absent. Although the species was historically found throughout the southern two-thirds of California, including the project vicinity, it is not expected to occur on the site due to recent range contractions.
Western bumble bee (<i>Bombus occidentalis</i>)	SC	Meadows and grasslands with abundant floral resources.	Absent. Although the species was historically found throughout much of central and northern California, including the project vicinity, it is not expected to occur on the site due to recent range contractions.
Central California Coast Coho Salmon (<i>Oncorhynchus kisutch</i>)	FE	Typically spawns in low gradient reaches of tributary streams and small coastal streams. Eventually migrate to saltwater bodies to forage and mature before returning to freshwater coastal streams and large rivers.	Absent. Coho salmon are known to occur in the Russian River downstream, but there is no suitable habitat for Coho salmon in the project area. Low water levels in ditches and the intermittent stream, and lack of connectivity preclude access to the project area.

Name	*Status	Habitat	Potential for Occurrence within the Project Alignment
Central California Coast steelhead (<i>Oncorhynchus mykiss</i>)	FT	Typically spawns in gravel substrates in clear, cool, perennial sections of relatively undisturbed streams with conditions allowing migration between spawning and marine habitats and dense canopy cover that provides shade, woody debris, and organic matter. Usually cannot survive long in pools or streams with water temperatures above 70°F; however, they can use warmer habitats if adequate food is available.	Absent. Steelhead are known to occur in the Russian River downstream, but there is no suitable habitat for steelhead in the project area. Low water levels in ditches and the intermittent stream, and lack of connectivity preclude access to the project area.
California tiger salamander (<i>Ambystoma californiense</i>)	FT, ST, VHP	Preferred breeding habitat consists of temporarily (a minimum of 3–4 months) ponded environments (e.g., vernal pools, ephemeral pools, or human-made ponds) surrounded by grasslands or open woodlands where small mammal burrows are present. Will also utilize permanent ponds if aquatic vertebrate predators are not present. Suitable ponds provide breeding and larval habitat, while burrows of small mammals such as California ground squirrels and Botta's pocket gophers in upland habitats provide refugia for juvenile and adult salamanders during the dry season.	Absent. The project area is just outside the species' range and no suitable habitat is present on site. The closest known occurrences of California tiger salamander are in pools approximately 6 miles to the southeast of the project site in Sepastopol.

Name	*Status	Habitat	Potential for Occurrence within the Project Alignment
California red-legged frog (<i>Rana draytonii</i>)	FT, CSSC, VHP	Inhabit perennial freshwater pools, streams, and ponds throughout the Central California Coast Range as well as isolated portions of the western slopes of the Sierra Nevada (Fellers 2005). Preferred breeding habitat consists of deep perennial pools with emergent vegetation for attaching egg clusters (Fellers 2005), as well as shallow benches to act as nurseries for juveniles (Jennings and Hayes 1994). Nonbreeding frogs may be found adjacent to streams and ponds in grasslands and woodlands, and may travel up to 2 miles from their breeding locations across a variety of upland habitats (Bulger et al. 2003, Fellers and Kleeman 2007).	May be Present. The project area is located at the extreme northern edge of this species' range and no suitable breeding habitat is present in or adjacent to the site. This species is likely no longer present in this area, and the closest known occurrence of this species is located approximately 7.8 miles to the northwest in small ponds at a former naval weapons station (CNDDDB 2025). Nevertheless, the Russian River provides a potential avenue for dispersal for red-legged frogs to the project alignment, and occasional dispersants cannot be ruled out. However, such individuals would occur very infrequently and in low numbers, if at all.
Foothill yellow-legged frog (<i>Rana boylei</i>)	SC, VHP	Found in or near rocky streams in a variety of habitats, including valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadows. Ideal habitat for this species consists of streams with riffles and cobble-sized rocks, with slow water flow (Jennings and Hayes 1994).	Absent. The nearest recorded occurrences of this species are along the Russian River less than 0.1 miles north of the project area (CNDDDB 2025). However, there is no suitable habitat present within the project area.

Name	*Status	Habitat	Potential for Occurrence within the Project Alignment
Tricolored blackbird (<i>Agelaius tricolor</i>)	ST, VHP	Highly colonial nester that establishes dense breeding colonies in emergent vegetation, grain fields, fallow fields, extensive thickets of blackberry, ruderal vegetation such as mustard or thistle, and occasionally in early-successional riparian habitat. Nesting colonies usually are located near fresh water. Tricolored blackbirds are itinerant nesters, and because their nesting habitat is ephemeral, it is possible for this species to colonize or recolonize an area as suitable breeding habitat becomes available.	Absent. This species was known to nest in Sebastopol approximately 5 miles southeast of the alignment in the mid-1970s (CNDDDB 2025). However, the January 9, 2025 reconnaissance-level survey determined that no suitable nesting habitat is present along the project alignment or in areas within 250 feet. Individual tricolored blackbirds may occur as occasional foragers along the project alignment year-round, especially during winter and migration.
Swainson's hawk (<i>Buteo swainsoni</i>)	ST	Prime breeding habitat encompasses riparian draws or clumps of trees surrounded by open grassland or oak savannah for foraging.	Absent. The project area is outside this species' range and there is no suitable habitat on site. However, this species is known to occur east of the project vicinity as a very infrequent transient during migration. Although nesting Swainson's hawks may be returning to the region, Swainson's hawks are not expected to nest within or adjacent to the project alignment due to high levels of human disturbance (e.g., roads, and residential development). This species may forage in the region when in transit through the region, albeit infrequently and in very low numbers. However, the grassland areas along the project alignment are too limited in extent to provide suitable foraging habitat for this species.

Name	*Status	Habitat	Potential for Occurrence within the Project Alignment
Bald eagle (<i>Haliaeetus leucocephalus</i>)	SE, SP	Ideal habitat is composed of remote, forested landscape with old-growth or mature trees and easy access to an extensive and diverse prey base. Forages in fresh and salt water where their prey species (fish) are abundant and diverse. Builds nests in tall, sturdy trees at sites that are in relatively close proximity to aquatic foraging areas and isolated from human activities.	Absent. No suitable nesting sites or foraging habitat for bald eagles is present along the project alignment. The closest suitable nesting and foraging habitat is along the Russian River to the north.
Mountain lion (<i>Puma concolor</i>) Southern California/Central Coast ESU	SC	Has a large home range size and occurs in a variety of habitats. Natal dens are typically located in remote, rugged terrain far from human activity. May occasionally occur in areas near human development, especially during dispersal.	Absent as Breeder. There are several documented occurrences of mountain lion individuals in the project vicinity, one of which was reported as recent as January 2025 (Bay Area Puma Project 2025). However, this species is expected to occur very infrequently along the project alignment owing to high levels of human activity and the impediments to dispersal posed by Mirabel Road, Highway 116, and other adjacent roads. Mountain lions are also not expected to breed in or adjacent to the project area as ideal denning sites are more remote and undeveloped areas.
California Species of Special Concern			
Pacific lamprey (<i>Entosphenus tridentatus</i>)	CSSC	Medium- and large-sized, low-gradient cold rivers and streams, with a wide range of habitats (e.g., gravel, low-gradient riffles).	Absent. This species is known to be present in the Russian River, but no suitable habitat occurs within the project area.
California giant salamander (<i>Dicamptodon ensatus</i>)	CSSC	Cool, damp forests and slow-moving streams with rocks and woody debris for egg-laying	Absent as Breeder. California giant salamanders have been recorded within 5 miles of the project area and are present in the Russian River. This species is unlikely to occur on the project site because of low-quality habitat due to development. Nevertheless, occasional dispersants cannot be ruled out.

