Appendix A

Natural Environment Study

County Road 98 Bike and Safety Improvement Project, Phase II

Natural Environment Study

Yolo County, California

Sections 36, 31, 1, 6, 12, 7, 13, 18, 24, 19
Townships 8N, 9N, Range 1E, 2E

Merritt Quadrangle

District 3-YOL-CR 98
Federal Project No. STPL 5922 (102)

September 2020

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

Natural Environment Study

STATE OF CALIFORNIA
Department of Transportation
District 3-YOL-CR 98

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Summary

The Yolo County is proposing to implement the second phase of County Road (CR) 98 Bike and Safety Improvement Project (project), which will widen and improve shoulders along CR 98. Roundabouts will be constructed at the intersections with CR 31 (Covell Boulevard), CR 32 (Russell Boulevard), and Hutchison Drive. Implementation of the project will require the relocation of drainage ditches and utilities outside the clear recovery zone, which will include extension, replacement, and/or relocation of existing drainage structures to accommodate the widened road. All construction staging will occur within the existing right-of-way. The purpose of the project is to improve public safety while traveling on the County road. The project is located on CR 98, west of the City of Davis, in Yolo County, California. Construction of this project is anticipated to be completed within a two construction seasons.

Gallaway Enterprises conducted assessments required to comply with the Yolo County Habitat Conservation Plan/Natural Community Conservation Plan (Yolo HCP/NCCP). The assessments included a Land Cover Mapping and Covered Species Habitat Assessment and a Planning Level Survey for Land Cover Types and Covered Species Habitat. The purpose of the assessments was to determine the presence of special-status species, quantify land cover types, and define impacts within the Biological Study Area (BSA). The BSA for the project is confined to the County right-of-way (ROW), including areas of proposed ROW acquisition along CR 98 and its intersections with CR 30, CR 31, CR 32, and Hutchison Drive. Land cover types designated by the Yolo HCP/NCCP as Sensitive Natural Communities (SNC) occur within the BSA. Freshwater Marsh Alliance, Lacustrine and Riverine, and Great Valley Oak Riparian are SNCs that occur within the BSA. Other land cover types delineated by the Yolo HCP/NCCP within the BSA consist of Deciduous Fruits/Nuts, Field Crops, Grain and Hay Crops, Grassland Alliance, Semiagricultural, Urban, and Vegetated Corridor.

There is no suitable habitat for special-status plant species within the BSA. There is suitable habitat within the BSA for valley elderberry longhorn beetle (VELB), Swainson's hawk, white-tailed kite, tricolored blackbird, and western pond turtle, which are covered species under the Yolo HCP/NCCP. There is modeled habitat for least Bell's vireo, a covered species under the Yolo HCP/NCCP, within 500 feet of the BSA. Modeled habitat represents land areas for which the Yolo HCP/NCCP expects to provide habitat for covered species based on modeled habitat parameters (e.g. land cover type, distance from aquatic areas, topography, species occurrences). There is also suitable habitat within the BSA for northern harrier and migratory birds and raptors protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC).

Consistent with the Yolo HCP/NCCP protocol level surveys were conducted for the federally listed least Bell's vireo. No observations were made for least Bell's vireo and no suitable habitat will be removed by the proposed project. The project will have no effect on least Bell's vireo.

There is one blue elderberry shrub that will be removed, therefore impacts to the federally listed VELB are assumed. Compensatory mitigation will be satisfied through payment of fees to the Yolo HCP/NCCP. In addition, the shrub will be transplanted during the non-growing season (November-February 15) in accordance with Avoidance and Minimization Measure (AMM) 12 in the Yolo HCP/NCCP. The project may affect but is not likely to adversely affect VELB.

There will be no impacts to Swainson's hawk, white-tailed kite, tricolored blackbird, and migratory birds with the implementation of avoidance and minimization measures in accordance with the Yolo HCP/NCCP.

There will be impacts to 0.27 (1,483 linear feet) acres of drainages and/or jurisdictional ditches. Mitigation for impacts to jurisdictional Waters of the United States (WOTUS) will be addressed through the purchase of credits at a U.S. Army Corps of Engineers (Corps)-approved mitigation bank or payment to a Corps-approved in-lieu fund.

Table of Contents

List of Figures Tables and Appendices

List of Abbreviated Terms

BSA	Biological Study Area
BMP	Best Management Practices
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Corps	United States Army Corps of Engineers
County	Yolo County
CRPR	California Rare Plant Rank
CWA	Clean Water Act
DBH	Diameter at Breast Height
DPS	Distinct Population Segment
EFH	Essential Fish Habitat
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
GIS	Geographic Information System
HCP	Habitat Conservation Plan
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Quality Act

NES	Natural Environmental Study
NOAA	National Oceanic and Atmospheric Administration
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
OHWM	Ordinary High Water Mark
RWQCB	Regional Water Quality Control Board
SSC	State Species of Special Concern
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VELB	Valley elderberry longhorn beetle
WOTUS	Waters of the United States

Chapter 1 – Introduction

The purpose of the project is to improve safety along the County Road (CR) 98 corridor for automobiles, farm equipment, farm-to-market trucking, aggregate product suppliers, commuters, residents, and bicyclists. The project is the second phase of the overall CR 98 Bike and Safety Improvement Project (project) and will rehabilitate the entire width of the cross roads as part of the intersection improvements from CR 98 to an approximate length of 1,000 feet on either direction, except on the eastern segments of CR 31 and CR 32, which will extend to the City of Davis limits (**Figure 1: Regional Location Map, Figure 2: Project Location Map**).

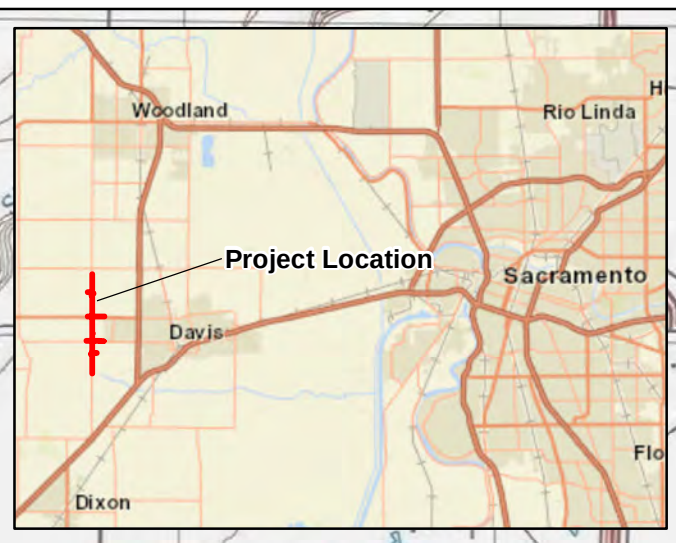
The purpose of this Natural Environment Study (NES) is to evaluate potential project impacts to special-status species and their habitats within the project vicinity. In addition, the NES complies with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (Yolo HCP/NCCP) planning survey and reporting requirements.

Project History

The first phase of the CR 98 Bike and Safety Improvement Project was completed in 2014 and consisted of widening and improving shoulders between the City of Woodland boundary and the CR 98 and CR 29 intersection in an effort to provide safer access and improved visibility for vehicles and bicyclists. Three years following the completion of Phase I of the project, the improved roadway saw a 70% reduction in non-intersection accidents (Omni-Means 2017). The second proposed phase of this project addressed in this NES will continue southward toward the Yolo County line. Phase II will implement shoulder widening as well as intersection improvements in an effort to reduce intersection-related accidents and injuries.

Project Description

Yolo County (County) is proposing to construct Phase II of the CR 98 Bike and Safety Improvement Project, which will extend improvements from the first phase of the CR 98 project completed in 2014, which included adding paved shoulders, clear recovery zones, and improved major intersections. The extent of Phase II will be 4.1 miles, starting from approximately 1300± feet south of the CR 98/CR 29 intersection to the Solano County Line serving the needs of many diverse users, including farmers, aggregate suppliers, and other inter-region truckers, rural residents, commuters, and bicyclists.



Dry Slough

Putah Creek

County Road 30

County Road 98

County Road 31

Russell Blvd

Hutchison Blvd

Plainfield

UNIVERSITY AIRPORT

Beacon

Footbridge

Water Tank

CANAL

LEVEE

Project Boundary - (106.7 acres)

USGS 7.5' Quad: Merritt
T08N, R01E, Sections 1, 12,13,24,
T09N, R02E, Section 31,
T08N, R02E, Sections 6, 7,18,19,
T09N, R01E, Section 36
UTM Zone 10

NORTH

1:24,000
0 0.25 0.5 Miles

Data Sources: ESRI, USGS, Yolo County

County Road 98 Bike and Safety Improvements Phase II
Regional Location
Figure 1

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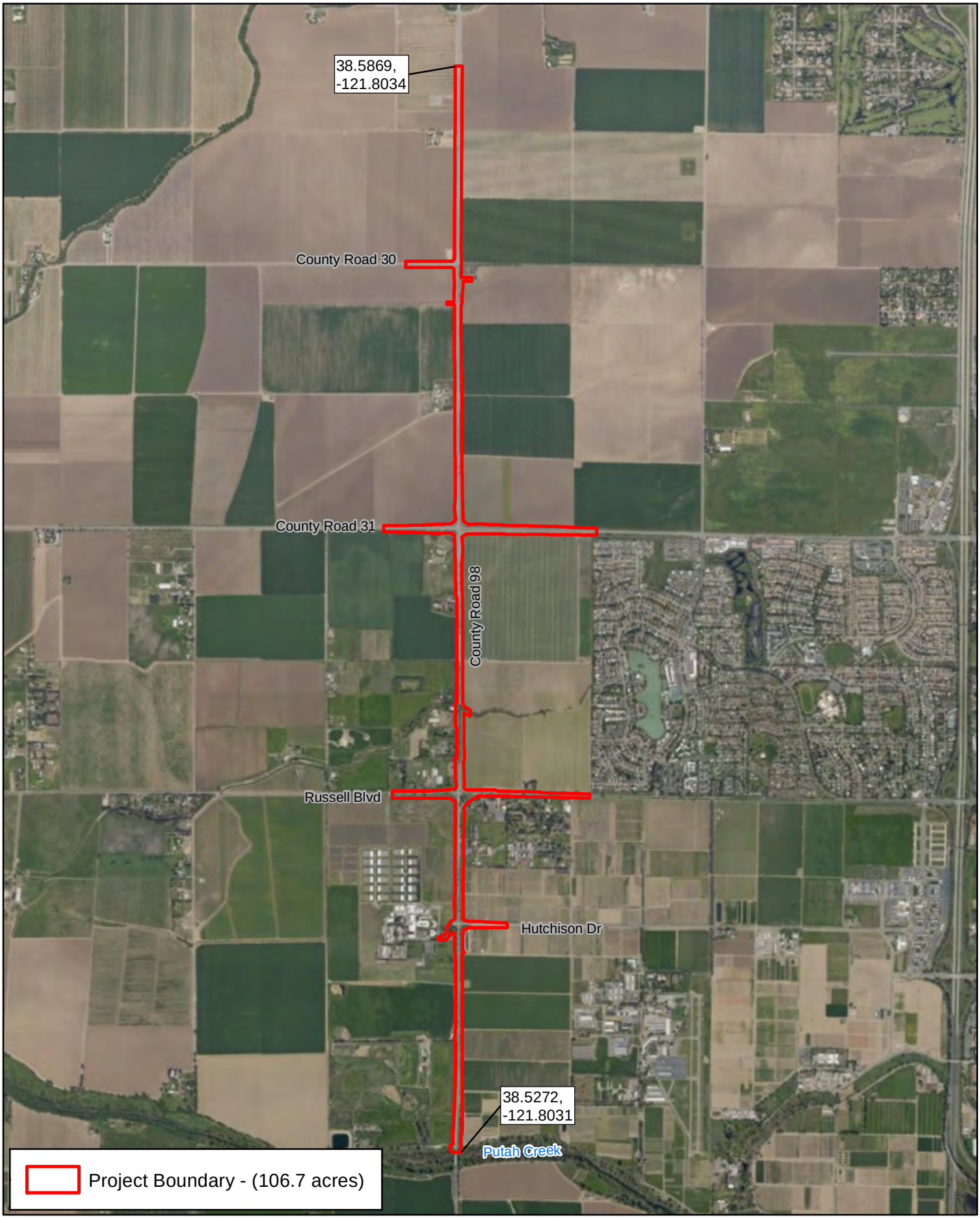
GE: #18-119 Map Date: 08/20/2020



NORTH

1:30,000

0 1,000 2,000 Feet

Data Sources: ESRI, Yolo County, Maxar 07/13/2017

County Road 98 Bike and Safety Improvements Phase II
Biological Survey Area
Figure 2

gallaway ENTERPRISES

GE: #18-119 Map Date: 08/20/2020

Construction of the proposed project will result in the addition of eight-foot paved shoulders as shared bike lanes, and an additional twelve-foot clear recovery zone along the entire length of both sides of the existing two-lane arterial road. The project also proposes to construct a Class 1 shared path to close the gap between the existing Class 1 bike paths on Russell Blvd and the Class 2 bike lanes on Hutchison Drive on the University of California, Davis campus. The project will reconstruct and improve the road structure throughout the extent of the project. Roundabouts will be constructed at the intersections with CR 31, CR 32, and Hutchison Drive; calming entering speeds at the intersections and improving safety for all users. Implementation of the project will require the relocation of drainage ditches and above-ground utilities outside the clear recovery zone, which will include extension, replacement, and/or relocation of existing drainage structures to accommodate the widened road. This will also include relocation and/or abandonment of underground utilities, where they are in conflict with the project. The project may include the installation of high-speed internet. All construction staging will occur on paved portions of the existing roadways. The drainage slough/ditch on the east side of CR 98 north of CR 32 will be reconstructed. Native trees will be planted along the corridor to replace trees that will be removed by the project. Environmental impacts of the project will be addressed in the appropriate National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) documents. This project is included in the Sacramento Area Council of Governments' 2019 Metropolitan Transportation Improvement Program. The project is also a covered project under the Yolo HCP/NCCP.

Chapter 2 – Study Methods

The biological and botanical surveys were conducted by Gallaway Enterprises after consulting the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) species list, National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) official species list, NOAA NMFS Essential Fish Habitat (EFH) mapper database, California Natural Diversity Database (CNDDB) search, and the California Native Plant Society's (CNPS) list of rare and endangered plants gathered for the Biological Study Area (BSA) (**Appendix A: Species Lists, Figure 3: Biological Study Area**). Additionally, a map was obtained from the CNDDB Geographic Information System (GIS) database, which provided general locations of species that had recorded CNDDB occurrences within a quarter-mile radius of the project location (**Figure 4: CNDDB Occurrences**). This quarter-mile buffer was utilized based on project proximity requirements implemented in the Yolo HCP/NCCP. Based on the results of the species lists and CNDDB map, appropriate biological and botanical surveys were conducted.

Regulatory Requirements

The following describes federal, state, and local environmental laws and policies that are relevant to the NEPA and CEQA review processes and documents compliance with the Yolo HCP/NCCP Implementation Handbook: Permitting Guide (November 2019).

Federal

Federal Endangered Species Act

The United States Congress passed the federal Endangered Species Act (ESA) in 1973 to protect species that are endangered or threatened with extinction. The ESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend. The ESA makes it unlawful to "take" a listed animal without a permit. Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." Through regulations, the term "harm" is defined as "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."

