

# **BIOLOGICAL RESOURCES ASSESSMENT**

**WEST COUNTY TRAIL EXTENSION PROJECT  
PAJARO LANE TO HIGHWAY 116**

**FORESTVILLE**

**SONOMA COUNTY, CALIFORNIA**



**LSA**

August 2018

# **BIOLOGICAL RESOURCES ASSESSMENT**

**WEST COUNTY TRAIL EXTENSION PROJECT  
PAJARO LANE TO HIGHWAY 116  
FORESTVILLE  
SONOMA COUNTY, CALIFORNIA**

Submitted to:

Sonoma County Regional Parks Department  
2300 County Center Drive, Suite 120A  
Santa Rosa, California 95403

Prepared by:

LSA  
157 Park Place  
Point Richmond, California 94801  
(510) 236-6810

Project No. SOG1402



August 2018

## TABLE OF CONTENTS

<b>1.0 INTRODUCTION</b>	<b>1</b>
1.1 Regulatory Context	1
<b>2.0 METHODS</b>	<b>4</b>
<b>3.0 RESULTS</b>	<b>6</b>
3.1 Land Cover Types	6
3.1.1 Landscaped/Disturbed Annual Grassland	6
3.1.2 Riparian (Including Fringe Wetlands)	6
3.1.3 Oak Woodland	6
3.1.4 Stream Channel/Wetland	6
3.1.5 Soils	6
3.2 Special-Status Plants	7
3.3 Wildlife	7
3.4 Special-Status Wildlife	7
3.5 Potentially Jurisdictional Wetlands/Waters	11
3.5.1 Wetlands	11
3.5.2 Other Waters of the United States	11
3.5.3 Other Areas Investigated	12
<b>4.0 POTENTIAL IMPACTS</b>	<b>13</b>
<b>5.0 RECOMMENDATIONS</b>	<b>14</b>
<b>6.0 REFERENCES</b>	<b>15</b>

### FIGURES

Figure 1: Regional Location	2
Figure 2: Site Location	3
Figure 3: Potential Waters of the United States	5

### TABLES

Table A: Special-Status Species Evaluated	8
---	---

## 1.0 INTRODUCTION

This report presents the results of biological surveys conducted by LSA on the West County Trail Extension Project site. The site is located on Highway 116 in Forestville, and currently serves as the West County Regional Trail trailhead (Figures 1 and 2). The approximately 6-acre site includes Sonoma County Assessor's Parcel Numbers 083-270-001 and 083-270-002, and potentially sections of adjacent parcels.

This report describes survey methodologies, discusses survey results including vegetative communities and wildlife habitats present, special-status species potentially present, and the extent of regulated wetland features; discusses constraints to development; makes recommendations for additional biological resource surveys, and suggests mitigation measures for potential impacts to biological resources.

### 1.1 REGULATORY CONTEXT

The West County Trail Extension Project site is within the geographic range of several sensitive plant communities and special-status plant and animal species. It also contains other resources subject to the jurisdiction of state and federal regulatory agencies. These biological resources may fall under the agency jurisdictions and regulations listed below.

- The U.S. Fish and Wildlife Service (USFWS). Species listed as endangered, threatened or proposed under the federal Endangered Species Act (ESA) as well as species covered by the Eagle Protection Act and the Migratory Bird Treaty Act (MBTA).
- California Department of Fish and Wildlife (CDFW). Species listed as endangered, threatened or rare (plants) under the State Endangered Species Act (CESA) as well as designated species of special concern and fully protected species. California Fish and Game Code protected active bird nests by most bird species. Issues Lake and Streambed Alteration Agreement for impacts to lakes, streams, and associated riparian habitat.
- California Environmental Quality Act (CEQA).
- U.S. Army Corps of Engineers (Corps). Fill of waters/wetlands subject to the jurisdiction of Section 404 of the Clean Water Act.
- Regional Water Quality Control Board (RWQCB). Water quality certification under Section 401 of the Clean Water Act; Porter-Cologne water quality standards.
- California Rare Plant Rank (CRPR). CRPR Lists 1A, 1B, and 2, used by CDFW in CEQA analysis.

