“E”

Biological Report

Nova Business Park South Tentative Parcel Map (P19-00022)
Planning Commission Hearing Date July 15, 2020

ZENTNER
Planning & Ecology

NOVA BUSINESS PARK SOUTH

Special Status Habitat and Species Analysis

Project

1053 NGI

Zentner Planning and Ecology

Prepared for:

Nova Group Inc.

Revised:

October 2019

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ZENTNER
Planning & Ecology

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Nova Business Park South Project
Special Status Habitat and Species Analysis

I. INTRODUCTION

This analysis identifies special status habitats and species and other important biological resources within the Nova Business Park South Project site (also known as the "property" or "project site"). The property is the subject of a proposed project that will subdivide the property and construct roads and infrastructure improvements. The project's potential impacts on biological resources, as well as the applicant's mitigation measures for potential impacts are identified and analyzed. This report assesses the biological and associated regulatory issues relevant to the proposed development of the site.

The site was the focus of species surveys and reports by ECORPS including, a Special Status Species Assessment (Ecorp 2006) and California Red-Legged Frog Habitat Assessment (Ecorp 2006). Zentner Planning and Ecology first began working on the property in 2009 and has since completed a number of site analyses and surveys of the site and surrounding study area for jurisdictional and other special status habitats. This included special status species field work in August 2009 followed by a Species Assessment (Zentner and Zentner 2009), which was a follow-up to the Ecorp work of 2006. Work completed in 2009 included completion of a wetland delineation that was approved by the U.S. Army Corps of Engineers in February 2010, preparation of a Nationwide Permit, and an on-site mitigation plan for a previously considered project. More recently, in 2016, Zentner Planning and Ecology updated the previously completed wetland delineation and assessed the site for biological and ecological changes since their previous work at the site. This analysis draws on the above earlier work.

As well, Zentner Planning and Ecology has recently completed work on a number of properties within several miles of the project site including the neighboring Fedrick Warehouse property and the Sheehy Property, which are within approximately 0.50 miles north and south of the subject property respectively. The biological and ecological conditions of these sites are similar to the current site. These surveys and biotic assessments analyses were also referenced.

In addition to this field work and document reviews, the most recent versions of the California Department of Fish and Wildlife (CDFW; formerly California Department of Fish and Game; CDFG) California Natural Diversity Database (CNDDB), United States Fish and Wildlife Service (USFWS) special status species list, and the California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Plants were reviewed during the

preparation of this analysis to determine special-status plant and animal species potentially occurring in the project vicinity. The databases were searched for the project site and greater project area (*i.e.,* the surrounding 5-mile radius).

A. Project Location

The Nova Business Park South Project site is located in the southern end of Napa County, approximately 0.50 miles north-northeast of the Napa County Airport, 0.75 miles north of Highway 12/Airport Drive and just south of the Napa Valley (**Figure 1**). The eastern edge of the site runs along Devlin Road, which is located about 100 feet west of Highway 29. It is located on the Cuttings Wharf USGS 7.5-minute quadrangle, Township 5 North, Range 4 West in the southwest corner of Section 36.

The property is bordered on the north by recent construction for a fuel transfer station, on the east by Devlin Road and Highways 29/12, and open grassland to the west, and light industrial to the south. The surrounding land uses are primarily agricultural, open space and light industrial and commercial development.

To access the site from San Francisco drive 32 miles on Interstate 80 East, then head west on Highway 37 for 2 miles, and 6 miles north on Highway 29. Make a left on Highway 12/Airport Boulevard and then turn right on Devlin Road. Drive approximately 0.75 miles north and park on the west side of a road in a bare area used for parking.

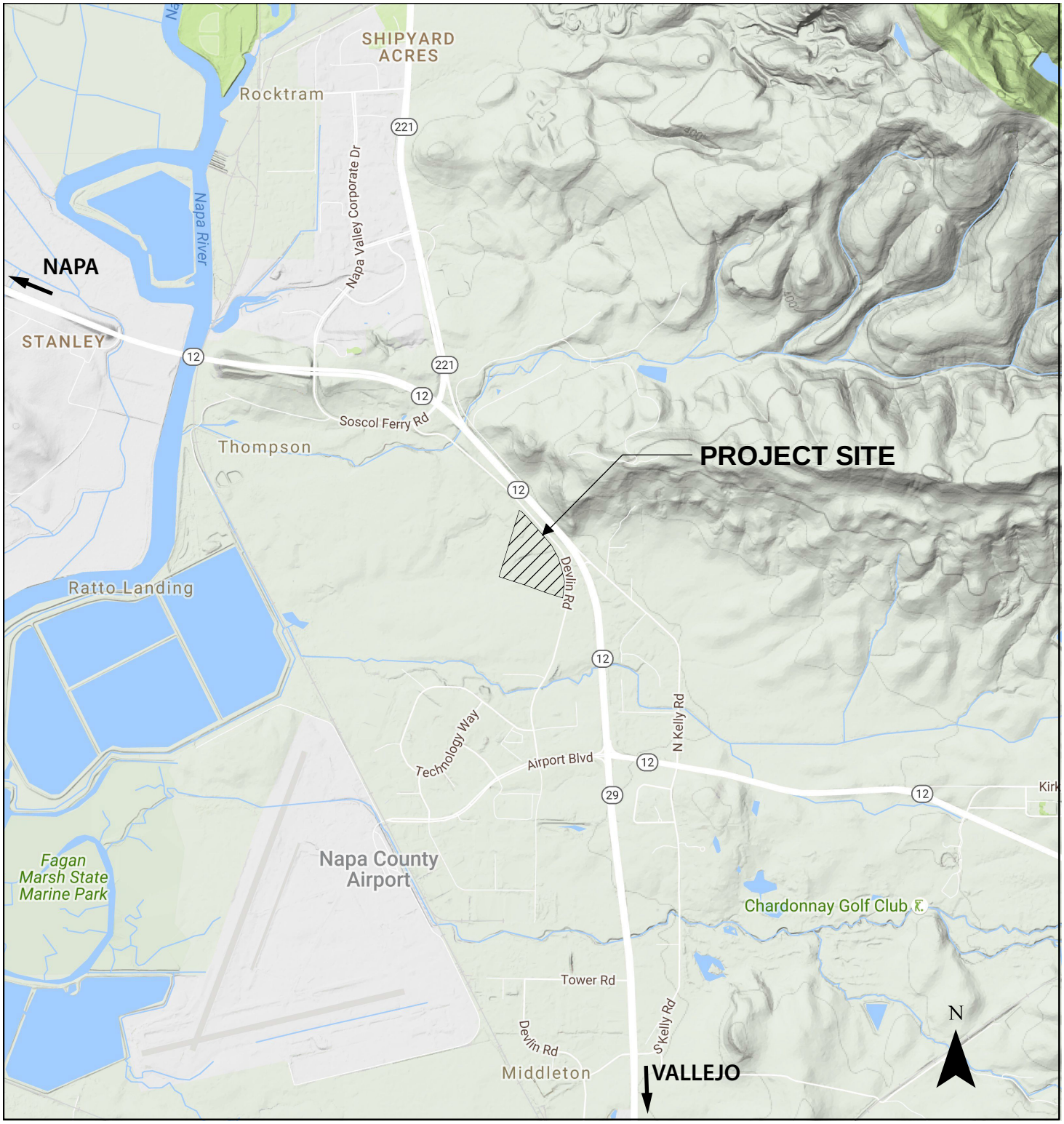
B. Site Description

The 21.79-acre property is roughly triangular in shape. As previously noted, recent construction borders the north, Devlin Road and Hwy 29 border the east, while open fields lie to the west and south. The property is part of a gentle plain that slopes from the toe of the Mayacmas Mountains, located just east of the site, down to the Napa River, which is a little over a mile west of the site. The property, however, contains extensive fill soils, which were brought in over 15 years ago.

The majority of the site consists of non-native annual grassland with patches of coyote bush and seasonal wetland (**Figure 2**). An unnamed tributary roughly bisects the site as it runs from east to west. Farm fields are located just west of the site and these fields slope down to salt evaporator ponds (formerly tidal marsh), and then to the Napa River, which is at sea level approximately 1.25 miles west of the site.

C. Project Description

The Devlin Road proposes to subdivide the property into 11 parcels ranging in size from 1 to 2.63 acres and construct street and infrastructure improvements including two driveways off of Devlin Road; one in the northern corner and the other in the southeastern corner.



DEVLIN ROAD NAPA, CALIFORNIA	**FIGURE 1** LOCATION MAP	ZENTNER and ZENTNER *Land Planning and Restoration* 95 Linden Street, Ste. 3, Oakland, CA 94607 Phone: 510.622.8110 Fax: 510.622.8116
DATE: 10/14/2016, 02:45 pm		
SOURCE: D:\Graphic Designer\My Documents \ PROJECTS\1000-1100\1053 Devlin Rd\Adobe\1053 location1 16-10-14		

LEGEND

- JURISDICTIONAL AREA
- DATA POINT
- PROPERTY LINE
- EXISTING CONTOUR LINE
- NON-JURISDICTIONAL AREA

JURISDICTIONAL AREAS

HABITAT TYPE	FT^2	ACRES
A. SEASONAL WETLAND	353.40	0.008
B. SEASONAL WETLAND	696.26	0.016
C. SEASONAL WETLAND	1,640.20	0.038
D. SEASONAL WETLAND	167.02	0.004
E. SEASONAL WETLAND	1,007.12	0.023
F. SEASONAL WETLAND	695.09	0.016
G. TRIBUTARY	44,032.59 1080 LIN. FT.	1.011
H. SEASONAL WETLAND	202.11	0.005
J. SEASONAL WETLAND	3,850.21	0.088
K. SEASONAL WETLAND	6,824.08	0.157
JURISDICTIONAL TOTAL ACRES:		**1.365**
I. NON-JURISDICTIONAL*	2,192.50 769 LIN. FT.	0.050
TOTAL NON-JURISDICTIONAL ACRES:		**0.050**

*AREA I DEEMED NON-JURISDICTIONAL PER PREVIOUSLY APPROVED DELINEATION. CORPS FILE #2014-00168.

Disclaimer: Section 404 Jurisdictional Map

This map exhibits conditions on the site at the time of completion of the delineation. For various reasons, conditions on a site may change, which may affect site wetland boundaries. Delineation maps generally expire five years after approval by the U.S. Army Corps of Engineers (Corps). Because regulations governing delineations are subject to change, this map should be reviewed by a qualified wetland consultant to ensure accuracy if not submitted to the Corps within six (6) months of preparation.

Field Work By: Zentner and Zentner, 08.18.09, 08.19.09, 08.20.09, 09.03.09, 04.26.16,

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FIGURE 2
SECTION 404 JURISIDICTIONAL WETLAND DELINEATION

REVISIONS	BY

O'NEILL/ MULLIN PROPERTY
DEVLIN ROAD
NAPA, CALIFORNIA

N

0 75' 150'

TOPO SOURCE:

FILE: D:\PROJECTS\1053 Devlin Rd\PDFs\1053 delin1 16-12-01

DATE: 12.1.2016

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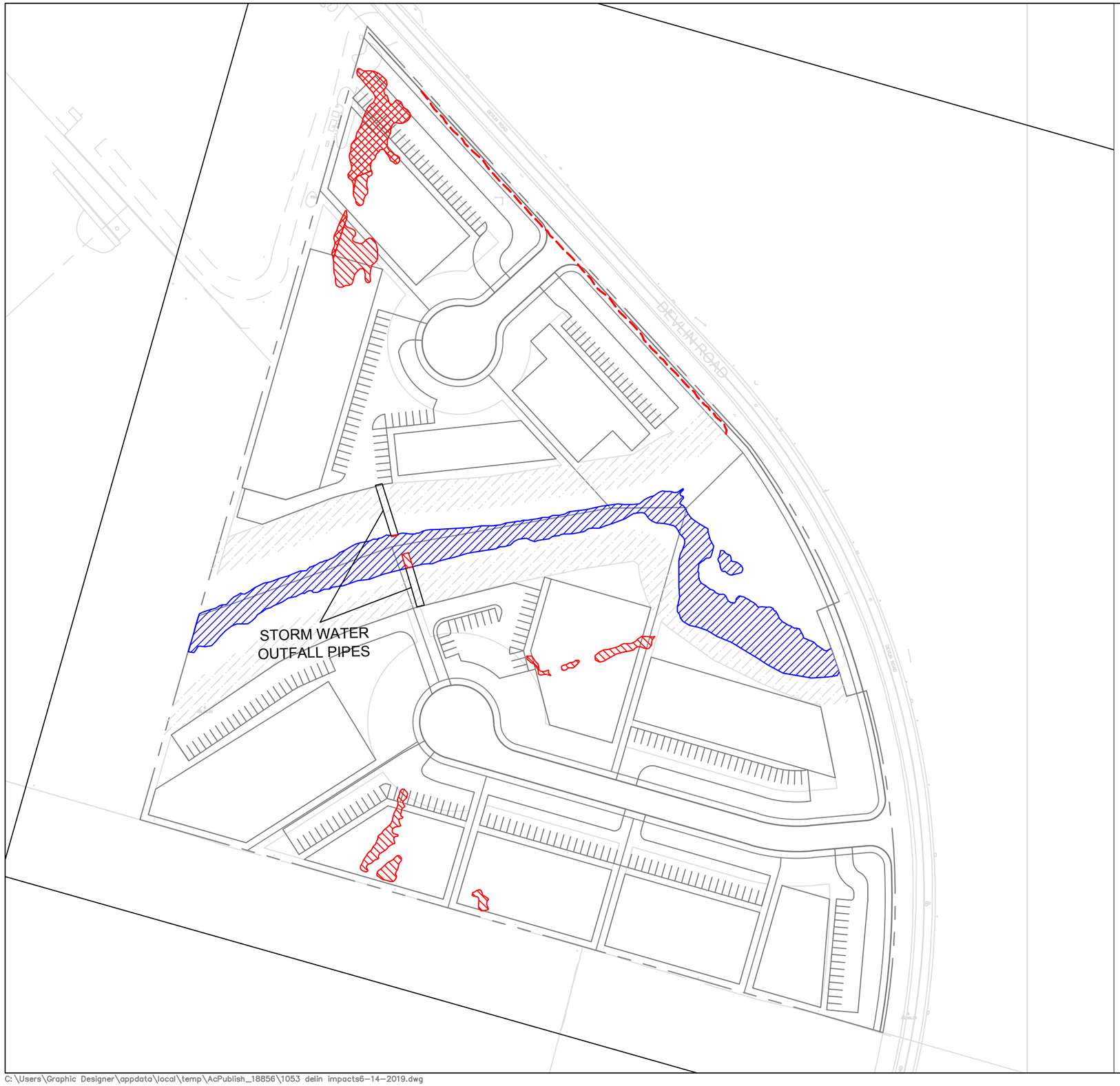
The project will grade lots, roads and other infrastructure on approximately 17 acres of the property; the remainder of the property will become part of the project's open space. This open space includes a 1.011-acre tributary and adjacent seasonal wetlands within the tributary corridor, 0.016 acre of seasonal wetlands outside the tributary corridor, and associated upland habitats, and mitigation for wetland impacts. The project will construct two stormdrain outfalls into the preserved tributary; one will drain the northern driveway and the other the southeastern driveway. In total, the project will result in the fill of 0.34 acres of seasonal wetlands from grading the site as well as construction of culverts and slope protection within the seasonal wetlands adjacent to the tributary, the planned road entrances and sidewalk (**Figure 3**). Only approximately 220 sq ft of impacts will occur within the tributary seasonal wetlands as a result of rock slope protection around the outfalls. The project will also result in the loss of non-native, annual grassland and mixed scrub/annual grassland habitat. Finally, the project will impact native California oatgrass habitat, which also occur within the site's uplands.

However, as part of the project, native habitats will be restored and enhanced on the project site including 0.35 acres of seasonal wetlands with native grassland and riparian buffers (**Figure 4**). The native grassland buffers will include a native California oatgrass grassland. These restored and enhanced habitats will be constructed on site adjacent to the preserved ephemeral tributary. A previous project plan, which included similar, but slightly larger jurisdictional impacts and mitigation, was approved for a Nationwide Permit by the Army Corps of Engineers (Corps) in March 2014.



LEGEND

IMPACTED HABITAT (SUBJECT TO STATE & FEDERAL PERMITTING FOR FILL)

EXISTING IMPACTS

PROPOSED IMPACTS

PRESERVED HABITATS

PRESERVED WETLANDS AND WATERS

JURISDICTIONAL IMPACTS

HABITAT TYPE	ACRES	IMPACTED	PRESERVED
A. SEASONAL WETLAND	0.008	0.008	---
B. SEASONAL WETLAND	0.016	0.016	---
C. SEASONAL WETLAND	0.038	0.038	---
D. SEASONAL WETLAND	0.004	0.004	---
E. SEASONAL WETLAND	0.023	0.023	---
F. SEASONAL WETLAND	0.016	---	0.016
G. TRIBUTARY	1.011	0.005	1.006
H. SEASONAL WETLAND	0.005	0.005	---
J. SEASONAL WETLAND	0.088	0.088	---
K. SEASONAL WETLAND	0.157	0.157	---
TOTALS:	**1.365**	**0.341**	**1.02**

NON-JURISDICTIONAL IMPACTS

I. DRAINAGE*	0.050	0.043	0.007

*AREA I. DEEMED NON-JURISDICTIONAL PER PREVIOUSLY APPROVED DELINEATION. CORPS FILE #2014-00168.

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FIGURE 3
WETLAND IMPACTS AND BUFFER ZONE

NOVA BUSINESS PARK SOUTH
NAPA, CALIFORNIA

N

0 75' 150'

1" = 150'

SOURCE: GOOGLEEARTH 2009

PROJECT NO. 1053

FILE: D:\Graphic Designer\My Documents\PROJECTS\1000-1100\1053 Devlin Rd\AutoCAD\Delineation\1053 delin impacts6-14-2019.dwg

BY: JPE

DATE: 10/7/2019

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FIGURE 4

CONCEPTUAL MITIGATION PLAN

REVISIONS	BY

O'NEILL/ MULLIN PROPERTY
DEVLIN ROAD
NAPA, CALIFORNIA

N

0 75' 150'

TOPO SOURCE:

FILE: D:\PROJECTS\1053 Devlin Rd\PDFs\1053 delin1 16-12-01

DATE: 10-1-2019

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Photo 1: View of the project site dominated by annual grassland. March 2019

There are no specific buildings or land uses proposed, though the current parcel is zoned Industrial Park with an airport compatibility combining district (IP/AC). An airport compatibility combining district ensures compatible land use development and requires additional standards to be applied to lands in the vicinity of public use airports to reduce hazardous situation. The property's maximum use will be light industrial.

II. ENVIRONMENTAL SETTING

A. Watershed Context

The site is located within the southern end of the Napa Valley and the upper edges of the San Pablo Bay marshes. It is situated along the base of the Mayacmas Mountains and above the Napa River. The site is within the approximately 21,996-acre Tulucay Creek watershed, which is part of the larger Napa River watershed that flows into the San Pablo Bay. The watershed above the site, which feeds the on-site tributary, consists of about 80 acres of hillside and flats. Before buildings and roads in the vicinity were constructed, natural flows would have been limited and highly seasonal. Water movement from precipitation events most likely took the form of sheet flows and shallow vegetated swales across the site and were not associated with any channel.

Artificial flows into the site and subsequent fill within the site lead to the formation of something that appears as a tributary to form across the project site. The tributary carries flow east to west through the site before flowing 0.75 miles west as a ditched tributary through farm fields. It then flows southwest through ditches along 0.5 miles of salt evaporator ponds located within former tidelands. It finally empties into remnant tidelands that border Steamboat Slough 1.75 miles beyond the site and then connects to the Napa River about 2.5 miles west-southwest of the site. The Napa River is about 1.25 miles west in a straight line from the site.