NORTH

1:30,000

0 1,000 2,000 Feet

Data Sources: ESRI, Yolo County, Maxar 07/13/2017

County Road 98 Bike and Safety Improvements Phase II
Biological Study Area
Figure 3

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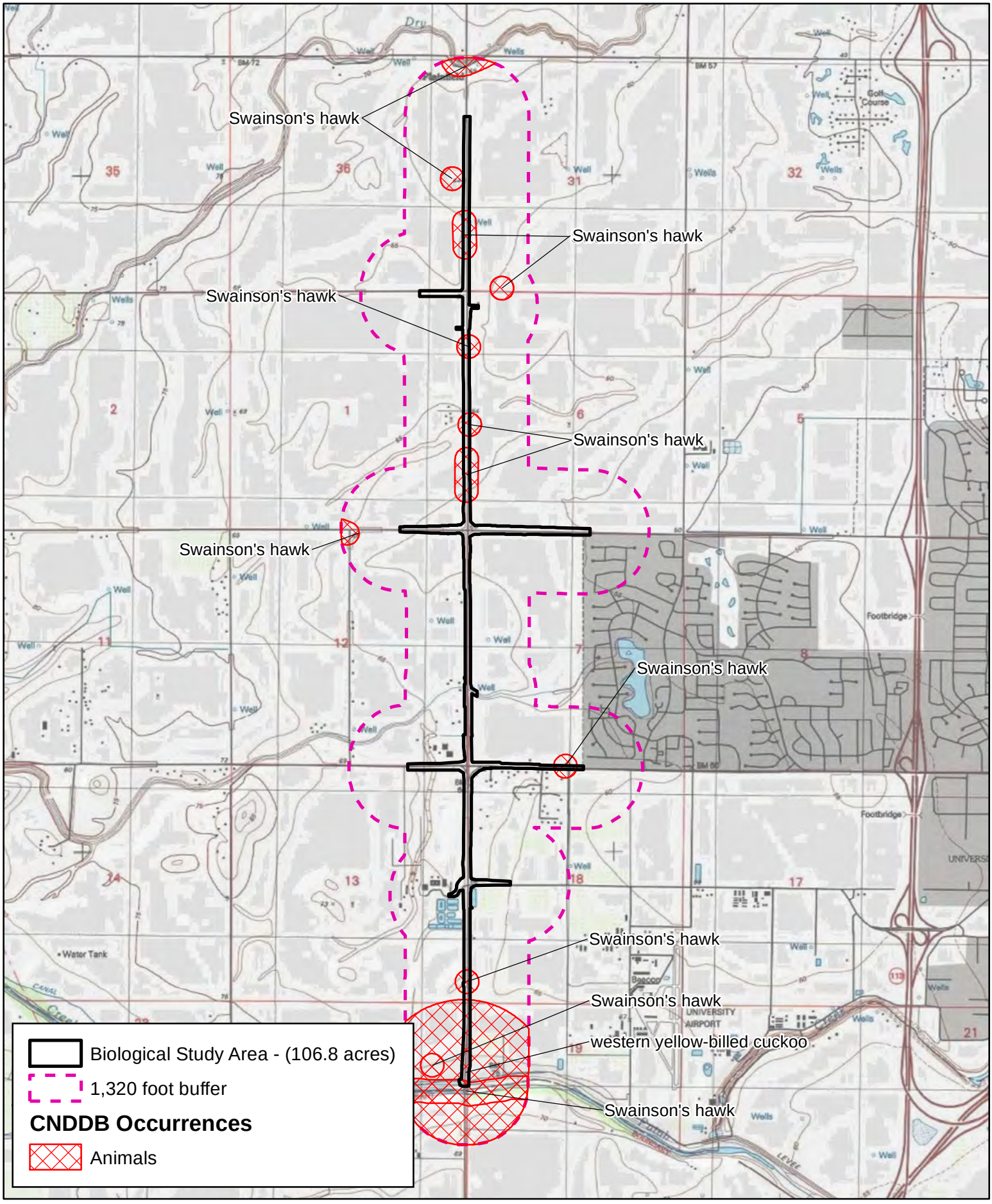
GE: #18-119 Map Date: 08/20/2020



NORTH

1:33,200
0 600 1,200 Feet

Data Sources: ESRI, Yolo County, USGS, CNDDB

County Road 98 Bike and Safety Improvements Phase II
CNDDB Occurrences
Figure 4

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GEP: #18-119 Map Date: 08/20/2020

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e. exotic) species (50 Code of Federal Regulations §10.13). Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance has the potential to affect bird species protected by the MBTA. Thus, vegetation removal and ground disturbance in areas with breeding birds should be conducted outside of the breeding season (approximately March 1 through August 31 in the Central Valley). If vegetation removal or ground disturbance activities are conducted during the breeding season, then a qualified biologist must determine if there are any nests of bird species protected under the MBTA present in the construction area prior to commencement of construction. If active nests are located or presumed present, then appropriate avoidance measures (e.g. spatial or temporal buffers) must be implemented.

Waters of the United States, Clean Water Act, Section 404

The US Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into jurisdictional waters of the United States, under the Clean Water Act (§404). The term "waters of the United States" is an encompassing term that includes "wetlands" and "other waters". Wetlands have been defined for regulatory purposes as follows: "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3, 40 CFR 230.3). Wetlands generally include swamps, marshes, bogs, and similar areas." other waters of the United States are seasonal or perennial water bodies, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high-water mark but lack positive indicators for one or more of the three wetland parameters (i.e. hydrophytic vegetation, hydric soil, and wetland hydrology) (33 CFR 328.4).

The Corps may issue either individual permits on a case-by-case basis or general permits on a program level. General permits are pre-authorized and are issued to cover similar activities that are expected to cause only minimal adverse environmental effects. Nationwide permits are general permits issued to cover particular fill activities. All nationwide permits have general conditions that must be met for the permits to apply to a particular project, as well as specific conditions that apply to each nationwide permit.

Executive Orders 13112; Prevention and Control of Invasive Species

On Feb 3, 1999, Executive Order 13112 was signed establishing the National Invasive Species Council. Executive Order 11312 directs all federal agencies to prevent and control introductions of invasive nonnative species in a cost-effective and environmentally sound manner to minimize their economic, ecological, and human health impacts. Executive Order 11312 established a national Invasive Species Council made up of federal agencies and departments and a supporting Invasive Species Advisory Committee composed of state, local, and private entities. The Invasive Species Council and Advisory Committee oversees and facilitates implementation of the Executive Order, including preparation of a National Invasive Species Management Plan.

Section two (2) of the Executive Order states:

(a) Each Federal agency whose actions may affect the status of invasive species shall, to the extent practicable and permitted by law, (1) identify such actions; (2) subject to the availability of appropriations, and within Administration budgetary limits, use relevant programs and authorities to: (i) prevent the introduction of invasive species; (ii) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; (iii) monitor invasive species populations accurately and reliably; (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded; (v) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and (vi) promote public education on invasive species and the means to address them; and (3) not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

(b) Federal agencies shall pursue the duties set forth in this section in consultation with the Invasive Species Council, consistent with the Invasive Species Management Plan and in cooperation with stakeholders, as appropriate, and, as approved by the Department of State, when Federal agencies are working with international organizations and foreign nations.

State of California

California Endangered Species Act

The California Endangered Species Act (CESA) is similar to the ESA but pertains to state-listed endangered and threatened species. The CESA requires state agencies to consult with the CDFW when preparing documents to comply with the California Environmental Quality Act (CEQA). The purpose is to ensure that the actions of the lead agency do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species. In addition to formal listing under the federal and state endangered species acts, "species of special concern" receive consideration by CDFW. Species of special concern are those whose numbers, reproductive success, or habitat may be threatened.

California Fish and Game Code

The California Fish and Game Code (CFGC) (§3503.5) states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (all owls except barn owls) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto". Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (§3503) also states that "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto".

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Clean Water Act, Section 401

The Clean Water Act (§401) requires water quality certification and authorization for placement of dredged or fill material in wetlands and Other Waters of the United States. In accordance with the Clean Water Act (§401), criteria for allowable discharges into surface waters have been developed by the State Water Resources Control Board, Division of Water Quality. The resulting requirements are used as criteria in granting National Pollutant Discharge Elimination System (NPDES) permits or waivers, which are

obtained through the Regional Water Quality Control Board (RWQCB) per the Clean Water Act (§402). Any activity or facility that will discharge waste (such as soils from construction) into surface waters, or from which waste may be discharged, must obtain an NPDES permit or waiver from the RWQCB. The RWQCB evaluates an NPDES permit application to determine whether the proposed discharge is consistent with the adopted water quality objectives of the basin plan.

Streambed Alteration Agreement

The CDFW is a trustee agency that has jurisdiction under the CFGC (§1600 et seq.). The CFGC (§1602), requires that a state or local government agency, public utility, or private entity must notify CDFW if a proposed project will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds… except when the department has been notified pursuant to Section 1601." If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures.

Rare and Endangered Plants

The California Native Plant Society (CNPS) maintains a list of plant species native to California with low population numbers, limited distribution, or otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review. The CNPS California Rare Plant Rank (CRPR) categorizes plants as the following:

- Rank 1A: Plants presumed extinct in California;
- Rank 1B: Plants rare, threatened, or endangered in California or elsewhere;
- Rank 2: Plants rare, threatened, or endangered in California, but more numerous elsewhere;
- Rank 3: Plants about which we need more information; and
- Rank 4: Plants of limited distribution.

The California Native Plant Protection Act (CFGC §1900-1913) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered as defined by CDFW. An exception to this prohibition allows landowners, under specific circumstances, to take listed plant species, provided that the owners first notify CDFW and give the agency at least 10 days to retrieve (and

presumably replant) the plants before they are destroyed. Fish and Game Code §1913 exempts from the 'take' prohibition 'the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way."

California Environmental Quality Act Guidelines §15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines §15380(d) provide that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled based on the definition in the ESA and the section of the CFGC dealing with rare, threatened, and endangered plants and animals. The CEQA Guidelines (§15380) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (e.g. candidate species, species of concern) would occur. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

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Yolo County

Yolo Habitat Conservation Plan/Natural Community Conservation Plan

The Yolo HCP/NCCP is a 50-year regional plan that proposes to protect endangered species and natural resources while allowing for orderly development in Yolo County consistent with local General Plans. The plan covers 12 wildlife and plant species and implements guidelines for identifying and minimizing potential impacts to species that are covered under the plan. The NES has been prepared in accordance with the Yolo HCP/NCCP Implementation Handbook: Permitting Guide (February 2020).

Studies Required

Gallaway Enterprises conducted biological and botanical habitat assessments within the BSA. Gallaway Enterprises' qualified biologist Brittany Reaves, senior biologist Melissa Murphy, and senior botanist Elena Gregg conducted planning level surveys and field verified Yolo HCP/NCCP mapped land cover types. Planning level surveys are conducted during the project planning and permitting process. There are two types of planning level surveys: 1) surveys conducted to assess land cover types and covered species habitat, and 2) surveys to determine the presence/absence of covered species through species-specific protocol surveys. Information collected during planning level surveys is used to determine land cover impacts, mitigation fees, and applicable avoidance and minimization measures.

Planning level surveys were conducted following review of the Yolo HCP/NCCP, USFWS IPaC report, CNDDB Rarefind 5 report, CNPS list, and the CNDDB occurrence map (**Figure 4: CNDDB Occurrences**). The United States Geological Survey (USGS) "Merritt" 7.5 minute quadrangle in which the project is located was used to derive the agency species lists **(Appendix A: Species Lists)**. Based on the results of these inquiries, Gallaway Enterprises conducted planning level surveys and protocol-level surveys to identify any Yolo HCP/NCCP covered, rare, endangered, threatened, or sensitive species and their habitats that may have the potential to occur within the BSA or within proximity distances as described in Table 2-3 of the Yolo HCP/NCCP *Permitting Guide*. The Yolo HCP/NCCP covers 12 species and their habitats; however Gallaway biologists conducted habitat assessments and pre-screening surveys for all wildlife and plants that could be impacted by the project.

On April 30, 2019, biologists approved by the Yolo HCP/NCCP conducted planning level surveys for land cover types, covered species habitat, and when applicable, species specific surveys were completed. Mrs. Reaves and Mrs. Gregg verified the location of the BSA within the Yolo HCP/NCCP designated planning units and the acreage of land cover types present (**Figure 2: Project Location**).

A delineation of Waters of the United States (WOTUS) was completed for the BSA. The BSA was surveyed on-foot by Gallaway Enterprises staff on April 30, 2019 to identify potentially jurisdictional features. The surveys involved an examination of botanical resources, soils, hydrological features, and determination of wetland characteristics based on the United States Army Corps of Engineers Wetlands Delineation Manual (1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation

Manual: Arid West Region (2008). The boundaries of non-tidal, non-wetland waters, when present, were delineated at the OHWM as defined in 33 Code of Federal Regulations (CFR) 328.3 and further described in the U.S. Army Corps of Engineers Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (2008). The OHWM represents the limit of Corps jurisdiction over non-tidal waters (e.g., streams and ponds) in the absence of adjacent wetlands (33 CFR 328.04) (Curtis et al. 2011).

Personnel and Survey Dates

Gallaway Enterprises visited the BSA on April 30 and May 15, 2019. During the visit, biologist Brittany Reaves, senior biologist Melissa Murphy, and senior botanist Elena Gregg conducted planning level surveys as prescribed by the Yolo HCP/NCCP. (**Appendix B: Project Site Photos**).

Mrs. Reaves has over 3 years of professional experience surveying at the protocol and general level for nesting birds and raptors and other special-status wildlife species. Mrs. Reaves has experience surveying for Swainson's hawk (*Buteo swainsoni*), western pond turtle (*Emys marmorata*), foothill yellow-legged frog (*Rana boylii*), and tricolored blackbird (*Agelaius tricolor*), assisting in dewatering activities including fish relocation, and conducting habitat assessments for listed species. Mrs. Reaves has installed bird and bat exclusion for a variety of public works projects. Mrs. Reaves is approved by the Yolo Conservancy to conduct surveys in the Yolo HCP/NCCP.

Ms. Murphy has over 8 years of experience surveying at the protocol and general level for listed reptiles and amphibians including giant garter snake, California red-legged frog, foothill yellow-legged frog, and western pond turtle. Ms. Murphy has extensive experience PIT tagging reptiles, assisting in de-watering activities including fish relocation, surveying for nesting birds and raptors, capturing and banding waterfowl, and conducting habitat assessments for listed species. She regularly conducts habitat assessments and develops and implements mitigation measures for a variety of private and public works projects throughout northern California. Ms. Murphy is approved by the Yolo Conservancy to conduct surveys in the Yolo HCP/NCCP.

Mrs. Gregg has over 15 years of experience conducting rare plant surveys, wetland delineations, and habitat assessments in California. She has a working knowledge of CNPS, CDFW, and USFWS survey protocols and holds a CDFW collection permit for listed plant species. Through her extensive field experience in a wide array of habitats and eco-regions in northern California, Mrs. Gregg has gained knowledge of locally invasive

plants species and noxious weeds. Mrs. Gregg is approved by the Yolo Conservancy to conduct surveys in the Yolo HCP/NCCP.

Land Cover Mapping and Covered Species Habitat Assessment Verification

The Land Cover Mapping and Covered Species Habitat Assessment and a Planning Level Survey for Land Cover Types and Covered Species Habitat were conducted by walking the entire BSA and identifying specific habitat types and elements. Land within 1,320 feet of the project limits was evaluated for land cover types and the presence of suitable habitat for species covered under the Yolo HCP/NCCP. If suitable habitat was observed for special-status species it was then evaluated for quality based on vegetation composition and structure, physical features (e.g. water, soils), micro-climate, surrounding area, presence of predatory species and available resources (e.g. prey items, nesting substrates).

Botanical Habitat Assessment

A botanical habitat assessment was conducted on April 30, 2019 by senior botanist Elena Gregg to assess potential for special-status plant species to occur within the BSA. The assessment was conducted by walking in all accessible areas of the BSA and noting the habitat elements present (e.g. soils, geology, hydrology, topography, aspect, elevation, etc.) and vegetation communities present. If present, natural and man-made disturbance patches were noted as well as the successional stage of vegetation within the BSA. Botanical species observed within the BSA during this field visit are listed in **Appendix A**.

Limitations That May Influence Results

Only lands where Yolo County secured a right of entry were surveyed. Lands outside of the BSA that required analysis by the Yolo HCP/NCCP were done so remotely. There were no limitations that may influence results of the Land Cover Mapping and Covered Species Habitat Assessment and planning level surveys within the BSA.