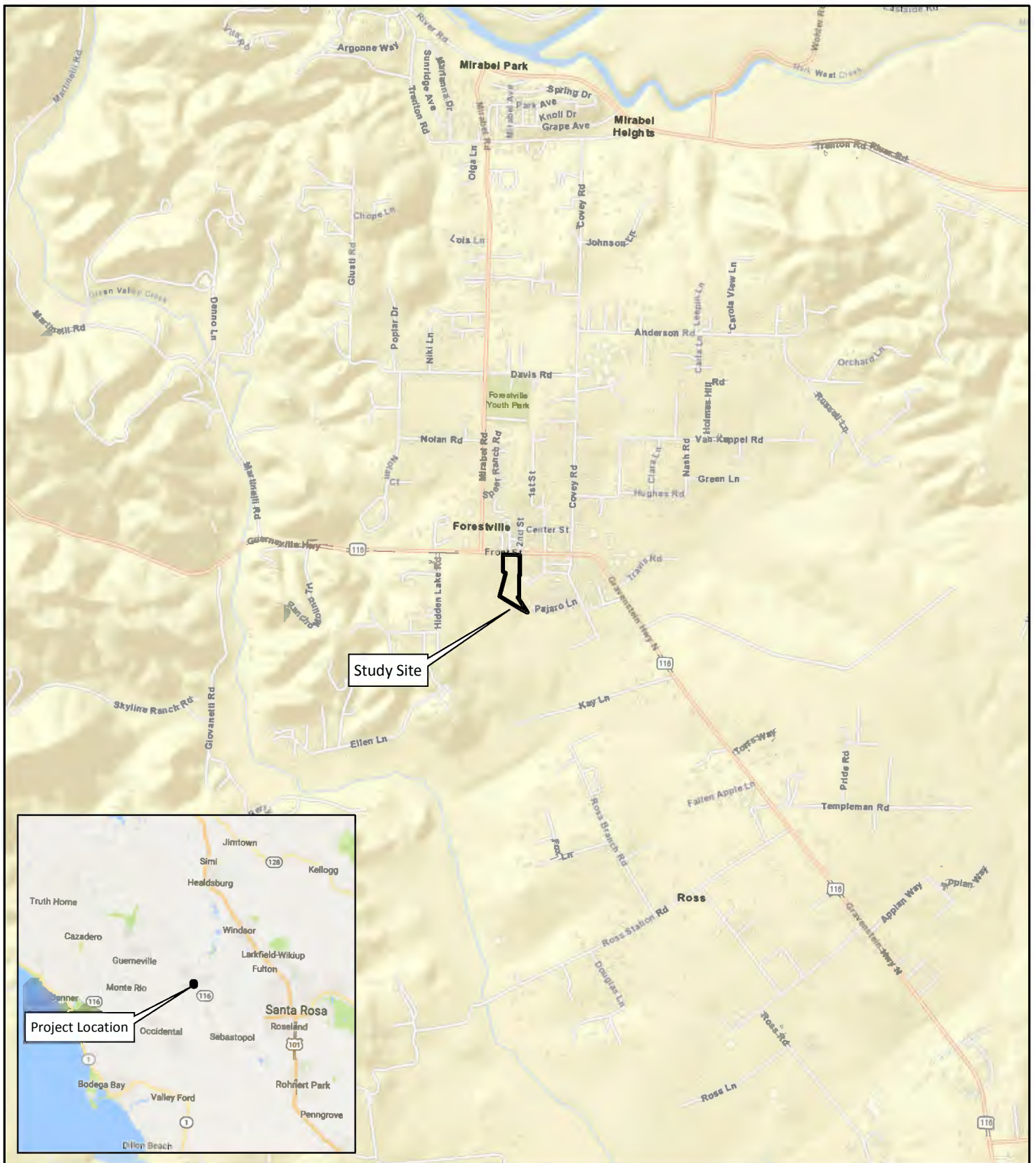
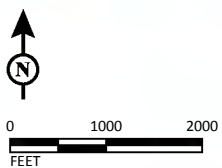


FIGURE 1

LSA



SOURCE: ESRI World Basemap, Google Streets.

I:\SOG1402\GIS\Maps\Figure 1\_Regional Location.mxd (8/9/2018)

West County Trail Extension Project  
 Forestville, Sonoma County, California  
 Regional Location