B. Plant Communities and Associated Wildlife Habitat

The project site is dominated by non-native annual grassland. Other significant vegetative communities include ruderal vegetation, Coyote bush (*baccharis pilularis*) scrub with mixed non-native grassland, ephemeral tributary, and shallow seasonal wetlands (**Figure 5**).

1. Annual Grassland

Annual grassland is the dominant habit on the project site; it encompasses approximately 18 of the 20 acres on site. The annual grassland is dominated by non-native annual species such as brome fescue (*Festuca bromoides*), ripgut grass (*Bromus diandrus*), bindweed (*Concolculus arvensis*), red-stem filaree (*Erodium cicutarium*), wild oats (*Avena fatua*), and soft chess (*Bromus hordeaceus*). These annual grasslands are characteristic of the region and are common throughout the region's grasslands and open spaces. They are frequently seen in sites that have a history of grazing and land use disturbances.

Within the annual grasslands is an occasional coyote bush and a scattering of salt grass (*Distichlis spicata*). The coyote bush are generally solitary and there are no other sizable trees or shrubs located within the project site. A narrow strip of grassland adjacent to Devlin road contains a number of native bunchgrass. Species along this edge include purple needlegrass (*Stipa pulchra*), red fescue (*Festuca rubra*) and Idaho fescue (*Festuca*

LEGEND

PROPERTY LINE

DRAINAGE DITCH

EPHEMERAL TRIBUTARY

VEGETATION TYPES

SEASONAL WETLAND

RUDERAL VEGETATION

COYOTE BUSH/
ANNUAL GRASSLAND

Disclaimer: Section 404 Jurisdictional Map
This map exhibits conditions on the site at the time of completion of the delineation. For various reasons, conditions on a site may change, which may affect site wetland boundaries. Delineation maps generally expire five years after approval by the U.S. Army Corps of Engineers (Corps). Because regulations governing delineations are subject to change, this map should be reviewed by a qualified wetland consultant to ensure accuracy if not submitted to the Corps within six (6) months of preparation.

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FIGURE 5

VEGETATION MAP

REVISIONS	BY

O'NEILL/ MULLIN PROPERTY
DEVLIN ROAD
NAPA, CALIFORNIA

N

0 125'

TOPO SOURCE:

FILE: D:\PROJECTS\1053 Devlin Rd\PDFs\1053 delin1 16-12-01

DATE: 3.11.2019

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idahoensis). However, road work along this edge has greatly diminished these species, which may have been the result of previous hydroseeding efforts. However, the presence of these species is a good indication that future onsite restoration efforts will see success with similar native grass species.

Within the annual grassland, at least two relatively dense stands of California oatgrass (*Danthonia californica*) are located near the southeastern end of the site. The areas contain approximately 60% native cover and total at least 0.15 acres.

A sub-community of the Annual grassland is Mixed non-native annual grassland and coyote bush scrub. This sub-community is found predominantly on the southern portion of the site, south of the ephemeral tributary and especially near the southeastern portion of the site.

2. Ruderal

Ruderal vegetation is found throughout the site. However, it is dominant over relatively large areas in proximity to the ephemeral channel that bisects the site. The dominant vegetation in the ruderal areas are teasel (*Dipsacus sp.),* harding grass (*Phalaris aquatica*), and Himalayan blackberry (Rubis armeniacus). Other vegetation in the ruderal areas include stinkwort (*Dittrichia graveolens*) and other non-native annual grasses and forbs. All of these plants rank from moderate to high on the California Invasive Plant Council Inventory of invasive plants (CAL IPC 2019).

3. Seasonal Wetlands

A total of nine, small seasonal wetlands with a total area of 0.354 acres are located within the property (Figure 2). All of these seasonal wetlands are very shallow depressions caused by differential settling on site fills. These wetlands have very small watersheds and are essentially filled primarily by direct rainfall and remain inundated a short time after heavy rainfall, though saturation may continue for longer periods during the rainy season.

The dominate vegetation within the site's wetlands includes native Baltic rush (*Juncus balticus*) and occasional salt grass (*Distichlis spicata*). However, the wetlands are generally dominated by non-native species such as hyssop loosestrife (*Lythrum hyssopifolia*), Italian ryegrass (*Festuca perennis*) Mediterranean barley (*Hordeum marinum*) and bird's-foot trefoil (*Lotus corniculatus*).

Two of these wetlands, Areas J and K, were previously impacted by adjacent development. The adjacent property owner obtained permits to repair these features, however, they currently remain impacted with the majority of Area K filled and a small portion of Area J filled.

4. Ephemeral Tributary

There are two channels on the project site; Area G, which is a jurisdictional tributary and Area I, which is a non-jurisdictional drainage ditch (Figure 2).

Area G, which is an ephemeral tributary and totals 1.011 acres, runs roughly east to west through the approximate center of the site. It is a flat-bottomed channel that ranges between 20 and 70 feet wide and runs between two areas of fill. The Area I drainage ditch that runs parallel to Devlin Road was channelized in order to improve flow. While this drainage had been nearly perennial in the past and was a significant source of water to drainage G, apparently most of this water stemmed from a leak from the City of American Canyon Water District. Evidently, this leak ran along an AT&T utility line and exited a manhole adjacent to the ditch. However, this leak has since been repaired and the drainage immediately began to dry. In addition, it was learned that another significant source of water for drainage G was the spray fields from the City of American Canyon Water Treatment Plant east of Hwy 29. Because the treatment facility is no longer using the spray fields, this water source has also dried up. Because of these significant water losses, drainage G is much more ephemeral to intermittent than it once was. These water losses also appear to have dropped the water table and lead to reductions in adjacent wetlands.

Drainage Channel G is primarily dominated by teasel (*Dispsacus fullonum*) and Himalayan blackberry, (*Rubus armeniacus*), though other weedy species such as rabbitsfoot grass, bristly ox-tongue, harding grass (*Phalaris aquatica*) and umbrella sedge or also common. In this drainage too, wetland species are being replaced by drier tending vegetation due to reduced water in the channel.

The primary vegetation throughout much of drainage channel I was tule (*Scirpus acutus*), however, due to the County maintenance work, most of that vegetation has been removed. Though a remnant of the tule still exists along an old fenceline, bare ground currently dominants the channel. Other common vegetation includes umbrella sedge (*Cyperus eragrostis*), curly dock, rabbitsfoot grass (*Polypogon monspelliensis*) and bristly ox-tongue (Helminthotheca echioides). With the reduction of water in the channel, it is likely that this vegetation will contain more upland species over time.

C. Wildlife

Wildlife at the site appears limited primarily to common suburban/rural species. Mammals would include coyote (*Canis latrans*), mule deer (*Odocoileus hemionus*), raccoon (*Procyon lotor*), *striped skunk* (*Mephitis mephitis*), and lagomorphs (rabbits) such as black-tailed jackrabbit (*Lepus californicus*). Small mammals on the site likely include California vole (*Microtus californicus*) and deer mouse (*Peromyscus maniculatus*). These small mammals are likely preyed upon by predators such as coyotes, red-tailed hawk (*Buteo jamaicensis*) and red-shouldered hawk (*Buteo lineatus*). Other predatory birds that may forage at the project

site include the American kestels (*Falco sparverius*), white-tailed kite (*Elanus leucurus*), and Swainson's hawk (*Buteo swainsoni*), which are known from the area. However, the site lacks trees and therefore provides limited roosting and no nesting habitat for these species. The predatory birds that utilize the site for foraging most likely nest in the surrounding areas and the project site comprises only a small fraction of their foraging grounds.

Other birds commonly found in this type of grassland habitat include mourning dove (*Zenaida macroura*), turkey vulture (*Cathartes aura*), red-winged black bird (*Agelaius phoeniceus*), and barn swallow (*Hirundo rustica*). Common reptiles likely present include western fence lizard (*Sceloperus occidentalis*), southern alligator lizard (*Gerrhonotus multicarinatus*), gopher snake (*Pituophis melanoleucus*), and western rattle snake (*Crotalus viridis*).

See a full list of species that have been observed on the project site in **Appendix A.**

Photo 2: View of the channel facing east towards Devlin Road with ruderal vegetation in the center background. March 2019

III. SPECIAL-STATUS HABITATS AND SPECIES

A. Definitions

Special-status species are plants and animals that are legally protected under the California and Federal Endangered Species Acts (CESA and FESA, respectively) or other regulations, and species that are considered rare by the scientific community (for example, the California Native Plant Society [CNPS]). Special-status species are defined as:

1. Plants and animals that are listed or proposed for listing as threatened or endangered under the CESA (Fish and Game Code §2050 et seq.; 14 CCR §670.1 et seq.) or the FESA (50 CFR 17.12 for plants; 50 CFR 17.11 for animals; various notices in the Federal Register [FR] for proposed species);

2. Plants and animals that are candidates for possible future listing as threatened or endangered under the FESA (50 CFR 17; FR Vol. 64, No. 205, pages 57533-57547, October 25, 1999); and under the CESA (California Fish and Game Code §2068);

3. Plants and animals that meet the definition of endangered, rare, or threatened under the California Environmental Quality Act (CEQA) (14 CCR §15380) that may include species not found on either State or Federal Endangered Species lists;

4. Plants occurring on Lists 1A, 1B, 2, 3, and 4 of CNPS' Electronic Inventory (CNPS 2015). The California Department of Fish and Wildlife (CDFW) recognizes that Lists 1A, 1B, and 2 of the CNPS inventory contain plants that, in the majority of cases, would qualify for State listing, and CDFW requests their inclusion in EIRs. Plants occurring on CNPS Lists 3 and 4 are "plants about which more information is necessary," and "plants of limited distribution," respectively (CNPS 2015). Such plants may be included as special-status species on a case by case basis due to local significance or recent biological information;

5. Migratory non-game birds of management concern listed by U.S. Fish and Wildlife Service (Migratory Non-Game Birds of Management Concern in the United States: The list 1995; Office of Migratory Bird Management; Washington D.C.; Sept. 1995);

6. Animals that are designated as "species of special concern" by CDFW (2010);

7. Animal species that are "fully protected" in California (Fish and Game Codes 3511, 4700, 5050, and 5515).

B. Special Status Species Potentially Occurring Within the Project Site

Figures 6 and 7 (Special Status Animal Occurrences and Plant Species Occurrences respectively) provide a graphical illustration of the closest known records for special-status animal and plant species within five miles of the project. According to the CNPS Inventory, USFWS database, and CDFG's California Natural Diversity Database (CNDDB), a total of 25 special status animal species, 21 special status plant species, and 3 special status habitats are known to occur in the general region of the project, that is, within a 5-mile buffer surrounding the project site, these are shown on Figures 6 and 7. The CNDDB species list is provided in **Appendix B**. The definitions for the special status species designations are provided in **Appendix C**.

1. Wildlife

The 25 special status wildlife species that occur in the project region are described in **Table 1**, along with their regulatory status, habitat requirements, and an evaluation of their potential to occur on the site. The wildlife species that have potential to occur on the project site are described in more detail below. The majority of the species are highly unlikely to occur onsite due to the lack of suitable habitat onsite, because the site is out of the range of the species, or the lack of local occurrences.

None of the remaining special status wildlife species occurring in the project region have been observed on or in proximity to the site during site surveys. They, however, have at least some potential to nest on-site at some time, move through the site, or otherwise depend on the site for some function given the presence of potentially suitable habitat and known occurrences in the surrounding area.

Amphibians

California red-legged frog (*Rana aurora draytonii;* CRLF); (FT, CSC, IUCN:VU, SA)

The California Red-legged frog (CRLF) historically ranged from Redding and Marin County, south to northern Baja California (Jennings and Hayes 1994). Due to the loss and modification of habitat, predation by the non-native bullfrog, and impacted water quality, its range has been reduced to isolated drainages within coastal ranges and near-coastal foothills. The United States Fish and Wildlife Service (USFWS) notes that the CRLF once occupied 46 counties, but is now found in only 22 with the greatest concentrations in Monterey, San Luis Obispo and Santa Barbara Counties (USFWS 2002).

The CRLF is a relatively large, spade-shaped species at 1.7 to 5.1 inches in length. They vary in color, and may be brown, grey, olive, or reddish in color with black spots and irregular blotches. The lower abdomen and undersides of the legs are often, but not always, red. They have a dark mask above the upper jaw. The species is characterized by its prominent dorsolateral fold which extends on the body from eye to hip. The tadpoles are brown and

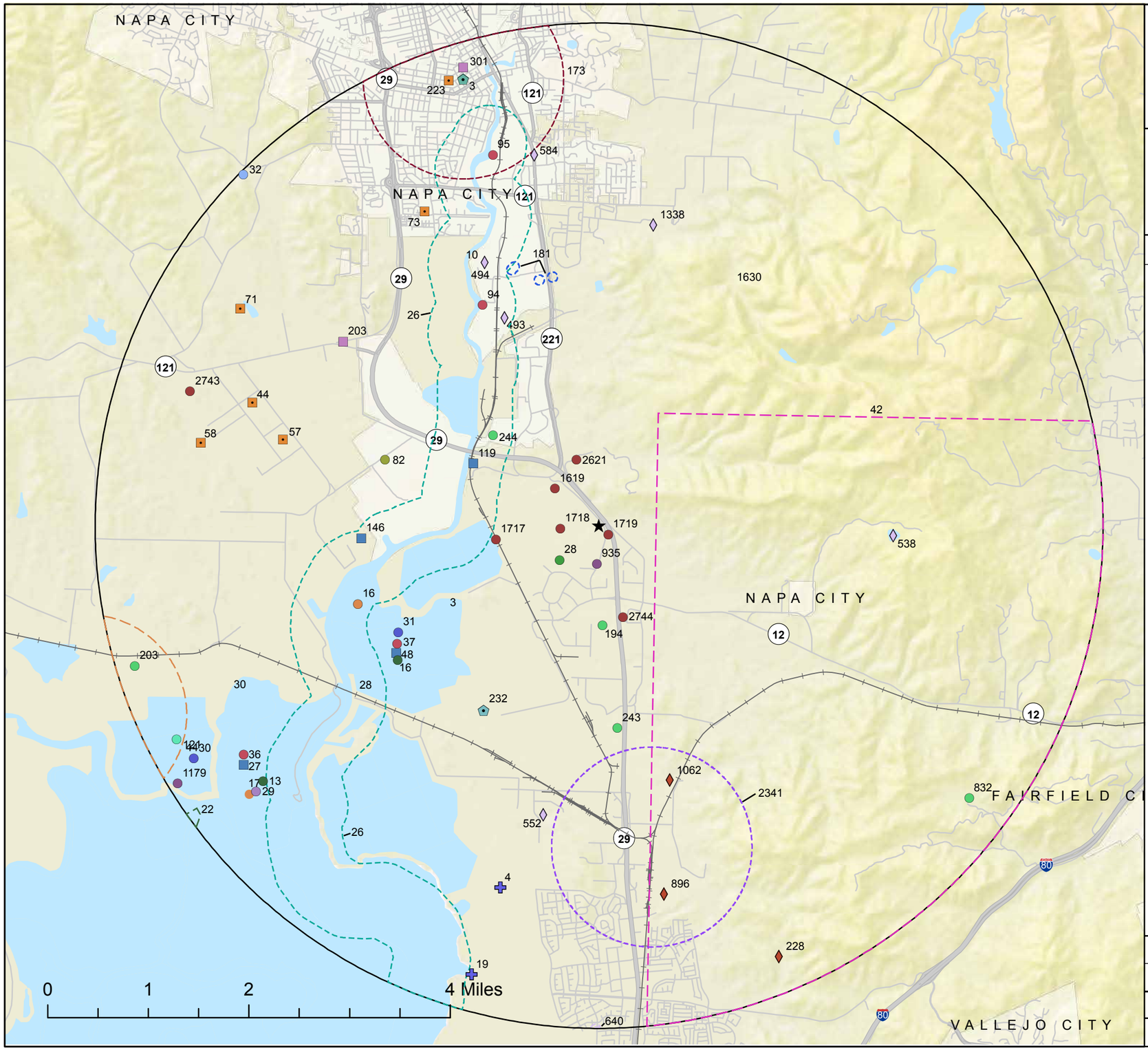

FIGURE 6
CNDDB Special Status Wildlife Occurrences

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DEVLIN ROAD PROPERTY
Napa County, California

LEGEND:

- ★ PROJECT LOCATION
- 5-MILE RADIUS
- Foothill yellow-legged frog *Rana boylii,* 2341
- California red-legged frog *Rana draytonii, 228, 896,* 1062
- Black-crowned night heron *Nycticorax nycticorax*, 32
- White-tailed kite *Elanus leucurus,* 181
- Northern harrier *Circus hudsonius,* 29
- Swainson's hawk *Buteo swainsoni,* 1619, 1717, 1718, 1719, 2621, 2743, 2744
- Ferruginous hawk *Buteo regalis*, 28
- Golden eagle *Aquila chrysaetos*, 82
- American peregrine falcon *Falco peregrine falcon*, 42
- California black rail *Laterallus jamaicensis coturniculus,* 30, 31
- Western snowy plover *Charadrius alexandrinus nivosus,* 121
- California Ridgeway's rail *Rallus obsoletus obsoletus,* 13, 16, 22
- Burrowing owl *Athene cunicularia,* 935, 1179
- Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*, 36, 37, 94, 95
- San Pablo song sparrow *Melospiza melodia samuelis*, 16, 17, 44
- Tricolored blackbird *Agelaius tricolor,* 194, 203, 243, 244, 832
- Steelhead - central California Coast DPS *Oncorhynchus mykiss irideus pop.* 8, 4, 19
- Longfin smelt *Spirinchus thaleichthys*, 26
- Pallid bat *Antrozous pallidus,* 44, 57, 58, 71, 73, 223
- Salt-marsh harvest mouse *Reithrodontomys raviventris,* 27, 48, 119, 146
- American badger *Taxidea taxus*, 203, 301
- Western pond turtle *Emys marmorata,* 493, 494, 538, 552, 584, 640, 1338
- Vernal pool fairy shrimp *Branchinecta lynchi*, 232
- An isopod *Calasellus californicus*, 3
- Western bumble bee *Bombus occidentalis*, 173