Chapter 3 – Results: Environmental Setting

Description of the Existing Biological and Physical Conditions

Study Area

The BSA is the area where the focus of biological surveys is conducted and where all construction and staging will occur (**Figure 3: Biological Survey Area**). The BSA includes all anticipated right of way acquisition areas. As this project is a linear transportation improvement project, the BSA for the project is confined to the right-of-way along CR 98, CR 30, CR 31 (Covell Boulevard), CR 32 (Russell Boulevard), and Hutchison Drive. The total area of the BSA is 106.8 acres. In accordance with the Yolo HCP/NCCP, land within 1,320 feet of the project limits was evaluated for land cover types and the presence of suitable habitat for species covered under the plan.

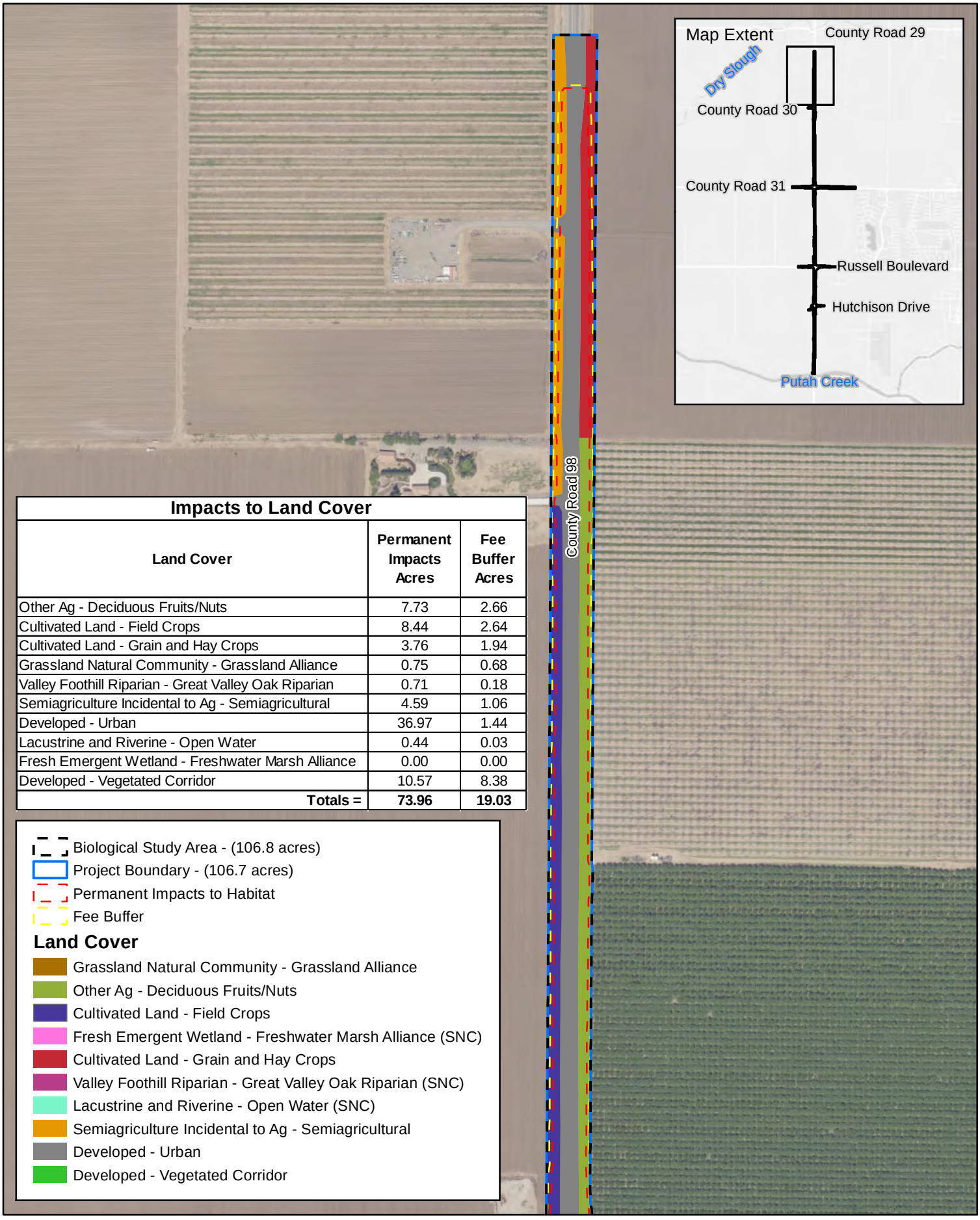
Physical Conditions

The BSA is located within the Sacramento Valley, west of Davis in unincorporated Yolo County, California. The BSA is composed primarily of existing asphalt roadway and gravel road shoulders. Land within the BSA that occurs outside of the gravel road shoulders is primarily composed of agricultural land and rural residences with associated planted trees and landscape plants. Soils within the BSA consist of silty clay loam. The average annual precipitation for the area is 17.55 inches and the average temperature is 60.4° F (Western Regional Climate Center 2020). The BSA occurs at an elevation of approximately 70 feet above sea level and is sloped between 0 and 2 percent.

There are several drainages present within the BSA (See **Appendix C: Draft Delineation of Waters of the US Map**). The project limits terminate just before Putah Creek at the south end of the BSA. All of the drainages present within the BSA are man-made or man-altered and their hydrology is influenced by agriculture. There is one (1) wetland feature, a pond, present within the BSA.

Biological Conditions in the Biological Survey Area

Land cover types delineated by the Yolo HCP/NCCP within the BSA are Lacustrine and Riverine, Deciduous Fruits/Nuts, Field Crops, Grain and Hay Crops, Grassland Alliance, Great Valley Oak Riparian, Semiagricultural, Urban, and Vegetated Corridor (**Figure 5: Impacts to Land Cover**). The BSA is also located within 100 feet of designated Lacustrine and Riverine land cover type at the southern end of the project, where the project terminates within 100 feet of Putah Creek.



Impacts to Land Cover

Land Cover	Permanent Impacts Acres	Fee Buffer Acres
Other Ag - Deciduous Fruits/Nuts	7.73	2.66
Cultivated Land - Field Crops	8.44	2.64
Cultivated Land - Grain and Hay Crops	3.76	1.94
Grassland Natural Community - Grassland Alliance	0.75	0.68
Valley Foothill Riparian - Great Valley Oak Riparian	0.71	0.18
Semiagriculture Incidental to Ag - Semiagricultural	4.59	1.06
Developed - Urban	36.97	1.44
Lacustrine and Riverine - Open Water	0.44	0.03
Fresh Emergent Wetland - Freshwater Marsh Alliance	0.00	0.00
Developed - Vegetated Corridor	10.57	8.38
Totals =	**73.96**	**19.03**

Biological Study Area - (106.8 acres)
Project Boundary - (106.7 acres)
Permanent Impacts to Habitat
Fee Buffer

Land Cover

Grassland Natural Community - Grassland Alliance
Other Ag - Deciduous Fruits/Nuts
Cultivated Land - Field Crops
Fresh Emergent Wetland - Freshwater Marsh Alliance (SNC)
Cultivated Land - Grain and Hay Crops
Valley Foothill Riparian - Great Valley Oak Riparian (SNC)
Lacustrine and Riverine - Open Water (SNC)
Semiagriculture Incidental to Ag - Semiagricultural
Developed - Urban
Developed - Vegetated Corridor

NORTH

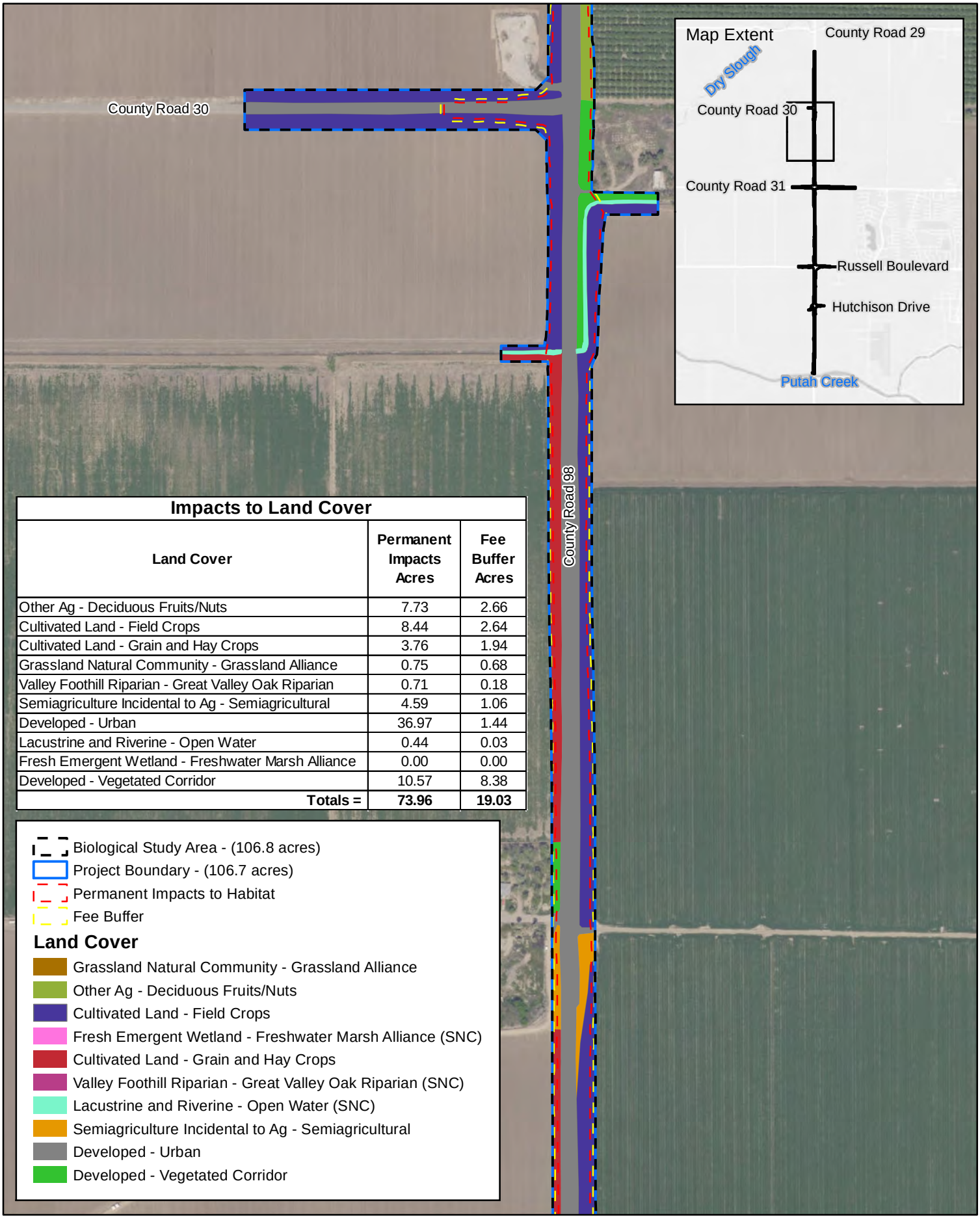
1:4,800
0 100 200 Feet

Data Sources: ESRI, Yolo County, Yolo County 04/13/2018

County Road 98 Bike and Safety Improvements Phase II
Impacts to Land Cover
Figure 5 (Panel 1)

gallaway ENTERPRISES

GE: #18-119 Map Date: 08/25/2020



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Biological Study Area - (106.8 acres)
Project Boundary - (106.7 acres)
Permanent Impacts to Habitat
Fee Buffer

Land Cover

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Other Ag - Deciduous Fruits/Nuts
Cultivated Land - Field Crops
Fresh Emergent Wetland - Freshwater Marsh Alliance (SNC)
Cultivated Land - Grain and Hay Crops
Valley Foothill Riparian - Great Valley Oak Riparian (SNC)
Lacustrine and Riverine - Open Water (SNC)
Semiagriculture Incidental to Ag - Semiagricultural
Developed - Urban
Developed - Vegetated Corridor

NORTH

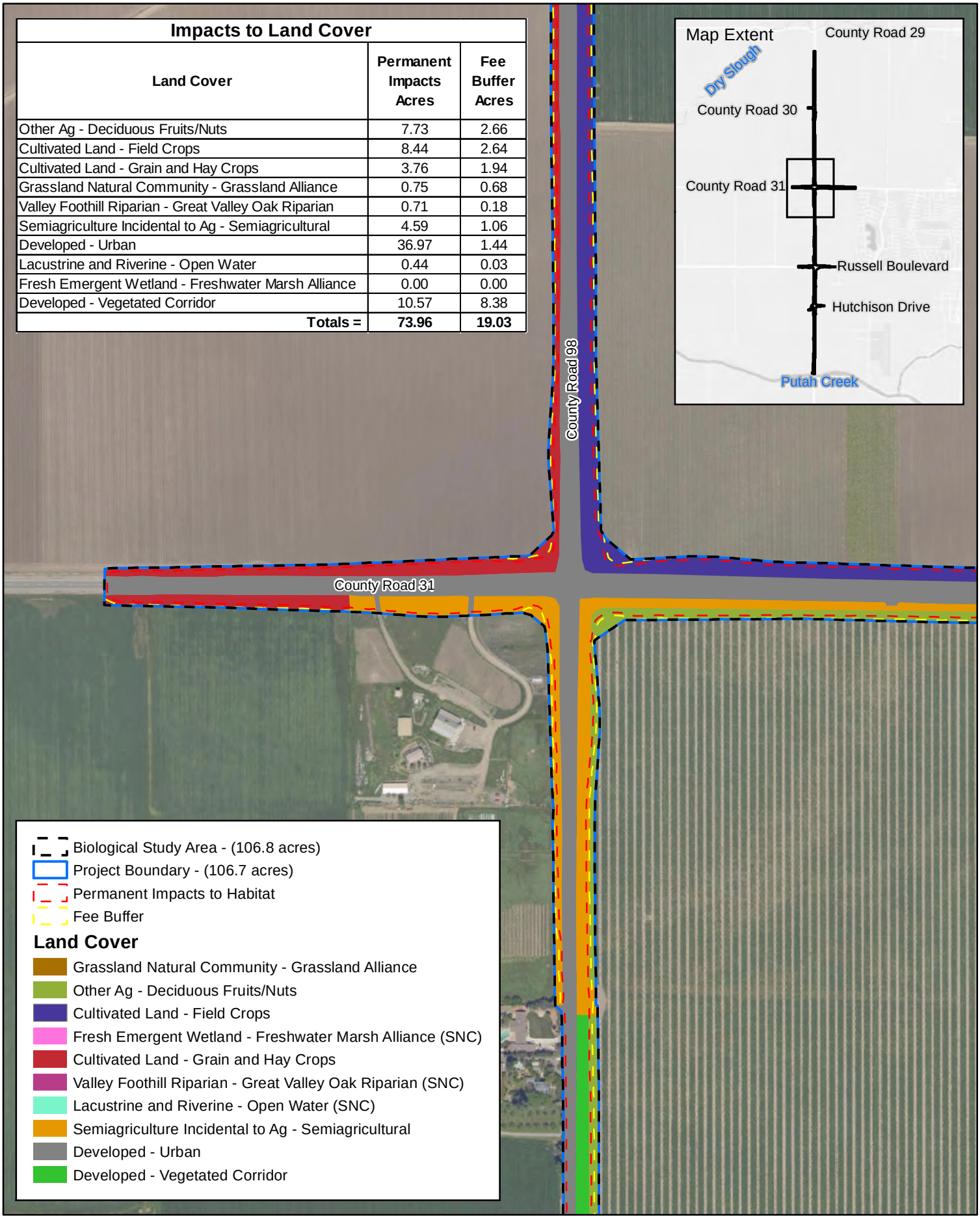
1:4,800
0 100 200 Feet

Data Sources: ESRI, Yolo County, Yolo County 04/13/2018

County Road 98 Bike and Safety Improvements Phase II
Impacts to Land Cover
Figure 5 (Panel 2)