Name	*Status	Habitat	Potential for Occurrence within the Project Alignment
Northwestern pond turtle (<i>Actinemys marmorata</i>)	CSSC, VHP	Occurs in ponds, streams, and other wetland habitats in the Pacific slope drainages of California (Bury and Germano 2008). Ponds or slack-water pools with suitable basking sites (such as logs) are an important habitat component for this species, and western pond turtles do not occur commonly along high-gradient streams. Females lay eggs in upland habitats, in clay or silty soils in unshaded (often south-facing) areas (Jennings and Hayes 1994). Juveniles feed and grow in shallow aquatic habitats (often creeks) with emergent vegetation and ample invertebrate prey. Nesting habitat is typically found within 600 feet of aquatic habitat (Jennings and Hayes 1994), but if no suitable nesting habitat can be found close by, adults may travel overland considerable distances to nest.	May be Present. Known to occur in the Russian River but unlikely to occur in the project area. Dispersal onto the project site would be difficult due to roads and development. Additionally, the project area does not contain any high-quality ponds or pools, further reducing the likelihood that a turtle would occur in the project area. However, it is possible that dispersing pond turtle individuals could occur on the project site occasionally.

Name	*Status	Habitat	Potential for Occurrence within the Project Alignment
Burrowing owl (<i>Athene cunicularia</i>)	CSSC, VHP	Prefers annual and perennial grasslands, typically with sparse or nonexistent tree or shrub canopies. In California, burrowing owls are found in close association with California ground squirrels; owls use the abandoned burrows of ground squirrels for shelter and nesting. The nesting season as recognized by the CDFW (California Department of Fish and Game 2012) extends from February 1 through August 31. After nesting is completed, adult owls may remain in their nesting burrows or in nearby burrows, or they may migrate (Gorman et al. 2003); young birds disperse across the landscape from 0.1 to 35 miles from their natal burrows (Rosier et al. 2006).	Absent. There is no suitable habitat for burrowing owls on the project site or in adjacent areas. The closest known occurrence of burrowing owl was reported at Sonoma County Airport in 2019, approximately 4.8 miles northeast (Cornell Lab of Ornithology 2025).
Loggerhead shrike (<i>Lanius ludovicianus</i>)	CSSC (nesting)	Open habitats interspersed with shrubs, trees, poles, fences, or other perches from which it can hunt. Nests are built in densely foliated shrubs or trees, often containing thorns, which offer protection from predators and on which prey items are impaled. The breeding season may begin as early as mid-February and extends through July.	Absent as Breeder. No suitable nesting habitat is present in the project area. Individual loggerhead shrikes may occur as infrequent foragers along the adjacent open habitat to the east of the project area.
Yellow warbler (<i>Setophaga petechia</i>)	CSSC (nesting)	Nests in riparian woodlands. Prefers riparian corridors with an open overstory of mature cottonwoods and sycamores, a midstory of box elder (<i>Acer negundo</i>) or willow, and a substantial shrub understory (Bousman 2007).	Absent as Breeder. The riparian habitat along the Russian River north of the project area provides suitable nesting habitat for yellow warblers. Although no suitable nesting habitat is present along the project alignment, nonbreeding individuals likely occur in spring and fall when they are an abundant migrant throughout the project region.

Name	*Status	Habitat	Potential for Occurrence within the Project Alignment
Pallid bat (<i>Antrozous pallidus</i>)	CSSC	Forages over many habitats; roosts in caves, rock outcrops, buildings, and hollow trees.	Absent as Breeder. No high-quality roosting habitat is present along the project alignment, and no known maternity colonies of this species are present within or adjacent to the alignment. However, pallid bats are known to occur in the project vicinity and individuals from more remote colonies could potentially forage over open habitats, or possibly roost individually (rather than in large roosts) along the project alignment on occasion.
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	CSSC	Roosts in caves and mine tunnels, and occasionally in deep crevices in trees such as redwoods or in abandoned buildings, in a variety of habitats.	Absent as Breeder. No high-quality roosting habitat is present along the project alignment, and no known maternity colonies of this species are present within or adjacent to the alignment. However, Townsend's big-eared bats are known to occur in the project vicinity and individuals from more remote colonies could potentially forage over open habitats on occasion.
American badger (<i>Taxidea taxus</i>)	CSSC	Burrows in wide open grasslands and occasionally in infrequently disked agricultural areas.	Absent. No suitable habitat for badgers is present on the project site, as all grasslands onsite are small and fragmented.

State Fully Protected Species

Golden eagle (<i>Aquila chrysaetos</i>)	SP	Breeds on cliffs or in large trees (rarely on electrical towers), forages in open areas.	Absent as Breeder. No suitable nesting habitat for golden eagles is present along the project alignment. This species occurs in the vicinity as an occasional forager; however, no suitable foraging habitat for golden eagles is present in the limited open habitat along the project alignment.
White-tailed kite (<i>Elanus leucurus</i>)	SP	Nests in tall shrubs and trees, forages in grasslands, marshes, and ruderal habitats.	Absent as Breeder. No suitable nesting habitat is present in the project area. However, white-tailed kites have been reported in the project vicinity and may occur as infrequent foragers along the open habitat adjacent to the project area.

*Key to Abbreviations: Federally Endangered (FE); Federally Threatened (FT); Federal Candidate for Listing (FC); State Endangered (SE); State Threatened (ST); State Candidate (SC); State Fully Protected (SP); California Species of Special Concern (CSSC); Valley Habitat Plan (VHP)

4.3 Sensitive Natural Communities, Vegetation Alliances, and Habitats in the Plan Area

Natural communities have been considered part of the Natural Heritage Conservation triad, along with plants and animals of conservation significance, since the state inception of the Natural Heritage Program in 1979. CDFW determines the level of rarity and imperilment of vegetation types, and tracks sensitive communities in its Rarefind database (CNDDDB 2025). Global rankings (G) of natural communities reflect the overall condition (rarity and endangerment) of a habitat throughout its range, whereas state (S) rankings are a reflection of the condition of a habitat within California. Natural communities are defined using NatureServe’s standard heritage program methodology as follows (Faber-Langendoen et al. 2012):

- G1/S1: Critically Imperiled (less than 6 viable occurrences or less than 2,000 ac)
- G2/S2: Imperiled (between 6 and 20 occurrences or 2,000 to 10,000 ac.)
- G3/S3: Vulnerable (between 21 and 100 occurrences or 10,000 to 50,000 ac.)
- G4/S4: Apparently secure (the community is apparently secure, but factors and threats exist to cause some concern.)
- G5/S5: Secure (the community is demonstrably secure to ineradicable due to being common throughout the world (for global rank) or the state of California (for state rank)).

In addition to tracking sensitive natural communities, the CDFW also ranks vegetation alliances, defined by repeating patterns of plants across a landscape that reflect climate, soil, water, disturbance, and other environmental factors (CDFW 2025). If an alliance is marked G1-G3, all of the vegetation associations within it will also be of high priority (CDFW 2025). CDFW provides VegCAMP’s currently accepted list of vegetation alliances and associations (CDFW 2025).

Impacts on CDFW sensitive natural communities, vegetation alliances/associations, or any such community identified in local or regional plans, policies, and regulations, must be considered and evaluated under CEQA (Title 14, Division 6, Chapter 3, Appendix G of the California Code of Regulations). Furthermore, aquatic, wetland and riparian habitats are also protected under applicable federal, state, or local regulations, and are generally subject to regulation, protection, or consideration by the the U.S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), CDFW, and/or the U.S. Fish and Wildlife Service (USFWS).