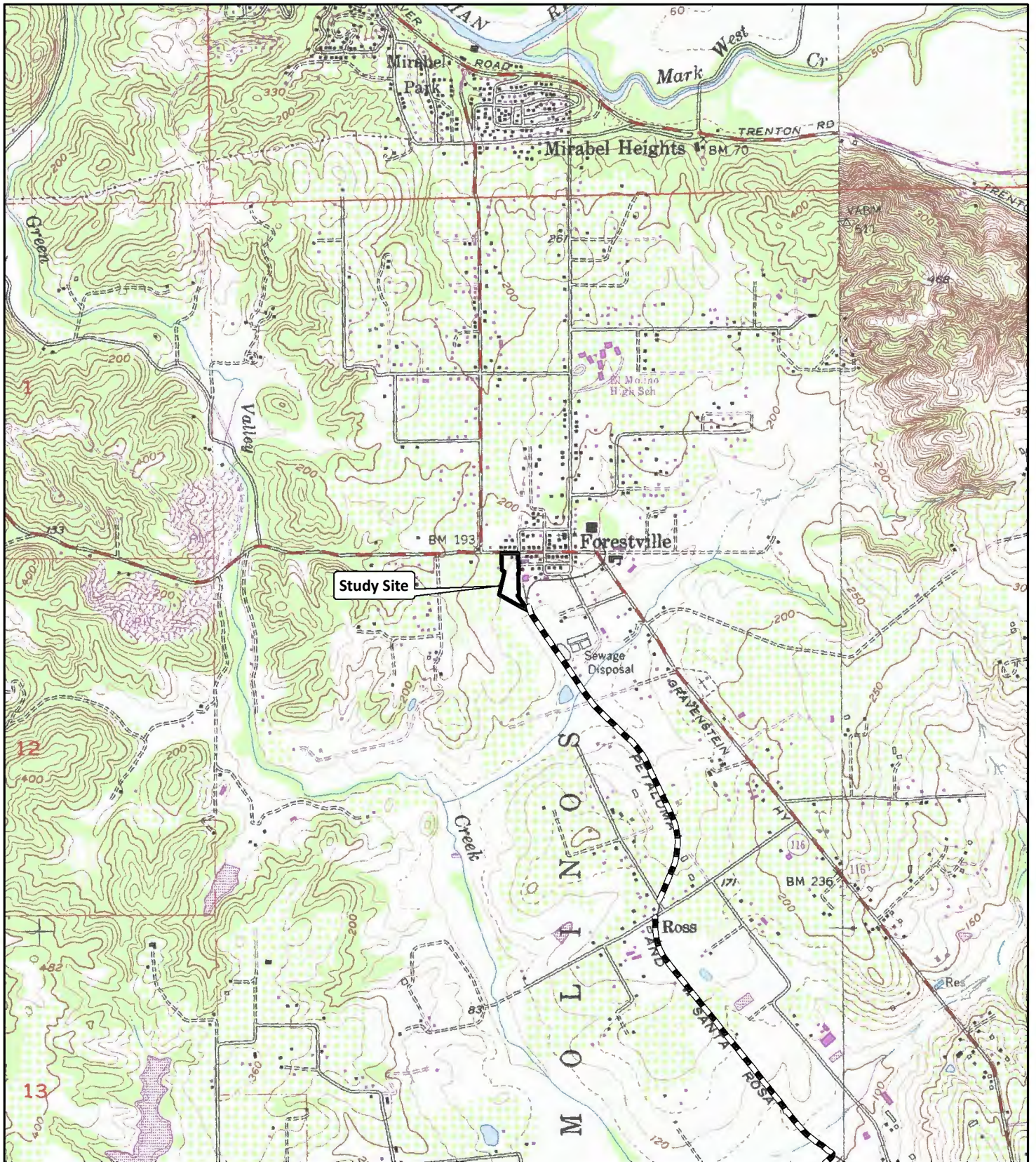
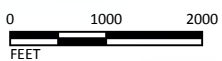


FIGURE 2

LSA

LEGEND

- Study Site
- West County Trail



SOURCE: 7.5-minute Quads: *Camp Meeker, Calif.* (1971), *Sebastopol, Calif.* (1980)

I:\SOG1402\GIS\Maps\Figure 2\_Site Location.mxd (8/9/2018)

*West County Trail Extension Project  
Forestville, Sonoma County, California  
Site Location*