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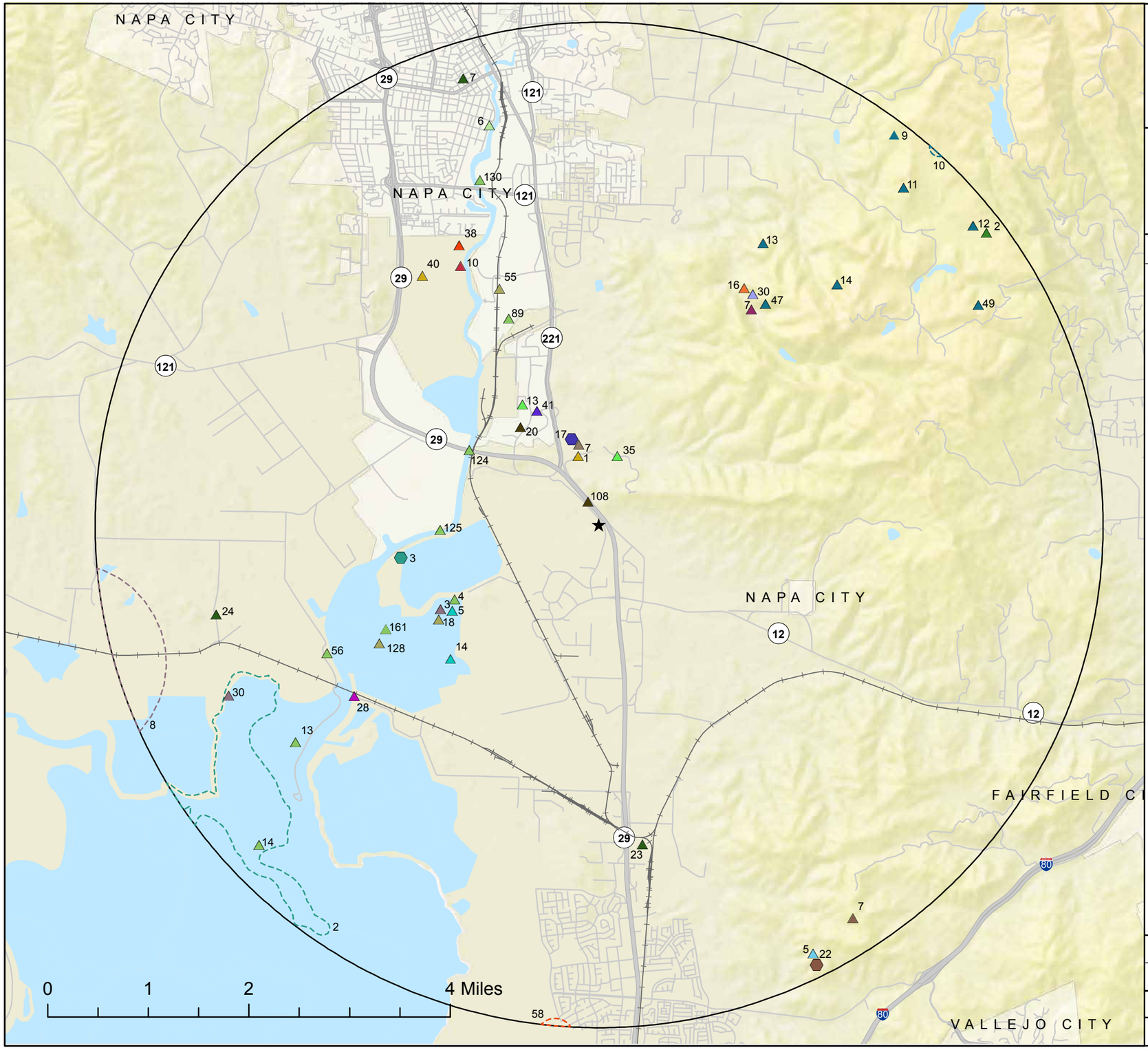

FIGURE 7
CNDDB Special Status Plant Occurrences

ZENTNER Planning & Ecology
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DEVLIN ROAD PROPERTY
Napa County, California

LEGEND:

- ★ PROJECT LOCATION
- 5-MILE RADIUS
- Serpentine bunchgrass, 22
- Northern vernal pool, 17
- Coastal brackish marsh, 2, 3
- Mason's lilaeopsis *Lilaeopsis masonii*, 10
- Big-scale balsamroot *Balsamorhiza macrolepis*, 7
- Greene's narrow-leaved daisy *Erigeron greenei*, 16
- Contra Costa goldfields *Lasthenia conjugens*, 1, 40
- Suisun Marsh aster *Symphyotrichum lentum*, 18, 55, 128
- Dwarf downingia *Downingia pusilla*, 20, 108
- Legenere *Legenere limosa*, 7
- San Joaquin spearscale *Extriplex joaquinana*, 38, 58
- Oval-leaved viburnum *Viburnum ellipticum*, 7
- Alkali milk-vetch *Astragalus tener var. tener*, 41
- Delta tule pea *Lathyrus jepsonii var. jepsonii*, 4, 13, 14, 56, 89, 124, 125, 130, 161
- Two-fork clover *Trifolium amoenum*, 7, 23, 24,
- Saline clover *Trifolium hydrophilum*, 13, 35,
- Northern California black walnut *Juglans hindsii*, 6
- Napa bluecurls *Trichostema ruygtii*, 2
- Marin knotweed *Polygonum marinense*, 5, 14
- Holly-leaved ceanothus *Ceanothus purpureus*, 9,10,11, 12,13,14, 47, 49,
- Tiburon paintbrush *Castilleja affinis var. neglecta, 5*
- Soft salty bird's-beak *Chloropyron molle ssp. molle*, 3, 8, 30
- Lyngbye's sedge *Carex lyngbyei*, 28
- Narrow-anthered brodiaea *Brodiaea leptandra*, 30

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SOURCE:	CNDDB shapefiles		

marked with small, dark spots. The lower body is creamy white and also flecked with small spots.

From late-November to late-April, adult CRLF are typically found in or near breeding habitat, which consists of perennial or near-perennial, deep (greater than 2 foot) ponds, pools or similar habitats associated with dense riparian or marsh vegetation (Hayes and Jennings 1989, 1994, Jennings 1988). Breeding takes place in streams, deep pools, backwaters within streams and creeks, ponds, marshes, and stock ponds. CRLF can occur in ephemeral ponds or permanent streams and ponds; however, populations probably cannot persist in ephemeral streams (Jennings and Hayes 1985). Habitats with the highest densities of CRLF are deep-water ponds with dense stands of overhanging willows and a fringe of cattails (Jennings 1988; Rathbun et al. 1993).

During rainy nights, however, they may also be found 200 to 300 feet away from the aquatic habitat (Zeiner et al 1988). From late-spring through fall, CRLF will stay near aquatic habitat, but during the end of this period they may move away from the breeding locale into nearby moist locations.

CRLF breeds during the winter and early spring, from as early as late November through April and May. Larvae (tadpoles) remain in breeding ponds until metamorphosis in the summer months. Mortality rates are high, with less than 1 percent of eggs laid reaching metamorphosis (Jennings et al. 1992). Males reach sexual maturity about 2 years after metamorphosis, while females require 3 years to attain sexual maturity (Jennings and Hayes 1985). Individuals of this species may live up to 10 years (Jennings et al. 1992). Young CRLF (eggs, larvae, and tadpoles) are found almost exclusively in ponds (such as stockponds) or slow-moving water in creeks, ditches, or similar habitat. Typically, these ponds or creeks are well-vegetated (Zeiner et al 1988) but habitat may also consist of well-grazed stockponds with little marsh vegetation (USFWS 2002). Young CRLF generally do not occur in aquatic habitats which also contain bullfrogs (Jennings and Hayes 1989).

Determining the location of CRLF habitat is complicated by CRLF movement away from relatively easily identified riparian and wetland habitats. Much of the movement ecology of CRLF is still poorly understood (Jennings and Hayes 1994), but they appear to move significant distances at two times during a year. First, adults move between winter oviposition sites and spring and summer foraging habitat (Jennings and Hayes 1989). Frogs observed in upland habitat at night during winter rains may represent such movement, but new aquatic habitat may also be found and colonized during such periods of reduced water stress. Movement into upland riparian habitat at such time may also protect frogs from catastrophic injury and transport by floodwaters (Jennings and Hayes 1994). Second, CRLF move into the shelter of riparian thickets during fall, when stream habitat is often much reduced (Rathbun et al. 1993). Such behavior appears to resemble estivation of amphibians like California tiger salamanders and spadefoots (Jameson 1981), however, the CRLF, especially the coastal populations, does not experience seasonal dormancy.

According to the CNDDB, there have been three observations of CRLF within five miles of the project site. All three occurrences are located south of the project site between approximately 3 to 5 miles from the site in areas with either perennial water and/or emergent vegetation. One occurrence (occurrence #228) is located in an ephemeral drainage within a 317-acre preserved CRLF habitat owned by the Napa Valley Unified School District. The second occurrence was noted within a large quarry pond in 2006 (occurrence #896) and the third within North Slough Creek (occurrence #1062). Critical Habitat for this species has been identified; the closest is Unit SOL-2, whose closest border is approximately 2.25 miles east of the project site.

CRLF are not likely to occur on the project site as there is no breeding habitat on or near the site. The seasonal wetlands and drainages on the site are too shallow, with only several inches of ponded water, and do not hold water for a long enough period to support CRLF breeding. CRLF movement through the site is unlikely given the site's limited habitat and its proximity to more obvious movement corridors with better CRLF habitat such as Sheehy Creek and Suscol Creek, which also do not contain breeding habitat. The previous CRLF Habitat Assessment by ECRORP (2006) also confirmed the lack of breeding habitat on site and the movement, dispersal and refugia habitat on the site were highly unlikely. This lack of upland movement or refugia habitat is further evidenced by there being no known breeding habitat within the two miles of the site. For these reasons, CRLF are unlikely to occur on the project site.

Birds (nesting birds unless noted otherwise)

Golden Eagle (*Aquila chrysaetos*) (BLM:S, CDF:S, CFP, CDFW:WL, IUCN:LC, USFWS:BCC, SA)

The golden eagle is a large, mostly dark-colored raptor with a golden nape that can have wingspans up to 79 inches wide (Sibley 2000). It is a resident and migrant throughout California, excluding for the Central Valley. It is found in elevation ranges from sea level up to about 11,500 feet (Zeiner 1990). Their habitat typically includes foothills, mountain areas, sage-juniper flats and desert. They utilize secluded cliffs with overhanging ledges and large trees for cover.

The golden eagle breeds from late January to August, with its peak between March and July. Nests are constructed on cliffs and in large trees in open areas. Their large nests (10 feet wide) are made of sticks, twigs and greenery.

There is one CNDDB record of a golden eagle within five miles of the project site. The occurrence is located west of the project site between Cuttings Wharf Road and horseshoe bend on the Napa River, nearly 2.0 miles northwest of the site (occurrence #82). At this CNDDB observation, birds were observed in a nest from 2003 to 2005, no birds were observed in the nest in 2006, the nest was no longer present in the tree in 2008, and the tree was removed in 2008. The CNDDB presence is listed as "possibly extirpated."

There have been no recorded observations of golden eagles within five miles of the project site since 2005, the previous observation is listed as possibly extirpated, and no golden eagles have been observed during site surveys. Additionally, the project site does not contain suitable nesting habitat for the golden eagle; it contains only potential foraging habitat. However, since no known golden eagle nest sites occur in the region, the site is unlikely to be used for foraging by this species. If the project site is used as foraging habitat for a golden eagle, the project site would comprise only a small fraction of the overall foraging area for this species. The species is, therefore, unlikely to occur on the project site.

Burrowing Owl (*Athene cunicularia*) (BLM:S, CSC, IUCN:LC, USFWS:BCC, SA)

The burrowing owl (*Athene cunicularia hypugaea*) is a small ground-dwelling owl that lives in open, dry grasslands, agricultural and range lands, and desert habitats associated with burrowing mammals (Zeiner et. al. 1990). The owl typically nests in old ground squirrel (*Spermophilus beecheyi*) or similar burrows for breeding, wintering, foraging, and migration stopovers. They have been known to occupy artificially constructed burrows. Burrowing owls are commonly seen perching on fences or on mounds outside their burrows. The owl is a mostly opportunistic feeder and forages on level areas with short grass or bare ground. Grasshoppers, beetles, mice, ground squirrels, rats, and gophers comprise the majority of their diet, however, they may also feed on reptiles, young cottontails, amphibians, scorpions, bats, and birds. The owl tends to inhabit areas where food sources are stable and available year-round. They are migratory (leaving the breeding grounds in fall) but often return to the same nest sites in spring to lay eggs from late March to May.

Burrowing owls were once common throughout California but are now found mainly in the Central and Imperial Valleys (DeSante et al. 1997). Over 60% of the breeding pairs known to exist in the 1980's disappeared by the early 1990's. The population decline is due to predation by non-native species, small mammal controls in farmlands, and habitat loss. This species also has very low fledgling success rates (Trulio 1997).

According to CNDDB, there have been two observations of burrowing owls within five miles of the project site. Both occurrences are located south of the project site. The closest occurrence is located approximately 0.25 miles away on the flat, ruderal shoulder of Devlin Road (occurrence #935). The CNDDB record lists this occurrence as a "wintering site…no burrow or whitewash observed; owl may have flushed from concrete utility box partly covered with plywood." The other occurrence is from Hudeman Slough near Appleby Bay, which is approximately 5 miles southwest of the site near the Napa River marshes.

A single burrowing owl observation was noted in proximity to the site, but was a wintering site only. There are no known occurrences of burrowing owls on the project site and there have not been any observed on the project site during site surveys. A burrowing owl survey was conducted on March 4, 2019 with negative results. Although a number of small burrowing mammal burrows were noted on the site, including vole, gopher, and mole, no

larger burrows, such as ground squirrel burrows that could accommodate burrowing owls were noted on the project site. The relatively high clay content of the site soils along with the placement and compaction of fills within the last 15 years further reduces the likelihood that burrowing owls would occupy the site. Therefore, burrowing owls are unlikely to be found on the site. However, a pre-construction survey for this species should be completed prior to beginning the project to ensure the species is absent and not impacted by the project.

Swainson's hawk (*Buteo swainsoni*) (ST, BLM:S, IUCN:LC, USFWS:BCC, SA) Nesting and Foraging Habitat

The Swainson's hawk is a large, long-winged species that ranges from 18 to 22 inches in height. It is an even, brown color on its upper parts and white below with a light brown breast. Its tail is banded and brown. Its wings are longer and more pointed than most hawks and soars with wings in a shallow V-shape (Woodbridge 1998).

The hawk nests in western North America from March to July and migrates to southern South America for the winter starting in August. This hawk is similar in size compared to the red tailed hawk (*Buteo jamaicencis*) and utilizes open habitats. Potential habitats include mixed and short grass grasslands with scattered trees, dry grasslands and meadows, agricultural fields, riparian areas, oak savannas, and juniper-sage flats (Woodbridge 1998).

The hawk forages for insects, small mammals including California voles (*Microtus californicus*), deer mice (*Peromyscus maniculatus*), and valley pocket gopher (*Thomomys bottae*), and birds by flying 100 to 300 feet above the ground. The hawk is highly adapted to human disturbance, unlike most other raptors, and they actively seek fields where activities including discing, mowing, flooding, and harvesting which force small mammals from their burrows. The raptor may forage up to 18 miles from a nest but usually tries to minimize flight distance to prey. Fledglings normally forage within 0.5 miles of the nest. Fledgling mortality is an important factor in the decline in population levels. Mortality may reach 80% among fledglings and is often at least 60% (Woodbridge 1998).

The Central Valley and the Great Basin support the majority of the California's Swainson's hawk populations. Historically, the species was found throughout the state, in bioregions such as the Southern Transverse Ranges, Central Coast Ranges, Central Valley, Great Basin, and Mojave-Colorado Desert. Typically, the raptors nest in large native riparian trees in close proximity to agricultural land, which supports accessible prey. Swainson's hawk typically occurs in valley oak (*Quercus lobota*), Fremont cottonwood (*Populus fremontii*), black walnut (*Juglans hindsii*), and willows (*Salix ssp.*). Although the hawk will fly some distance from the nest tree to forage, most will seek foraging habitat near the nest. Consequently, the Central Valley population is clustered in areas where suitable nesting and foraging habitat occur together. The Swainson's hawk population has declined by 90% since the 1940's due primarily to loss of nesting habitat (Woodbridge 1998).

According to CNDDB, there have been five observations of Swainson's hawks within five miles of the project site. Two of the occurrences are located north of the project site and three are located south of the project site. The closest occurrence is located within one quarter mile of the project site along Suscol Creek. The CNDDB record for this occurrence states "nesting suspected in 2003 but no nest found. 1 pair nested, a 2nd pair may have nested nearby in 2005; nest-building, copulation, & courtship display observed, May 2005. Nest fledged 3 young in 2012." The second CNDDB occurrence describes the presence of a nesting pair in early 2012 approximately 0.4 miles northeast of the project site in Suscol creek. The other three CNDDB records are located within two miles of the project site along the railroad tracks north of the Napa County Airport (2008), north of an unnamed drainage on the east side of the wastewater treatment plant (2008), and approximately 0.3 miles north of Sheehy Creek (2007 & 2012). As well, Zentner Planning and Ecology staff has observed a Swainson's hawk flying above the riparian area associated with Suscol Creek approximately 0.50 miles to the north.

The project site contains no suitable nesting habitat for the Swainson's hawk, but does contain potentially suitable foraging habitat. However, the adjacent properties directly east and south of the southeast corner contain potential trees that could provide potential nesting habitat.

The SR 29/221 Soscol Junction Improvement Project EA/EIR (Caltrans 2015), which is located approximately 0.50 miles north of the project site, concluded that 23.66 acres of Swainson's hawk foraging habitat accounted for just 0.16% of their potential foraging habitat. Further it found that the loss of this small amount of vegetation relative to the Swainson's hawk territory size would not have a substantial adverse effect, either directly or indirectly, on the Swainson's hawk or its habitat, nor would it substantially reduce the number or restrict the range of that species. The proposed project would affect a smaller potential foraging area (21.79 acres). The property does not provide any nesting or roosting habitat for the Swainson's hawk, and the amount of foraging habitat that will be developed is not substantial. There is no evidence that this species may be significantly impacted by the project.

However, to ensure that no nesting birds are disrupted by the project, a preconstruction nesting season survey should be conducted to determine the presence/absence of this species in the adjacent properties.

Northern harrier (*Circus cyaneus*) (CSC, IUCN:LC, SA)

The northern harrier (*Circus cyaneus*), formerly known as the marsh hawk, is a medium-sized raptor with long, narrow wings and tail. The species has a rectangular, white rump and owl-like facial disk. Adult males are pale gray above, with mostly white below and black wing tips. Females are generally larger and are brown above with brown-streaked breast. The species utilizes a wide variety of open habitats, with North American populations breeding from Alaska to eastern Canada, and south to southern California, Arizona, Kansas, and Virginia, and wintering from South America to southern Canada (Cripe

2000).

Breeding habitat includes fresh and brackish wetlands, open wet meadows and grasslands, shrub-steppe, desert sinks, areas along rivers and lakes, and crop fields (Grinnel and Miller 1944, MacWhirter and Bildstein 1996, Martin 1987). The species commonly nests on the ground in shrubby vegetation at marsh edges but may also nest several miles from water (CNDDB).

CNDDB has one observation of a northern harrier within five miles of the project site. The CNDDB record describes a nesting pair observed nesting on Coon Island, 6 miles south of Napa, from March 1, 2004 to June 15, 2004. This occurrence is approximately 4 miles southwest of the project.

Although the project site contains moderately suitable foraging habitat and nesting habitat within the shrub vegetation, no northern harriers have been observed on or in the vicinity of the project site. However, a pre-construction surveys should be completed to determine the presence/absence of the species prior to construction, to ensure that no birds have moved into the site and to ensure that no impacts to this species occur as a result of project related work.

White-tailed kite (*Elanus leucurus*) (BLM:S, CDFW:FP, IUCN:LC)

The white-tailed kite is a medium sized raptor found in open savannas and grasslands. The species has long, narrow grey wings with a black spot on the inner portions. The face and lower body is white. They have red eyes. White-tailed kites are most notable for their distinctive foraging habit in which they hover about 80 feet above the ground, flapping their wings or hovering, until they drop straight down onto their prey.

This species is found year-round in the western and southern United States and through Mexico, Central and South America. They forage for rodents and other prey in cultivated fields, open woodland, marshes, and grasslands and nests in trees near marshes. White-tailed kites nest in the upper third of trees within open space or in forested areas. They may utilize existent, old nests of other species.

CNDDB has one observation of a white-tailed kite within 5 miles of the project site. The CNDDB record (occurrence 181) was recorded north of the project site in the City of Napa along Highway 121. The record identified a nesting pair and family group with 4 fledglings in 2017 and a pair with two nestlings in 2018.

The project site does not contain suitable nesting and breeding habitat for this species, but does contain suitable potential foraging habitat, though none have been observed doing so. Several of the adjacent and nearby properties contain trees that could support nesting white-tailed kites, though none have been observed in the vicinity of the project site during recent site visits. Pre-construction surveys should be completed to ensure the species is absent from the vicinity of the project and will not be impacted by the project.

Other Nesting raptors (various species), generally protected under the CDFW Code and the Migratory Bird Treaty Act (MBTA).