gallaway ENTERPRISES

GE: #18-119 Map Date: 08/25/2020



NORTH

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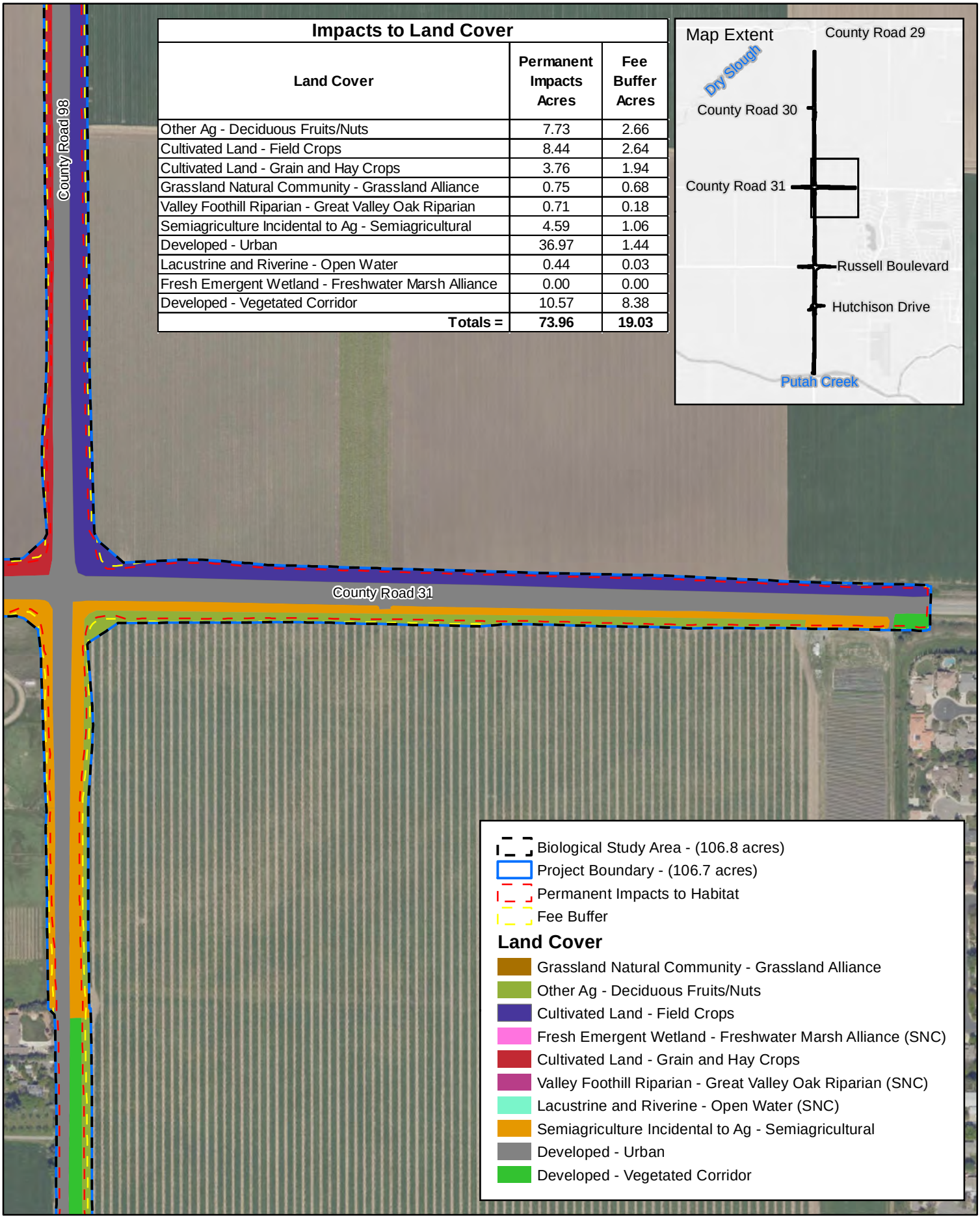
0 100 200 Feet

Data Sources: ESRI, Yolo County, Yolo County 04/13/2018

County Road 98 Bike and Safety Improvements Phase II
Impacts to Land Cover
Figure 5 (Panel 3)

gallaway ENTERPRISES

GE: #18-119 Map Date: 08/25/2020



NORTH

1:4,800
0 100 200 Feet

Data Sources: ESRI, Yolo County, Yolo County 04/13/2018

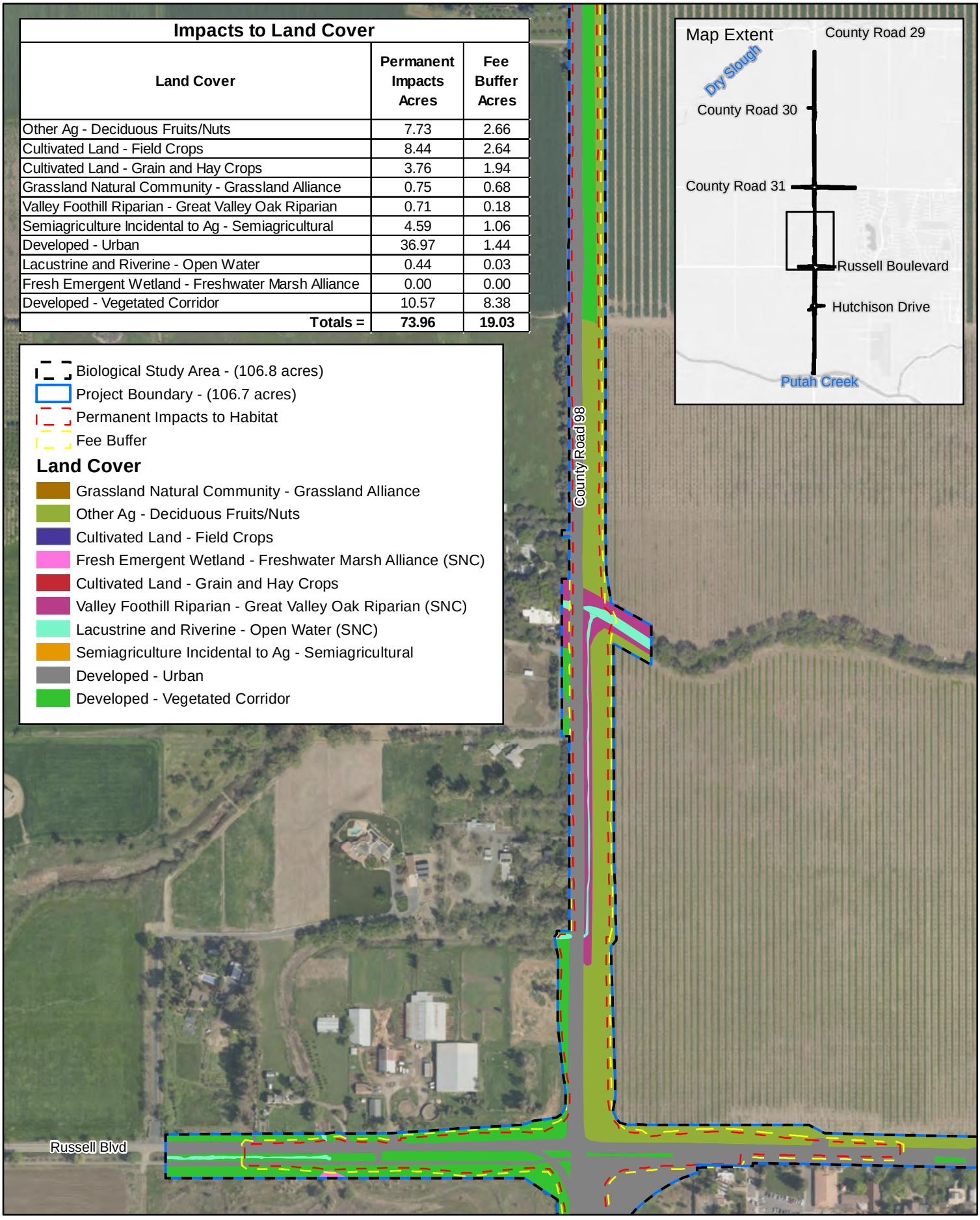
County Road 98 Bike and Safety Improvements Phase II
Impacts to Land Cover
Figure 5 (Panel 4)

gallaway ENTERPRISES

GE: #18-119 Map Date: 08/25/2020

Impacts to Land Cover

Land Cover	Permanent Impacts Acres	Fee Buffer Acres
Other Ag - Deciduous Fruits/Nuts	7.73	2.66
Cultivated Land - Field Crops	8.44	2.64
Cultivated Land - Grain and Hay Crops	3.76	1.94
Grassland Natural Community - Grassland Alliance	0.75	0.68
Valley Foothill Riparian - Great Valley Oak Riparian	0.71	0.18
Semiagriculture Incidental to Ag - Semiagricultural	4.59	1.06
Developed - Urban	36.97	1.44
Lacustrine and Riverine - Open Water	0.44	0.03
Fresh Emergent Wetland - Freshwater Marsh Alliance	0.00	0.00
Developed - Vegetated Corridor	10.57	8.38
Totals =	**73.96**	**19.03**



NORTH

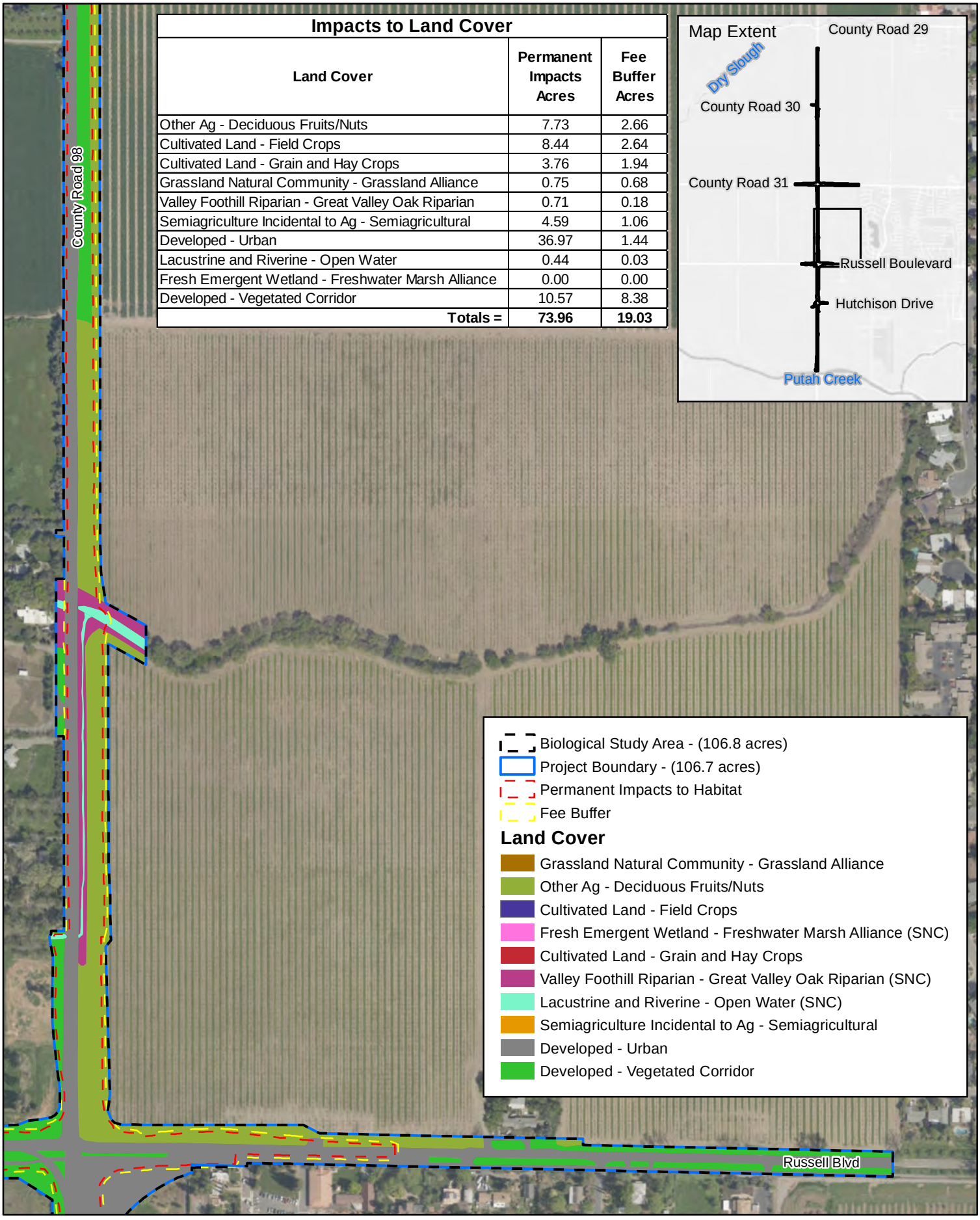
1:4,800
0 100 200 Feet

Data Sources: ESRI, Yolo County, Yolo County 04/13/2018

County Road 98 Bike and Safety Improvements Phase II
Impacts to Land Cover
Figure 5 (Panel 5)

gallaway ENTERPRISES

GE: #18-119 Map Date: 08/25/2020



NORTH

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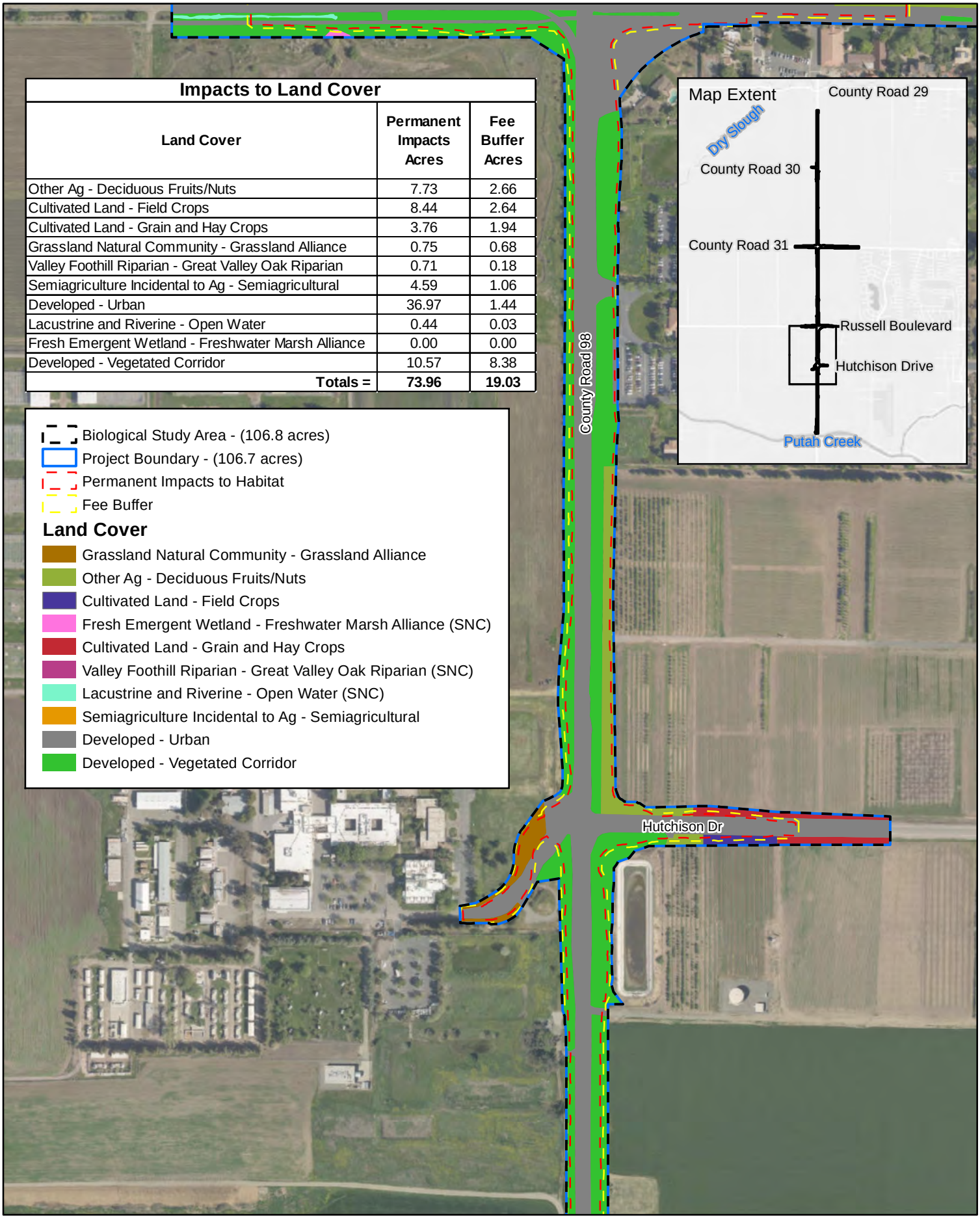
Data Sources: ESRI, Yolo County, Yolo County 04/13/2018