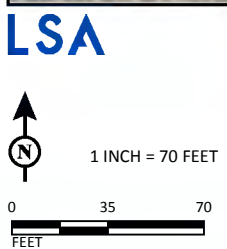
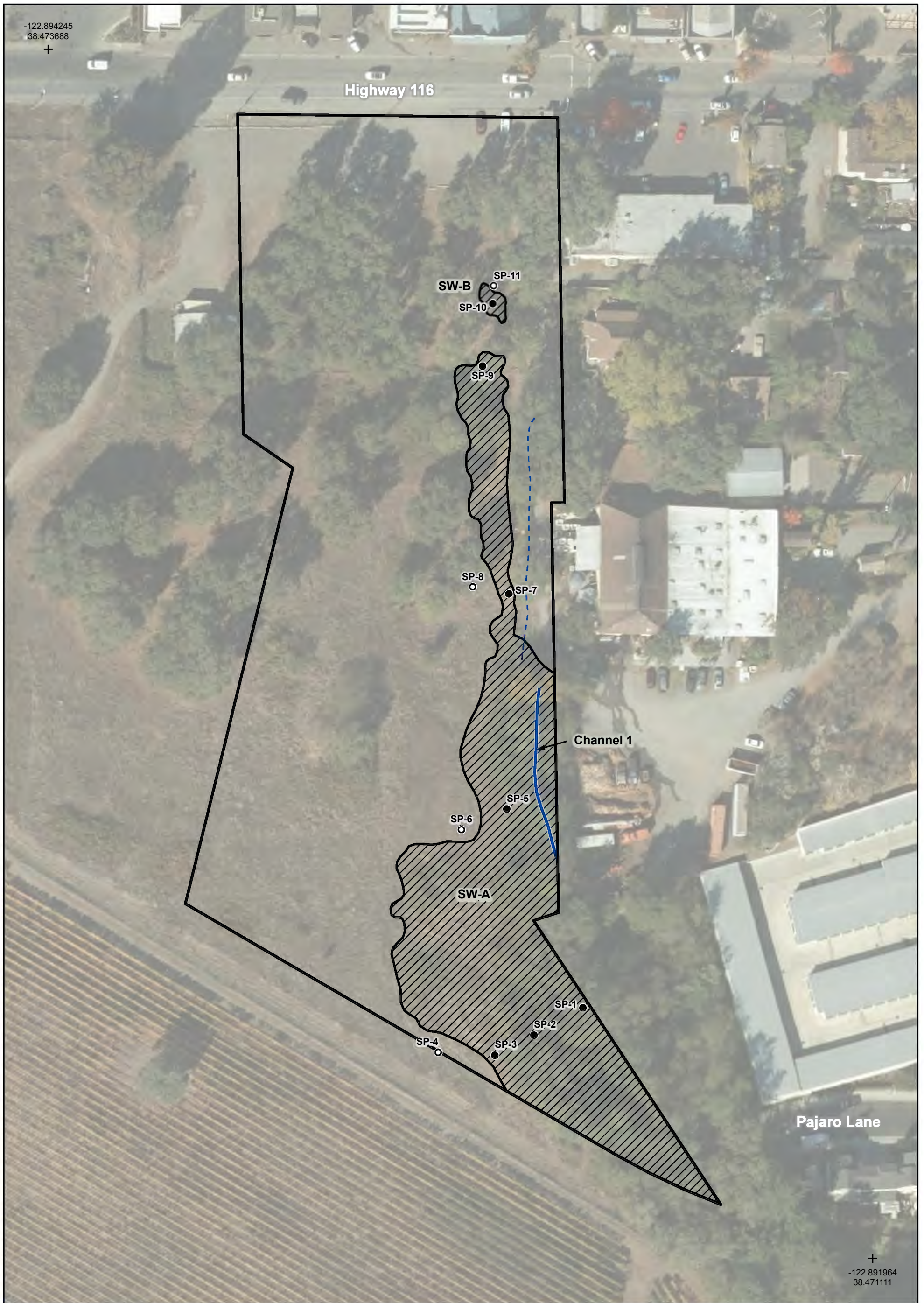
## 2.0 METHODS

Prior to the field visits, LSA biologists searched the CDFW's *California Natural Diversity Data Base* (CNDDDB) and the California Native Plant Society's (CNPS's) *Electronic Inventory of Rare and Endangered Vascular Plants of California* for records of special-status species or habitat in the project vicinity. Additionally, LSA reviewed the Habitat Site Assessment for the Crinella Vineyard Installation and Housing Development Project (WRA 2003). The Habitat Site Assessment for the Crinella site includes the West County Trail Extension Project site in addition to large areas south and west of the site. Therefore, many significant elements discussed in the Crinella Habitat Site Assessment are not applicable to the West County Trail Extension Project site.

On March 16, 2018, LSA Senior Biologist/Wetland Specialist Bernhard Warzecha surveyed the study site to assess habitat for special-status species and sensitive habitats. Wildlife, wildlife sign, and plant species observed during the survey were documented in field notes. Additionally, potential aquatic resources subject to regulation by the Corps, RWQCB, and/or CDFW, including stream channels, riparian corridors, and seasonal wetlands, were documented and mapped (Figure 3).

LSA senior soil scientist Chip Bouril investigated the study site on June 7, 2018. Potential jurisdictional boundaries were mapped using a global positioning system (GPS) receiver with sub-meter accuracy. Boundaries were determined by following a combination of the limits of hydrophytic vegetation, the limits of observed redoximorphic mottling and wetland hydrology indicators, and topographic breaks. LSA established 11 wetland Sample Points on the study site. All data from the 11 Sample Points were recorded on standard wetland determination data forms.

On May 30, and July 20, 2018, LSA Senior Botanist Tim Milliken conducted focused rare plant surveys along the trail alignment. The surveys were conducted to coincide with the blooming periods of the special-status plants that had the potential to occur along the trail alignment.