4.3.1 Sensitive Natural Communities

A query of sensitive habitats in the CNDDDB (2025) identified six sensitive natural communities as occurring within the nine 7.5-minute USGS quadrangles containing or surrounding the project alignment area: (1) coastal

brackish marsh (Rank G2/S2.1), (2) coastal terrace prairie (Rank G2/S2.1), (3) coastal and valley freshwater Marsh (Rank G3/S2.1), (4) northern coastal salt marsh (Rank G3/S3.2), (5) northern hardpan vernal pool (Rank G3/S3.1), and (6) northern vernal pool (Rank G2/S2.1). The perennial emergent wetland mapped within the project area meets the definition of coastal and valley freshwater marsh. The remaining sensitive natural communities listed above do not occur within the project area.

4.3.2 Sensitive Vegetation Alliances

The wetlands on the project site are dug in uplands in non-native grassland and align most closely with the common velvet grass - sweet vernal grass meadows (*Holcus lanatus* - *Anthoxanthum odoratum* Herbaceous Semi-Natural Alliance) or Perennial rye grass fields (*Lolium perenne* Herbaceous Semi-Natural Alliance) as described in the Manual of California Vegetation, Online Edition (CNPS 2025). These alliances are ranked as GNA/SNA and are not considered sensitive (CDFW 2025). The forested wetland and mixed riparian habitat are dominated by willow trees, presumably Arroyo Willow Thickets (*Salix lasiolepis*) Shrubland Alliance, and ranked G4/S4 which would not be considered a sensitive vegetation alliance. The oak woodland within the project alignment is dominated would be classified as a *Quercus agrifolia* (Coast Live Oak Woodland) Alliance. This alliance is ranked as G5/S4 meaning that it would not be considered a sensitive vegetation alliance (CDFW 2025).

4.3.3 CDFW Riparian Habitat

Due to its rarity and disproportionately high habitat values and functions to wildlife, CDFW considers riparian habitat to be sensitive. As described above in Section 3.2.4, the CDFW would likely claim jurisdiction over the mixed riparian forest and woodland vegetation (extend to the outer edges of riparian tree canopies) bordering the intermittent stream, as well as the stream itself, within the project area. These areas are shown in Figure 2. Impacts to the riparian habitat associated with the intermittent stream, or the stream itself, would require a Lake and Streambed Alteration Agreement under Section 1600 *et seq.* of State Fish and Game Code.

4.3.4 Sensitive Habitats (Waters of the U.S./State)

As described above under Section 3.1.1, the intermittent stream and seasonal wetlands that connect to waters of the U.S. are considered waters of the U.S. Additionally, all features considered waters of the U.S. plus isolated features such as some seasonal wetlands, the perennial emergent wetland, and the forested wetland would be considered waters of the state. Jurisdictional buffers for waters of the state in the project alignment would likely extend to the edges of the wetlands and would include the edges of riparian tree canopies surrounding the intermittent stream. Fill-related impacts to waters of the U.S. would require a Section 404 Clean Water Act permit, while any impacts to waters of the state would require either a Section 401 Water Quality Certification and/or Waste Discharge Requirements.

4.3.5 Nonnative and Invasive Species

Several non-native, invasive plant species occur along the project alignment in both riparian woodland and California annual grassland habitats. Of these, the following have a rating of “limited” invasiveness (considered invasive but their ecological impacts are minor on a statewide level and their reproductive biology and other attributes result in low to moderate rates of invasiveness) according to the California Invasive Plant Council (Cal-IPC) (2025): bristly ox-tongue (*Helminthotheca echioides*), wild radish, variable burclover (*Medicago polymorpha*), English plantain (*Plantago lanceolata*), and curly dock (*Rumex crispus*).

The following species have a “moderate” rating, indicating that they have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure, and that their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment would be generally dependent upon ecological disturbance: Italian thistle (*Carduus pycnocephalus* ssp. *pycnocephalus*), stinkwort (*Dittrichia graveolens*), rough cat’s ear (*Hypochaeris radicata*), summer mustard, pennyroyal (*Mentha pulegium*), blue gum (*Eucalyptus globulus*), Bermuda buttercup (*Oxalis pes-caprae*), acidic dock (*Rumex acetosella*), slender wild oat (*Avena barbata*), Bermuda grass (*Cynodon dactylon*), Italian ryegrass, and common velvet grass.

Species with a “high” invasive rating by the Cal-IPC have the potential to cause severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment, and most are widely distributed ecologically (Cal-IPC 2025). Within the project alignment the following species with a “high” rating were observed: French broom (*Genista monspessulana*) and Himalayan blackberry. French broom was found scattered within the California annual grassland biotic habitat in areas with other non-native species. Himalayan blackberry was found within private residence’s landscaped areas along fencelines and within the understory of the mixed riparian forest and woodland. Due to their ubiquity in the region, project activities are not expected to result in the increase or spread of non-native and invasive plant species.

Section 5. Impacts and Mitigation Measures

CEQA and the State CEQA Guidelines provide guidance in evaluating impacts of projects on biological resources and determining which impacts will be significant. The Act defines “significant effect on the environment” as “a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.”

Appendix G of State CEQA Guidelines provides a checklist of other potential impacts to consider when analyzing the significance of project effects. The impacts listed in Appendix G (Chapter IV) may or may not be significant, depending on the level of the impact. For biological resources, these impacts include whether the project would:

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

Potential impacts on biological resources as a result of the proposed project were systematically evaluated at the project level. These impacts were first evaluated to qualitatively describe how proposed project activities could impact biological resources, and whether impacts would be temporary (i.e., occurring only during project construction and the period immediately following) or permanent. Following is an assessment of potential project impacts on biological resources. The impact assessment below is structured based on the six significance criteria (A–F) listed above.

5.1 Impacts on Special-Status Species: Have a substantial adverse effect, either directly or through habitat modifications, on any species

identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS (Less than Significant with Mitigation)

5.1.1 Impacts on Regionally Common Habitats and Associated Common Plant and Wildlife Species (Less than Significant)

Proposed project activities would result in 2.55 acre of permanent impacts on California annual grassland, landscaped, developed, oak woodland, and roadside ditch habitat within the project footprint, and temporary impacts on an additional 0.95 acre of these habitats. These impacts would reduce the extent of vegetation within the impact area and would result in a reduction in abundance of some of the common plant and wildlife species that occur on the site. However, the area of these habitats to be impacted occurs in a location in Sonoma County that has been subject to disturbance and fragmentation in the past and is embedded within a highly converted suburban and agricultural area, such that these areas do not provide regionally rare or especially high-value habitat for native vegetation or wildlife, or special-status species. In addition, these habitat types are abundant and widespread regionally and are not particularly sensitive, and the roadside habitat within the project footprint is not especially valuable (from the perspective of providing important plant or wildlife habitat or an exemplary occurrence of this habitat type). Therefore, impacts on these habitats are considered less than significant. Further, because the number of individuals of any common plant or animal species within this habitat, and the proportion of these species' regional populations that could be disturbed, is very small, the project's impacts would not substantially reduce regional populations of these species. Thus, these impacts do not meet the CEQA standard of having a *substantial* adverse effect and would not be considered significant under CEQA.

5.1.2 Impacts on Special-Status Plants (No Impact)

As described above, no special-status plant species have potential to occur on or adjacent to the project site. Therefore, the project will have no impact on these species.