County Road 98 Bike and Safety Improvements Phase II
Impacts to Land Cover
Figure 5 (Panel 6)

gallaway ENTERPRISES

GE: #18-119 Map Date: 08/25/2020



NORTH

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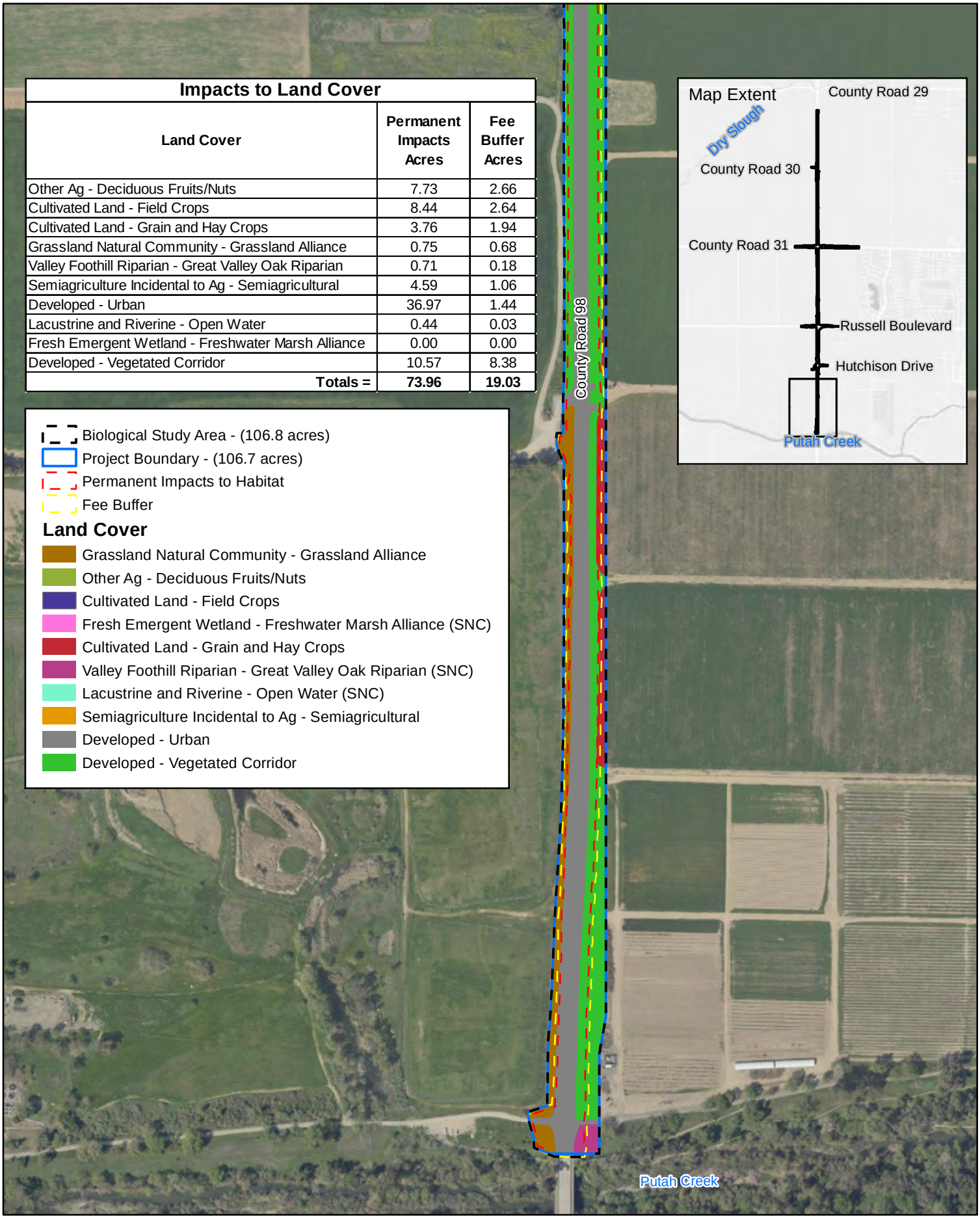
0 100 200 Feet

Data Sources: ESRI, Yolo County, Yolo County 04/13/2018

County Road 98 Bike and Safety Improvements Phase II
Impacts to Land Cover
Figure 5 (Panel 7)

gallaway ENTERPRISES

GE: #18-119 Map Date: 08/25/2020



NORTH

1:4,800
0 100 200 Feet

Data Sources: ESRI, Yolo County, Yolo County 04/13/2018

County Road 98 Bike and Safety Improvements Phase II
Impacts to Land Cover
Figure 5 (Panel 8)

gallaway ENTERPRISES

GE: #18-119 Map Date: 08/25/2020

The existing roadway is not considered habitat. Land cover types were mapped within the BSA which includes the area where construction will occur and a 10-foot buffer which is referred to as the "fee buffer". The Yolo HCP/NCCP requires that permanent impacts to land cover types and the fee buffer areas be calculated and entered into the application form for coverage under the Yolo HCP/NCCP; thus, **Figure 5** includes a column that depicts the permanent impacts to land cover types, as well as the fee buffer areas.

Yolo HCP/NCCP Land Cover Types

Fresh Emergent Wetland Sensitive Natural Community: Freshwater Marsh Alliance

Freshwater Marsh Alliance is a subset of the Fresh Emergent Wetland Sensitive Natural Community as defined by the Yolo HCP/NCCP. Freshwater emergent wetland vegetation occurs along streams and rivers and at the margins of ponds with some areas of open water, dominated by bulrushes and cattails. There is one (1) wetland feature present near the western boundary of the BSA, south of CR 32, that is considered Freshwater Marsh Alliance per the Yolo HCP/NCCP (**Figure 5: Impacts to Land Cover**). This wetland area is heavily vegetated with freshwater emergent wetland vegetation, including cattails (*Typha* sp.). It appears to be a man-made detention pond, with water diverted from the existing canal to the north. The Freshwater Marsh Alliance land cover type within the BSA could potentially support the Yolo HCP/NCCP-covered tricolored blackbird and western pond turtle.

Lacustrine and Riverine

The Lacustrine and Riverine SNC is defined by the Yolo HCP/NCCP as the open water portions of lakes, rivers, and streams. Within the BSA, there are six (6) drainages and one (1) wetland feature that qualify as Lacustrine and Riverine habitat (**Figure 5**). All drainages present within the BSA contained mud substrate and exhibited evidence of either ephemeral or intermittent flows. These drainages were dry during the April site visit and likely convey precipitation and agricultural runoff during the wet season. Riverine habitat provides food for waterfowl, herons (*Ardeidae* sp.), and many species of insectivorous birds, hawks, and their prey. The wetland feature present within the BSA is considered Lacustrine habitat and is discussed under the Freshwater Marsh Alliance habitat section. The relatively calm waters of lakes and ponds offer unique environmental conditions that contrast with that of running water. Lacustrine habitat provides breeding and foraging habitat for a number of amphibians, reptiles, and birds.

Other Agriculture: Deciduous Fruits/Nuts

The Other Agriculture: Deciduous Fruits/Nuts land cover type consists of orchards composed of nuts or fruits that are not citrus or subtropical. Deciduous orchards are dominated by tree species that lose their leaves during the winter months. The

understory between the rows is typically composed of a variety of grasses and other herbaceous plants including mustards (*Brassica* sp.) or are managed to prevent growth totally or in part through the use of herbicides to facilitate harvest. Some species of birds and mammals have adapted to orchard habitats for foraging, nesting, and cover (Mayer and Laudenslayer 1988). Due to the monoculture and maintenance of most orchards, this environment does not support an abundance of breeding wildlife. Species that forage in orchards include a variety of resident and migratory birds such as scrub jays (*Aphelocoma californica*), American crows (*Corvus brachyrhynchos*), and northern mocking birds (*Mimus polyglottos*), and small mammals including California ground squirrels (*Otospermophilus beecheyi*) and western gray squirrels (*Sciurus griseus*).

Cultivated Lands: Field Crops

The Cultivated Lands: Field Crops land cover type consists of agricultural fields planted in corn, dry beans, grain sorghum, safflower, sudan, sugar beets, sunflowers, or other crops grown in fields on a large scale that do not fit into other Cultivated Lands Seminatural Community categories. Row and field crops do not conform to normal habitat stages and are regulated by the crop cycle in California. Rodents, birds, and some mammals have adapted to field crops and are controlled by fencing, trapping, and poisoning (Mayer and Laudenslayer 1988). Field crops may have low-growing vegetation that can facilitate foraging opportunities for hawks and raptors such as the Yolo HCP/NCCP-covered Swainson's hawk and white-tailed kite (*Elanus leucurus*).

Cultivated Lands : Grain and Hay Crops

The Cultivated Lands: Grain and Hay Crops land cover type consists of irrigated and dryland grain and hay crops; predominantly wheat, barley, rye, and oat hay. Grain and hay crops do not conform to normal habitat stages and are regulated by the crop cycle in California. Rodents, birds, and some mammals have adapted to field crops and are controlled by fencing, trapping, and poisoning (Mayer and Laudenslayer 1988). Grain and hay crops may support foraging habitat for Swainson's hawk, white-tailed kite, and tricolored blackbird per the Yolo HCP/NCCP.

Grassland Natural Community: Grassland Alliance

The California Annual Grassland Alliance land cover type is a subset of the Grassland Natural Community and is dominated by annual grasses and forbs. Common species include wild oat (*Avena fatua*), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), yellow star-thistle (*Centaurea solstitialis*), broadleaf filaree (*Erodium botrys*), cutleaf filaree (*Erodium cicutarium*), Italian ryegrass (*Festuca perennis*), medusahead (*Elymus caput-medusae*), various introduced clovers (*Trifolium* spp.), and Zorro fescue (*Vulpia myuros*). Associated native herbaceous species may also occur. Annual grasslands occur on open flat to gently rolling lands and are dominated by grasses and

annual plants, with the dominant species varying depending on the climate and soils. A variety of ground-nesting avian species, reptiles, and small mammals use grassland habitat for breeding, while many other wildlife species only use it for foraging and require other habitat characteristics such as rocky outcroppings, cliffs, caves, or ponds in order to find shelter and cover for escapement (Mayer and Laudenslayer 1988). Common species found in this habitat type include western fence lizards (*Sceloporus occidentalis*), Northern Pacific rattlesnakes (*Crotalus oreganus*), common garter snakes (*Thamnophis elegans*), California ground squirrels, jackrabbits (*Lepus californicus*), western meadowlark (*Sturnella neglecta*), and a variety of raptor and owl species. Per the Yolo HCP/NCCP, the Grassland Alliance land cover type is suitable foraging habitat for Swainson's hawk, white-tailed kite, and tricolored blackbird.

Valley Foothill Riparian Natural Community: Great Valley Oak Riparian

The Great Valley Oak Riparian land cover type is a subset of the Valley Foothill Riparian Natural Community, which is designated as a SNC by the Yolo HCP/NCCP. The Great Valley Oak Riparian land cover type consists of deciduous trees along streams and rivers, dominated by cottonwoods and willows, and areas dominated by herbaceous or shrubby riparian vegetation if less than 1 acre in size. Valley foothill riparian habitats provide food, water, migration, and dispersal corridors for fish species, and escape, nesting, and thermal cover for an abundance of other wildlife species. Within the BSA, Great Valley Oak Riparian land cover occurs in association with the unnamed drainage north of CR 32 (Russell Boulevard) and Putah Creek in the southeast corner of the BSA.

Semiagricultural/Incidental to Agriculture

Semiagricultural areas include livestock feedlots, farmsteads, and miscellaneous semiagricultural features such as small roads, ditches, and unplanted areas of cropped fields (e.g. field edges).

Developed: Urban

The Developed: Urban land cover type consists of areas dominated by pavement and building structures, including barren lands graded for development. This environment can present a mosaic of vegetation, including primarily ornamental landscaping, but can also incorporate native tree species. Generalist and invasive species often occupy urban habitat such as common raven (*Corvus corax*), house sparrow (*Passer domesticus*), scrub jays, and Brewer's blackbirds (*Euphagus cyanocephalus*) as well as small to medium mammals (e.g. raccoon, opossum, striped skunk) (Mayer and Laudenslayer 1988).

Developed : Vegetated Corridor

The Developed: Vegetated Corridor land cover type consists of areas planted in ornamental vegetation maintained adjacent to highways or in association with houses and developed areas, or other vegetated corridors associated with developed areas and

isolated from intact stream channels. The vegetated corridor land cover type occurs along the sides of CR 98, primarily in the southern portion of the BSA, where ornamental black walnut (*Juglans nigra*) have been planted along the corridor. These trees are mature, and trees over 20 feet in height can support nesting by the Yolo HCP/NCCP-covered Swainson's hawk and white-tailed kite.

Regional Species and Habitats and Natural Communities of Concern

The following special-status species were identified by the Yolo HCP/NCCP, USFWS IPaC species list, NOAA-NMFS official species list, CNDDB Rarefind 5, and the CNPS list of rare and endangered plants as having potential to occur within the vicinity of the BSA and/or having recorded observations within or within close proximity of the BSA. Not all special-status species listed under federal and state species lists have potential to occur within the BSA due to unsuitable habitat or lack of observations in the area. A summary of special-status species listed in the Yolo HCP/NCCP, USFWS IPaC species list, CNDDB, and the CNPS list of rare and endangered plants within the "Merritt" USGS 7.5 minute quadrangle and their potential to occur within the BSA is described in Table 1.

Table 1: Listed and Proposed Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the CR 98 Bike and Safety Improvement Project BSA

Common Name	Scientific Name	Status Fed, State, CNPS, HCP	General Habitat Description	Habitat Present/ Absent	Rationale
SENSITIVE NATURAL COMMUNITIES					
Fresh Emergent Wetland		HCP	Land that is seasonally or perennially saturated or flooded with fresh water.	HP	There is Fresh Emergent Wetland Natural Community present within the BSA.
Lacustrine and Riverine		HCP	The open water portions of lakes, rivers, and streams.	HP	There is Lacustrine and Riverine Natural Community present within the BSA.
Valley Foothill Riparian		HCP	Scrubby vegetation, deciduous trees, and alder, willow, and oak forests associated with streams and riparian areas.	HP	There is Valley Foothill Riparian Natural Community present within the BSA.
PLANTS					
Ferris' milk-vetch	*Astragalus tener var. ferrisiae*	1B.1	Meadow & seep, Valley & foothill grassland, Wetland. (Blooming Period [BP]: Apr–May)	A	There is no suitable wetland habitat present in the BSA.

Heartscale	*Atriplex cordulata var. cordulata*	1B.2	Chenopod scrub, meadows and seeps, valley/foothill grassland (sandy), in saline or alkaline soils. (BP: April - October)	A	There is no suitable habitat within the BSA due to intensive agricultural disturbance. Surrounding agricultural practices have extirpated past CNDDB occurrences from the area (CNDDB 2016).
Palmate-bracted bird's beak	*Chloropyron palmatum*	FE/SE/1.B1/HCP	Alkali prairie land cover type. (BP: May - October)	A	There is no suitable habitat within 250 feet of the BSA. No effect.
California alkali grass	*Puccinellia simplex*	1B.2	Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools. (BP: March - May)	A	There is no suitable habitat within the BSA due to intensive agricultural disturbance. Surrounding agricultural practices have extirpated past CNDDB occurrences from the area (CNDDB 2016).
INVERTEBRATES					
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	FT/HCP	Blue elderberry shrubs usually associated with riparian areas.	HP	There is one elderberry shrub located in the southernmost portion of the BSA. May effect but not likely to adversely effect.
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT	Moderately turbid, deep, cool-water vernal pool.	A	There are no vernal pools within the BSA. No effect.
Vernal pool tadpole shrimp	*Lepidurus packardi*	FE	Vernal pools, swales, and ephemeral freshwater habitat.	A	There are no vernal pools within the BSA. No effect.
AMPHIBIANS AND REPTILES					
California tiger salamander *Central California DPS*	*Ambystoma californiense*	FT/ST/HCP	Vernal pools, alkali sinks, ponds, grasslands, blue oak woodlands, blue oak-foothill pine, valley oak alliance, and pastures occurring within Planning Units 4, 5, 13, 16, or 18.	A	There is no suitable breeding habitat within 500 feet of the BSA and the surrounding agricultural practices preclude suitable upland burrows. California tiger salamander are not expected to occur within the BSA's Planning Unit (11). No effect.
Western pond turtle	*Emys marmorata*	SSC/HCP	Ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft. elevation.	HP	The BSA is contains Riverine habitat and is located within 100 feet of Putah Creek, which provides suitable aquatic habitat for this species.
California red-legged frog	*Rana draytonii*	FT/ SSC	Inhabits quiet pools of streams, marshes, and occasionally ponds.	A	None. California red-legged frogs have been extirpated from the valley floor since the 1960s (USFWS 2002). There are no CNDDB occurrences within 20 miles of the BSA. No effect.