- LEGEND**
- Study Site
  - Wetland Sample Point
  - Non-wetland Sample Point
  - Non-jurisdictional Ditch

- Potential Waters of the United States
- Wetlands
- Seasonal Wetland
- Other Waters
- Channel

FIGURE 3

West County Trail Expansion Project  
Potential Waters of the United States

SOURCE: Sonoma County Regional Parks (04/208); Esri World Imagery.

I:\SOG1402\GIS\Maps\Delineation\Figure 3\_Potential Waters of the US.mxd (8/9/2018)



## 3.0 RESULTS

### 3.1 LAND COVER TYPES

The site includes land cover types best categorized as landscaped/disturbed annual grassland, blackberry thickets (non-riparian), riparian, oak woodland, and stream channel/wetland.

#### 3.1.1 Landscaped/Disturbed Annual Grassland

This plant community is the most prevalent land cover type at the study site and is dominated by species typical of regularly mowed and otherwise disturbed non-native annual grassland. Dominant species include common non-native annual grasses and forbs such as wild oats (*Avena fatua*), Italian rye grass (*Festuca perennis*), ripgut brome (*Bromus diandrus*), soft chess (*B. hordeaceous*), and vetch (*Vicia* sp.); Additionally, an array of non-native invasive or ruderal herbaceous plants were observed, including prickly ox-tongue (*Helminthotheca echioides*), sweet fennel (*Foeniculum vulgare*), poison hemlock (*Conium maculatum*), curly dock (*Rumex crispus*), velvet grass (*Holcus lanatus*), vetch (*Vicia villosa*) bur clover (*Medicago polymorpha*), and English plantain (*Plantago lanceolata*). Several patches of dense non-native Himalayan blackberry (*Rubus armeniacus*) are present within the disturbed non-native annual grasslands.

#### 3.1.2 Riparian (Including Fringe Wetlands)

Riparian habitat on site is located on both sides of the open creek channel within the study site (Figure 3). This habitat includes tall mature valley oaks (*Quercus lobata*), arroyo willow (*Salix lasiolepis*), California bay laurel (*Umbellularia californica*); shrubs, including Himalayan blackberry, California blackberry (*Rubus ursinus*), poison oak (*Toxicodendron diversilobum*), California rose (*Rosa californica*); and small patches of herbaceous wetland plants along the fringes of the riparian woody canopy. Small patches of herbaceous wetland plants include rush (*Juncus* sp.), white-root sedge (*Carex barbarae*), umbrella sedge (*Cyperus eragrostis*), and hyssop loosestrife (*Lythrum hyssopifolia*).

#### 3.1.3 Oak Woodland

Mature Oregon oaks (*Quercus garryana*) and black oaks (*Q. kelloggii*) are scattered throughout the site.

#### 3.1.4 Stream Channel/Wetland

A potentially jurisdictional open stream channel, roadside ditch, ephemeral erosional feature, and marginal seep/seasonal wetland are located within the study site (Figure 3).

#### 3.1.5 Soils

Study site soils are mapped as Goldridge fine sandy loam, 2 to 9 percent slopes (Web Soil Survey 2018). The undisturbed surface soil horizons observed did match those described for the Goldridge soil. Road base gravels observed on portions of the site may be associated with former roadways or a former railroad grade. The Goldridge series description only lists any mottling below a depth of 28 inches.

### 3.2 SPECIAL-STATUS PLANTS

The CNDDDB search resulted in occurrence records for 32 species of special-status plants in the 5-mile vicinity of the study site (CDFW 2018). Following LSA's reconnaissance-level survey, the potential for these species to occur within the study site was assessed based on the habitats present, the proximity of known species occurrences, and knowledge of the species' range (Table A). Ten of the plant species are unlikely to occur on the site due to the extent of disturbance, and/or the lack of suitable habitat (i.e., closed-cone coniferous forest, north coast coniferous forest, coastal prairie, chaparral, naturally occurring lakes and streams, vernal pools, alkaline areas, and serpentine soils). Twenty-one of the species have a low potential to occur due to the presence of disturbed, but potentially suitable grassland and riparian/wetland habitat. One species has a moderate potential to occur; this species is discussed in greater detail below.

### 3.3 WILDLIFE

The study site provides habitat for several wildlife species, including amphibians, reptiles, birds, and mammals. Wildlife or wildlife sign observed during LSA's survey consist of turkey vulture (*Cathartes aura*), American crow (*Corvus brachyrhynchos*), northern mockingbird (*Mimus polyglottos*), California towhee (*Melospiza crissalis*), California scrub-jay (*Aphelocoma californica*), house sparrow (*Passer domesticus*), Botta's pocket gopher (*Thomomys bottae*) burrows, and dusky-footed woodrat (*Neotoma fuscipes monochroua*) houses.