5.1.3 Impacts on the California Red-legged Frog, California Giant Salamander, and Northwestern Pond Turtle (Less than Significant with Mitigation)

While California red-legged frogs, California giant salamanders, and northwestern pond turtles are not expected to reside or breed on the project site, occasional individuals from nearby populations may opportunistically occupy non-breeding aquatic or terrestrial habitats in the project area, especially during the wet season. The number of non-breeding individuals in the project area is expected to be very low, if these species occur at all, due to the limited extent and low quality of aquatic habitats in the project area and the dispersal impediments imposed by surrounding development. Although individuals are expected to occur in the study area only on an occasional basis, if it all, if individuals are present during construction activities, injury or mortality of individuals could result from vegetation removal, grading, excavation, and movement of personnel and heavy equipment. Seasonal movements may be temporarily and locally affected during construction activities because of disturbance, and substrate vibrations may cause individuals to move out of refugia, exposing them to a greater

risk of predation or desiccation. In addition, petrochemicals, hydraulic fluids, and solvents that are spilled or leaked from construction vehicles or equipment may kill individuals. Further, increases in human concentration and activity in the vicinity of potentially suitable dispersal habitat may result in an increase in native and nonnative predators that would be attracted to trash left at the work site and that would prey opportunistically on individuals of this species. The project would result in impacts to up to 2.34 ac of non-developed habitat types that could potentially be used by this species during dispersal. Such habitat is of low value to the species due to the paucity of high-quality cover and refugia, and the roadways (e.g., Mirabel Road, Trenton Road, etc.) that these species would need to traverse to reach these habitat areas, and thus, impacts on potential habitat of these species are less than significant. Nevertheless, in the absence of avoidance and minimization measures, potential impacts to individual California red-legged frogs, California giant salamanders, and northwestern pond turtles would be considered significant due to these species' regional rarity. Implementation of Mitigation Measures 1-6 described below would reduce project impacts on these species to a less-than-significant level.

Mitigation Measure 1. Seasonal Work Restrictions. Work will be avoided within non-developed habitat from October 15 (or the first measurable fall rain of 1 inch or greater) to April 15. If avoidance is not feasible, work may be performed during the wet season in upland areas where clearing and grubbing have already been completed, so that habitat conditions for special-status species are no longer suitable, and where exclusion fencing isolates suitable habitats from the work area.

Mitigation Measure 2. Worker Environmental Awareness Training. All construction personnel will attend a mandatory Worker Environmental Awareness Training Program delivered by a qualified biologist prior to working on the project site. The program will include an explanation of the laws protecting sensitive biological resources and how to best avoid and minimize impacts on sensitive habitats and species.

Mitigation Measure 3. Preconstruction surveys. A qualified biologist will conduct pre-construction surveys for California red-legged frogs, California giant salamanders, and northwestern pond turtles in potential habitat no more than 48 hours prior to commencement of project activities. If individuals are found, work will not begin until the individuals have moved on their own, or are relocated by a qualified biologist (which would require USFWS and CDFW approval), out of the construction zone to an appropriate relocation site. In the unlikely event that individual California red-legged frogs are present, consultation with the USFWS under the Federal Endangered Species Act may be necessary before individuals are impacted.

Mitigation Measure 4. Construction Monitoring. A qualified biologist will be present for initial ground disturbing activities, including vegetation clearing and grubbing. If any California red-legged frogs, California giant salamanders, or northwestern pond turtles are detected within areas where they could be impacted by project activities, they will be allowed to move out of the impact areas on their own. If they will not do so, the qualified biologist will relocate any individuals found within the impact area to appropriate locations outside the site (which would require USFWS and CDFW approval). Following the completion of initial clearing and grubbing, the qualified biologist will inspect the site weekly during the

remainder of construction activities. If an animal that is thought to potentially be a California red-legged frog, California giant salamander, or northwestern pond turtle is detected by construction personnel, all work that could affect the animal will stop; a qualified biologist will be contacted; and the qualified biologist will determine whether the animal is a California red-legged frog, California giant salamander, or northwestern pond turtle and relocate the animal as described above.

Mitigation Measure 5. Monofilament Plastic. No monofilament plastic will be used in erosion control features to avoid entanglement of frogs, salamanders, or turtles.

Mitigation Measure 6. Inspection of Open Trenches. Construction personnel will inspect open trenches in the morning and evening for trapped California red-legged frogs, California giant salamanders, and northwestern pond turtles. If any individuals are found trapped, all work that could affect the animal will stop; a qualified biologist will be contacted; and the qualified biologist will determine whether the animal is a California red-legged frog, California giant salamander, or northwestern pond turtle and relocate the animal as described above.

5.1.4 Impacts on Nesting Birds (Less than Significant)

Several species of common native birds protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code may nest in trees and shrubs on the site or immediately adjacent to the site. During the avian breeding season (generally February 1 through August 31), the removal of vegetation supporting active nests may cause the direct loss of eggs or young, while construction-related activities located near an active nest may cause adults to abandon their eggs or young. This type of impact would not be significant under CEQA, in our opinion, because of the local and regional abundances of the species that could potentially nest on the site and the very low magnitude of the potential impact of development on these species (i.e., the project is expected to impact only a few pairs of these species, which is not a substantial impact on their regional populations). Thus, in our opinion, no mitigation measures are warranted to avoid and minimize project impacts on nesting birds under CEQA. Nevertheless, because all native bird species that could nest on or adjacent to the project site are protected by the federal MBTA and the California Fish and Game Code, we recommend that the project implement the following measures to avoid and minimize impacts on nesting birds during project construction.

Recommended Measure A. Nesting-Season Avoidance. To the extent feasible, construction activities should be scheduled to avoid the nesting season. If construction activities are scheduled to take place outside the nesting season, all impacts to nesting birds protected under the MBTA and California Fish and Game Code would be avoided. The nesting season for most birds in Sonoma County extends from February 1 through August 31, inclusive.

Recommended Measure B. Preconstruction/Pre-disturbance Surveys and Buffers. If it is not feasible to schedule construction activities and/or tree removal between September 1 and January 31, preconstruction surveys for nesting birds shall be conducted by a qualified biologist to ensure that no nests shall be disturbed

during project implementation. These surveys shall be conducted no more than seven days prior to the initiation of demolition or construction activities, including tree removal and pruning. During this survey, the biologist shall inspect all trees and other potential nesting habitats (e.g., trees, shrubs, ruderal grasslands, buildings) in and immediately adjacent to the impact areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the biologist shall determine the extent of a construction-free buffer zone to be established around the nest (typically 300 feet for raptors and 100 feet for other species), to ensure that no nests of species protected by the MBTA and California Fish and Game Code shall be disturbed during project implementation.

5.1.5 Impacts on Roosting Bats (Less than Significant)

An examination of trees and structures on and adjacent to the project site failed to detect any cavities or crevices large enough to provide high-quality habitat for a roosting or maternity colony of common or special-status bat species. If an individual bat is roosting in a tree to be removed, it is likely that the bat would flush before it could be injured or killed directly. Also, if bats are roosting in trees just outside the impact area, noise or other disturbance could cause those bats to flush from their roost sites. Such bats could be subject to a higher predation risk if flushed during the daytime. However, given the low quality of bat roosting habitat in trees within and near the impact area, the number of bats that could be displaced from roosts and suffer higher predation risk is low. Also, no high-quality bat roost habitat will be directly removed by the project. As a result, the project is expected to have very little impact (if any) on common or special-status species of bats, and no mitigation measures are warranted to avoid and minimize project impacts on roosting bats under CEQA, in our opinion.

5.1.6 Impacts on Special-Status Species Downstream from the Project Site (Less than Significant)

Although no suitable habitat for special-status fish or foothill yellow-legged frogs is present on or immediately adjacent to the project site, these species are known to be present just outside the project site (to the north) along the Russian River. Given the much greater flow in the Russian River, compared to the roadside ditches and the intermittent stream on the project site, it is highly unlikely that any project activities could adversely affect water quality to the point that fish, foothill yellow-legged frogs, or other species in and along the Russian River would be significantly impacted, as materials washed into the Russian River would be quickly diluted. Nevertheless, if spills of chemicals or fuels were to occur during project implementation, those toxins could reach the Russian River, potentially killing or impairing the health of aquatic animals.