Giant garter snake	*Thamnophis gigas*	FT/ST/HCP	Agricultural wetlands and ricelands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes ponds, sloughs, small lakes, and their associated uplands located east of Highway 113 and Interstate 5.	A	Per the HCP/NCCP, there is no suitable habitat for giant garter snake west of Highway 113 and Interstate 5 where the BSA is located. There is no suitable habitat within 500 feet of the BSA. No effect.
FISH					
Delta smelt	*Hypomesus transpacificus*	FT/SE	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait & San Pablo Bay.	A	There are no perennial streams that support anadromous fish species within the BSA. No effect.
Chinook salmon *Central Valley spring-run ESU*	*Oncorhynchus tshawytscha*	FT/ST	Sacramento River and its tributaries.	A	There are no perennial streams that support anadromous fish species within the BSA. No effect.
Chinook salmon *Sacramento River winter-run ESU*	*Oncorhynchus tshawytscha*	FE/SE	Sacramento River and its tributaries.	A	There are no perennial streams that support anadromous fish species within the BSA. No effect.
Steelhead *California Central Valley DPS*	*Oncorhynchus mykiss irideus*	FT	Sacramento and San Joaquin rivers and their tributaries.	A	There are no perennial streams that support anadromous fish species within the BSA. No effect.
BIRDS					
Tricolored blackbird	*Agelaius tricolor*	ST/HCP	Fresh emergent wetlands, blackberry brambles, willow thickets, agricultural fields and grasslands.	HP	Freshwater Marsh Alliance, Blackberry and willow vegetation and dryland crops within and adjacent to the BSA provide suitable nesting and foraging habitat.

Burrowing owl	*Athene cunicularia*	SSC/HCP	California annual grassland alliance and barren-anthropogenic land cover types, cultivated lands/pasture, alfalfa.	A	The surrounding agricultural practices eliminate the potential establishment of nesting burrows. There is no suitable habitat within 500 feet of the BSA.
Swainson's hawk	*Buteo swainsoni*	ST/HCP	Open grasslands, shrublands and agricultural fields, often near riparian forests.	HP	There are suitable nesting trees within the BSA and adjacent foraging habitat.
Northern harrier	*Circus hudsonius*	SSC	Coastal salt & freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas.	HP	The nearest CNDDB occurrence (#51) is located approximately 2.7 miles east of the BSA within a wheat field. There are suitable agricultural fields that could support nesting and foraging activity for this species within the BSA.
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT/SE/HCP	Fremont Cottonwood-valley oak-willow (ash-sycamore) riparian forest association, mixed Fremont cottonwood-willow alliance, and white alder (mixed willow) riparian forest land cover types that occur in patch sizes of 25 acres or greater with a width of at least 330 feet.	A	The BSA is not located within 500 feet of what is modeled as western yellow-billed cuckoo habitat within the Yolo HCP/NCCP. No effect.
White-tailed kite	*Elanus leucurus*	FP/HCP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes often next to deciduous woodlands.	HP	There are suitable nesting trees within the BSA and adjacent foraging habitat.
Bank swallow	*Riparia riparia*	ST/HCP	Barren- gravel and sand bars land cover types in Planning Units 6, 7, 12, 14, or 17.	A	There is no suitable habitat within 500 feet of the BSA. The BSA is located in Planning Unit 11, which does not contain suitable habitat for this species.

Least Bell's vireo	*Vireo bellii pusillus*	FE/SE/HCP	Blackberry alliance, coyote brush, Fremont Cottonwood-valley oak-willow riparian forest association, Mixed Fremont cottonwood-willow, mixed willow alliance, and white alder (mixed willow) riparian forest land cover types located within Planning Units 7, 9, 12, 14, 17, or 18.	HP	The BSA is located within 500 feet of Yolo HCP/NCCP modeled habitat within Planning Unit 9. No observations following protocol level surveys, no loss of modeled habitat as a result of the project. No effect.
MAMMALS					
Pallid bat	*Antrozous pallidus*	SSC	Deserts, grasslands, shrubland, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting.	A	There is no suitable roosting habitat within the BSA.
American badger	*Taxidea taxus*	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	A	The surrounding agricultural practices and urban development eliminate the potential establishment of badger dens within the BSA.

Absent [A] - no habitat present and no further work needed. Habitat Present [HP] -habitat is, or may be present. Present [P] - the species is present. Critical Habitat [CH] - project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present. Status: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); Federal Candidate (FC), Federal Species of Concern (FSC); State Endangered (SE); State Threatened (ST); Fully Protected (FP); State Candidate (SC); State Rare (SR); State Species of Special Concern (SSC); California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) 1B = Rare or Endangered in California or elsewhere; CRPR 2 = Rare or Endangered in California, more common elsewhere; CRPR 3 = More information is needed; CRPR 4 = Plants with limited distribution; 0.1=Seriously Threatened; 0.2= Fairly Threatened; 0.3= Not very Threatened; Covered under the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (Yolo HCP/NCCP).

Chapter 4 – Results: Biological Resources, Discussion of Impacts and Mitigation

Waters of the United States

A delineation of WOTUS was performed for the entire project boundary (**Appendix C: Draft Delineation of Waters of the US Map**). Project impacts to potentially jurisdictional WOTUS were determined by overlaying the project plans over the delineation map. **Figure 6** depicts the anticipated impacts to WOTUS. There will impacts to 0.27 acres of drainages and/or jurisdictional ditches. There will be no impacts to wetland features.

Impacts to WOTUS may be mitigated in part by paying land over impact fees required by the Yolo HCP/NCCP (see **Appendix D: Yolo HCP/NCCP Application Form 4).** Additionally, mitigation for impacts to jurisdictional WOTUS will be addressed through the purchase of credits at a Corps-approved mitigation bank or payment to a Corps-approved in-lieu fund.

Habitats and Natural Communities of Special Concern

All land cover types that occur within the BSA, except Urban and Vegetated Corridor, require mitigation fees for impacts. In this section, only land cover types designated as Sensitive Natural Communities by the Yolo HCP/NCCP are discussed.

Fresh Emergent Wetland

The Fresh Emergent Wetland Natural Community includes the Freshwater Marsh Alliance land cover type per the Yolo HCP/NCCP. The Fresh Emergent Wetland Natural Community is most commonly found on level to gently rolling landscapes along rivers, lakes, and creeks but can be found anywhere the topography allows perennial or seasonal soil saturation or flooding by fresh water. Perennially flooded areas are typically dominated by cattails, tule (*Schoenoplectus* spp.), and California bulrush (*Schoenoplectus californicus*) that can reach up to 12 feet in height. Seasonally saturated or inundated areas contain much shorter vegetation and are more variable in the composition of their plant species. The Fresh Emergent Wetland Natural Community supports a number of common wildlife species, including the great blue heron (*Ardea herodias*), marsh wren (*Cistothorus palustris*), song sparrow (*Melospiza melodia*), red-winged blackbird (*Agelaius phoeniceus*), and many species of wintering waterfowl.

Impacts to Waters of the U.S.								
Impacts to Other Waters								
Label	Cowardin	Description	Location (Lat/Long)		Width (ft)*	Length (ft)	Area (sq ft)	Acres
T01	R4	Intermittent	38.547042	-121.8061	2.0	10.6	20.9	0.0005
T02	R4	Intermittent	38.546865	-121.807	7.7	277.5	2143.5	0.0492
T03	R4	Intermittent	38.548794	-121.8034	8.8	45.6	402.3	0.0092
T04	R4SB	Intermittent	38.551535	-121.8028	16.0	106.5	2502.6	0.0575
T06	R4SB	Intermittent	38.550226	-121.8031	7.0	1043.1	6623.1	0.1520
Impacts to Other Waters Totals =						**1483.2**	**11692.4**	**0.27**
Total Impacts to Waters of the U.S. =						**1483.2**	**11692.4**	**0.27**
*Widths are represented as averages								

The features represented on this graphic are considered preliminary until written verification by the USACE.

38.5869, -121.8034

County Rd 98

County Rd 30

P01 EX02 C06 P02 P03 EX01 C07

- Project Boundary - (106.7 acres)
- Site Plan
- 1 foot contours
- OHWM Transect - 'X-X'
- Culvert - C#
- Flow Direction
- Photo Points - P#*

Data Points

- Test Pit - TP#

Wetland Features - WF# - (0.03 acres)

- Pond

Other Waters - T# - (0.46 acres)

- Intermittent

Non-Jurisdictional by Rule - (0.26 acres)

- Irrigation Ditch

Permanent Impacts to Waters of the U.S.

- Permanent Impacts to Other Waters - (0.27 acres)

Panel 1
Panel 2

1:4,800 1 inch = 400 feet
0 200 400 Feet

NORTH

Data Sources: ESRI, Yolo County 4/13/2018

County Road 98 Bike and Safety Improvements Phase II
Impacts to Waters of the U.S.
Figure 6 (Panel 1)

gallaway ENTERPRISES

GE: #18-119 Map Date: 08/31/2020

Panel 1

Panel 2

Impacts to Waters of the U.S.								
Impacts to Other Waters								
Label	**Cowardin**	**Description**	**Location (Lat/Long)**		**Width (ft)***	**Length (ft)**	**Area (sq ft)**	**Acres**
T01	R4	Intermittent	38.547042	-121.8061	2.0	10.6	20.9	0.0005
T02	R4	Intermittent	38.546865	-121.807	7.7	277.5	2143.5	0.0492
T03	R4	Intermittent	38.548794	-121.8034	8.8	45.6	402.3	0.0092
T04	R4SB	Intermittent	38.551535	-121.8028	16.0	106.5	2502.6	0.0575
T06	R4SB	Intermittent	38.550226	-121.8031	7.0	1043.1	6623.1	0.1520
					Impacts to Other Waters Totals =	**1483.2**	**11692.4**	**0.27**
					Total Impacts to Waters of the U.S. =	**1483.2**	**11692.4**	**0.27**
*Widths are represented as averages								

The features represented on this graphic are considered preliminary until written verification by the USACE.

County Rd 98

County Rd 31

P04

TP01

P11

P04

TP01

Project Boundary - (106.7 acres)

Site Plan

1 foot contours

OHWM Transect - 'X-X'

Culvert - C#

Flow Direction

Photo Points - P#*

Data Points

Test Pit - TP#

Wetland Features - WF# - (0.03 acres)

Pond

Other Waters - T# - (0.46 acres)

Intermittent

Non-Jurisdictional by Rule - (0.26 acres)

Irrigation Ditch

Permanent Impacts to Waters of the U.S.

Permanent Impacts to Other Waters - (0.27 acres)

Panel 2

Panel 3

NORTH

1:4,800 1 inch = 400 feet

0 200 400 Feet

Data Sources: ESRI, Yolo County 4/13/2018

County Road 98 Bike and Safety Improvements Phase II
Impacts to Waters of the U.S.
Figure 6 (Panel 2)

gallaway ENTERPRISES

GE: #18-119 Map Date: 08/31/2020

Impacts to Waters of the U.S.								
Impacts to Other Waters								
Label	Cowardin	Description	Location (Lat/Long)		Width (ft)*	Length (ft)	Area (sq ft)	Acres
T01	R4	Intermittent	38.547042	-121.8061	2.0	10.6	20.9	0.0005
T02	R4	Intermittent	38.546865	-121.807	7.7	277.5	2143.5	0.0492
T03	R4	Intermittent	38.548794	-121.8034	8.8	45.6	402.3	0.0092
T04	R4SB	Intermittent	38.551535	-121.8028	16.0	106.5	2502.6	0.0575
T06	R4SB	Intermittent	38.550226	-121.8031	7.0	1043.1	6623.1	0.1520
					Impacts to Other Waters Totals =	1483.2	11692.4	0.27
					Total Impacts to Waters of the U.S. =	1483.2	11692.4	0.27
*Widths are represented as averages								

The features represented on this graphic are considered preliminary until written verification by the USACE.

Panel 2

Panel 3

C05 P09 T05 'D-D' 'C-C' "7 feet" T04 '19 feet' T06 C03 T03 P07 C04 '9 Feet' P08 'A-A' T02 T01 P06 C02 P05 WF01 C01

Russell Blvd

County Rd 98

Hutchinson Dr

P10

Panel 3

Panel 4

- Project Boundary - (106.7 acres)
- Site Plan
- 1 foot contours
- OHWM Transect - 'X-X'
- Culvert - C#
- Flow Direction
- Photo Points - P#*

Data Points

- Test Pit - TP#

Wetland Features - WF# - (0.03 acres)

- Pond

Other Waters - T# - (0.46 acres)

- Intermittent

Non-Jurisdictional by Rule - (0.26 acres)

- Irrigation Ditch

Permanent Impacts to Waters of the U.S.

- Permanent Impacts to Other Waters - (0.27 acres)

NORTH

1:4,800 1 inch = 400 feet

0 200 400 Feet

Data Sources: ESRI, Yolo County 4/13/2018

County Road 98 Bike and Safety Improvements Phase II
Impacts to Waters of the U.S.
Figure 6 (Panel 3)

gallaway ENTERPRISES

GE: #18-119 Map Date: 08/31/2020

Impacts to Waters of the U.S.								
Impacts to Other Waters								
Label	Cowardin	Description	Location (Lat/Long)		Width (ft)*	Length (ft)	Area (sq ft)	Acres
T01	R4	Intermittent	38.547042	-121.8061	2.0	10.6	20.9	0.0005
T02	R4	Intermittent	38.546865	-121.807	7.7	277.5	2143.5	0.0492
T03	R4	Intermittent	38.548794	-121.8034	8.8	45.6	402.3	0.0092
T04	R4SB	Intermittent	38.551535	-121.8028	16.0	106.5	2502.6	0.0575
T06	R4SB	Intermittent	38.550226	-121.8031	7.0	1043.1	6623.1	0.1520
					Impacts to Other Waters Totals =	1483.2	11692.4	0.27
					Total Impacts to Waters of the U.S. =	1483.2	11692.4	0.27
*Widths are represented as averages								

The features represented on this graphic are considered preliminary until written verification by the USACE.

Hutchinson Dr

P10

Panel 3

Panel 4

County Rd 98

38.5272,
-121.8031

Putah Creek

- Project Boundary - (106.7 acres)
- Site Plan
- 1 foot contours
- OHWM Transect - 'X-X'
- Culvert - C#
- Flow Direction
- Photo Points - P#*

Data Points

- Test Pit - TP#

Wetland Features - WF# - (0.03 acres)

- Pond

Other Waters - T# - (0.46 acres)

- Intermittent

Non-Jurisdictional by Rule - (0.26 acres)

- Irrigation Ditch

Permanent Impacts to Waters of the U.S.

- Permanent Impacts to Other Waters - (0.27 acres)

NORTH

1:4,800 1 inch = 400 feet
0 200 400 Feet

Data Sources: ESRI, Yolo County 4/13/2018

County Road 98 Bike and Safety Improvements Phase II
Impacts to Waters of the U.S.
Figure 6 (Panel 4)

gallaway ENTERPRISES

GE: #18-119 Map Date: 08/31/2020

Survey Results

There is one (1) wetland within the BSA that is considered Freshwater Marsh Alliance. It is located on the western end of the BSA on CR 32. This wetland is man-altered and is fed hydrologically by agricultural canals and storm water.