### 3.4 SPECIAL-STATUS WILDLIFE

From the results of the literature and database review, LSA developed a list of special-status wildlife species to be evaluated for the project (Table A). Following LSA's reconnaissance-level survey, the potential for these species to occur within the study site was assessed based on the habitats present within and adjacent to the study site, the proximity of known species occurrences, and knowledge of the species' range and/or mobility. Five of the special-status wildlife species evaluated are not likely to occur on the study site due to the absence of suitable habitat caused by the extent of disturbance, the site's prior use of as a landscaped backyard, and the lack of suitable habitat in the vicinity of the site. One of the species, the pallid bat (*Antrozous pallidus*), has a low potential to occur due to potential suitable habitat present (Table A).

**Table A: Special-Status Species Evaluated**

Species Name	Habitat	Federal Status	State Status	Rare Plant Rank*	Potential to Occur
<i>Alopecurus aequalis</i> var. <i>sonomensis</i> Sonoma alopecurus	Marshes and swamps (freshwater), Riparian scrub	Endangered	None	1B	Not observed during focused plant surveys.
<i>Arctostaphylos bakeri</i> ssp. <i>bakeri</i> Baker's manzanita	Broadleaved upland forest, Chaparral	None	Rare	1B	No suitable habitat present.
<i>Arctostaphylos densiflora</i> Vine Hill manzanita	Chaparral (acid marine sand)	None	Endangered	1B	No suitable habitat present.
<i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i> Rincon Ridge manzanita	Chaparral, restricted to red rhyolites in Sonoma County	None	None	1B	No suitable habitat present.
<i>Calamagrostis crassiglumis</i> Thurber's reed grass	Bogs and fens, Broadleaved upland forest, Closed-cone coniferous forest, Coastal scrub, Meadows and seeps (mesic), Marshes and swamps (freshwater), North Coast coniferous forest	None	None	2B	Not observed during focused plant surveys.
<i>Campanula californica</i> swamp harebell	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, marshes and swamps (freshwater), North Coast coniferous forest/mesic	None	None	1B	Not observed during focused plant surveys.
<i>Carex comosa</i> bristly sedge	Coastal prairie, marshes and swamps (lake margins), valley and foothill grassland	None	None	2B	Not observed during focused plant surveys.
<i>Castilleja uliginosa</i> Pitkin Marsh paintbrush	Marshes and swamps (freshwater)	None	Endangered	1A	Not observed during focused plant surveys.
<i>Ceanothus confusus</i> Rincon Ridge ceanothus	Chaparral	None	None	1B	No suitable habitat present.
<i>Ceanothus foliosus</i> var. <i>vineatus</i> Vine Hill ceanothus	Chaparral	None	None	1B	No suitable habitat present.
<i>Ceanothus purpureus</i> holly-leaved ceanothus	Chaparral	None	None	1B	No suitable habitat present.
<i>Chorizanthe valida</i> Sonoma spineflower	Coastal prairie	Endangered	Endangered	1B	No suitable habitat present.
<i>Clarkia imbricata</i> Vine Hill clarkia	Acidic sandy loam, Chaparral, Valley and foothill grassland	Endangered	Endangered	1B	Not observed during focused plant surveys.
<i>Cordylanthus tenuis</i> ssp. <i>capillaris</i> Pennell's bird's-beak	Closed-cone coniferous forest, Chaparral	Endangered	Rare	1B	No suitable habitat present.