Project development also has the potential to cause indirect impacts on wetlands due to changes in water quality. However, the project will follow a Stormwater Pollution Prevention Plan as per the National Pollutant Discharge Elimination System (NPDES) *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit; Water Board Order No. 2009-0009-DWQ). Further, construction projects in California causing land disturbances that are equal to 1 acre or greater must comply with State requirements to control the discharge of stormwater pollutants under the California Regional Water

Quality Control Board, North Coast Region, Order No. R1-2015-0030, NPDES No. CA0025054, NPDES Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4). Prior to the start of construction/demolition, a Notice of Intent must be filed with the State Water Board describing the project. A Storm Water Pollution Prevention Plan must be developed and maintained during the project and it must include the use of BMPs to protect water quality until the site is stabilized. Standard permit conditions under the Construction General Permit require that the applicant utilize various measures including: on-site sediment control best management practices, damp street sweeping, temporary cover of disturbed land surfaces to control erosion during construction, and utilization of stabilized construction entrances and/or wash racks, among other factors. Immediately after completion of project components located in the riparian habitat, and before close of seasonal work window, stabilize all exposed soil with mulch, seeding, and/or placement of erosion control blankets.

The project will implement low impact design features to treat stormwater for increases in impermeable surfaces as a part of the project to prevent long term impacts to water quality as a result of the project.

Compliance with the Statewide Construction General Permit and the MS4 and with implementation of stormwater treatment features will ensure that stormwater runoff leaves the site free of substantial amounts of sedimentation and pollutants, maintaining that impacts to water quality and special status species downstream from the project site are less than significant, due to the sensitivity of the special status species to water quality.

5.2 Impacts on Sensitive Communities: 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 (Less than Significant with Mitigation)

5.2.1 Impacts on Riparian/Stream Habitat and Other Sensitive Communities (Less than Significant with Mitigation)

The CDFW defines sensitive natural communities and vegetation alliances using NatureServe's standard heritage program methodology (CDFW 2025), as described above in Section 4.3. Riparian habitats are also protected under applicable state or local regulations, and are generally subject to regulation, protection, or consideration by the RWQCB and CDFW. Project impacts on sensitive natural communities, vegetation alliances/associations, or any such community identified in local or regional plans, policies, and regulations, were considered and evaluated. Riparian habitats contribute disproportionately high habitat values for wildlife and ecological functions relative to their extent, and the permanent conversion or loss of even small amounts of this habitat type would be considered significant under CEQA. Impacts to riparian habitats, which fall under the jurisdiction of the CDFW will require a Lake or Streambed Alteration Agreement from CDFW. Further, riparian habitats below top of bank are regulated by the RWQCB, and will therefore be subject to a Section 401 certification in the Clean Water Act from the RWQCB.

The riparian habitat along the intermittent stream is of moderate quality with a native overstory (i.e., native willows and one small coast live oak tree) and a mostly non-native understory (i.e., non-native annual grasses

and Himalayan blackberry). Based on a GIS overlay of the proposed project activities on mapped habitat types, the proposed project will permanently impact 0.002 acre of mixed riparian habitat and 0.0003 acre of intermittent stream habitat, and temporarily impact 0.007 acre of mixed riparian habitat and 0.001 acre of intermittent stream. The permanent impacts to both habitat types will be from the replacement and extension of two existing headwalls for the intermittent stream's concrete box culvert under Mirabel Road and laying a very small amount of new pavement in the understory. Only one young coast live oak constitutes the riparian canopy and it is not anticipated to be impacted from the project. Temporary impacts will be due to light trimming of the riparian canopy to allow equipment access during the replacement of the existing headwalls, herbaceous understory removal, construction access, and grading. Indirect impacts to riparian habitat will be avoided through compliance with the Statewide General Construction Permit and incorporation of stormwater treatment features required by regional stormwater orders.

In particular, the project would need to comply with the following applicable impact avoidance conditions and design criteria:

- Dewatering will be via a cofferdam/culvert system, and an active channel flow will be maintained during all work.
- Refueling or maintenance of large equipment will take place at least 50 feet outside the riparian habitat.

Even while complying with the avoidance and minimization measures above, project impacts to the riparian understory, loss of riparian habitat due to the expanded road structure, and trimming the overstory of any riparian and intermittent stream habitat would be considered a significant impact due to the high ecological value of these habitats. Implementation of Mitigation Measure 1 above, and Mitigation Measures 7 through 9 below will reduce this impact to a less than significant level.

Mitigation Measure 7. Riparian Vegetation Protection. Removal of riparian vegetation and trees will be limited to the minimum extent required to construct the project. All riparian trees to be avoided will be protected by installing orange construction fencing around the Tree Protection Zone (TPZ), which is defined as the dripline of their canopies. Any work that must take place within the TPZ must be observed by an arborist to help direct the work to protect the tree. Minimize pruning by tying back limbs, where possible, instead of trimming. Do not store materials within TPZ.

Mitigation Measure 8. Dewatering. Project-related construction activities will be performed outside of the rainy season, April 15–October 15, which will minimize year-round flows that may potentially need to be dewatered for Project activities. The project will comply with all measures in the general construction permit that pertain to dewatering and water quality protection.

Mitigation Measure 9. Compensate for Impacts to Mixed Riparian and Intermittent Stream Habitat. Permanent impacts within mixed riparian habitat and intermittent stream will be mitigated at a minimum 3:1 ratio (mitigation area to impact area). Prior to construction, the project proponent will purchase credits from a mitigation bank approved by the applicable resource agencies and/or prepare a Mitigation and Monitoring Plan (MMP) describing the habitat creation, restoration, and/or enhancement that will satisfy the mitigation

requirements for permanent impacts. Impacts on jurisdictional aquatic habitat may not commence until the adequate credits in a mitigation bank have been purchased and/or any relevant regulatory agencies approve the MMP, so that the total mitigation requirement is satisfied. A MMP would include enhancement of the a riparian corridor in the region of Sonoma County within the Russian River watershed. This enhancement would consist of seeding of native vegetation appropriate to the site, and management of any particularly noxious occurrences of invasive plants, in a way that will enhance the structure and function of the riparian habitat.

The MMP would be prepared by a qualified restoration ecologist and would include the following:

- a summary of riparian and wetland impacts and the proposed riparian and wetland enhancement mitigation
- goals of the restoration to achieve no net loss of habitat functions and values
- the location of the mitigation site and description of existing site conditions
- mitigation design:
 - existing and proposed site hydrology, geomorphology, and geotechnical stability, if applicable
 - grading plan if appropriate, including bank stabilization or other site stabilization features
 - soil amendments and other site preparation elements as appropriate
 - planting/seeding plan with riparian or wetland species, such as meadow barley (*Hordeum brachyantherum*), wild rye (*Elymus triticooides*), and California brome (*Bromus carinatus*)
 - irrigation and maintenance plan
 - construction schedule
- monitoring plan (including specific, objective final and performance criteria, monitoring methods, data analysis, reporting requirements, monitoring schedule, etc.). Performance criteria will include maintaining a maximum of 5% cover of invasive species and 70% cover of non-invasive species, where invasive species are defined as species that are ranked as High by Cal-IPC.
- a contingency plan for mitigation elements that do not meet performance or final success criteria within 5 years; this plan will include specific triggers for remediation if performance criteria are not being met.

Temporarily impacted areas of mixed riparian and intermittent stream habitat will be restored on site in place at a 1:1 ratio through clearing and grubbing of invasive species such as Himalayan blackberry and greater periwinkle, applying a native seed mix, and three years of photo monitoring.