Project Impacts

The proposed project will be limited to roadwork within the BSA. There will be no impacts to the Freshwater Marsh Alliance land cover type within the Fresh Emergent Wetland SNC.

Avoidance and Minimization Efforts

Avoidance and Minimization Measures (AMMs) for SNCs are designated by the Yolo HCP/NCCP.

AMM1, Establish Buffers. Project proponents will design projects to avoid and minimize direct and indirect effects of permanent development on the sensitive natural communities and covered species habitat by providing buffers, as stipulated in the relevant sensitive natural community AMMs and covered species AMMs. On lands owned by the project proponent, the project proponent will establish a conservation easement, consistent with Yolo HCP/NCCP Section 6.4.1.3, Land Protection Mechanisms, to protect the buffer permanently if that land is being offered in lieu of development fees, as described in Yolo HCP/NCCP Section 4.2.2.6, Item 6: HCP/NCCP Fees or Equivalent Mitigation. The project proponent will design buffer zones adjacent to permanent residential development projects to control access by humans and pets (AMM2, Design Developments to Minimize Indirect Effects at Urban-Habitat Interfaces).

Where existing development is already within the stipulated buffer distance (i.e., existing uses prevent establishment of the full buffer), the development will not encroach farther into the space between the development and the SNC.

This AMM does not apply to seasonal construction buffers for covered species, which are detailed for each species in Yolo HCP/NCCP Section 4.3.4, Covered Species.

A lesser buffer than is stipulated in the AMMs may be approved by the Yolo Conservancy, USFWS, and CDFW if they determine that the SNC or covered species is avoided to an extent that is consistent with the project purpose (e.g., if the purpose of the project is to provide a stream crossing or replace a bridge, the project may encroach into the buffer and the SNC or species habitat to the extent that is necessary to fulfill the project purpose).

AMM8, Avoid and Minimize Effects of Construction Staging Areas and Temporary Work Areas. Project proponents should locate construction staging and other temporary work areas for covered activities in areas that will ultimately be a part of the permanent project development footprint. If construction staging and other temporary work areas must be located outside of permanent project footprints, they will be located either in areas that do not support habitat for covered species or are easily restored to prior or improved ecological functions (e.g., grassland and agricultural land). Construction staging and other temporary work areas located outside of project footprints will be sited in areas that avoid adverse effects on the fresh emergent wetland land cover type.

Project proponents will follow specific AMMs for SNC (Section 4.3.3, Sensitive Natural Communities) and covered species (Section 4.3.4, Covered Species) in temporary staging and work areas. For establishment of temporary work areas outside of the project footprint, project proponents will conduct surveys to determine if any of the biological resources listed above are present.

Within one year following removal of land cover, project proponents will restore temporary work and staging areas to a condition equal to or greater than the covered species habitat function of the affected habitat.

Restoration of vegetation in temporary work and staging areas will use clean, native seed mixes approved by the Yolo Conservancy that are free of noxious plant species seeds.

AMM9, Establish Buffers around Sensitive Natural Communities

Fresh emergent wetland: Fifty feet from the edge of the SNC.

AMM10, Avoid and Minimize Effects on Wetlands and Waters. Project proponents will comply with stormwater management plans that regulate development as part of compliance with regulations under National Pollutant Discharge Elimination System (NPDES) permit requirements. Covered activities that result in any fill of waters or wetlands will also comply with requirements under Section 404 of the Clean Water Act, State Water Resources Control Board (State Board), Fish and Game Code Section 1602, and Regional Board regulations. Other than requirements for buffers, minimizing project footprint, and species-specific measures for wetland-dependent covered species, this HCP/NCCP does not include specific best management practices for protecting wetlands and waters because they may conflict with measures required by the USACE, State Board, Regional Board, and CDFW.

Cumulative Impacts

There are no current or planned projects that will have cumulative effects on Freshwater Marsh Alliance habitat within the project or adjacent to the BSA.

Compensatory Mitigation

There will no impacts to the Freshwater Marsh Alliance habitat. No compensatory mitigation is proposed.

Lacustrine and Riverine

The Lacustrine and Riverine land type cover is identified as a SNC by the Yolo HCP/NCCP and is defined as the open water portions of lakes, rivers, and streams. The BSA contains riverine habitat within the unnamed drainages present within the site, and the BSA is located within 100 feet of Putah Creek, which qualifies as a Lacustrine and Riverine Sensitive Natural Community. There are six (6) intermittent or ephemeral drainages within the BSA. They have been altered for agricultural use and surrounding urbanization of the area; however, they are considered open water land cover types within the lacustrine and riverine natural community when water is present.

The Lacustrine and Riverine Natural Community includes a variety of lakes, reservoirs, and ponds (Lacustrine); rivers and streams (Riverine); and other open-water land cover types, such as stock ponds, stormwater detention ponds, and wastewater treatment ponds. The Lacustrine and Riverine Natural Community is designated as open water in the land cover database. Perennially aquatic natural communities usually support fish, which may affect suitability for invertebrates, amphibians, and some reptiles, while seasonal riverine natural communities may contain unique assemblages of fish (Moyle 2002). Lacustrine and riverine natural communities support algae, mosses, and aquatic plants such as duckweed. Turbidity, water temperature, and oxygen content affect the quality of habitat for many plant and animal species, including covered species. The concentration and characteristics of the particles that cause turbidity within the water column affect the quantity and quality of light penetration, which affects plant and algal growth rates. Water temperature varies by season and depth within the water column. The Lacustrine and Riverine Sensitive Natural Community supports a number of common wildlife species. Local species of concern that use the Lacustrine and Riverine Natural Community include the foothill yellow-legged frog and bald eagle (*Haliaeetus leucocephalus*).

Artificial ponds in or adjacent to urban areas often support nonnative species, such as red-eared sliders (*Trachemys scripta elegans*) and American bullfrogs (*Lithobates catesbeianus*), that out-compete or are predators of native species such as western

pond turtle.

Survey Results

The southern end of the BSA terminates within 100 feet of Putah Creek, which is considered Riverine habitat. The unnamed ephemeral and intermittent drainages present within the BSA are man-altered and influenced by agriculture, but provide riverine habitat during winter months when water is present or when agricultural runoff provides hydrological input.

Project Impacts

The proposed project will be limited to roadwork within the BSA; however, the drainages present in the BSA fall within the area of anticipated impact. Approximately 0.27 acres of Riverine land cover type within the Lacustrine and Riverine SNC may be impacted by project activities and avoidance and minimization measures will be implemented to ensure effects are minimized.

Avoidance and Minimization Efforts

Avoidance and minimization measures (AMMs) for Sensitive Natural Communities are designated by the HCP/NCCP.

AMM1, Establish Buffers. Project proponents will design projects to avoid and minimize direct and indirect effects of permanent development on the sensitive natural communities and covered species habitat by providing buffers, as stipulated in the relevant sensitive natural community AMMs and covered species AMMs. On lands owned by the project proponent, the project proponent will establish a conservation easement, consistent with Yolo HCP/NCCP Section 6.4.1.3, Land Protection Mechanisms, to protect the buffer permanently if that land is being offered in lieu of development fees, as described in Yolo HCP/NCCP Section 4.2.2.6, Item 6: HCP/NCCP Fees or Equivalent Mitigation. The project proponent will design buffer zones adjacent to permanent residential development projects to control access by humans and pets (AMM2, Design Developments to Minimize Indirect Effects at Urban-Habitat Interfaces).

Where existing development is already within the stipulated buffer distance (i.e., existing uses prevent establishment of the full buffer), the development will not encroach farther into the space between the development and the sensitive natural community.

This AMM does not apply to seasonal construction buffers for covered species, which are detailed for each species in Yolo HCP/NCCP Section 4.3.4, Covered Species.

A lesser buffer than is stipulated in the AMMs may be approved by the Yolo Conservancy, USFWS, and CDFW if they determine that the sensitive natural community or covered species is avoided to an extent that is consistent with the project purpose (e.g., if the purpose of the project is to provide a stream crossing or replace a bridge, the project may encroach into the buffer and the natural community or species habitat to the extent that is necessary to fulfill the project purpose).

AMM9, Establish Buffers around Sensitive Natural Communities

Lacustrine and Riverine: Outside urban planning units, 100 feet from the top of banks (defined as the area within which water is contained in a channel). Within urban planning units, 25 feet from the top of the banks.

AMM10, Avoid and Minimize Effects on Wetlands and Waters. Project proponents will comply with stormwater management plans that regulate development as part of compliance with regulations under National Pollutant Discharge Elimination System (NPDES) permit requirements. Covered activities that result in any fill of waters or wetlands will also comply with requirements under Section 404 of the Clean Water Act, State Water Resources Control Board (State Board), Fish and Game Code Section 1602, and Regional Board regulations. Other than requirements for buffers, minimizing project footprint, and species-specific measures for wetland-dependent covered species, this HCP/NCCP does not include specific best management practices for protecting wetlands and waters because they may conflict with measures required by the Corps, State Board, Regional Board, and CDFW.

Cumulative Impacts

There are no current or planned projects that will have cumulative effects on Lacustrine and Riverine habitat within the project BSA.

Compensatory Mitigation

Impacts to 0.27 acres of Riverine habitat will be mitigated for in accordance with the Yolo HCP/NCCP (**Appendix D: Yolo HCP/NCCP Application Form 4**). Additionally, mitigation for impacts to jurisdictional WOTUS will be addressed through the purchase of credits at a Corps-approved mitigation bank or payment to a Corps-approved in-lieu fund.

Valley Foothill Riparian

The Valley Foothill Riparian Natural Community includes the Great Valley Oak Riparian land cover type and is identified as a SNC by the Yolo HCP/NCCP. The BSA is located within 100 feet of the Valley Foothill Riparian Sensitive Natural Community associated with Putah Creek and occurs marginally along the unnamed irrigation canal within the

BSA. The Valley Foothill Riparian Sensitive Natural Community consists of a multilayered woodland plant community with a tree overstory and diverse shrub layer. Canopy species include mature valley oak (*Quercus lobata*), Fremont cottonwood (*Populus fremontii*), ash (*Fraxinus* sp.), and willows (*Salix* spp.). In a mature riparian forest, canopy heights reach approximately 100 feet, and canopy cover ranges from 20 to 80 percent. Blue elderberry (*Sambucus cerulea*), California rose (*Rosa californica*), poison oak (*Toxicodendron diversilobum*), and blackberry (*Rubus* sp.) may form dense thickets in the understory of mature riparian forests. California grape (*Vitis californica*) creates a dense network of vines in the canopy. In areas that are disturbed by frequent flooding, fire, or human activity, this natural community often consists of smaller trees, more shrubs, and more invasive nonnative species.

The Valley Foothill Riparian Natural Community supports a diversity of plant and animal species and a variety of specialized plant and animal species that are restricted to this natural community for all or important parts of their life cycle. It provides nesting habitat and cover for many wildlife species. It also provides continuous corridors and isolated matrix stopover habitat that facilitates movement between habitat areas for many wildlife species. Riparian natural communities are the most productive among California's natural communities because they receive abundant water during the hot, dry summers of California's Mediterranean climate.

Some of the common wildlife species found in the Valley Foothill Riparian Sensitvie Natural Community include the red-shouldered hawk (*Buteo lineatus*), western scrub-jay, downy woodpecker (*Picoides pubescens*), American crow, bushtit (*Psaltriparus minimus*), oak titmouse (*Baeolophus inornatus*), and various rodents.

Survey Results

The proposed project will be limited to roadwork within the BSA; however, valley foothill riparian occurs within the area of potential impact in association with the unnamed drainage located north of Russell Boulevard, as well as a very small portion at the bottom right corner of the BSA that is associated with Putah Creek.

Project Impacts

Impacts to 0.71 acres of Great Valley Oak Riparian land cover type within the Valley Foothill Riparian SNC will be mitigated for in accordance with the Yolo HCP/NCCP, and avoidance and minimization measures will be implemented to ensure effects are minimized.

Avoidance and Minimization Efforts

Avoidance and Minimization Measures (AMMs) for Sensitive Natural Communities are designated by the HCP/NCCP.

AMM8, Avoid and Minimize Effects of Construction Staging Areas and Temporary Work Areas. Project proponents should locate construction staging and other temporary work areas for covered activities in areas that will ultimately be a part of the permanent project development footprint. If construction staging and other temporary work areas must be located outside of permanent project footprints, they will be located either in areas that do not support habitat for covered species or are easily restored to prior or improved ecological functions (e.g., grassland and agricultural land). Construction staging and other temporary work areas located outside of project footprints will be sited in areas that avoid adverse effects on the valley foothill riparian land cover type.

Project proponents will follow specific AMMs for sensitive natural communities (Section 4.3.3, Sensitive Natural Communities) and covered species (Section 4.3.4, Covered Species) in temporary staging and work areas. For establishment of temporary work areas outside of the project footprint, project proponents will conduct surveys to determine if any of the biological resources listed above are present.

Within one year following removal of land cover, project proponents will restore temporary work and staging areas to a condition equal to or greater than the covered species habitat function of the affected habitat.

Restoration of vegetation in temporary work and staging areas will use clean, native seed mixes approved by the Conservancy that are free of noxious plant species seeds.

AMM9, Establish Buffers around Sensitive Natural Communities

Valley Foothill Riparian: One hundred feet from canopy dripline. If avoidance is infeasible, a lesser buffer or encroachment into the sensitive natural community may be allowed if approved by the Conservancy and the wildlife agencies, based on the criteria listed in AMM1. Transportation or utility crossings may encroach into this sensitive natural community provided effects are minimized and all other applicable AMMs are followed.

Cumulative Impacts

There are no current or planned projects that will have cumulative effects on Valley Foothill Riparian SNC within the project BSA.

Compensatory Mitigation

Impacts to 0.71 acres of Great Valley Oak Riparian land cover type within the Valley Foothill Riparian SNC will be mitigated for in accordance with the Yolo HCP/NCCP (**Appendix D: Yolo HCP/NCCP Application Form 4**).

Special Status Plant Species

There is no suitable habitat for special-status plant species within the BSA. All of the plant species from the federal and state species lists and the Yolo HCP/NCCP do not have potential to occur within the BSA due to either the lack of suitable habitat elements or due to the extensive farming and agricultural activities occurring within the BSA. All of the historic CNDDB occurrences of special-status plant species within the vicinity of the BSA have been extirpated from the area due to agricultural practices and urban development. There are no further botanical surveys recommended.

Special Status Animal Species Occurrences

There is suitable habitat within the BSA for valley elderberry longhorn beetle (VELB), Swainson's hawk, white-tailed kite, tricolored blackbird, western pond turtle, northern harrier (*Circus hudsonius*), and migratory birds and raptors protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC). The BSA is within 500 feet of modeled habitat for least Bell's vireo.

Valley Elderberry Longhorn Beetle (VELB)

The VELB is listed as threatened under the federal ESA and is a covered species under the Yolo HCP/NCCP. The VELB is a small (0.5 - 0.8 inch long) wood-boring beetle that is endemic to the Central Valley of California. The beetle is found only in association with its host plant, elderberry (*Sambucus* spp.). Adults feed on the foliage and flowers of elderberry shrubs and are present from March through early June. During this period the beetles mate and females lay eggs on living elderberry plants. The first instar larvae bore to the center of elderberry stems where they feed on the pith of the plant for one to two years as they develop. Prior to forming their pupae, the elderberry wood-boring larvae chew through the bark and then plug the holes with wood shavings. In the pupal chamber, the larvae metamorphose into their pupae and then into adults where upon they emerge between mid-March through June (USFWS 1991). Current threats to VELB consist primarily of riparian habitat destruction which causes extirpation, fragmentation, and isolation of beetle populations (USFWS 1991).

Survey Results

One (1) elderberry shrub was identified within the BSA during the planning level survey. It is located in the southern portion of the BSA on the west side of CR 98. The protocol-level survey consisted of quantifying the number of elderberry stems that will be impacted and the presence of exit holes. **Table 2** provides the results of the VELB survey and **Figure 7** depicts the location of the elderberry shrub.