Species Name	Habitat	Federal Status	State Status	Rare Plant Rank*	Potential to Occur
<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i> Peruvian dodder	Marshes and swamps (freshwater)	None	None	2B	Not observed during focused plant surveys.
<i>Delphinium luteum</i> golden larkspur	Broadleaved upland forest, Coastal scrub, Valley and foothill grassland	Endangered	Rare	1B	Not observed during focused plant surveys.
<i>Erigeron greenei</i> Greene's narrow-leaved daisy	Broadleaved upland forest, Cismontane woodland, North Coast coniferous forest	None	None	1B	No suitable habitat present.
<i>Erigeron serpentinus</i> serpentine daisy	Chaparral (serpentinite or volcanic)	None	None	1B	No suitable habitat present.
<i>Fritillaria liliacea</i> fragrant fritillary	Cismontane woodland, Coastal prairie, Coastal scrub, Valley and foothill grassland	None	None	1B	Not observed during focused plant surveys.
<i>Hemizonia congesta</i> ssp. <i>congesta</i> congested-headed hayfield tarplant	Valley and foothill grassland	None	None	1B	Not observed during focused plant surveys.
<i>Horkelia tenuiloba</i> thin-lobed horkelia	Broadleaved upland forest, Chaparral, Valley and foothill grassland	None	None	1B	Not observed during focused plant surveys.
<i>Lasthenia californica</i> ssp. <i>bakeri</i> Baker's goldfields	Closed-cone coniferous forest (openings), coastal scrub, meadows and seeps, marshes and swamps	None	None	1B	Not observed during focused plant surveys.
<i>Lessingia arachnoidea</i> Crystal Springs lessingia	Cismontane woodland, Coastal scrub, Valley and foothill grassland	None	None	1B	Not observed during focused plant surveys.
<i>Lilium pardalinum</i> ssp. <i>pitkinense</i> Pitkin Marsh lily	Cismontane woodland, meadows and seeps, marshes and swamps, mesic and sandy	Endangered	Endangered	1B	Not observed during focused plant surveys.
<i>Limnanthes vinculans</i> Sebastopol meadowfoam	Meadows and seeps, Valley and foothill grassland, Vernal pools	Endangered	Endangered	1B	Not observed during focused plant surveys.
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i> Baker's navarretia	Cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, vernal pools/mesic	None	None	1B	Not observed during focused plant surveys.
<i>Rhynchospora alba</i> white beaked-rush	Freshwater-marsh, bogs and fens	None	None	2B	Not observed during focused plant surveys.
<i>Rhynchospora californica</i> California beaked-rush	Bogs and fens, lower montane coniferous forest, meadows and seeps, marshes and swamps	None	None	1B	Not observed during focused plant surveys.
<i>Rhynchospora capitellata</i> brownish beaked-rush	Bogs and fens, lower montane coniferous forest, meadows and seeps, marshes and swamps	None	None	2B	Not observed during focused plant surveys.

Species Name	Habitat	Federal Status	State Status	Rare Plant Rank*	Potential to Occur
<i>Rhynchospora globularis</i> round-headed beaked-rush	Marshes and swamps	None	None	2B	Not observed during focused plant surveys.
<i>Trifolium amoenum</i> two-fork clover	Coastal bluff scrub, Valley and foothill grassland (sometimes serpentinite)	Endangered	None	1B	Not observed during focused plant surveys.
<i>Trifolium hydrophilum</i> saline clover	Marshes and swamps, Valley and foothill grassland (mesic, alkaline), Vernal pools	None	None	1B	Not observed during focused plant surveys.
<b>Mammals</b>					
<i>Antrozous pallidus</i> pallid bat	Occupies a variety of habitats at low elevation including grasslands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting	None	Species of Special Concern	--	Roost sites documented nearby in the 1950s. Tree hollows may provide roosting habitat.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	Forages in a variety of habitats; prefers mesic sites. Roosts in caves, mines, tunnels and buildings	None	Species of Special Concern	--	No roosting habitat present.
<b>Birds</b>					
<i>Agelaius tricolor</i> tricolored blackbird	Scattered breeding locations in Sonoma County. Found among red-winged blackbird colonies. Nests in tall freshwater emergent marsh or weedy vegetation, brambles. Requires large foraging areas	None	Candidate Endangered	--	No nesting habitat present
<b>Fish</b>					
<i>Oncorhynchus kisutch</i> pop. 4 coho salmon - central California coast ESU	Coastal streams; require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water and sufficient dissolved oxygen	Endangered	Endangered	--	No suitable stream habitat present on site. Habitat present downstream of site
<b>Amphibians</b>					
<i>Rana boylei</i> foothill yellow-legged frog	Found in or near rocky streams in a variety of habitats. Feed on both aquatic and terrestrial invertebrates	None	Candidate Threatened	--	No suitable stream habitat with rocky substrate present.
<b>Invertebrates</b>					
<i>Syncaris pacifica</i> California freshwater shrimp	Found in low-elevation, low gradient perennial freshwater streams in Sonoma, Marin and Napa Counties where banks are structurally diverse with undercut banks, exposed roots, or overhanging woody debris or vegetation	Endangered	Endangered	--	No perennial freshwater stream present.

\* California Rare Plant Rank 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere

California Rare Plant Rank 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere

California Rare Plant Rank 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

### 3.5 POTENTIALLY JURISDICTIONAL WETLANDS/WATERS

Wetland/water features under the potential jurisdiction of the Corps, RWQCB, and/or CDFW include an open stream channel and two wetlands. This open creek channel is supplied by the outlet of a concrete culvert of the stormwater drainage system, a roadside ditch, and an ephemeral erosional feature just north of the open creek channel.

The riparian canopy, regulated by CDFW under their Lake and Streambed Alteration Agreement Program and sometimes the RWQCB, extends along both sides of the open stream channel and includes approximately woody and fringe wetland vegetation described under Section 3.1.2 above.

LSA has determined that the potential Section 404 waters of the United States on the West County Trail Extension Study Site are two seasonal wetland polygons with a total area of 1.028 acres and an Other Waters of the United States channel with an area of 0.012 acre, for a total potential jurisdictional area of 1.040 acres. The two wetlands and the channel are described below in Sections 3.5.1 and 3.5.2. These potential jurisdictional features and study site boundaries are mapped on Figure 3.