The site supports suitable foraging habitat for a number of raptor species, but does not contain trees or tall structures that could be utilized by raptors for nesting. However, there is potential nesting habitat on the adjacent properties and, therefore, project related work could cause indirect impacts to nesting raptors if they are located in proximity to the site. Therefore, a preconstruction survey should be completed to determine the presence/absence of nesting raptors on and in the vicinity of the project, prior to the start of construction.

Other Migratory Nesting Birds; protected by the MBTA

The site provides limited suitable habitat for nesting birds protected by the MBTA, primarily within the coyote bush vegetation on site, but also within the grassland areas and denser vegetation in the channel. As well, the trees and shrubs on the adjacent properties could be utilized for nesting. Accordingly, there is some limited potential for migratory nesting birds to nest on or adjacent to the site and a preconstruction nesting bird survey should be completed.

Mammals

American Badger *(Taxidea taxus*), (CSC, IUCN:LC, SA)

The American badger is a carnivorous mammal found throughout the state of California, except in the North Coast area (Grinnell et al. 1937). They have stocky, low-slung bodies with short powerful legs and long foreclaws (up to 5 cm in length). They are 23.6 to 29.5 inches in length and weigh approximately 15 to 20 pounds. Male individuals are slightly larger than females. Their bodies are covered in silvery coat of coarse fur and heads with distinctive white and black markings.

Badgers occur throughout California except in humid coastal forests and areas of dense forest and they do not survive on cultivated land (CDFG 1986). Typically, they are most abundant in drier open stages of most shrub, forest and herbaceous habitats with friable soils.

American badgers predate on small mammal populations, particularly ground squirrels and pocket gophers (Zeiner et al 1990). They dig burrows in friable soils and frequently reuse old burrows. Badger populations have declined in the past century, although still little is known about their current population size and extent. They mate in the summer and early fall and give birth to a litter of 2 to 3 in March and April (Long 1973). They are nocturnal and diurnal and active yearlong with potential for periods of torpor (Long 1973).

CNDDB lists two records of the American badger within 5 miles of the project site. The nearest record is approximately 3 miles northwest of the project site (occurrence #203) and the second observation is approximately 4.75 miles north of the project site. The first record describes a female collected in 1911. The second record is based on information taken from Grinnell, J., J. S. Dixon and J.M. Linsdale. 1937. Fur-Bearing Mammals of California. Their Natural History, Systematic Status, and Relations to Man. Univ. Calif. Press, Berkeley 1:1-375, 2L376-777.

Badgers are not likely to occur on the project site. There have been no observations of badgers within the vicinity of the project since 1911. Additionally, the project site contains filled and compacted soils that are not favored by the species. No badgers, signs of badgers, or potential badger burrows were observed on the site. Therefore, this species is unlikely to occur on the site and the proposed project is unlikely impact this species.

Invertebrates

Western Bumblebee (*Bombus occidentalis*) (USFS:S, X:IM, SA)

The western bumblebee has many color variations. In general, bumblebees from northern California north to British Columbia and east to southwest Saskatchewan and Montana have the following coloring: yellow hairs on the front part of the thorax, then black hair on the first through half of the fourth abdominal segments and white hairs are on the edge of the fourth, fifth, and sixth segments. Black hair covers the bumblebee's head (Thorp et al. 2008).

The western bumblebee was widespread and common throughout the western United States and western Canada before 1998 inhabiting northern California, Oregon, Washington, Alaska, Idaho, Montana, western Nebraska, western North Dakota, western South Dakota, Wyoming, Utah, Colorado, northern Arizona, and New Mexico (Xerces Society 2009). Since 1998 bumblebee populations have declined drastically though it is difficult to assess the magnitude of the declines since most of the historic range has not been systematically sampled. Viable populations exist in Alaska and east of the Cascades in the Canadian and U.S. Rocky Mountains. Populations in central California, Oregon, Washington, and southern British Columbia have mostly disappeared.

Bumblebee colonies are annual. In late winter or early spring, the queen emerges from hibernation and selects a nest site, typically a pre-existing hole such as an abandoned rodent hole (Goulsen 2003a). Bumblebees do not depend on a specific type of flower, but visit a range of different plant species. They are important generalist pollinators of a wide variety of crops and flowering plants (Foulsen 2003).

CNDD has one record of the western bumble bee within five miles of the project site (occurrence #173). The record describes collections taken in 1913, 1949, and 1953 and the exact location of this record is unknown though CNDDB mapped the occurrence in the general vicinity of the City of Napa.

The western bumblebee is unlikely to be impacted by the project as the species has not been observed on or nesting on the project site. In addition, the CNDDB records for this species are historic and there are no indications that this species has been observed since. Previous disturbances at the site including placement of fill would have made the site inhospitable to this species. Therefore, this species is unlikely to occur on-site.

Vernal pool fairy shrimp (*Branchinecta lynchi*) (FT, IUCN:VU, SA)

The vernal pool fairy shrimp is a freshwater crustacean species that is endemic to California and Oregon and found solely in vernal pools. The range of the species is limited to three areas in southern Oregon and 32 in California throughout the central valley and Coast Ranges, with a few outlying populations.

The vernal pool fairy shrimp is small and ranges in length from 0.43 to 0.98 inches. They are usually translucent but may be shaded white or orange. They have compound eyes, no carapace, and eleven pairs of legs, which they move in a wave-like motion to propel themselves. The species has a lifetime expectancy of roughly two months (January to March) that is tied directly to the water levels and temperature of the vernal pool. They can survive temperatures between 43 and 68 degrees F. In typical winter conditions, the mature in 41 days. The shrimp lay drought-resistant eggs before they die, which embed in the soil of the pools and hatch with inundation during the next winter.

CNDDB has one record of vernal pool fairy shrimp within 5 miles of the project site (occurrence #232). The record is approximately 2.25 miles southeast of the project site along the south end of the Napa airport. The record states that over 100 adults were observed in 2000 and that 1,000s of adults were observed in 2002 and 2003 within a shallow topographic depression (pool).

The project site contains a number of very shallow, seasonal wetlands that dry fairly quickly, often between winter storms, and do not hold water for a prolonged period of time. Because the wetlands do not hold water for longer than 41 days, but rather a fraction of that, the vernal pool fairy shrimp are unlikely to survive and reproduce within the site's wetlands. This is the same conclusion as the 2006 species review by Zentner and since this time, the wetlands have only dried out further, which is reflected in the most recent wetland delineation of the site. Additionally, there are no records of the species in the immediate vicinity of the project site. For these reasons, the species is unlikely to occur on site or be impacted by the proposed project.

An isopod (*Calasellus californicus*) (SA)

The an isopod is a blind isopod species found in freshwater habitats with known collections from a freshwater well and two springs. Male individuals are up to 6.2 mm in length with the body slightly more than five times longer than wide. The body is nearly uniform in width with a smooth surface and margins of segments fringed with setae.

CNDDB has one recorded occurrence of an isopod within 5 miles of the project site. The occurrence was recorded approximately 4.75 miles north of the project site and identifies three males collected from the mouth of a spring under a house.

The species is unlikely to occur on the project site as the site contains only marginally suitable habitat as the wetlands likely dry too quickly to support the species. As well the species has not been observed on the project site or within the surrounding area. Therefore, the species is unlikely to occur on the project site or be impacted by the proposed project.

2. Plants

A total 21 special status plant species occur in the 5-mile radius around the project site. These species are described in **Table 2** along with their regulatory status, habitat requirements, and an evaluation of their potential to occur on the site. The majority of the species are highly unlikely to occur onsite because they are out of the range of the species, lack suitable habitat onsite or lack of local occurrences, and were not observed during numerous site reviews and inspections.

Of the remaining special status species occurring in the project region, none have been observed within the project site boundaries. While the following species have not been observed, they have at least some likelihood to occur on-site given the presence of potentially suitable habitat and known occurrences in the region.

Narrow-anthered brodiaea (*Brodiaea leptandra*); CRPR 1B.2)

Narrow-anthered brodiaea is a perennial bulbiferous herb that is native and endemic to California (Baldwin et. al. 2012). It can be found in valley and foothill grassland, foothill and cismontane woodlands, broadleafed upland forests, chaparral, and lower montane coniferous forest habitats from elevation 100 to 300 meters (CNPS 2019). It is generally found in gravelly soils. Narrow-anthered brodiaea is a short statured plant with violet petals that have a green midrib. The species blooms from May to July (CNPS 2019).

CNDDB has one record of narrow-anthered brodiaea within 5-miles of the project site. The occurrence with approximately 3.75 miles southwest of the project site within Skyline Wilderness Park. The species was observed sometime between 2007 and 2009.

The project site contains only marginally suitable habitat for the narrow-anthered brodiaea and the species has not been observed on the project site during numerous site reviews and inspections. For these reasons the species is unlikely to occur on the project site. However, a bloom season survey for this species should be completed to ensure it is absent from the project site.

Dwarf downingia (*Downingia pusilla*); (CRPR 2B.2)

Dwarf downingia is an annual herb that is native to California and also found elsewhere in North America and down to South America. It is known in the northern central valley and north San Francisco Bay, from Merced and Mariposa counties in the south to Tehama County in the north (CNPS 2003).

Dwarf downingia grows in vernal pools, playa pools, and on margins of vernal lakes other mesic areas within valley and foothill grassland, both in alkaline (saline) and non-alkaline soils. It occurs with other rare wetland and vernal pool species such as alkali milk-vetch (*Astragalus tener* var. *tener*), legenere (*Legenere limosa*), Bogg's Lake hedge-hyssop (*Gratiola heterosepala*), Heckard's peppergrass (*Lepidium latipes* var. *heckardii*) and little mouse-tail (*Myosurus minimus* ssp. *apus*). The species is threatened by urbanization, development, agriculture, grazing, vehicles, and industrial forestry.

Dwarf downingia are 3 to 8 cm tall with small linear leaves. Its tubular, radially symmetric flowers are less than 1 cm across, in contrast to all other *Downingia* species, which have larger, showy, asymmetric flowers. The flowers, borne at the ends of branches, are white or blue with two small yellow spots near the throat (Hickman 1993). It flowers March through May (Hickman 1993, CNDDB 2003, CNPS 2003).

CNDDB has two records of the species within five miles of the project site. The closest record is within a half mile of the project site; it identifies an undated record recorded between Suscol and Sheehy creeks (occurrence #108). The other record is located approximately 1-mile northeast of the project site (occurrence #20). This record identifies a population that was abundant in 1960, but was extirpated by 1989.

The project site contains only marginally suitable habitat for this species as the seasonal wetlands contain relatively dense, non-native vegetation that would likely out-compete this species. As well, this species has never been observed on the project site during numerous site reviews and inspections. Further, there are no recent CNDDB records in the region. For these reasons, the species is unlikely to occur at the project site. However, to ensure that the species is not present a vegetation survey will be conducted during the species' bloom period.

Napa bluecurls (*Trichostema ruygtii*); (CRPR 1B.2)

Napa bluecurls is a flowering annual herb in the mint family that is native and endemic to California. The species can be found in chaparral, cismontane woodland, lower montane coniferous forests, valley and foothill grasslands, and vernal pool habitats (CNPS 2019) from elevations 90 to 1,800 feet. It is generally found in open areas with then clay soils and possible seasonal saturation (Baldwin et. al. 2012).

Napa bluecurls reaches 1.6 feet in height with stems and lanceolate leaves covered in short hairs. The species has small pale lavender flowers and blooms between June and October (CNPS 2019). The species is rare and threated by agriculture and development.

CNDDB has one recorded occurrence of napa bluecurls within 5 miles of the project site. The occurrence, located approximately 4.75 miles northeast of the project site, was recorded in 2004 and it identifies a population of approximately 700 individuals within 10 acres. The location is described as coast live oak woodland, rocky meadows, with gradual slopes and flat rainpools.

The project site contains marginally suitable habitat for this species and though there are no recorded in the immediate vicinity, they are known from the region. Although the species has not been observed on the project site, a botanical survey should be conducted during its blooming period to ensure that this species does not occur on the project site and will not be impacted by the project.

Two-fork clover (*Trifolium amoenum*); (FE, CRPR 1B.2)

Two-fork clover is an annual herb that is native and endemic to California. The range of this species consists of the southern North Coast Ranges, the north Central Coast and the San Francisco Bay area. It is found in coastal bluff scrub, and valley and foothill grasslands, sometimes with serpentine soils in elevations between 5 and 160 meters. The species usually occurs in wetlands, but is occasionally found in non-wetlands.

The species is erect in habit and hairy with widely obovate leaflets. The flower heads are 2.5 cm and rounded in shades of purple with white-tipped petals (Beidleman 2003). It blooms from April to June.

CNDDB has three recorded occurrences of two-fork clover within 5 miles of the project site, which are all historic, dating from 1951-1952. The closest record is located approximately 3.25 miles south of the site and is based on a report from 1979 that states the plant was observed between 1951 and 1952 at Napa junction (occurrence #23). The other two records are located approximately 3.5 southeast and 4.75 miles north of the project site (occurrence #s24 and 7). A search of the area near this record in 1987 could not locate the species.

This species is unlikely to occur on the project site as the site contains only marginally suitable habitat. Additionally, there are only historic records of the species within the project vicinity. Furthermore, the species has not been observed on the project site during numerous site reviews and inspections. The species is therefore unlikely to occur on the project site.

Saline clover (*Trifolium hydrophilum*); (CRPR 1B.2)

Saline clover is a small, annual herb endemic to California. It is found in all central coast counties, from San Luis Obispo County to Sonoma County, except in San Francisco County. These counties include Alameda, Monterey, San Benito, San Luis Obispo, Napa, San Mateo, Santa Cruz, and Sonoma counties. Solano and possibly Colusa are the only inland counties with reported occurrences of this species (CNPS 2008). It is found in marshes and swamps, valley and foothill grassland, and often surrounding vernal pools.

The species has clover-like leaves with three leaflets 0.5 to 2 cm in length. The stipules of the upper leaves are tipped with bristles. The white-tipped, pink-purple flowers are 6.5 to 9 mm long and clustered in small heads that are 0.5 to 1.5 cm in diameter. It blooms from April to June. The upper petal, or banner, appears inflated. It encloses the 2 to 3 mm long fruit (legume) as it ripens (Hickman 1993).

There are two CNDDB records of saline clover within 5 miles of the project site. The closest record is approximately 0.75 miles northeast of the project site (occurrence #35) and the location is described as Suscol Creek on the east side of Highway 221. This record is from a 1993 collection in a valley grassland community on volcanic rock. The other record is located approximately 1.5 miles northwest of the project site between Rocktram and Highway 29 (occurrence #13). The record states that the population was identified in 1982 and later extirpated by the development of an industrial park.

The project site contains marginally suitable habitat for this species, though the species has not been observed on site during numerous site reviews and inspections. The species is, however, known in the region and, therefore, a botanical survey should be conducted during its blooming period to ensure that this species does not occur on the project site and will not be impacted by the project.

3. Wildlife Movement Corridors

Wildlife corridors are generally described as pathways or habitat linkages that connect discrete areas of natural open space otherwise separated or fragmented by topography, changes in vegetation, and other natural or human induced factors such as urbanization. The fragmentation of natural habitat creates isolated “islands” of vegetation that may not provide sufficient area or resources to accommodate sustainable populations for a number of species and thus, adversely affecting both genetic and species diversity. Corridors often partially or largely eliminate the adverse effects of fragmentation by 1) allowing animals to move between remaining habitats to replenish depleted populations and increase the gene pool available; 2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fire or disease) will result in population or species extinction; and 3) serving as travel paths for individual animals moving throughout their home range in search of food, water, mates, and other needs, or for dispersing juveniles in search of new home ranges.

The project site provides for limited, local movement and foraging by common suburban and rural wildlife, but does not provide movement corridors to adjacent areas. Opportunities for potential movement to the east is greatly diminished by Devlin Road and Highway 12/29. Whereas, nearby parcels to the north and south provide potential movement to the east and west via creeks within relatively dense riparian vegetation. The region in general contains relatively large areas of open space, which do provide potential movement routes from Fairfield region to the marshes west of the site. Industrial development directly to the north of the site and nearby in the south, effectively block movement in these directions, while parcels further to the west provide unobstructed movement north and south. There are no clear pathways or linkages between any of the surrounding open spaces through the project site, except directly west. The site is also generally very exposed with no trees or large shrubs to provide shade, structure, and potential hiding spots for both predators and prey. Furthermore, this area was not identified as part of a regional movement Corridor by Napa County (NCCDPD 2005). For these reasons the site is unlikely to be utilized as a movement corridor for wildlife in the area.

C. Wetlands and Other Sensitive Habitats

1. Wetlands

a. Jurisdictions

"Wetlands" are defined by the Corps as areas periodically or permanently saturated by surface or groundwater that support vegetation adapted to life in saturated (hydric) soil. "Other waters" (synonymous with "waters of the US/State") are defined by the Corps to include ponded waters, tributaries or similar features that may contain minor amounts of wetland vegetation but that are predominantly open water; these are typically stock ponds or ephemeral/intermittent creeks in this region.

b. Delineation Methods

Technical standards for delineating wetlands and other waters have been developed by the Corps in its Wetlands Delineation Manual (Army Corps of Engineers, Environmental Laboratory, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss., 1987 ["Delineation Manual"]) and other regulations.

Wetlands are defined by the Corps Section 404 regulations as: "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions". Thus, to be designated a wetland

according to Corps regulation, a site must have a predominance of hydrophytic vegetation, evidence of hydric soils, and wetland hydrology under normal circumstances.

Other waters are defined based on water elevations and geomorphic features. In freshwater conditions, the boundary between uplands and other waters is the ordinary high-water mark, which is roughly equivalent to the mean annual flood line. In tidal conditions, the boundary is set by the high tide line, roughly equivalent to mean high water.

c. Results

Zentner Planning and Ecology previously completed a delineation of the site in 2009. However, since that time the site has had some significant changes. The delineation was, therefore, updated in April 2016. The completed delineation map is provided as Figure 2. The 2016 delineation identified a total of nine seasonal wetlands with a total area of 0.354 acres and one jurisdictional tributary with a total area of 1.011 acres. A drainage ditch adjacent to Devlin Road was confirmed by the Corps to be non-jurisdictional. The remainder of the site is annual grassland dominated by non-native grasses and weeds and native coyote bush.

2. Other Special Status Habitats

A total of three special status habitats are known from the region. These habitats include:

1. Serpentine bunchgrass
2. Northern vernal pool
3. Coastal Brackish Marsh

None of these habitats are present on the project site.

Serpentine bunchgrass habitat occurs on sites with serpentine geology and soils, which are dominated by perennial bunchgrasses. While there are some bunchgrasses on the project site, the dominant vegetation is non-native, annual grasses. As well, the site does not contain serpentine geology or soils. The closest serpentine bunchgrass is just under 5 miles to the southeast of the project site.

Northern vernal pool habitat is known from approximately 0.50 miles northeast of the site on the opposite side of Highway 29 from the project site. The vernal pool habitat is characterized by a complex of shallow, vernally wet pools dominated by native, annual forb vegetation. While the site does contain some disturbed seasonal wetlands, no vernal pools are located on the property.

There are two coastal brackish marsh occurrences along the edges of the Napa River approximately 2.0 miles to the southwest where there is mixing by saltwater and

freshwater. The project site is located inland and the wetlands on-site are all freshwater; no areas within the project site meet the definition of coastal brackish mash.

3. Other Uncommon Habitats

California oatgrass grassland is present in a portion of the southeastern corner of the property. While California oatgrass itself is not rare, the presence of a grassland dominated by California oatgrass is unusual. California oatgrass generally does not reproduce well and is found only in coastal or coastally influenced areas. A total of approximately 0.15 acres of California oatgrass grassland with about 60% native cover was observed on the property.