5.3 Impacts on Wetlands: 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 (Less than Significant with Mitigation)

Wetland and aquatic habitats that may be subject to the regulatory jurisdiction of the Clean Water Act Section 404 with USACE and Section 401 with RWQCB are present in the project area. Wetlands are relatively scarce

regionally, and even small wetland areas make disproportionate contributions to water quality, groundwater recharge, watershed function, and wildlife habitat in the region. Thus, any permanent loss or temporary disturbance of wetland habitat because of the project would be considered significant under CEQA (Criterion G). Aquatic habitat associated with the unnamed stream are discussed in Section 5.2.1 above.

Roadside ditches, including those with seasonal wetlands in them, will not be converted to underground storm drains and instead will be relocated, in an effort to reduce impacts to aquatic habitat.

Project activities will permanently impact 0.040 acre of forested wetland, 0.029 acre of seasonal wetland, and 0.001 acre of perennial emergent wetland, for a total of 0.070 acre. Project activities do not include temporary impacts to forested wetland, seasonal wetland, or perennial emergent wetland habitat. Permanent impacts will be due to filling and paving with asphalt. Dewatering will be via a cofferdam/culvert system, and an active channel flow will be maintained during all work. No substantial effects on water drainage or on the contributing watershed are anticipated to occur from construction.

Loss or degradation of sensitive habitats such as wetlands from project impacts could be significant unless mitigated due to the important ecological functions these habitats provide. Implementation of Mitigation Measures 1, 7, 8, and 10 will reduce impacts on wetlands to a less-than-significant level.

Mitigation Measure 10. Compensatory Mitigation for Wetland Habitats. Mitigation for temporary or permanent impacts on wetlands may be achieved through one or more options, potentially including (but not limited to):

- onsite restoration or creation of wetlands or aquatic habitats (including removal of onsite fill) if feasible onsite restoration opportunities exist;
- offsite restoration/creation of wetlands; or
- purchase of 0.08 acre of mitigation credits at approved mitigation banks within the Sonoma County region (e.g., East Austin Creek Conservation Bank or Hale Mitigation Bank may provide appropriate wetland mitigation credits and the site is within the banks' service area).

While none are anticipated, if forested wetland, seasonal wetland, or perennial emergent wetland habitat turn out to be temporarily impacted by project activities (i.e., non-grading activities that don't change the hydrology or topography) in the final project design, it will be restored in-place at 1:1 (restoration area: impact area) within one year or less using a native seed mix. For permanent impacts, if bank credits are purchased as mitigation, the amount of compensatory mitigation provided will be at least 2:1 (i.e., at least equivalent to double the acreage of jurisdictional wetlands permanently impacted). If wetlands are created as mitigation (permittee-responsible mitigation), the amount of compensatory mitigation provided will be at least 2:1 to account for the time required for created wetland to reach maturation and replace the ecological function of the impacted wetland habitat. This permittee-responsible mitigation would be outlined in an MMP under the same

requirements described under MM 9. Success criteria for wetlands will include a maximum of 5% cover of species ranked as High by Cal-IPC and 70% cover of non-invasive species.

5.4 Impacts on Wildlife Movement: 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 (Less than Significant)

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

The roads and residential development that are currently present in the project area already restrict wildlife movement to some extent. The proposed road expansion would not result in the further fragmentation of natural habitats and the wildlife that currently move in and around the project site, as the project will only slightly widen an existing road. To the extent that animals already move along and across the project alignment, they will be able to continue to do so following project completion. Thus, the project would not interfere substantially with the movement of any native resident, migratory fish, wildlife species, or migratory wildlife corridors in the site vicinity.

5.5 Impacts due to Conflicts with Local Policies: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Less than Significant)

Per Section 26-88-010(M) Tree Protection Ordinance of the Sonoma County regulations, redwoods with single stem diameter at breast height (dbh) exceeding 48 inches and oaks and other hardwoods with single stem dbh exceeding 36 inches are protected. Similarly, there is a protected area surrounding these trees, the radius of which is at least 1.5 times the distance from trunk to outermost extent of canopy. Trees subject to the Tree Protection Ordinance are anticipated to be impacted. The removal or pruning of trees protected by Sonoma County regulations is considered potentially significant under CEQA (Criterion I). As such, the project would comply with the County regulations for all trees removed, including obtaining a use permit, which requires mitigation through replacement or in-lieu payment.

With compliance with Sonoma County regulations, any potential impacts related to conflict with local policies or ordinances involving protecting trees would be less than significant.

5.6 Impact due to Conflicts with an Adopted Habitat Conservation

Plan: Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan (No Impact)

The project site is not located within an area covered by an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, the project would not conflict with any such plans.

5.7 Cumulative Impacts

Cumulative impacts arise due to the linking of impacts from past, current, and reasonably foreseeable future projects in the region. Future development activities in Sonoma County will result in impacts on the same habitat types and species that will be affected by the proposed project. The proposed project, in combination with other projects in the area and other activities that impact the species that are affected by this project, could contribute to cumulative effects on special-status species. Other projects in the area include office/retail/commercial development, mixed use, and residential projects that could adversely affect these species.

The cumulative impact on biological resources resulting from the project in combination with other projects in the larger region would be dependent on the relative magnitude of adverse effects of these projects on biological resources compared to the relative benefit of impact avoidance and minimization efforts prescribed by planning documents, CEQA mitigation measures, and permit requirements for each project; and compensatory mitigation and proactive conservation measures associated with each project. In the absence of such avoidance, minimization, compensatory mitigation, and conservation measures, cumulatively significant impacts on biological resources would occur.

However, many projects in the region that impact resources similar to those impacted by the project will be subject to CEQA requirements. It is expected that such projects will mitigate their impacts on sensitive habitats and special-status species through the incorporation of mitigation measures and compliance with permit conditions.

Regardless of the magnitude and significance of cumulative impacts that result from other projects, the project is not expected to have a substantial effect on biological resources, and would implement the mitigation measure described above to reduce impacts under CEQA to less than significant levels. Thus, provided that this project successfully incorporates the mitigation measures described in this biological resources report, the project will not have a cumulatively considerable contribution to cumulative effects on biological resources.

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Appendix A. Plant Species Observed

Family	Scientific Name	Common Name	Cal-IPC Rank ¹
GYMNOSPERMS			
CUPRESSACEAE – CYPRESS FAMILY			
	<i>Juniperus</i> sp. ²	juniper	
	<i>Sequoia sempervirens</i>	coast redwood	
EUDICOTS			
APIACEAE – CARROT FAMILY			
	<i>Daucus pusillus</i>	small daucus	
	<i>Foeniculum vulgare</i> *	fennel	Moderate
APOCYNACEAE – DOGBANE FAMILY			
	<i>Vinca major</i> *	greater periwinkle	Moderate
ASTERACEAE – SUNFLOWER FAMILY			
	<i>Carduus pycnocephalus</i> ssp. <i>pycnocephalus</i> *	Italian thistle	Moderate
	<i>Dittrichia graveolens</i> *	stinkwort	Moderate
	<i>Erigeron canadensis</i>	horseplant	
	<i>Helminthotheca echioides</i> *	bristly ox-tongue	Limited
	<i>Hypochaeris radicata</i> *	rough cat's-ear	Moderate
	<i>Lactuca serriola</i> *	prickly lettuce	
	<i>Senecio vulgaris</i> *	common groundsel	
	<i>Sonchus oleraceus</i> *	common sow thistle	
	<i>Taraxacum officinale</i> *	common dandelion	
BORAGINACEAE – BORAGE FAMILY			
	<i>Amsinckia intermedia</i>	Common fiddleneck	
BRASSICACEAE – MUSTARD FAMILY			
	<i>Hirschfeldia incana</i> *	Summer mustard	Moderate
	<i>Lepidium nitidum</i>	shining peppergrass	
	<i>Nasturtium officinale</i>	water cress	
	<i>Raphanus sativus</i> *	wild radish	Limited
CHENOPODIACEAE – GOOSEFOOT FAMILY			
	<i>Chenopodium</i> sp.	amaranth	
FABACEAE – LEGUME FAMILY			
	<i>Acacia</i> sp.*	acacia	
	<i>Genista monspessulana</i> *	French broom	High
	<i>Medicago polymorpha</i> *	variable burclover	Limited