#### 3.5.1 Wetlands

A south-draining swale containing hydrophytic vegetation is located in the eastern portion of the study site. The northern portion of the study site and swale is a mowed "lawn" portion of the public park. The southern portion of the swale is a mature riparian tree canopy with a mostly impenetrable thicket of Himalayan blackberry understory.

The hydrophytic vegetation in the northern portion of the swale is limited to a relatively narrow area within the study site boundary, while the southern and riparian forest portion of the swale is much wider and extends to and slightly beyond the eastern edge of the study area. This wetland feature is mapped as Seasonal Wetland A (Figure 3), with a potential jurisdictional area of 44,435 square feet (1.020 acres).

Seasonal Wetland B (Figure 3) is located in a separate patch of strongly hydrophytic vegetation and strong hydric soil indicators that was surrounded by non-hydrophytic vegetation and has a potential jurisdictional area of 380 square feet (0.008 acre).

#### 3.5.2 Other Waters of the United States

An engineer-surveyed underground storm drain runs underneath a graveled roadway from Front Street south to an outlet inside the Seasonal Wetland A riparian forest and feeds a channel that is within the study site for a distance of approximately 135 linear feet before exiting the study site boundary. (This feature roughly parallels the eastern side of the study site to its southern tip.) The likely excavated channel has an un-vegetated bed, a steep cut bank, and shows evidence of scour and sediment transport. Most of the channel is inaccessible because of the blackberry thicket, but accessed portions have a 4-foot wide Ordinary High Water Mark. The channel bed was damp where observed. This feature is mapped as Channel 1 (Figure 3), with a potentially jurisdictional length of 135 feet and potentially jurisdictional area of 540 square feet (0.012 acre) within the study site. Channel 1 is completely within the mapped area of Seasonal Wetland A.

### 3.5.3 Other Areas Investigated

The underground storm drain appears to have been constructed in uplands, conveys non-jurisdictional urban storm runoff, and is therefore determined to be non-jurisdictional.

An excavated ditch runs southward along the edge of the graveled road within the eastern portion of the northern study site and disappears into the blackberry thicket. This ditch contains sediment deposits eroded from the gravel road. This ditch is interpreted as being non-jurisdictional because it appears to have been constructed in uplands, appears to be ephemeral, and has no wetland characteristics. This ditch may supply some of the sediments observed in Channel 1.

## 4.0 POTENTIAL IMPACTS

The proposed project could have the following impacts to biological resources:

- If project activities result in fill of jurisdictional waters or wetlands on the study site (Figure 3), the project proponent would need to obtain the appropriate Clean Water Act Section 404 and 401 permits from the Corps and RWQCB. Conditions of the permits including avoidance, minimization, and compensation measures would become part of the project. The project may need to provide mitigation, including the creation and/or enhancements to seasonal wetlands and the channel. The regulatory agencies may require the creation of in-kind habitat at a ratio of 1:1 or more, depending on the impacts.
- If fill of the creek channel and/or associated riparian vegetation are proposed, a CDFW Streambed Alteration Agreement, Corps permit, and RWQCB Water Quality Certification will need to be obtained prior to initiation of the project. Conditions of the permits including avoidance, minimization, and compensation measures would become part of the project.
- Future project activities may impact special-status species, nesting birds, and roosting bats as discussed in Section 3, if present.



## 5.0 RECOMMENDATIONS

1. Preconstruction surveys for nesting birds and roosting pallid bats should be conducted prior to any construction activities. If birds are observed nesting, appropriate buffers around active bird nests will need to be established until the young have fledged or the nest is no longer active. The size of the buffer will depend on the species and the nest location. If roosting pallid bats are observed, appropriate buffers around roost sites should be established.
2. If trees are proposed to be impacted, an arborist report should be prepared. Depending on the characteristics and status of the trees to be removed, a tree removal permit may be required from Sonoma County. Protected trees will likely need to be mitigated at a minimum 1:1 ratio.

---

## 6.0 REFERENCES

California Department of Fish and Wildlife (CDFW). 2018. California Natural Diversity Database (CNDDDB), commercial version. Biogeographic Data Branch California, Department of Fish and Wildlife, Sacramento, CA. Accessed March 1, 2018.

California Native Plant Society (CNPS). 2018. The Online CNPS Inventory of Rare and Endangered Plants (8th Edition). CNPS. Accessed March 1, 2018.

Wetlands Research Associates, Inc. (WRA). 2003. Habitat Site Assessment for the Crinella Vineyard Installation and Housing Development Project, Forestville, California.