Photo 3: View of coyote bush in the background, California oatgrass (*Danthonia californica*) in the center with Himalayan blackberry (*Rubus armeniacus*) in the foreground. March 2019

IV. BIOLOGICAL RESOURCES

A. Regulatory Setting and Federal Framework

1. Federal Endangered Species Act

The Federal Endangered Species Act (FESA) forms the basis for the federal protection of threatened or endangered plants, insects, fish and wildlife. FESA contains four main elements, they are as follows:

1. Section 4 (16 USCA §1533): Species listing, Critical Habitat Designation, and Recovery Planning: outlines the procedure for listing endangered plants and wildlife.

2. Section 7 (§1536): Federal Consultation Requirement: imposes limits on the actions of federal agencies that might impact listed species.

3. Section 9 (§1538): Prohibition on Take: prohibits the "taking" of a listed species by anyone, including private individuals, and State and local agencies.

4. Section 10: Exceptions to the Take Prohibition: non-federal agencies can obtain an incidental take permit through approval of a Habitat Conservation Plan.

In the case of salt water fish and other marine organisms, the requirements of FESA are enforced by the National Marine Fisheries Service (NMFS). The USFWS enforces all other cases.
Section 9 of FESA as amended, prohibits the "take" of any fish or wildlife species listed under FESA as endangered. Under Federal regulation, "take" of fish or wildlife species listed as threatened is also prohibited unless otherwise specifically authorized by regulation. "Take," as defined by FESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." "Harm" includes not only the direct taking of a species itself, but the destruction or modification of the species' habitat resulting in the potential injury of the species. As such, "harm" is further defined to mean "an act which actually kills or injures wildlife; such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR 17.3).

Section 9 applies to any person, corporation, federal agency, or any local or State agency. If "take" of a listed species is necessary to complete an otherwise lawful activity, this triggers the need to obtain an incidental take permit either through a Section 7 Consultation as discussed further below (for federal actions or private actions that are permitted or funded by a federal agency), or requires preparation of a Habitat Conservation Plan (HCP) pursuant

to Section 10 of FESA (for state and local agencies, or individuals, and projects without a federal "nexus").

Section 7(a)(2) of the Act requires that each federal agency consult with the USFWS to ensure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of critical habitat for listed species. The Section 7 consultation process applies only to actions taken by federal agencies, or actions by private parties that require federal agency permits, approval, or funding (for example, a private landowner applying to the Corps for a permit). Section 7's consultation process is triggered by a determination of the "action agency" (i.e., the federal agency that is carrying out, funding, or approving a project) that the project "may affect" a listed species or critical habitat. If an action is likely to adversely affect a listed species or designated critical habitat, formal consultation with the USFWS is required.

2. Federal Migratory Bird Treaty Act (FMBTA)

The Migratory Bird Treaty Act of 1918 (16 U.S.C. §§ 703-712, July 3, 1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989) makes it unlawful to "take" (kill, harm, harass, shoot, etc.) any migratory bird listed in Title 50 of the Code of Federal Regulations, Section 10.13, including their nests, eggs, or young. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, wading birds, seabirds, and passerine birds (such as warblers, flycatchers, swallows, etc.).

3. Federal Clean Water Act

Section 404

Pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344), the U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged or fill material into "waters of the United States" (33 CFR Part 320 *et seq.*). This requires project applicants to obtain authorization from the USACE prior to discharging dredged or fill material into any water of the United States. The "waters of the United States" are defined in federal regulations at 33 CFR section 328.3, and may include wetlands, ponds, drainages, creeks, streams, and other types of waterbodies, depending on whether any such aquatic feature meets current jurisdictional standards.

To remain in compliance with Section 404 of the Clean Water Act, project proponents and property owners (applicants) are required to acquire authorization from the USACE prior to discharging or otherwise impacting "waters of the United States." This authorization is typically given by reference to compliance with an existing Nationwide Permit(s) or by issuance of a project-specific Individual Permit.

Section 401

Prior to issuance by a Section 404 authorization by the USACE, Section 401 of the federal Clean Water Act requires the State Water Resources Control Board (SWRCB) and the

Regional Water Quality Control Boards (RWQCB) to certify, conditionally certify, or waive certification on the question of whether issuance of the USACE permit will violate water quality standards of the State. This certification (or waiver thereof) applies only to the proposed impacts to the "waters of the United States" that are at issue in the proposed Section 404 permit. Potential impacts to "waters of the State" that may not be jurisdictional for the USACE are addressed under the RWQCB's Porter-Cologne Water Quality Control Act statutory authority (see below).

B. State Framework

1. California Endangered Species Act

In 1984, the state legislated the California Endangered Species Act (CESA) (Fish and Game Code §2050). The basic policy of CESA is to conserve and enhance endangered species and their habitats.

If proposed projects would result in impacts to a State listed species, an "incidental take" permit pursuant to §2081 of CDFG Code would be necessary (versus a Federal incidental take permit for Federal listed species). No §2081 permit may authorize the take of a species for which the Legislature has imposed strict prohibitions on all forms of "take."

State and federal incidental take permits are typically only authorized if applicants are able to demonstrate that impacts on the listed species in question are unavoidable, and can be mitigated to an extent that the reviewing agency can conclude that the proposed impacts would not jeopardize the continued existence of the listed species under review.

2. California Fish and Game Code

Section 4700

In accordance with California Fish and Game Code, Section 4700, "fully protected" mammals or parts thereof may not be taken or possessed (held in captivity) at any time (a) (1), except as provided in Section 2081.7. No provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected mammal, and no permits or licenses heretofore issued shall have any force or effect for that purpose. However, subject to certain notice requirements, the department may authorize the taking of those species for necessary scientific research, including efforts to recover fully protected, threatened, or endangered species.

Sections 3503, 3503.5, 3511, and 3513

CDFG Code §§ 3503, 3503.5, 3511, and 3513 prohibit the take, possession, or destruction of the nest or eggs of any bird. Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered "take." Take of any migratory nongame bird is also prohibited, except in compliance with rules promulgated under the Migratory Bird Treaty Act.

All raptors (that is, hawks, eagles, owls) their nests, eggs, and young are protected under California Fish and Game Code (§3503.5). Additionally, "fully protected" birds, such as the white-tailed kite (*Elanus leucurus*) and golden eagle (*Aquila chrysaetos*), are protected under CDFG Code (§3511). "Fully protected" birds may not be taken or possessed (that is, kept in captivity) at any time.

Section 1602

Pursuant to Section 1602 of the Fish and Game Code, CDFG regulates activities that divert, obstruct, or alter stream flow, or substantially modify the bed, channel, or bank of a stream. CDFG's jurisdiction includes the outer extent of any riparian vegetation associated with the stream. Any proposed activity in a natural stream channel that would substantially adversely affect an existing fish and/or wildlife resource, would require entering into a Streambed Alteration Agreement (SBAA) with CDFG prior to commencing work in the stream.

3. Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Control Act, Water Code § 13260, requires that "any person discharging waste, or proposing to discharge waste, that could affect the waters of the State to file a report of discharge" with the RWQCB through an application for waste discharge (Water Code Section 13260(a)(1). The SWRCB and its several RWQCBs have interpreted this authority to extend to proposed fills of "waters of the State" that include all "waters of the United States" that are subject to the jurisdiction of the USACE, and any other "isolated" waters that are beyond the reach of the USACE claim of jurisdiction.

C. Environmental Analysis

1. CEQA Thresholds of Significance

According to Appendix G of the CEQA Guidelines, the proposed project would have significant impacts on biological resources if it would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFG or U.S. Fish and Wildlife Service (USFWS).

2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by CDFG or USFWS.

3. Have a substantial adverse effect on federally protected "wetlands" or "Waters of the U.S." as defined by Section 404 of the Clean Water Act or "Waters of the State" as defined by the Porter-Cologne Act (including, but not limited to, marsh, vernal pool,

coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

V. POTENTIAL IMPACTS AND MITIGATION MEASURES

A. Less Than Significant Impacts

1.0 Loss of upland habitats including; ruderal uplands, non-native annual grasslands, and mixed coyote bush/ annual grassland habitats

The proposed project will result in the loss of primarily non-native-dominated habitats, including; ruderal, annual grassland, and coyote bush/annual grassland habitat. While there are sparse native plants located within these communities, the dominant vegetation is non-native. The exception is the coyote bush/annual grassland habitat that is dominated by annual grassland, but contains a significant amount of native coyote bush. Coyote bush, however, is a common species and is ubiquitous throughout the uplands of this and nearby regions. As well, the site has had a history of being mowed, which has periodically eliminated all coyote bush on the property. As well, these habitats are relatively degraded due to previous land filling operations. Given that the understory of the coyote bush is non-native, annual grassland and that the other habitats are dominated by non-native species, the loss of these upland habitats is not significant. Similarly, impacts to wildlife species that may potentially use this habitat are not significant as these species are capable of using similar adjacent lands that are common throughout the region.

B. Potentially Significant Impacts Before Mitigation

Special Status Animal Species

1.0 Development of the project could have a potentially significant impact on nesting raptors other migratory nesting birds

Impact Analysis

Suitable potential nesting habitat for Swainson's hawk, northern harrier, burrowing owl and other raptors, as well as migratory nesting birds, is present directly adjacent to the project site. This proximity is such that although the nesting habitat is not on the project property, the project work could impact nests in these areas. As well, the site contains marginal potential nesting habitat for burrowing owls and potential nesting habitat for migratory nesting birds. These birds are protected under the Migratory Bird Treaty Act (50 CFR 10.13) and their nest, eggs, and young are protected under California CDFG Code §§3503, 3503.5, 3800, and 3513. Any project-related impacts on the nesting success of these species would be considered a significant adverse impact. Potential impacts from the proposed project include loss of nesting habitat, disturbance to nesting birds, and possibly death of adults and/or young. These impacts shall be mitigated to a level considered less than significant by Mitigation Measure 1.0-1.

Mitigation Measure

1.0-1 If construction would commence anytime during the nesting/breeding season of the Swainson's hawk, northern harrier, burrowing owl, or other raptors, or other bird species listed in the Migratory Bird Treaty Act (typically February through September 15), a pre-construction survey of the project vicinity for nesting birds should be conducted. This survey should be conducted by a qualified biologist (experienced with the nesting behavior of bird species of the region) within 14 days prior to the commencement of construction activities that would occur during the nesting/breeding season. The intent of the survey should be to determine if active nests are present within or adjacent to the construction zone within approximately 250 feet. The surveys should be timed such that the last survey is concluded no more than two weeks prior to initiation of construction. If ground disturbance activities are delayed following a survey, then an additional pre-construction survey should be conducted such that no more than two weeks will have elapsed between the last survey and the commencement of ground disturbance activities.

If active nests are found in areas that could be directly or indirectly affected by the project, a no-disturbance buffer zone should be created around active nests during the breeding season or until a qualified biologist determines that all young have fledged. The size of the buffer zones and types of construction activities restricted within them should be determined through consultation with the CDFW depending on the species, taking into account factors such as the following:

- Noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity;
- Distance and amount of vegetation or other screening between the construction site and the nest; and
- Sensitivity of individual nesting species and behaviors of the nesting birds.

The buffer zone around an active nest should be established in the field with orange construction fencing or another appropriate barrier and construction personnel should be instructed on the sensitivity of nest areas. The qualified biologist should serve as a construction monitor during those periods when construction activities would occur near active nest areas of special status bird species to ensure that no impacts on these nests occur.

Level of Significance After Mitigation: Less Than Significant

Special Status Plant Species

2.0 The proposed project could have a potentially significant adverse impact on special-status plant species.

Impact Analysis

The project site provides potentially suitable habitat for four special-status plant species, including; narrow-anthered brodiaea, dwarf downingia, Napa bluecurls, and saline clover. While these species have not been observed on-site, directed surveys for these special status plant species have not been completed. To demonstrate the absence of these species, formal surveys must be conducted at appropriate time of the year. Future development activities within the project site could result in the loss of these species. Until such time that formal surveys are conducted that demonstrate absence of these species, impacts to these species are regarded as potentially significant pursuant to CEQA. These impacts shall be mitigated to levels considered less than significant by Mitigation Measure 2.0-1.

Mitigation Measure

2.0-1 Prior to County approval of any specific development, special status plant surveys shall be conducted by a qualified biologist in appropriate habitats during the periods in which the species are most identifiable. These surveys shall be in compliance with all CDFW (2009), USFWS (1996), and CNPS (2001) published survey guidelines.

If the survey finds that there are no special-status plants on the property that would be impacted or within the proposed project site, then there would be no further mitigation and the project may proceed, provided all other applicable permits and authorizations are obtained for the project.

If special-status plant species are found, populations will be mapped and enumerated. If any populations are found within the proposed development area, project development plans shall consider avoidance to the extent practicable. If avoidance is not practicable while otherwise obtaining the project's objectives, then other suitable measures and mitigation shall be implemented as detailed below.

The following measures shall be implemented if special-status plants are found on the project site:

A. Initially the practicability of avoidance shall be evaluated as noted above.
B. If avoidance is not practicable, a mitigation plan shall be developed and approved by the County for implementation of steps 1 through 3 below prior to site disturbance.

The mitigation plan shall include the following elements:

1. Prior to construction within the project area, a qualified botanist shall collect the seeds, propagules, and top soils, or other part of the plant that would ensure successful replanting of the population elsewhere. The seeds, propagules, or other plantable portion of all plants shall be collected at the appropriate time of the year.

2. At least 2/3 of the seeds, propagules, or other plantable portion of all plants shall be planted at the appropriate time of year (late-fall months). Half of the seeds and top soils collected shall be appropriately stored and propagated at a native plant nursery to ensure germination. This material will be planted at an approved and protected area during the appropriate season. Planting location, timing, collection methods etc… will be detailed in the mitigation plan required by Measure B above.

3. The applicant shall hire a qualified biologist to conduct annual monitoring surveys of the transplanted plant population for a five-year period and shall prepare annual monitoring reports reporting the success or failure of the transplanting efforts. These reports shall be submitted to the City no later than December 1st each monitoring year.

4. These steps shall be implemented prior to site disturbance.

A CNDDB form shall be filled out and submitted to CDFW for any special-status plant species identified within the project site.

In lieu of the above prescribed mitigation, as allowed in writing by the County, mitigation requirements may be satisfied via the purchase of qualified mitigation credits or the preservation of offsite habitat.

When implemented, these measures would reduce potentially significant adverse impacts on special-status plant species to a level considered less than significant.

Level of Significance After Mitigation: Less Than Significant

Special Status Habitats

3.0 The proposed project could have a potentially significant adverse impact on special-status wetland habitats.

Impact Analysis

The proposed project will result in the loss of 0.34 acres of seasonal wetland habitat (Figure 3). "Wetlands" or "waters of the U.S." as defined by Section 404 of the Clean Water Act are specially protected under CEQA and loss of or impacts to these habitats must be mitigated to ensure that the project does not result in a substantial adverse effect.

The majority of the wetlands that will be filled are very shallow depressions that have formed as a result of differential settling. They are primarily filled by direct rainfall and remain inundated for only a short time after. The vegetation within these wetlands is predominately weedy non-native species. For these reasons, the wetlands that will be filled by the project have a relatively low habitat value. Almost all of the higher quality tributary on site will be preserved except for approximately 220 sq ft of rock slope protection around the outfalls.

Mitigation Measure

3.0-1 The project will permanently preserve 1.011 acre of tributary and 0.016 acre of seasonal wetlands. As well, the project will construct an additional 0.35 acres of seasonal wetlands, just over a 1:1 created to fill ratio, on the project site directly adjacent to the tributary wetlands. These areas will be buffered by native grasslands and riparian enhancement of the uplands adjacent to the preserved tributary. The preserved tributary, preserved and created wetlands, and buffers will be contained within a 3.3-acre open space area to be permanently protected and managed for habitat functions and values.

Prior to project approval, a mitigation plan describing the constructed wetland locations, construction methods, and monitoring and success criteria will be submitted to the permitting agencies for review and approval.

When implemented, these measures would reduce potentially significant adverse impacts on special status habitats to a less than significant level.

Level of Significance After Mitigation: Less Than Significant

3.1 The proposed project could have a potentially significant adverse impact on sensitive native grassland habitats

Impact Analysis

The proposed project will result in the loss of approximately 0.15 acres of California oatgrass (*Danthonia californica*) grassland habitat. There is not a definitive rule concerning native grasslands, however, the general guideline is that where native grasses contribute 10 or more percent of the cover over an area, they can be considered a sensitive natural community by the California Department of Fish and Wildlife. California oatgrass grasslands are unusual and the loss of 0.15 acres would be a potentially significant impact.

Mitigation Measure

3.1-1 The project will restore native grasslands at a 1:1 ratio including California oatgrass grassland at a 0.75:1 ratio on the project site. The grassland restoration shall be completed within the restored wetland buffers and/or within the preserved creek setback buffers on the property and contained within a 3.3-acre open space area to be permanently protected and managed for habitat functions and values.

Prior to project approval, a mitigation plan describing the constructed native grassland locations, construction methods, and monitoring and success criteria will be submitted to the permitting agencies for review and approval.

When implemented, these measures would reduce potentially significant adverse impacts on special status habitats to a less than significant level.