Family	Scientific Name	Common Name	Cal-IPC Rank¹
	<i>Trifolium</i> sp.	clover	
	<i>Vicia sativa</i> *	garden vetch	
FAGACEAE – OAK FAMILY			
	<i>Quercus agrifolia</i>	coast live oak	
	<i>Quercus lobata</i>	valley oak	
	<i>Quercus rubra</i>	Northern red oak	
GERANIACEAE – GERANIUM FAMILY			
	<i>Erodium botrys</i> *	big heron bill	
	<i>Erodium moschatum</i> *	whitestem filaree	
	<i>Geranium molle</i> *	soft geranium	
	<i>Geranium robertianum</i> *	Robert's geranium	
LAMIACEAE – MINT FAMILY			
	<i>Mentha pulegium</i> *	pennyroyal	Moderate
MALVACEAE – MALLOW FAMILY			
	<i>Malva</i> sp.*	mallow	
MONTIACEAE – MINER'S-LETTUCE FAMILY			
	<i>Claytonia perfoliata</i>	miner's lettuce	
MYRSINACEAE – MYRSINE FAMILY			
	<i>Lysimachia arvensis</i> *	scarlet pimpernel	
MYRTACEAE – MYRTLE FAMILY			
	<i>Eucalyptus globulus</i> *	blue gum	Moderate
OLEACEAE – OLIVE FAMILY			
	<i>Ligustrum</i> sp.*	privet	
OXALIDACEAE – OXALIS FAMILY			
	<i>Oxalis pes-caprae</i> *	Bermuda buttercup	Moderate
PAPAVERACEAE – POPPY FAMILY			
	<i>Eschscholzia californica</i>	California poppy	
PLANTAGINACEAE – PLANTAIN FAMILY			
	<i>Kickxia elatine</i> *	sharp-leaved kickxia	
	<i>Plantago lanceolata</i> *	English plantain	Limited
	<i>Veronica persica</i> *	Persian speedwell	
POLYGONACEAE – BUCKWHEAT FAMILY			
	<i>Rumex acetosella</i> *	acidic dock	Moderate
	<i>Rumex crispus</i> *	curly dock	Limited
ROSACEAE – ROSE FAMILY			
	<i>Rosa</i> sp.*	rose	
	<i>Rubus armeniacus</i> *	Himalayan blackberry	High

Family	Scientific Name	Common Name	Cal-IPC Rank ¹
RUBIACEAE – COFFEE FAMILY			
	<i>Galium porrigens</i>	climbing bedstraw	
SALICACEAE – WILLOW FAMILY			
	<i>Salix</i> sp.	willow	
SAPINDACEAE – SOAPBERRY FAMILY			
	<i>Aesculus californica</i>	California buckeye	
MONOCOTS			
CYPERACEAE – SEDGE FAMILY			
	<i>Cyperus eragrostis</i>	tall flatsedge	
JUNCACEAE – RUSH FAMILY			
	<i>Juncus</i> sp.	rush	
POACEAE – GRASS FAMILY			
	<i>Avena barbata</i> *	slender wild oat	Moderate
	<i>Avena</i> sp.*	oat	
	<i>Bromus</i> sp.	brome	
	<i>Cynodon dactylon</i> *	Bermuda grass	Moderate
	<i>Festuca perennis</i> *	Italian rye grass	Moderate
	<i>Holcus lanatus</i> *	common velvet grass	Moderate
	<i>Paspalum distichum</i>	knot grass	
	<i>Poa annua</i> *	annual blue grass	
TYPHACEAE – CATTAIL FAMILY			
	<i>Typha</i> sp.	cattail	

¹ Cal-IPC Rank

High – These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate – These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited – These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

² Non-Native

-- = Species could not be identified, therefore indicator status was not assigned

Appendix B. Special-Status Plants Considered for Potential Occurrence

Common Name	Scientific Name	Suitable Habitat Absent	Edaphic Conditions Absent	Outside Elevation Range	Extirpated from Project Vicinity
pink sand-verbena	<i>Abronia umbellata</i> var. <i>breviflora</i>	x			
Blasdale's bent grass	<i>Agrostis blasdalei</i>	x			
Franciscan onion	<i>Allium peninsulare</i> var. <i>franciscanum</i>		x		
Sonoma alopecurus	<i>Alopecurus aequalis</i> var. <i>sonomensis</i>	x			x
Napa false indigo	<i>Amorpha californica</i> var. <i>napensis</i>	x			
bent-flowered fiddleneck	<i>Amsinckia lunaris</i>				x
coast rockcress	<i>Arabis blepharophylla</i>		x		
Baker's manzanita	<i>Arctostaphylos bakeri</i> ssp. <i>bakeri</i>		x	x	
Cedars manzanita	<i>Arctostaphylos bakeri</i> ssp. <i>sublaevis</i>	x	x	x	
Vine Hill manzanita	<i>Arctostaphylos densiflora</i>	x			
Howell's manzanita	<i>Arctostaphylos hispidula</i>	x		x	
Rincon Ridge manzanita	<i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i>	x			x
serpentine milkweed	<i>Asclepias solanoana</i>		x	x	
Sonoma sunshine	<i>Blennosperma bakeri</i>		x		x
narrow-anthered brodiaea	<i>Brodiaea leptandra</i>		x	x	
Bolander's reed grass	<i>Calamagrostis bolanderi</i>				x
Thurber's reed grass	<i>Calamagrostis crassiglumis</i>	x			
serpentine reed grass	<i>Calamagrostis ophitidis</i>		x		
Cedars fairy-lantern	<i>Calochortus raichei</i>	x	x	x	
pink star-tulip	<i>Calochortus uniflorus</i>	x			
Mt. Saint Helena morning-glory	<i>Calystegia collina</i> ssp. <i>oxyphylla</i>		x	x	

Common Name	Scientific Name	Suitable Habitat Absent	Edaphic Conditions Absent	Outside Elevation Range	Extirpated from Project Vicinity
coastal bluff morning-glory	<i>Calystegia purpurata</i> ssp. <i>saxicola</i>				x
bristly sedge	<i>Carex comosa</i>				x
johnny-nip	<i>Castilleja ambigua</i> var. <i>ambigua</i>				x
Monterey Coast paintbrush	<i>Castilleja latifolia</i>				x
Pitkin Marsh paintbrush	<i>Castilleja uliginosa</i>	x		x	
Rincon Ridge ceanothus	<i>Ceanothus confusus</i>		x		
Vine Hill ceanothus	<i>Ceanothus foliosus</i> var. <i>vineatus</i>	x			
glory brush	<i>Ceanothus gloriosus</i> var. <i>exaltatus</i>	x			
Point Reyes ceanothus	<i>Ceanothus gloriosus</i> var. <i>gloriosus</i>	x			
holly-leaved ceanothus	<i>Ceanothus purpureus</i>		x	x	
pappose tarplant	<i>Centromadia parryi</i> ssp. <i>parryi</i>	x	x		
dwarf soaproot	<i>Chlorogalum pomeridianum</i> var. <i>minus</i>	x		x	
Point Reyes salty bird's-beak	<i>Chloropyron maritimum</i> ssp. <i>palustre</i>	x			
San Francisco Bay spineflower	<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i>	x			
woolly-headed spineflower	<i>Chorizanthe cuspidata</i> var. <i>villosa</i>	x			
Sonoma spineflower	<i>Chorizanthe valida</i>	x			
Franciscan thistle	<i>Cirsium andrewsii</i>		x		
Vine Hill clarkia	<i>Clarkia imbricata</i>	x			x
serpentine collomia	<i>Collomia diversifolia</i>		x	x	
serpentine bird's-beak	<i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>		x	x	
Pennell's bird's-beak	<i>Cordylanthus tenuis</i> ssp. <i>capillaris</i>	x	x		
Peruvian dodder	<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	x			
Mendocino dodder	<i>Cuscuta pacifica</i> var. <i>papillata</i>	x			

Common Name	Scientific Name	Suitable Habitat Absent	Edaphic Conditions Absent	Outside Elevation Range	Extirpated from Project Vicinity
California lady's-slipper	<i>Cypripedium californicum</i>	x	x		
mountain lady's-slipper	<i>Cypripedium montanum</i>			x	
Baker's larkspur	<i>Delphinium bakeri</i>	x	x		
golden larkspur	<i>Delphinium luteum</i>	x	x		
western leatherwood	<i>Dirca occidentalis</i>				x
dwarf downingia	<i>Downingia pusilla</i>	x			
swamp harebell	<i>Eastwoodiella californica</i>				x
small spikerush	<i>Eleocharis parvula</i>	x			
California bottle-brush grass	<i>Elymus californicus</i>	x			
streamside daisy	<i>Erigeron biolettii</i>		x		
Greene's narrow-leaved daisy	<i>Erigeron greenei</i>	x			
serpentine daisy	<i>Erigeron serpentinus</i>	x			
Cedars buckwheat	<i>Eriogonum cedrorum</i>	x	x	x	
ternate buckwheat	<i>Eriogonum ternatum</i>	x	x	x	
slender cottongrass	<i>Eriophorum gracile</i>	x	x	x	
bluff wallflower	<i>Erysimum concinnum</i>	x			
San Francisco wallflower	<i>Erysimum franciscanum</i>		x		
bare monkeyflower	<i>Erythranthe nudata</i>		x	x	
minute pocket moss	<i>Fissidens pauperculus</i>	x			
fragrant fritillary	<i>Fritillaria liliacea</i>		x		
blue coast gilia	<i>Gilia capitata</i> ssp. <i>chamissonis</i>	x			
Pacific gilia	<i>Gilia capitata</i> ssp. <i>pacifica</i>		x		x
woolly-headed gilia	<i>Gilia capitata</i> ssp. <i>tomentosa</i>	x	x		
dark-eyed gilia	<i>Gilia millefoliata</i>	x			
congested-headed hayfield tarplant	<i>Hemizonia congesta</i> ssp. <i>congesta</i>		x		x
hogwallow starfish	<i>Hesperevax caulescens</i>		x		
short-leaved evax	<i>Hesperevax sparsiflora</i> var. <i>brevifolia</i>	x			
Marin western flax	<i>Hesperolinon congestum</i>		x		

Common Name	Scientific Name	Suitable Habitat Absent	Edaphic Conditions Absent	Outside Elevation Range	Extirpated from Project Vicinity
Point Reyes horkelia	<i>Horkelia marinensis</i>	x			
thin-lobed horkelia	<i>Horkelia tenuiloba</i>				x
harlequin lotus	<i>Hosackia gracilis</i>	x			
coast iris	<i>Iris longipetala</i>				x
small groundcone	<i>Kopsiopsis hookeri</i>				x
Burke's goldfields	<i>Lasthenia burkei</i>	x			
Baker's goldfields	<i>Lasthenia californica</i> ssp. <i>bakeri</i>	x			
perennial goldfields	<i>Lasthenia californica</i> ssp. <i>macrantha</i>	x			
Contra Costa goldfields	<i>Lasthenia conjugens</i>				x
legenere	<i>Legenere limosa</i>	x			
bristly leptosiphon	<i>Leptosiphon aureus</i>		x		
large-flowered leptosiphon	<i>Leptosiphon grandiflorus</i>				x
Jepson's leptosiphon	<i>Leptosiphon jepsonii</i>		x	x	
rose leptosiphon	<i>Leptosiphon rosaceus</i>	x			
Crystal Springs lessingia	<i>Lessingia arachnoidea</i>		x		
woolly-headed lessingia	<i>Lessingia hololeuca</i>		x		
Pitkin Marsh lily	<i>Lilium pardalinum</i> ssp. <i>pitkinense</i>				x
Sebastopol meadowfoam	<i>Limnanthes vinculans</i>		x		
Tidestrom's lupine	<i>Lupinus tidestromii</i>	x			
marsh microseris	<i>Microseris paludosa</i>				x
green monardella	<i>Monardella viridis</i>			x	
Baker's navarretia	<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>				x
many-flowered navarretia	<i>Navarretia leucocephala</i> ssp. <i>plieantha</i>	x			
Gairdner's yampah	<i>Perideridia gairdneri</i> ssp. <i>gairdneri</i>		x		
white-flowered rein orchid	<i>Piperia candida</i>		x		
narrow-petaled rein orchid	<i>Piperia leptopetala</i>			x	

Common Name	Scientific Name	Suitable Habitat Absent	Edaphic Conditions Absent	Outside Elevation Range	Extirpated from Project Vicinity
North Coast semaphore grass	<i>Pleuropogon hooverianus</i> x	x			x
Oregon polemonium	<i>Polemonium carneum</i>				x
Marin knotweed	<i>Polygonum marinense</i>	x			
Cunningham Marsh cinquefoil	<i>Potentilla uliginosa</i>	x			
Lobb's aquatic buttercup	<i>Ranunculus lobbii</i>	x			x
white beaked-rush	<i>Rhynchospora alba</i>	x			
California beaked-rush	<i>Rhynchospora californica</i>	x			
brownish beaked-rush	<i>Rhynchospora capitellata</i>	x			x
round-headed beaked-rush	<i>Rhynchospora globularis</i>	x			
Point Reyes checkerbloom	<i>Sidalcea calycosa</i> ssp. <i>rhizomata</i>	x			
purple-stemmed checkerbloom	<i>Sidalcea malviflora</i> ssp. <i>purpurea</i>				x
Scouler's catchfly	<i>Silene scouleri</i> ssp. <i>scouleri</i>				x
bearded jewelflower	<i>Streptanthus barbiger</i>	x		x	
Hoffman's bristly jewelflower	<i>Streptanthus glandulosus</i> ssp. <i>hoffmanii</i>		x	x	
Dorr's Cabin jewelflower	<i>Streptanthus morrisonii</i> ssp. <i>hirtiflorus</i>	x	x	x	
Morrison's jewelflower	<i>Streptanthus morrisonii</i> ssp. <i>morrisonii</i>	x		x	
whiteworm lichen	<i>Thamnolia vermicularis</i>	x			
two-fork clover	<i>Trifolium amoenum</i>		x		x
Santa Cruz clover	<i>Trifolium buckwestiorum</i>				x
saline clover	<i>Trifolium hydrophilum</i>		x		x
San Francisco owl's-clover	<i>Triphysaria floribunda</i>		x		
coastal triquetrella	<i>Triquetrella californica</i>				x
Methuselah's beard lichen	<i>Usnea longissima</i>		x		
oval-leaved viburnum	<i>Viburnum ellipticum</i>			x	