Level of Significance After Mitigation: Less Than Significant

References

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APPENDIX A

List of Observed Wildlife

Wildlife Observed

BIRDS

mourning dove	*Zenaida macroura*	
red wing blackbird	*Agelaiis phoeniceus*	
brewers blackbird	*Euphagus cyanocephalus*	
scrub jay	*Aphelocoma californica*	
red tail hawk	*Buteo jamaicensis*	
house finch	*Haemorhous mexicanus*	
turkey vulture	*Cathartes aura*	flying high over site
sparrow	*Sonotrichia sp.*	
starling	*Sturnus vulgaris*	
wild turkey	*Meleagris gallopavo*	
American crow	*Corvus brachyrhynchos*	
mockingbird	*Mimus polyglottos*	
black pheobe	*Sayornis nigricans*	
ring-necked pheasant	*Phasianus colchicus*	
canadian goose	*Branta canadensis*	flying over
mallard	*Anas platyrhynchos*	
blue heron	*Ardea herodias*	flying over
kestrel	*Falco sparverius*	
kite	*Buteo albicaudatus*	
chickadee	*Poecile rufescens*	
California gull	*Larus californicus*	flying over

REPTILES

western fence lizard	*Sceloporus occidentalis*	

AMPHIBIANS

Sierran tree frog	*Pseudacris sierra*	

MAMMALS

vole	*microtus californicus*	burrows and surface runways
gopher	*Thomomys bottae*	burrows observed
mole	*Scapanus sp.*	burrows observed
coyote	*Canis latrans*	scat observed
deer	*Odocoileus hemionus columbianus*	footprints observed

APPENDIX B

Special Status Species Lists

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: BIOS selection

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
alkali milk-vetch *Astragalus tener var. tener*	PDFAB0F8R1	None	None	G2T1	S1	1B.2
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
American peregrine falcon *Falco peregrinus anatum*	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
An isopod *Calasellus californicus*	ICMAL34010	None	None	G2	S2	
big-scale balsamroot *Balsamorhiza macrolepis*	PDAST11061	None	None	G2	S2	1B.2
black-crowned night heron *Nycticorax nycticorax*	ABNGA11010	None	None	G5	S4	
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S3	SSC
California black rail *Laterallus jamaicensis coturniculus*	ABNME03041	None	Threatened	G3G4T1	S1	FP
California red-legged frog *Rana draytonii*	AAABH01022	Threatened	None	G2G3	S2S3	SSC
California Ridgway's rail *Rallus obsoletus obsoletus*	ABNME05011	Endangered	Endangered	G5T1	S1	FP
Coastal Brackish Marsh *Coastal Brackish Marsh*	CTT52200CA	None	None	G2	S2.1	
Contra Costa goldfields *Lasthenia conjugens*	PDAST5L040	Endangered	None	G1	S1	1B.1
Delta tule pea *Lathyrus jepsonii var. jepsonii*	PDFAB250D2	None	None	G5T2	S2	1B.2
dwarf downingia *Downingia pusilla*	PDCAM060C0	None	None	GU	S2	2B.2
ferruginous hawk *Buteo regalis*	ABNKC19120	None	None	G4	S3S4	WL
foothill yellow-legged frog *Rana boylii*	AAABH01050	None	Candidate Threatened	G3	S3	SSC
golden eagle *Aquila chrysaetos*	ABNKC22010	None	None	G5	S3	FP
Greene's narrow-leaved daisy *Erigeron greenei*	PDAST3M5G0	None	None	G3	S3	1B.2
holly-leaved ceanothus *Ceanothus purpureus*	PDRHA04160	None	None	G2	S2	1B.2
legenere *Legenere limosa*	PDCAM0C010	None	None	G2	S2	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
longfin smelt *Spirinchus thaleichthys*	AFCHB03010	Candidate	Threatened	G5	S1	SSC
Lyngbye's sedge *Carex lyngbyei*	PMCYP037Y0	None	None	G5	S3	2B.2
Marin knotweed *Polygonum marinense*	PDPGN0L1C0	None	None	G2Q	S2	3.1
Mason's lilaeopsis *Lilaeopsis masonii*	PDAPI19030	None	Rare	G2	S2	1B.1
Napa bluecurls *Trichostema ruygtii*	PDLAM220H0	None	None	G1G2	S1S2	1B.2
narrow-anthered brodiaea *Brodiaea leptandra*	PMLIL0C022	None	None	G3?	S3?	1B.2
Northern California black walnut *Juglans hindsii*	PDJUG02040	None	None	G1	S1	1B.1
northern harrier *Circus hudsonius*	ABNKC11011	None	None	G5	S3	SSC
Northern Vernal Pool *Northern Vernal Pool*	CTT44100CA	None	None	G2	S2.1	
oval-leaved viburnum *Viburnum ellipticum*	PDCPR07080	None	None	G4G5	S3?	2B.3
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G5	S3	SSC
saline clover *Trifolium hydrophilum*	PDFAB400R5	None	None	G2	S2	1B.2
saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	ABPBX1201A	None	None	G5T3	S3	SSC
salt-marsh harvest mouse *Reithrodontomys raviventris*	AMAFF02040	Endangered	Endangered	G1G2	S1S2	FP
San Joaquin spearscale *Extriplex joaquinana*	PDCHE041F3	None	None	G2	S2	1B.2
San Pablo song sparrow *Melospiza melodia samuelis*	ABPBXA301W	None	None	G5T2	S2	SSC
Serpentine Bunchgrass *Serpentine Bunchgrass*	CTT42130CA	None	None	G2	S2.2	
soft salty bird's-beak *Chloropyron molle ssp. molle*	PDSCR0J0D2	Endangered	Rare	G2T1	S1	1B.2
steelhead - central California coast DPS *Oncorhynchus mykiss irideus pop. 8*	AFCHA0209G	Threatened	None	G5T2T3Q	S2S3	
Suisun Marsh aster *Symphyotrichum lentum*	PDASTE8470	None	None	G2	S2	1B.2
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S3	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Tiburon paintbrush *Castilleja affinis var. neglecta*	PDSCR0D013	Endangered	Threatened	G4G5T1T2	S1S2	1B.2
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Candidate Endangered	G2G3	S1S2	SSC
two-fork clover *Trifolium amoenum*	PDFAB40040	Endangered	None	G1	S1	1B.1
vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened	None	G3	S3	
western bumble bee *Bombus occidentalis*	IIHYM24250	None	None	G2G3	S1	
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western snowy plover *Charadrius alexandrinus nivosus*	ABNNB03031	Threatened	None	G3T3	S2S3	SSC
white-tailed kite *Elanus leucurus*	ABNKC06010	None	None	G5	S3S4	FP

Record Count: 49

APPENDIX C

Definitions
for
Special Status Species Designations

DEFINITIONS FOR SPECIAL STATUS SPECIES DESIGNATIONS

Federal Endangered Species Act

The following are the standard definitions for the status designations under the federal Endangered Species Act (ESA), implementing regulations and relevant notices (as published in the Federal Register). The ESA is administered by the U.S. Fish and Wildlife Service (USFWS).

Endangered – A species that is in danger of extinction throughout all or a significant portion of its range.

Threatened – A species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Proposed for Listing – Taxa formally noticed as being under review to determine whether listing as threatened or endangered is warranted.

Candidate – Taxa for which USFWS has on file sufficient information on biological vulnerability and threat to support a proposed rule to list the species as endangered or threatened. Proposals to list have not yet been issued because this action is precluded by other listing activity. Species in this category are assigned a listing priority in order to assist the FWS in determining those species most in need of protection.

[Note: As of February 1996, the USFWS eliminated the differing categories of candidate species and now has only one category of candidate species as defined above.]

California Endangered Species Act

The following are the standard definitions for the status classifications under the California Endangered Species Act (CESA), administered by the California Department of Fish and Game (CDFG), now renamed the California Department of Fish and Wildlife (CDFW).

Endangered species – A native California bird, mammal, fish, amphibian, reptile or plant (species or subspecies) is endangered when it is in serious danger of becoming extinct throughout all, or a significant portion of, its range due to one or more causes, including loss of habitat, change of habitat, over-exploitation, predation, competition or disease (CDFW Code, Section 2062).

Threatened species – A native bird, mammal, fish, amphibian, reptile or plant (subspecies or species) is threatened when, although not presently threatened with extinction, it is likely to become an endangered species in the foreseeable future in the absence of special protection and management efforts. Any animal listed as "rare" by the Commission on or before January 1, 1985, is a threatened species (CDFW Code, Section 2067).

Candidate species – A native California species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant is a candidate when the Fish and Wildlife Commission (Commission) has formally noticed it as being under review by the CDFW to determine whether listing as threatened or endangered is warranted, or when it is the subject of a proposed rulemaking by the Commission to list as threatened or endangered (CDFW Code, Section 2068).

California Department of Fish and Game

Fully Protected – Fully Protected species may not be taken or possessed without a permit from the Fish and Wildlife Commission. Information of Fully Protected species can be found in the CDFW Code, (birds at §3511, mammals at §4700, reptiles and amphibians at §5050, and fish at §5515). Additional information on Fully Protected fish can be found in the California Code of Regulations, Title 14, Division 1, Subdivision 1, Chapter 2, Article 4, §5.93. The category of Protected Amphibians and reptiles in Title 14 has been repealed.

Species of Special Concern – A California species of special concern is a plant or animal species or subspecies that is possibly declining or is vulnerable to extirpation and may be considered for listing or for special management and protection measures. These species, although not legally protected under the CESA, are monitored by the CDFW.

It is the goal and responsibility of the CDFW to maintain viable populations of all native species. To this end, the CDFW has designated certain species as “Species of Special Concern” because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as “Species of Special Concern” is to halt or reverse their decline by calling attention to their plight and addressing the issues of concern early enough to secure their long term viability. Not all “Species of Special Concern” have declined equally; some species may be just starting to decline, while others may have already reached the point where they meet the criteria for listing as a “Threatened” or “Endangered” species under the State and/ or Federal Endangered Species Acts.

California Native Plant Protection Act

The California Native Plant Protection Act (CNPPA), administered by the CDFW, protects "rare" plant species.

Rare – A native California plant (species, subspecies or variety) is rare when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens (CDFW Code, Section 1901).

California Native Plant Society (CNPS) List of Rare, Threatened and Endangered Vascular Plants of California

The CNPS maintains a list of rare, threatened and endangered vascular plants of California which summarizes the distribution, rarity, endangerment, and ecology of these plants. CNPS updates this list approximately every four years. The most recent edition (8th ed.) was published in December 2010. The CNPS listing designations are as follows:

California Rare Plant Rank (CRPR) 1A – The plants Ranked as 1A are presumed extinct because they have not been seen or collected in the wild in California for many years. All of the List 1A plants meet the definitions of "rare", "endangered", or "threatened" contained in Fish and Game Code Section 1901 (Native Plant Protection Act), and Sections 2062 and 2067 (CESA).

CRPR 1B – The plants Ranked as 1B are rare throughout their range, and all but a few are endemic to California. List 1B plants are considered vulnerable under present circumstances or have a high potential for becoming so because of their limited or vulnerable habitat, low numbers of individuals per population, or their limited number of populations. As with List 1A plants, all of the 1B plants meet the definitions of "rare", "endangered", or "threatened" contained in Sections 1901, 2062 and 2067 of the Fish and Game Code.

CRPR 2 – Except for being common outside California, Rank 2 plants are defined similarly to List 1B plants.

CRPR 3 – Rank 3 contains plants about which more information is needed to assign them to one of the other lists or reject them. Some List 3 plants meet the definitions of "rare", "endangered", or "threatened" contained in Sections 1901, 2062 and 2067 of the Fish and Game Code.

CRPR 4 – The plants in Rank 4 are of limited distribution or infrequent throughout a broader area in California, and their susceptibility to threat appears low at this time. These plants are uncommon enough that their status should be monitored regularly. Very few List 4 plants meet the definitions of "rare", "endangered", or "threatened" contained in Sections 1901, 2062 and 2067 of the Fish and Game Code, and few, if any, are eligible for state listing.

CNPS Threat Code extensions and their meanings:

.1 – Seriously endangered in California

.2 – Fairly endangered in California

.3 – Not very endangered in California

CNPS Local Listings (Alameda and Contra Costa Counties)

***A1** or ***A2** – Species in Alameda and Contra Costa Counties listed as rare, threatened or endangered statewide by federal or state agencies or by the state level of CNPS.

A1x – Species previously known from Alameda or Contra Costa Counties, but now presumed extirpated here.

A1 – Species currently known from two or less regions in Alameda and Contra Costa Counties.

A2 – Species currently known from three to five regions in the two counties, or, if more, meeting other important criteria such as small populations, stressed or declining populations, small geographical range, limited or threatened habitat, etc.

A1? – Species with taxonomic or distribution problems that make it unclear if they actually occur here.

Special Animals

California Department of Fish and Wildlife (CDFW)

Special Animals – Special animals is a general term that refers to all of the taxa that the California Natural Diversity Database (CNDDB) is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special status species". The CDFW considers the taxa on this list to be those of greatest conservation need and were used in the development of California's Wildlife Action Plan (CDFG 2009). Special animals includes a broad list of agency designations.
For more information see: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/SPAnimals.pdf

Watch List – The Watch List consists of taxa that were previously Species of Special Concern (SSC's) but no longer merit SSC status or which do not meet SSC criteria but for which there is concern and a need for additional information to clarify status.

Other "Special Animal" Status Codes:

The status of species on the Special Animals List according to other conservation organizations is provided. Taxa on these lists are reviewed for inclusion in the CNDDB Special Animals List, but are not automatically included. For example, taxa that are regionally rare within a portion of California may not be included, because they may be of lesser conservation concern across their full range in California.

These species, which are also tracked regardless of their legal or protection status, are provided below.

U.S Fish and Wildlife Service (USFWS)

Birds of Conservation Concern – The goal of the Birds of Conservation Concern report is to accurately identify the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent the US Fish and Wildlife Service's highest conservation priorities and draw attention to species in need of conservation action.

National Marine Fisheries Service (NMFS) also known as NOAA Fisheries

Species of Concern – NOAA Fisheries is responsible for the management, conservation, and protection of living marine resources within the United States Exclusive Economic Zone. Species of Concern are those species about which we have some concerns regarding status and threats, but for which insufficient information is available to indicate a need to list the species under the Endangered Species Act (ESA). Though NMFS wishes to draw proactive attention and conservation action to these species, "Species of concern" status does not carry any procedural or substantive protections under the ESA.

Bureau of Land Management

Sensitive – According to BLM Manual 6840, a Bureau Sensitive Species must meet the following criteria to be considered for sensitive species listing:

- They must be native species found on BLM-administrated lands for which BLM has the capability to significantly affect the conservation status of the species through management.
- Information is available that a species has recently undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species range.

- The species depends on ecological refugia or specialized or unique habitats on BLM-administrated lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk.
- All federally designated candidate species, proposed species, and delisted species in the 5 years following their delisting shall be conserved as Bureau Sensitive Species.

Once a species is declared sensitive by the BLM, it is their obligation to determine its distribution and manage the species' habitat.

California Dept. of Forestry & Fire Protection

CDF Sensitive **–** California Department of Forestry and Fire Protection classifies "sensitive species" as those species that warrant special protection during timber operations. The list of "sensitive species" is given in §895.1 (Definitions) of the California Forest Practice Rules.

International Union for Conservation of Nature (IUCN)

IUCN List **–** The IUCN assesses, on a global scale, the conservation status of species, subspecies, varieties and even selected subpopulations in order to highlight taxa threatened with extinction, and therefore promote their conservation. Detailed information on the IUCN and the Red List is available at: http://www.iucnredlist.org

Marine Mammal Commission

Species of Special Concern **–** Section 202 of the Marine Mammal Protection Act directs the Marine Mammal Commission, in consultation with its Committee of Scientific Advisors, to make recommendations to the Department of Commerce, the Department of the Interior, and other federal agencies on research and management actions needed to conserve species of marine mammals. To meet this charge, the Commission devotes special attention to particular species and populations that are vulnerable to various types of human-related activities, impacts, and contaminants. Such species may include marine mammals listed as Endangered or Threatened under the Endangered Species Act or as depleted under the Marine Mammal Protection Act. In addition, the Commission often directs special attention to other species or populations of marine mammals not so listed whenever special conservation challenges arise that may affect them.

More information on the Marine Mammal Protection Act and the Marine Mammal Species of Special Concern list is available at: http://www.mmc.gov/species/welcome.shtml

U.S Forest Service

Sensitive – USDA Forest Service defines sensitive species as plant and animal species identified by a regional forester that are not listed or proposed for listing under the Federal Endangered Species Act for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density, or significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution. Regional Foresters identify sensitive species occurring within each region. California is the Pacific Southwest Region (Region 5).
More information is available at: http://www.fs.usda.gov/main/r5/plants-animals and at:
http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5435266.xlsx

North American Bird Conservation Initiative (NABCI)

North American Bird Conservation Initiative Watchlist – The North American Bird Conservation Initiative is a coalition of private organization and government agencies. They work to ensure the long-term health of North America's native bird populations and publish an annual State of the Birds report. The annual State of the Bird report includes a watch list of bird species in need of conservation help and classifies the birds as either Red Watch List or Yellow Watch List species. Species on the Red Watch List have extremely high vulnerability, and Yellow Watch List species are species that may be range restricted or may be widespread but with declines and high threats. More information is available at http://stateofthebirds.org.

American Fisheries Society (AFS)

AFS List – Designations for freshwater and diadromous species were taken from the paper: Jelks,.L., S.J. Walsh, N.M. Burkhead, S.Contreras-Balderas, E. Díaz-Pardo, D.A. Hendrickson, J. Lyons, N.E. Mandrak, F. McCormick, J.S. Nelson, S.P. Platania, B.A. Porter, C.B. Renaud, J. J. Schmitter-Soto, E.B. Taylor, and M.L. Warren, Jr. 2008. Conservation status of imperiled North American freshwater and diadromous fishes. Fisheries 33(8):372-407. Available at:
http://www.fisheries.org/afs/docs/fisheries/fisheries_3308.pdf
Designations for marineand estuarine species were taken from the paper: Musick, J.T. et al. 2000. "Marine, Estuarine, and Diadromous Fish Stocks at Risk of Extinction in North America (Exclusive of Pacific Salmonids). Fisheries 25(11):6-30. Available at:
http://www.flmnh.ufl.edu/fish/sharks/sawfish/Reprint1390.pdf

Western Bat Working Group (WBWG)

WBWG List – The WBWG is comprised of agencies, organizations and individuals interested in bat research, management and conservation from the 13 western states and provinces. The goals are (1) to facilitate communication among interested parties and reduce risks of species decline or extinction; (2) to provide a mechanism by which current information on bat ecology, distribution and research techniques can be readily accessed; and (3) to develop a forum to discuss conservation strategies, provide technical assistance and encourage education programs. Species are ranked as High, Medium, or Low Priority in each of 10 regions in western North America. Because California includes multiple regions where a species may have different WBWG Priority ranks, the CNNDB includes categories for Medium-High, and Low-Medium Priority. The CNDDB tracks bat species that are at least Low-Medium Priority in California. More information is available at: http://www.wbwg.org

The Xerces Society

Red List – The Xerces Society is an international non-profit organization dedicated to protecting biological diversity through invertebrate conservation. The Society advocates for invertebrates and their habitatsby working with scientists, land managers, educators, and citizens on conservation and education projects. Their core programs focus on endangered species, native pollinators, and watershed health. More information on the Red List is available at:
http://www.xerces.org

Special Status Species Abbreviations

Federal Endangered Species Act

FE	Federally-listed as endangered
FT	Federally-listed as threatened
FPE	Federally proposed for listing as endangered or threatened
FC	Federal candidate for listing as endangered or threatened

State Endangered Species Act

SE	State-listed as endangered
ST	State-listed as threatened
SC	State candidate for listing as endangered or threatened

California Department of Fish and Wildlife

FP	Fully protected
SSC	California species of special concern
WL	Watch List

California Native Plant Protection Act

CNPPA: Rare	Rare plant

California Native Plant Society

CRPR	California Rare Plant Rank

SPECIAL ANIMALS (SA)

California Department of Fish and Wildlife

CDFW: WL Watch list

CDFW: SA Special Animal

US Fish and Wildlife Service

USFWS:BCC Birds of Conservation Concern

NMFS (NOAA Fisheries)

NMFS: SC Species of Concern

Bureau of Land Management

BLM:S Sensitive

California Dept. of Forestry & Fire Protection

CDFS:S Sensitive

International Union for Conservation of Nature

IUCN:CD Conservation Dependent

IUCN:CR Critically Endangered

IUCN:DD Data Deficient

IUCN:EN Endangered

IUCN:EW Extinct in the Wild

IUCN:EX Extinct

IUCN:LC Least Concern

IUCN:NE Not evaluated

IUCN:NT Near Threatened

IUCN:VU Vulnerable

Marine Mammal Commission

MMC:SSC Species of Special Concern

National Marine Fisheries Service

NMFS:SC Species of Special Concern

U.S Forest Service

USFS:S Sensitive

Western Bat Working Group

WBWG: H High priority

WBWG: LM low-medium priority

WBWG: M medium priority

WBWG: MH medium-high priority

Xerces Society Red List

X: CI Critically imperiled

X: DD Data deficient

X: IM Imperiled

X: VU Vulnerable

North American Bird Conservation Initiative

NABCI: RWL Red watch list

NABCI: YWL Yellow watch list

American Fisheries Society

AMS: EN Endangered

AMS: TH Threatened

AMS: VU Vulnerable

ZENTNER and ZENTNER
Land Planning and Restoration

Devlin Road Property

Section 404
Jurisdictional Delineation

Project No.:
1053 NGI

Zentner and Zentner

Oakland

Prepared for:
Ron Fedrick

October 2016

95 Linden Street Suite 3 Oakland California 94607 510.622.8110

Project Name:

Devlin Road Property

APN#:

057-020-025

Project Proponent:

Ron Fedrick

Care of:
Nova Group Inc.
185 Devlin Road
Napa, CA 94558

Jurisdictional Delineation By:

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Oakland, CA 94607
(510) 622-8110
(510) 622-8116 FAX

Field Assessment:

Sean Micallef, Zentner and Zentner
April 2016

Devlin Road Property
Jurisdictional Delineation

I. INTRODUCTION

A. Purpose

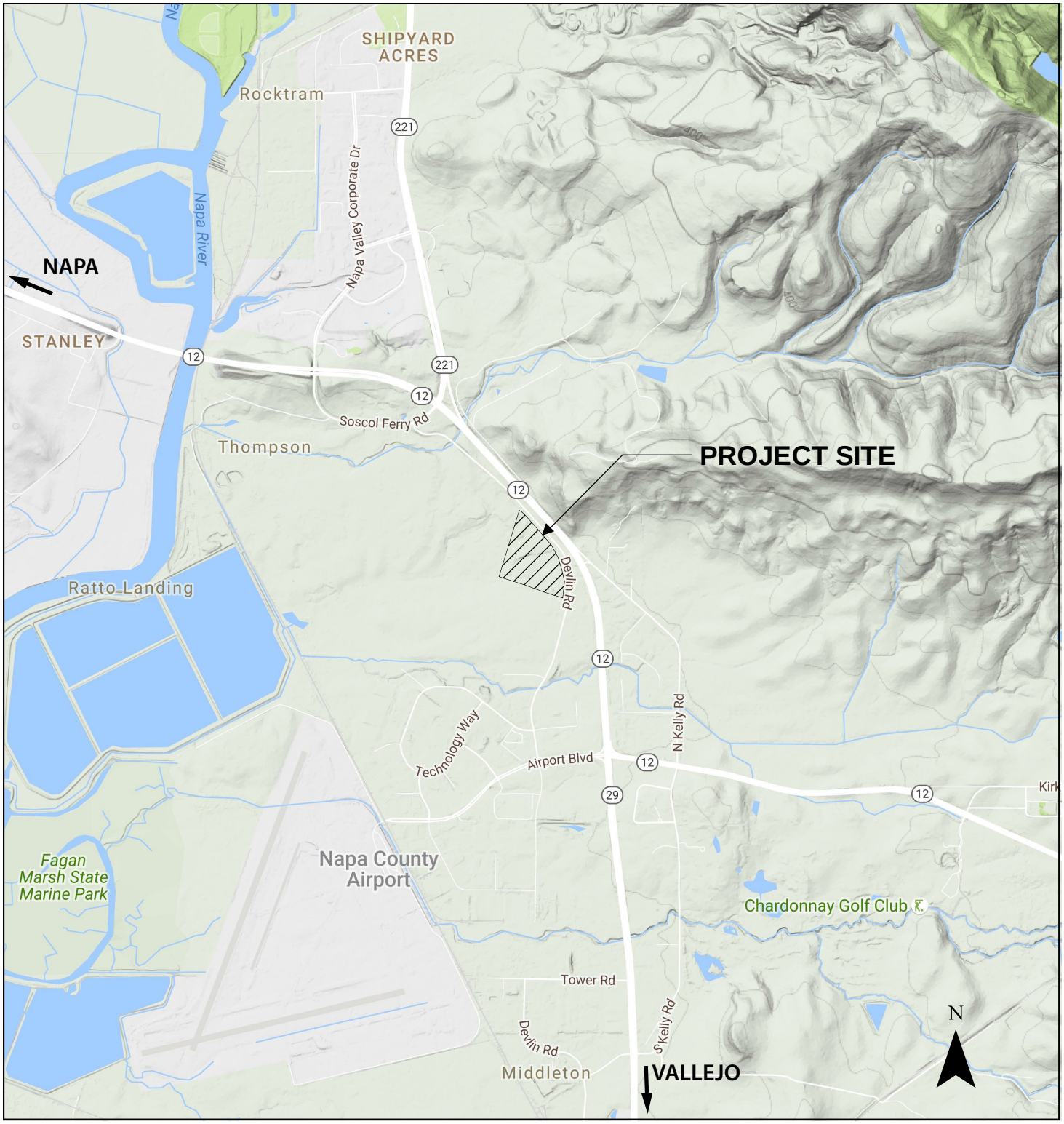
This report and accompanying map of the Devlin Road (formerly known as the O'Neill/Mullin) site and hereafter referred to as the "project site", in Napa County, present a delineation of jurisdictional "waters of the U.S.". As defined in the Clean Water Act, "waters of the U.S." include coastal waters, rivers, streams (including intermittent streams), lakes, ponds, and wetlands.

This site was the subject of a previous delineation in 2009 (Zentner and Zentner 2009), however, since that time, there have been some significant changes in the site including decreased water in the two channels that has resulted in shrinking seasonal wetlands adjacent to the channel. These changes will be discussed in greater detail within this report.

B. Location

The Devlin Road site is located in the southern end of Napa County, approximately ½ miles north-northeast of the Napa County Airport, 0.75 miles north of Highway 12/Airport Drive and just south of the Napa Valley (***Figure 1***). The eastern edge of the site runs along Devlin Road, which is located about 100 feet west of Highway 29. It is bordered on the north by recent construction for a fuel transfer station and bordered by pasture and open space on the remainder of the site. It is located on the Cuttings Wharf USGS 7.5-minute quadrangle, Township 5 North, Range 4 West in the southwest corner of Section 36.

To access the site from San Francisco drive 32 miles on Interstate 80 East, then head west on Highway 37 for 2 miles, and 6 miles north on Highway 29. Make a left on Highway 12/Airport Boulevard and then turn right on Devlin Road. Drive approximately 0.75 miles north and park on the west side of a road in a bare area used for parking.



DEVLIN ROAD NAPA, CALIFORNIA	**FIGURE 1** LOCATION MAP	ZENTNER and ZENTNER *Land Planning and Restoration* 95 Linden Street, Ste. 3, Oakland, CA 94607 Phone: 510.622.8110 Fax: 510.622.8116
DATE: 10/14/2016, 02:45 pm		
SOURCE: D:\Graphic Designer\My Documents \ PROJECTS\1000-1100\1053 Devlin Rd\Adobe\1053 location1 16-10-14		

C. Site Description

The 20.2-acre property is roughly triangular in shape. As noted, recent construction borders the north, Devlin Road and Hwy 29 border the east, while open fields lie to the west and south. It is part of a gentle plain that slopes from the toe of the Mayacmas Mountains, located just east of the site, down to the Napa River, which is a little over a mile west of the site. However, the site contains extensive fill soils, which were brought in approximately 15 years ago.

The majority of the site consists of non-native annual grassland with patches of seasonal wetland. An unnamed tributary runs from east to west through the site. Farm fields are located just west of the site and these fields slope down to salt evaporator ponds (formerly tidal marsh), and then to the Napa River, which is at sea level approximately 1.25 miles west of the site.

1. Topography

The majority of the site is more or less a leveled plain at approximately 50 to 52 feet in elevation, however, old fill terraces and slopes abound throughout the site. The highest portion of the site is in the southeast quarter and consists of a relatively intact hill that rises to over 62 feet. The unnamed tributary cuts 3 to 10 feet below the fill plain; it enters the east side of the site through a culvert at about 53 feet in elevation and exits the west side of the site at about 37 feet. The total elevation range throughout the site is approximately 25 feet.

2. General soil types

The majority, northern three-quarters of the site, are mapped as Haire clay loam with 2 to 9% slopes. These are moderately well-drained soils of annual grasslands (SCS 1978) The southeast quarter of the site is mapped as Fagan clay loam with 5 to 15% slopes (NRCS 2016). Fagan soils are also well-drained, upland grassland soils (SCS 1978). Both of these soil series are non-hydric soils.

3. Observations and current uses of property

The majority of the site is currently unused and appears to have been unused for at least the last 25 years. It appears to have been initially leveled and filled approximately 20 years ago as indicated by the large, old coyote bushes (*Baccharis pilularis*) present on the fill surfaces. The current owner confirms that most of the site was filled to bring it up to the current elevations. The general locality (probably

including the site) has been rangeland and or farmland for most of the last 200 years, starting in the early 1800's.

4. Major vegetation types or habitats on-site

The majority of the site is occupied by non-native annual grassland with patches of coyote bush scattered throughout the site. A tributary runs from east to west through the approximate center of the site, while a drainage ditch runs along the west side of Devlin Road north of the tributary. Some relatively small seasonal wetlands are present in low depressions that formed within fills on the site.

5. Ecological Setting

The site is located within the southern end of the Napa Valley and the upper edges of the San Pablo Bay marshes. It is located along the base of the Mayacmas Mountains and above the Napa River. The properties around the site mostly consist of open space or fairly sparse industrial and commercial development.

The watershed above the site, which feeds the on-site tributary, consists of about 80 acres of hillside and flats. Before buildings and roads in the vicinity were constructed, natural flows would have been limited and highly seasonal. Water movement from precipitation events most likely took the form of sheet flows and shallow vegetated swales across the site and were not associated with any channel. Artificial flows into the site and subsequent fill within the site lead to the formation of something that appears as more of a tributary in form. The resulting channel (G) now bisects the site. Previously, flows were thought to have been augmented by runoff from impervious roads and buildings, irrigation runoff, and from ground bared by farming. However, it was learned that a good portion of the water through the site was derived from upstream spray fields operated by City of American Canyon Water Treatment Plant. The RWB ordered the plant to stop dispersing their excess water in this manner, leading to a reduction in flows. In addition, a vegetated swale adjacent to Devlin Road, which has now been channelized into a 3-foot-wide roadside ditch, was found to carry water derived from a leak originating from the American Canyon Water District. This leak has now been repaired and the channel dried, leading to a further reduction of flows within Channel G.

The roadside ditch and the on-site tributary carry flow east to west through the site before flowing 0.75 miles west as a ditched tributary through farm fields. It then flows southwest through ditches along 0.5 miles of salt evaporator ponds located within former tidelands. It finally empties into remnant tidelands that border Steamboat Slough 1.75 miles beyond the site and then connects to the Napa River about 2.5 miles

west-southwest of the site. The Napa River is about 1.25 miles west in a straight line from the site.

In our 2009 delineation, we noted that the area occupied by seasonal wetland species adjacent to the vegetated channel were declining due to reduced spring and summer flows. Further, we speculated that the flows could be reduced in the future as a result of conversion of farm fields to drip-irrigated wine grapes or perhaps a result of reduced farm and grape irrigation due to the weakened economy. In fact, the reduction of the spray field flows and the resolution of the Water District leak, have resulted in significant reductions in wetland area within the wetlands nearest Channel G.

II. JURISDICTIONAL DELINEATION

A. Introduction

As defined by the Army Corps of Engineers (Corps), "wetlands" are areas periodically or permanently saturated by surface or groundwater and typically support vegetation adapted to life in saturated (hydric) soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and floodwaters, promotion of groundwater recharge, and their water filtration and purification functions. "Other waters" include tributaries or drainage ditches which exhibit perennial or ephemeral flow to a navigable waterway, wetland, or other significant water feature. Other waters may not necessarily be wetlands.

B. Methods

Boundaries between jurisdictional areas and uplands were investigated using the routine on-site assessment procedure, Section D, Subsection 2, page 57 of the 1987 "Corps of Engineers Wetlands Delineation Manual" (Environmental Laboratory 1987; hereafter the "Delineation Manual") as modified by the new Interim Arid West Supplement to the Delineation Manual (Environmental Laboratory 2006; hereafter the AWS). Dominant plant species, soil characteristics, and hydrology indicators were noted within a 10-foot by 10-foot plot at each sample point (**Appendix A** contains delineation data sheets and ***Figure 2*** contains a draft jurisdictional delineation map). Wetlands were distinguished from uplands on this site by the presence of: 1) hydrophytic vegetation, 2) wetland hydrology, and 3) hydric soils (defined below). Data point(s) were mapped onto a 1-inch equals 150-foot scale map.

1. Hydrophytic Vegetation

Hydrophytic vegetation is dominated by plant species that can tolerate prolonged inundation or soil saturation during the growing season. More than 50% of the dominant species must be wetland indicators of FAC, FACW and OBL or outweigh them using a prevalence index for the vegetation to be considered hydrophytic. These wetland indicators, or hydrophytes, are listed in the Delineation Manual as OBL, FACW, and FAC. Other plants are listed as FACU or NI, and unlisted plants are considered as UPL. These abbreviations are defined as follows:

OBL	Obligate Wetland Plants. Plants that occur over 99% of the time in wetlands.

LEGEND

- JURISDICTIONAL AREA
- DATA POINT
- PROPERTY LINE
- EXISTING CONTOUR LINE

JURISDICTIONAL AREAS

HABITAT TYPE	FT^2	ACRES
A. SEASONAL WETLAND	353.40	0.008
B. SEASONAL WETLAND	696.26	0.016
C. SEASONAL WETLAND	1,640.20	0.038
D. SEASONAL WETLAND	167.02	0.004
E. SEASONAL WETLAND	1,007.12	0.023
F. SEASONAL WETLAND	695.09	0.016
G. TRIBUTARY	44,032.59	1.011
	1080 LIN. FT.	
H. SEASONAL WETLAND	202.11	0.005
I. CHANNEL	2,192.50	0.050
	769 LIN. FT.	
J. SEASONAL WETLAND	3,850.21	0.088
K. SEASONAL WETLAND	6,824.08	0.157
JURISDICTIONAL TOTAL ACRES:		**1.42**

Disclaimer: Section 404 Jurisdictional Map
This map exhibits conditions on the site at the time of completion of the delineation. For various reasons, conditions on a site may change, which may affect site wetland boundaries. Delineation maps generally expire five years after approval by the U.S. Army Corps of Engineers (Corps). Because regulations governing delineations are subject to change, this map should be reviewed by a qualified wetland consultant to ensure accuracy if not submitted to the Corps within six (6) months of preparation.

Field Work By: Zentner and Zentner, 08.18.09, 08.19.09, 08.20.09, 09.03.09

ZENTNER and ZENTNER
Land Planning and Restoration
95 Linden Street, Ste. 3, Oakland, CA 94607
Phone: 510.622.8110 Fax: 510.622.8116

FIGURE 2
SECTION 404 JURISIDICTIONAL WETLAND DELINEATION

REVISIONS	BY

O'NEILL/ MULLIN PROPERTY
DEVLIN ROAD
NAPA, CALIFORNIA

N
0 75' 150'

TOPO SOURCE:

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FACW	Facultative Wetland Plants. Plants that occur 67% to 99% of the time in wetlands.
FAC	Facultative Plants. Plants likely to occur 33% to 67% of the time in wetlands.
FACU	Facultative Upland Plants. Plants that occur 1% to 33% of the time in wetlands, but which occur more frequently in uplands.
NI	Non-indicator plants. (These must be checked against the National Indicator List and could be changed to a wetter or drier status)
UPL	Upland Plants. Plants that occur less than 1% of the time in wetlands.

Note: The 3 facultative categories are subdivided by (+) and (-) modifiers. FAC+ species are considered to be wetter (have a greater estimated probability of occurring in wetlands) than FAC species. FAC- species are considered to be drier (have a lesser estimated probability of occurring in wetlands) than FAC species.

2. Hydric Soils

Hydric soils develop under the low oxygen conditions typical of prolonged inundation or saturation, and generally show visible indications of chemical reduction. The hydric nature of a soil is most often indicated by low matrix chromas of 0 to 1, or 2 with mottles, and is determined by comparing the wetted soil with Munsell Soil Color Charts. The hydric nature of a soil may also be indicated by the presence of manganese or iron nodules, or other subtler characteristics.

3. Wetland Hydrology

Common wetland hydrology indicators demonstrate inundation or saturation and include observations of standing water, saturated soils, algal mats, water-matted detritus, and water stains on rocks or other objects. In evaluating these hydrology indicators some attention must be given to the frequency and duration of inundation, and the effects of recent weather, unusual flooding and climatic fluctuations. According to the AWS, an area must have "14 or more days of flooding or ponding or a water table 12 inches (30 centimeters) or less below the soil surface, during the growing season at a minimum frequency of 5 years in 10 (50 percent or higher

probability)" to satisfy the hydrology standard. The old standard (US Army Corps 1987 Manual) was that an area must have ponding for 5% of the growing season (18 days in California) or a water table at a depth equal to 80% of the root mass.

4. Other Waters

The Corps also regulates "other waters tributary to waters of the U.S." Boundaries between uplands and other waters are determined based on water elevations and geomorphic features. In freshwater conditions, the boundary between uplands and other waters is the ordinary high water mark, which is roughly equivalent to the mean annual flood line. In tidal conditions, the boundary is set by the high tide line, roughly equivalent to mean high water.

C. Results

There are a total of nine, small seasonal wetlands located on the site. These are located in very shallow depressions that formed in the fill as a result of differential settling. In addition, there are two jurisdictional drainages on the property; a jurisdictional tributary and jurisdictional drainage ditch. The remainder of the site is upland dominated by annual grassland vegetation.

1. Jurisdictional Areas

a. Seasonal Wetland

Total Area: 0.36 acres

Area: A, B, C, D, E, F, H, J, and K

Data points: 3, 5, 7, 9, 10, 11 and 12

A total of nine, small seasonal wetlands are located within the property. Two of these seasonal wetlands (J and K) were accidentally partially filled by work from an adjacent owner. Because of these impacts, these wetlands are shown as they were originally mapped in 2009. Seasonal wetlands E, D, F, and H have been reduced since mapping was completed in 2009. The reason for this decrease is likely due to relatively significant reductions in flow in Tributary G, which has lowered the groundwater table, especially in areas adjacent to the tributary. Seasonal wetlands A, B, and C, which are farther away from the tributary near the southern edge of the site, remained very similar in size from the 2009 delineation.

All of these seasonal wetlands are very shallow depressions caused by differential settling on site fills. These wetlands have very small watersheds and are essentially

filled primarily by direct rainfall and likely remain inundated a short time after heavy rainfall, though saturation may continue for longer periods during the rainy season.

i. Vegetation

Weedy seasonal wetland vegetation dominates these seasonal wetlands. Wetland vegetation (FAC and wetter species) provide 100% cover at both sample points. Table 1 below contains the common and occasional dominates in the seasonal wetlands.

Table 1
Seasonal Wetland Vegetation

Common Name	***Scientific Name***	***Regional Indicator Status***
Common Dominants		
Baltic rush	*Juncus balticus*	FACW
hyssop loosestrife	*Lythrum hyssopifolia*	OBL
Italian ryegrass	*Festuca perennis*	FAC
Mediterranean barley	*Hordeum marinum*	FAC
bird's-foot trefoil	*Lotus corniculatus*	FAC
Occasional Dominants		
bristly ox-tongue	*Helminthotheca echioides*	FAC
curly doc	*Rumex crispis*	FAC
salt grass	**Distichlis spicata*	

*native species

ii. Soils

Soils are mapped as Haire clay loam, which is not on the list of hydric soils. However, the sample points had low chroma with values of 10YR 3/2. Dull orange-colored mottles were present within the samples, which is characteristic of wetland soils. In addition, root oxidation was also observed at a number of sample points,

iii. Hydrology

The data points in the seasonal wetlands contained multiple indicators of wetland hydrology. The wetlands were primarily located within depressions that formed over time in the fill soils. Other indicators that were usually present include water stained leaves, water marks, biotic soil crust. Many of the wetlands data points also contained the presence of reduced iron in the soil.

b. Drainages

Total Area: 1.06 acres (1,849 linear feet)

Area: G (1080 lf) and I (769 lf)

The two drainages on the site have undergone changes since the delineation that was completed in 2009. Recently drainage channel I adjacent to Devlin Road was the subject of work by Napa County, who channelized it in order to improve flow. While this drainage had been nearly perennial in the past and was a significant source of water to drainage G, it was learned that most of this water stemmed from a leak from the City of American Canyon Water District. This leak apparently ran along an AT&T utility line and exited a manhole adjacent to the ditch. This leak has since been repaired and the drainage immediately began to dry. In addition, it was learned that another significant source of water for drainage G was the spray fields from the City of American Canyon Water Treatment Plant east of Hwy 29. Because the treatment facility is no longer allowed to use the spray fields, this water source has also dried up. Because of these significant water losses, drainage G is much more ephemeral to intermittent than it once was. These water losses also appear to have dropped the water table and lead to reductions in adjacent wetlands.

Two tributary features, Areas G and I, are present on-site. Area G runs from roughly east to west through the approximate center of the site. It is a flat-bottomed channel, apparently natural, that ranges between 20 and 70 feet wide and runs between two areas of fill.

Area I is a roadside ditch located along the eastern boundary of the site and ranges from 2 to 25 feet in width. This tributary carries roadside runoff from Devlin Road and very limited seasonal seepage to Area G through a short 2-foot wide reach.

i. Vegetation

The primary vegetation throughout much of drainage channel I was tule (*Scirpus acutus*; OBL), however, due to the County maintenance work, most of that vegetation has been removed. Though a remnant of the tule still exists along an old fenceline, bare ground currently dominants the channel. Other common vegetation includes umbrella sedge (*Cyperus eragrostis*; FACW), curly dock, rabbitfoot grass (*Polypogon monspelliensis*; FACW) and bristly ox-tongue (Helminthotheca echioides; FAC). With the reduction of water in the channel, it is likely that this vegetation will become more FACW to FACU over time.

Drainage Channel G is primarily dominated by teasel (Dispsacus fullonum; FAC) and Himalayan blackberry, (*Rubus armeniacus*; FACU), though other weedy species such as rabbitsfoot grass, bristly ox-tongue, harding grass (Phalaris aquatica; FACU) and umbrella sedge or also common. In this drainage too, OBL and FACW species are being replaced by more FAC vegetation due to reduced water in the channel.

ii. Soils

The soils are mapped as Haire and Fagan clay loams, which are not included on the California list of hydric soils (SCS, 1986). Soils in and around this areas are generally 10YR 3/2 with rusty redox features that indicate saturation. These would be considered wetland soils since they have low chroma with redox features.

iii. Hydrology

The drainages contain multiple hydrology indicators including matted detritus, root oxidation, drainage pattern and drift deposits, water marks, and water-stained leaves. Both Area I and G appear to be jurisdictional as tributaries to the Napa River, a Traditional Navigable Water.

c. Annual Grassland

Data points: 1, 2, 4, 6, 8, 13, 14, and 15

Most of the site is annual grassland dominated by non-native grasses and weeds and the native coyote bush. The coyote bush is not as dominant on the site as it once was after it the site was cleared a number of years ago. Most of the grassland sample plots failed to satisfy all three of the mandatory technical wetland criteria. Two of the sample points had marginal hydrology and soils but failed the vegetation criteria. These were generally in very shallow depressions that appeared not to hold water long enough to form wetland characteristics. Table 2 below contains the common and occasional dominates in the upland Grasslands.

Table 2
Upland Grassland Vegetation

Common Name	***Scientific Name***	***Regional Indicator Status***
Common Dominants		
coyote bush	**Baccharis pilularis*	UPL
brome fescue	*Festuca bromoides*	FACU

ripgut grass	*Bromus diandrus*	UPL
bindweed	*Convolvulus arvensis*	UPL
red-stem filaree	*Erodium cicutarium*	UPL
Occasional Dominants		
wild oat	*Avena fatua*	UPL
soft chess	*Bromus hordeaceus*	FACU
Italian ryegrass	*Festuca perennis*	FAC
little quaking grass	*Briza minor*	FAC

*native species

References

Environmental Laboratory. 1987. Corps of Engineers wetland delineation manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

NRCS. 2016. Soils of the Napa Project Vicinity, Napa County, California. Natural Resources Conservation Service, USDA; extracted July 2016 from http://websoilsurvey.nrcs.usda.gov/app/

SCS. 1978. Soil Survey of Napa County, California. Soil Conservation Service, USDA.

Zentner and Zentner 2009. O'Neil/Mullin Property: Section 404 Jurisdictional Delineation. September 17, 2009.

Appendix A

Wetland Delineation
Data Sheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Devlin Rd / Nova Bsns Park City/County: Napa – Napa CTY Sampling Date: 4/26/16

Applicant/Owner: Ron Fedrick State: CA Sampling Point: 1

Investigator(s): Sean Micallef Section, Township, Range: T5N, R.4 West, SW Sect 36

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: Fagan clay loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:

Upland Grassland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: ____)			
1. Avena fatua	10	Y	UPL
2. Festuca bromoides	45	Y	FACU
3. Briza minor	7.5	Y	FAC
4. Erodium circutarium	30	Y	UPL
5. Rumex acetosella	5	N	FAC
6. Bromus diandrus	20	N	UPL
7. Festuca perennis	2.5	N	FAC
8.			
	110 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species	22.5	x 3 =	67.5
FACU species	45	x 4 =	180
UPL species	42.5	x 5 =	212.5
Column Totals:	110.0 (A)		460 (B)

Prevalence Index = B/A = 4.18

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Upland Vegetation is dominant

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
12	10YR 4/3						Silty loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No hydric Indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No Indicators

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Devlin Rd / Napa B Park City/County: Napa Sampling Date: 4/26/16

Applicant/Owner: Ron Fedrick State: CA Sampling Point: #2

Investigator(s): Sean Micallef Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Fagan Clay loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes ~~X~~ No _____	
Wetland Hydrology Present?	Yes ~~X~~ No _____	

Remarks:

Vegetation is upland in slight depression

Upland Grassland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Parapholis incurva	30	Y	FACU
2. Vulpia bromoides	40	Y	FACU
3. Juncus tenuis	10	Y	FACW
4. Bromus hordeaceus	5	N	FACU
5. Briza minor	5	N	FAC
6. Erodium cicutarium	5	N	UPL
7. Rumex acetosella	5	N	FAC
8. Convolvulus arvensis	15	Y	UPL
Festuca perennis	5	= Total Cover	FAC
Woody Vine Stratum (Plot size: _____)	Total 120		
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	10	x 2 =	20
FAC species	15	x 3 =	45
FACU species	75	x 4 =	300
UPL species	20	x 5 =	10
Column Totals:	120 (A)		375 (B)

Prevalence Index = B/A = 3.13

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

Upland Vegetation is dominant

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
10"	10YR 4/2						Silty loam	
							Some rusty mottles	
								Very Slight redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

Slightly hydric soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Slight depression

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Devlin Rd / Napa Bens Park City/County: Napa Sampling Date: 4/26/16

Applicant/Owner: Ron Fedrick State: CA Sampling Point: 3

Investigator(s): Sean Micallef Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Fagan / Huire Clay Loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

Seasonal Wetland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Lolium multiflorum	55	Y	OBL
2. Hordeum brachyantherum	15	Y	FACW
3. Festuca perennis	35	Y	FAC
4. Bromus hordeaceus	2.5	—	FAC
5. Festuca bromoides	5	—	FACU
6. Convolvulus arvensis	5	—	UPL
7. Rumex crispus	2.5	—	FAC
8.			
	170 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	15	x 2 =	30
FAC species	40	x 3 =	120
FACU species	5	x 4 =	20
UPL species	5	x 5 =	25
Column Totals:	120 (A)		250 (B)

Prevalence Index = B/A = 2.08

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Hydrophytes are dominant

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
11"	10YR 3/2		10YR 5/8				Silty	loam
								Strong redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

Hydric Indicators Present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- X Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Multiple Indicators

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Devlin Rd / Napa Bo Park City/County: Napa Sampling Date: 4/26/16

Applicant/Owner: Ron Fredrick State: CA Sampling Point: #4

Investigator(s): Sean Micallef Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Fagan / Haire clay loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

Upland Grassland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Bromus diandrus	15	Y	UPL
2. Briza minor	15	Y	FAC
3. Erodium cicutarium	60	Y	UPL
4. Festuca bromoides	7.5	—	FACU
5. Avena fatua	5	—	UPL
6. Bromus hordeaceus	5	—	FACU
7.			
8.			
	107.5 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species 15	x 3 = 45
FACU species 12.5	x 4 = 50
UPL species 80	x 5 = 400
Column Totals: 107.5 (A)	495 (B)

Prevalence Index = B/A = 4.6

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

Upland Vegetation

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
12+	10YR 4/3						Silty loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No Indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No Indicators

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Devlin Rd / Napa Bay Park City/County: Napa Sampling Date: 4/26/16

Applicant/Owner: Ron Fedrick State: CA Sampling Point: 5

Investigator(s): Sean Mccall Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Fagan / Haire Clay loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

Seasonal Wetland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Polypogon monspeliensis	25	Y	FACW
2. Distichlis spicata	20	Y	FAC
3. Rumex crispus	10	—	FAC
4. Lythrum hyssopifolia	10	—	OBL
5. Festuca perennis	20	Y	FAC
6. Cyperus eragrostis	5	—	FACW
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Hydrophytes are dominant

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
10"	10YR 3/2		10YR 5/8				Silty clay loam	
								Strong redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- X Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- X Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ____ Depth (inches): _____

Water Table Present? Yes ____ No ____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches): _____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Multiple Indicators

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Devil's Rd / Wine Bone Park City/County: Napa Sampling Date: 4/26/16

Applicant/Owner: Ron Fedrick State: CA Sampling Point: 6

Investigator(s): Sean Micallef Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Fagan / Haire clay loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

Upland Grassland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Avena fatua	40	Y	UPL
2. Medicago polymorpha	30	Y	FACU
3. Vicia villosa	15	Y	FACU
4. Geranium dissectum	7.5	—	UPL
5. Bromus hordeaceus	7.5	—	FACU
6. Festuca perennis	7.5	—	FAC
7.			
8.			
	107.5 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species 7.5	x 3 =	22.5
FACU species 52.5	x 4 =	210
UPL species 47.5	x 5 =	237.5
Column Totals: 107.5 (A)		470 (B)

Prevalence Index = B/A = 4.37

Hydrophytic Vegetation Indicators:

__ Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

Upland Vegetation Dominates

SOIL

Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
9	10YR 5/2						Gravelly loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No Indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No Indicators

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Devlin Rd / Napa River Park City/County: Napa Sampling Date: 4/26/16

Applicant/Owner: Ron Fedrick State: CA Sampling Point: 7

Investigator(s): Sean Micallef Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: Haire Clay Loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks: Seasonal Wetland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Juncus balticus	15	Y	FACW
2. Lythrum hyssopifolia	20	Y	OBL
3. Lotus corniculatus	20	Y	FAC
4. Festuca perennis	25	Y	FAC
5. Hordeum marinum	10	—	FAC
6. Convolvulus arvensis	2.5	—	UPL
7. Rumex crispus	2.5	—	FAC
8.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 20	x 1 = 20
FACW species 15	x 2 = 30
FAC species 52.5	x 3 = 172.5
FACU species ____	x 4 = ____
UPL species 2.5	x 5 = 12.5
Column Totals: 95 (A)	235 (B)

Prevalence Index = B/A = 2.47

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: Hydrophytic Vegetation Dominated

SOIL

Sampling Point: 4/26/16

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
9	10YR 3/2		10YR 5/8					
								Redox clay
								coats

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

Hydric Soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- X Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Multiple Indicators

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Devlin Rd / Nova Bsns Park City/County: Napa Sampling Date: 4/26/16

Applicant/Owner: Ron Fedrick State: CA Sampling Point: 8

Investigator(s): Sean Micallef Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Haire Clay Loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

Upland Grassland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Festuca perennis	65	Y	FAC
2. Convolvulus arvensis	10	Y	UPL
3. Bromus hordeaceus	10	Y	FACU
4. Hordeum marinum	2.5	—	FAC
5. Geranium dissectum	15	Y	UPL
6. Heliotropium curassavicum	2.5	—	FACU
7. Avena fatua	2.5	—	UPL
8.			
	112.5 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	_____	x 2 =	_____
FAC species	67.5	x 3 =	202.5
FACU species	17.5	x 4 =	70
UPL species	27.5	x 5 =	137.5
Column Totals:	112.5 (A)		410 (B)

Prevalence Index = B/A = 3.64

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

Upland Vegetation Dominated

SOIL

Sampling Point: 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
11"	10YR	4/2					Silty Loam	w/ some small gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Devlin Rd / Napa Basin Park City/County: Napa Sampling Date: 4/26/16

Applicant/Owner: Ron Fedrick State: CA Sampling Point: 9

Investigator(s): Sean Micallef Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Haire Clay Loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks: Seasonal Wetland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Ranunculus muricatus	30	Y	FACW
2. Lythrum hyssopifolia	35	Y	OBL
3. Festuca perennis	25	Y	FAC
4. Hordeum marinum	10	Y	FAC
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	30	x 2 =	70
FAC species	35	x 3 =	105
FACU species	_____	x 4 =	_____
UPL species	_____	x 5 =	_____
Column Totals:	100 (A)		210 (B)

Prevalence Index = B/A = 2.1

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: Hydrophytes are Dominant

SOIL

Sampling Point: 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
12"	10YR 3/2						Gravelly loam	
								rusty mottles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

Hydric Soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- X Biotic Crust (B12)
- X Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- X Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ____ Depth (inches): _____

Water Table Present? Yes ____ No ____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches): _____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Multiple Indicators

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Devlin Rd / Napa Bay Park City/County: Napa Sampling Date: 4/26/16

Applicant/Owner: Ron Fedrick State: CA Sampling Point: 10

Investigator(s): Sean Micallef Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: Haire Clay loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

Seasonal Wetland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Distichlis spicata	70	Y	FAC
2. Hordeum brachyantherum	15	Y	FACW
3. Festuca perennis	10	Y	FAC
4. Convolvulus arvensis	5	—	UPL
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species 15	x 2 = 30
FAC species 80	x 3 = 240
FACU species ____	x 4 = ____
UPL species 5	x 5 = 25
Column Totals: 100 (A)	____ (B)

Prevalence Index = B/A = 2.95

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Hydrophytes are dominant

SOIL

Sampling Point: 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
9"	10YR3/2		10YR5/8				Clay loam	
								Redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

Hydric Soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- X Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ____ Depth (inches): _____

Water Table Present? Yes ____ No ____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches): _____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Multiple Indicators

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Devlin Rd / Napa Basin Park City/County: Napa Sampling Date: 4/26/16

Applicant/Owner: Don Fedrick State: CA Sampling Point: 11

Investigator(s): Sean Micallef Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Haire Clay Loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

Seasonal Wetland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Lythrum hyssopifolia	40	Y	OBL
2. Juncus bufonius	20	Y	FACW
3. Festuca perennis	25	Y	FAC
4.			
5.			
6.			
7.			
8.			
	85 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 15% % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	20	x 2 =	40
FAC species	25	x 3 =	75
FACU species	_____	x 4 =	_____
UPL species	_____	x 5 =	_____
Column Totals:	85 (A)		155 (B)

Prevalence Index = B/A = 1.82

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Hydrophytes are Dominant

SOIL

Sampling Point: 11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
7	10YR3/2						Computed loamy clay	
								light redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

Hydric Soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- X Biotic Crust (B12)
- X Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): _____

Water Table Present? Yes ___ No ___ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Multiple Indicators

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Devlin Rd / Wood Bees Park City/County: Napa Sampling Date: 4/26/16

Applicant/Owner: Ron Fedrick State: CA Sampling Point: 12

Investigator(s): Sean Micallef Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: Haire Clay loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

Seasonal Wetland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Juncus balticus	15	Y	FACW
2. J. bufonius	20	Y	FACW
3. Lythrum hyssopifolia	25	Y	OBL
4. Festuca perennis	10	Y	FAC
5. Lotus corniculatus	10	Y	FAC
6. Polygonum arenastrum	2	—	UPL
7. Helminthotheca echioides	2	—	FACU
8. Avena sativa	2	—	FAC
	86 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 14 % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 25	x 1 = 25
FACW species 35	x 2 = 70
FAC species 22	x 3 = 66
FACU species 2	x 4 = 8
UPL species 2	x 5 = 10
Column Totals: 86 (A)	179 (B)

Prevalence Index = B/A = 2.08

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Hydrophytes are Dominant

SOIL

Sampling Point: 12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2		10YR	6/8			Compacted loamy clay	
								Redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

Yes

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- X Biotic Crust (B12)
- X Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- X Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): _____

Water Table Present? Yes ___ No ___ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Multiple Indicators

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Devlin Rd / Napa Basin Park City/County: Napa Sampling Date: 4/26/16

Applicant/Owner: Ron Fedrick State: CA Sampling Point: 13

Investigator(s): Sean Micallef Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: Haire Clay Loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

Upland ruderal Grassland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Festuca perennis	20	Y	FAC
2. Medicago polymorpha	15	Y	FACU
3. Bromus diandrus	2	—	UPL
4. Triticum [illegible]	1	—	UPL
5. Hordeum marinum	5	—	FAC
6. Melilotus indicus	10	Y	FACU
7. Bromus hordeaceus	15	Y	FACU
8. Geranium dissectum	10	Y	UPL
Helminthotheca echioides	5	= ~~Total~~ Cover	FACU
Woody Vine Stratum (Plot size: ____)			
1. Avena fatua	5	—	UPL
2.			
	88 = Total Cover		

% Bare Ground in Herb Stratum 12 % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 = ____	
FACW species ____	x 2 = ____	
FAC species 25	x 3 = 75	
FACU species 45	x 4 = 180	
UPL species 18	x 5 = 90	
Column Totals: 88 (A)	____ (B)	

Prevalence Index = B/A = 3.92

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Upland Vegetation is Dominant

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
12	10YR3/2						Gravelly clay loam	
								light mottles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No Indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No Indicators

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Devlin Rd / Napa Bike Park City/County: Napa Sampling Date: 4/26/16

Applicant/Owner: Ron Fedrick State: CA Sampling Point: 14

Investigator(s): Sean Micallef Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: Haire Crayton NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ~~X~~	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Upland Grassland – Though Sample point contains hydrologic indicators, The soil is barely hydric while The vegetation is clearly Upland – conclusion – Does NOT have enough to produce a wetland – therefore Upland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Phalaris aquatica	65	Y	FACU
2. Lotus corniculatus	7.5	—	FAC
3. Bromus hordeaceus	5	—	FACU
4. Festuca perennis	5	—	FAC
5. Helminthotheca echioides	2.5	—	FACU
6.			
7.			
8.			
	85 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 15 % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species 12.5	x 3 = 37.5
FACU species 72.5	x 4 = 290
UPL species ____	x 5 = ____
Column Totals: 85 (A)	327.5 (B)

Prevalence Index = B/A = 3.85

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Upland Vegetation dominates

SOIL

Sampling Point: 14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
10"	10 YR 4/3							
								Some light mottles
								&
								Some slight cracks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ~~✓~~ No ____

Remarks:

Slightly hydric

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ~~✓~~ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ~~✓~~ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ____ Depth (inches): _____

Water Table Present? Yes ____ No ____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches): _____

Wetland Hydrology Present? Yes ~~✓~~ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Yes - Some Indicators Present

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Devlin Rd / Napa Sons Bank City/County: Napa Sampling Date: 4/26/16

Applicant/Owner: Ron Fedrick State: CA Sampling Point: 1.5

Investigator(s): Sean Micallef Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Haire clay loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

Upland Grassland

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Festuca bromoides	50	Y	FACU
2. Phalaris aquatica	20	Y	FACU
3. Distichlis spicata	10	Y	FAC
4. Briza minor	5	—	FAC
5. Bromus hordeaceus	5	—	FACU
6. Triteleia hyacinthina	2.5	—	FAC
7. Lecture cornuta	1	—	FACU
8. Geranium dissectum	5	—	UPL
Anagallis arvensis	2.5	—	UPL
	101 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	2	x 2 =	_____
FAC species	17.5	x 3 =	52.5
FACU species	76	x 4 =	304
UPL species	7.5	x 5 =	37.5
Column Totals:	101 (A)		394 (B)

Prevalence Index = B/A = 3.9

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

Upland Vegetation Dominates

SOIL

Sampling Point: 15

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
10"	10YR 3/2		10YR 5/8					Clay loam
								Some redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

Hydric Soil Indicators present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): ___

Water Table Present? Yes ___ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No Indicators