Table 2. Number of elderberry stems and presence of exit holes.

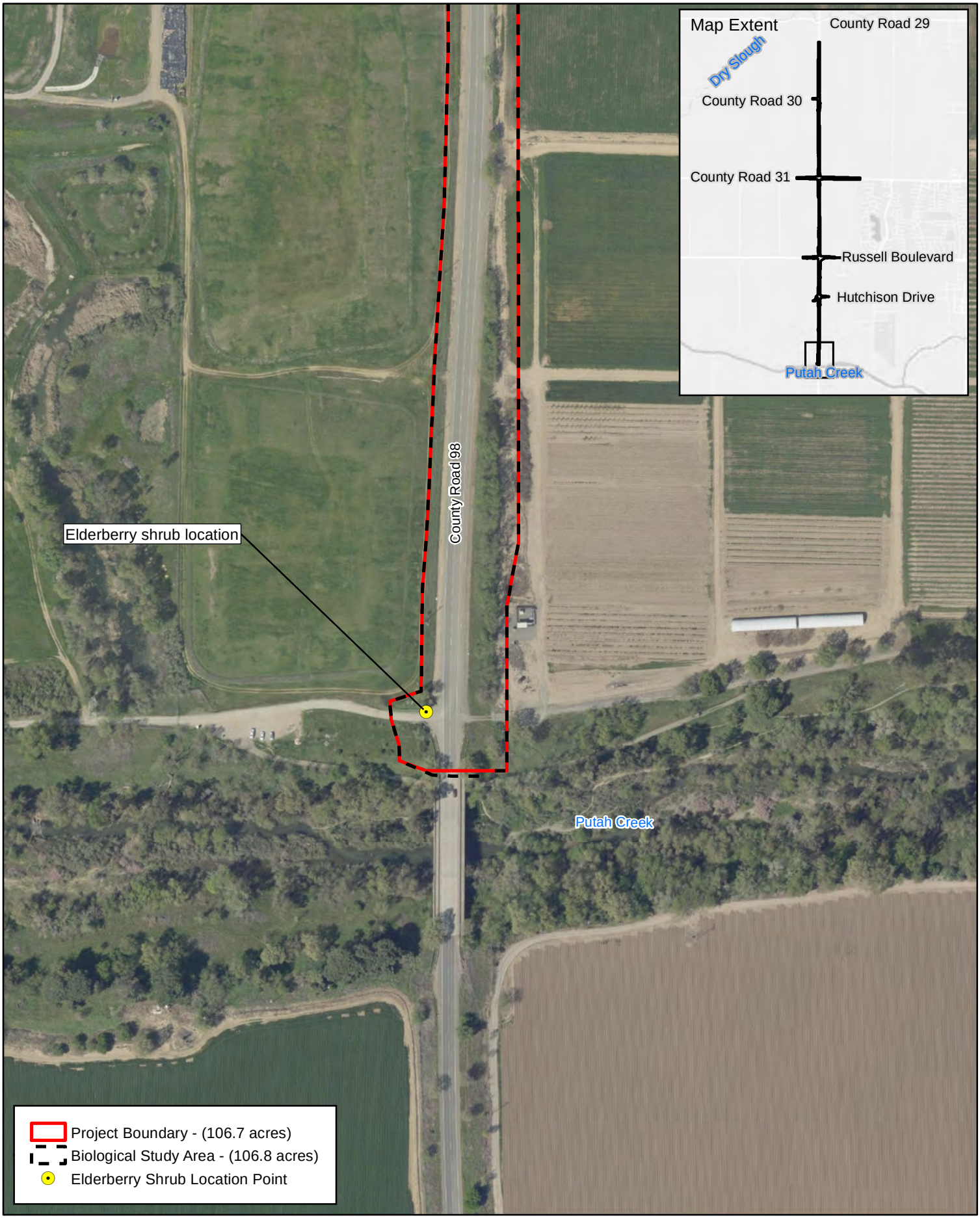
Location	Stems (Maximum diameter at ground level)	Exit Holes	# of Stems
Riparian	Stems > = 1" & < 3"	Yes	18
Riparian	Stems > = 3" & < 5"	Yes	8
Riparian	Stems > = 5"	Yes	4

Project Impacts

As the elderberry shrub is located within the area of potential impact within the BSA, there is potential for impacts to VELB. Avoidance and minimization measures addressing VELB, including guidance for elderberry shrub transplantation, are designated by the Yolo HCP/NNCP. The project may affect but is not likely to adversely affect VELB.

Avoidance and Minimization Efforts

AMM12, Minimize Take and Adverse Effects on Habitat of Valley Elderberry Longhorn Beetle. The project proponent will retain a qualified biologist who is familiar with VELB and evidence of its presence (i.e. exit holes in elderberry shrubs) to map all elderberry shrubs in and within 100 feet of the project footprint with stems that are greater than 1 inch in diameter at ground level. To fully avoid take of VELB, the project proponent will maintain a buffer of at least



NORTH

1:2,900

0 100 200 Feet

Data Sources: ESRI, Yolo County
4/13/2018, Yolo County

County Road 98 Bike and Safety Improvements Phase II
Elderberry Shrub Location
Figure 7

gallaway ENTERPRISES

GE: #18-119 Map Date: 09/08/2020

100 feet from any elderberry shrubs with stems greater than 1 inch in diameter at ground level. *AMM1, Establish Buffers,* above, describes circumstances in which a lesser buffer may be applied. For elderberry shrubs that cannot be avoided with a designated buffer distance as described above, the qualified biologist will quantify the number of stems 1 inch or greater in diameter to be affected, and the presence or absence of exit holes. The conservancy will use this information to determine the number of plants or cuttings to plant on a riparian restoration site to help offset the loss, consistent with Yolo HCP/NCCP Section 6.4.2.4.1, *Valley Elderberry Longhorn Beetle*.

Additionally, prior to construction, the project proponent will transplant elderberry shrubs identified within the project footprint that cannot be avoided.

Transplantation will only occur if a shrub cannot be avoided and, if indirectly affected, the indirect effects would otherwise result in the death of stems or the entire shrub. If the project proponent chooses, in coordination with a qualified biologist, not to transplant the shrub because the activity would not likely result in death of stems of the shrub, then the qualified biologist will monitor the shrub annually for a five-year monitoring period. The monitoring period may be reduced with concurrence from the wildlife agencies if the latest research and best available information at the time indicates that a shorter monitoring period is warranted.

If death of stems at least 1 inch in diameter occurs within the monitoring period, and the qualified biologist determines that the shrub is sufficiently healthy to transplant, the project proponent will transplant the shrub as described in the following paragraph, in coordination with the qualified biologist. If the shrub dies during the monitoring period, or the qualified biologist determines that the shrub is no longer healthy enough to survive transplanting, then the Conservancy will offset the shrub loss consistent with the preceding paragraph.

The project proponent will transplant the shrubs into a location in the HCP/NCCP reserve system that has been approved by the Conservancy. Elderberry shrubs outside the project footprint but within the 100-foot buffer will not be transplanted.

Transplanting will follow the following measures:

1. Monitor: A qualified biologist will be on-site for the duration of the transplanting of the elderberry shrubs to ensure the effects on elderberry shrubs are minimized.
2. Timing: The project proponent will transplant elderberry plants when the plants are dormant, approximately November through the first two weeks of February,

after they have lost their leaves. Transplanting during the non-growing season will reduce shock to the plant and increase transplantation success.

3. Transplantation procedure:
    a. Cut the plant back three to six feet from the ground or to 50 percent of its height (whichever is taller) by removing branches and stems above this height. Replant the trunk and stems measuring one inch or greater in diameter. Remove leaves that remain on the plants.
    b. Relocate plant to approved location in the reserve system, and replant as described in Yolo HCP/NCCP Section 6.4.2.4.1, *Valley Elderberry Longhorn Beetle.*

Cumulative Impacts

There are no current or planned projects that will have cumulative effects on VELB or VELB habitat within the project BSA.

Compensatory Mitigation

Impacts to 0.71 acres of Great Valley Oak Riparian habitat, which is designated as VELB habitat, will be mitigated for in accordance with the Yolo HCP/NCCP (**Appendix D: Yolo HCP/NCCP Application Form 4**). In addition, if the shrub cannot be completely avoided it will be transplanted as described in AMM 12.

Western Pond Turtle

The western pond turtle is a Species of Special Concern (SSC) in California and is a covered species under the Yolo HCP/NCCP. Western pond turtles are drab, darkish colored turtles with a yellowish to cream colored head. They range from the Washington Puget Sound to the California Sacramento Valley. Suitable aquatic habitats include slow moving to stagnant water, such as backwaters and ponded areas of rivers and creeks, semi-permanent to permanent ponds, and irrigation ditches. Preferred habitats include features such as hydrophytic vegetation for foraging and cover and basking areas to regulate body temperature. In early spring through early summer, female turtles begin to move over land in search for nesting sites. Eggs are laid on the banks of slow-moving streams. The female digs a hole approximately four inches deep and lays up to eleven eggs. Afterwards the eggs are covered with sediment and are left to incubate under the warm soils. Eggs are typically laid between March and August (Zeiner et al. 1990). Current threats facing the western pond turtle include loss of suitable aquatic habitats due to rapid changes in water regimes and removal of hydrophytic vegetation.

Survey Results

There is suitable habitat for western pond turtle present within the Lacustrine and Riverine habitat types within the BSA. The BSA is also located within 100 feet of Putah Creek, which is suitable habitat for western pond turtle.

Project Impacts

The project will impact 0.44 acres of Lacustrine and Riverine SNC that could potentially serve as western pond turtle habitat. The BSA contains and is within 100 feet of Lacustrine and Riverine SNC land cover types, which triggers avoidance and minimization Measures per the Yolo HCP/NCCP that adequately protect western pond turtles. There will be no impacts to western pond turtle individuals with the implementation of avoidance and minimization measures that protect Lacustrine and Riverine SNC, wetlands and western pond turtles.

Avoidance and Minimization Efforts

AMM14, Minimize Take and Adverse Effects on Habitat of Western Pond Turtle. There are no specific design requirements for western pond turtle habitat, however, project proponents must follow design requirements for the valley foothill riparian and lacustrine and riverine natural communities described in AMMs 9 and 10, which require a 100-foot (minimum) permanent buffer zone from the canopy drip-line (the farthest edge on the ground where water will drip from the tree canopy, based on the outer boundary of the tree canopy). If modeled upland habitat will be impacted, a qualified biologist must be present and will assess the likelihood of western pond turtle nests occurring in the disturbance area (based on sun exposure, soil conditions, and other species habitat requirements).

If a qualified biologist determines that there is a moderate to high likelihood of western pond turtle nests within the disturbance area, the qualified biologist will monitor all initial ground disturbing activity for nests that may be unearthed during the disturbance, and will move out of harm's way any turtles or hatchlings found.

Cumulative Impacts

There are no current or planned projects that will have cumulative effects on western pond turtle within the project BSA.

Compensatory Mitigation

The project may potentially impact 0.44 acres of Lacustrine and Riverine SNC that could potentially serve as western pond turtle habitat. Impacts to western pond turtle nesting and wintering habitat will be mitigated by paying fees for impacts to land cover types (**Appendix D: Yolo HCP/NCCP Application Form 4**).

Swainson's Hawk

Swainson's hawks are threatened in the State of California and are a covered species under the Yolo HCP/NCCP. They are found throughout the western part of the United States and from Canada to Mexico. Swainson's hawks are fairly large, slender hawks with three different color morph displays. The most common morph in northern California is the dark morph which demonstrates black to dark brown under coverts and flight feathers. Suitable habitat includes open grasslands or agricultural fields that are adjacent to a riparian forest or oak woodland. Swainson's hawks primarily nest in riparian forests next to open fields that provide foraging opportunities. Nesting and courtship begin in April. Current threats facing the Swainson's hawk are loss of nesting and foraging habitat, change in agricultural regimes, pesticides, poaching and human disturbances (CDFW 1994).

Survey Results

There are suitable nesting trees within the BSA and suitable foraging habitat adjacent to the BSA in the form of open agricultural fields. There were no active Swainson's hawk nests observed during the biological evaluation; however, based on the size of the trees within the BSA, there is potential for future nest establishment. Swainson's hawks were observed foraging in fields adjacent to the BSA during the field visit. Furthermore, there are CNDDB records of Swainson's hawks nesting within (#433, #1287, #445, #444, #1951) and immediately adjacent (#213, #436) to the BSA. None of these nesting occurrences are active (i.e. nesting activity observed within the last 5 years); however, there are multiple active nesting occurrences within 10 miles of the BSA (#29, #210, #1085, #1709, #415, #1255, #1995, #2688). There are other CNDDB occurrences of Swainson's hawks within the last 5 years and within 10 miles of the BSA (#98, #871, #2677, #2678, #614), but none of these occurrences indicate confirmed nesting activity within the last 5 years.

There is potential for Swainson's hawk to occur within the BSA due to the presence of suitable nesting habitat within the BSA and adjacent foraging habitat, as well as past CNDDB records of nesting Swainson's hawk within and adjacent to the BSA.

Project Impacts

The project will impact 0.71 acres of Great Valley Oak Riparian land cover type that could potentially serve as Swainson's hawk nesting habitat and 12.95 acres of Cultivated Land and Grassland Alliance land cover types that could potentially serve as Swainson's hawk foraging habitat as defined by the Yolo HCP/NCCP. The BSA contains Swainson's hawk foraging habitat and nest trees, which triggers Avoidance and Minimization

Measures per the Yolo HCP/NCCP. There will be no impacts to Swainson's hawk individuals with the implementation of avoidance and minimization measures.

Avoidance and Minimization Efforts for Swainson's Hawk and White-tailed Kite

The following are recommended avoidance and minimization measures for Swainson's hawk and white-tailed kite as specified by the Yolo HCP/NCCP:

AMM16, Minimize Take and Adverse Effects on Habitat of Swainson's Hawk and White-tailed Kite. The project proponent will retain a qualified biologist to conduct planning-level surveys and identify any nesting habitat present within 1,320 feet of the project footprint.

Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.

If a construction project cannot avoid potential nest trees (as determined by the qualified biologist) by 1,320 feet, the project proponent will retain a qualified biologist to conduct preconstruction surveys for active nests consistent, with guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000), between March 15 and August 30, within 15 days prior to the beginning of the construction activity. The results of the survey will be submitted to the Conservancy and CDFW. If active nests are found during preconstruction surveys, a 1,320-foot initial temporary nest disturbance buffer shall be established. If project related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then the qualified biologist will monitor the nest and will, along with the project proponent, consult with CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest disturbance buffer if Swainson's hawks or white-tailed kites are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the 1,320-foot buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior. Up to 20 Swainson's hawk nest trees (documented nesting within the last 5 years) may be removed during the permit term, but they must be removed when not occupied by Swainson's hawks.

For covered activities that involve pruning or removal of a potential Swainson's hawk or white-tailed kite nest tree, the project proponent will conduct preconstruction surveys that are consistent with the guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000). If active nests are found during preconstruction surveys, no

tree pruning or removal of the nest tree will occur during the period between March 1 and August 30 within 1,320 feet of an active nest, unless a qualified biologist determines that the young have fledged and the nest is no longer active**.**

Cumulative Impacts

There are no current or planned projects that will have cumulative effects on Swainson's hawk or Swainson's hawk foraging habitat within the project BSA.

Compensatory Mitigation

Per the Yolo HCP/NCCP, there is 0.71 acres of Great Valley Oak Riparian land cover type that could potentially serve as Swainson's hawk nesting habitat and 12.95 acres of Cultivated Land and Grassland Alliance land cover types that could potentially serve as Swainson's hawk foraging habitat. Impacts to Swainson's hawk suitable habitat land cover types will be mitigated for in accordance with the Yolo HCP/NCCP (**Appendix D: Yolo HCP/NCCP Application Form 4**).

White-tailed Kite

The white-tailed kite (*Elanus leucurus*) was listed as Fully Protected by the State of California in 1957. White-tailed kites are also protected under the MBTA (16 USC §703) and CFGC §3503, and are a covered species under the Yolo HCP/NCCP. They are yearlong residents in coastal and valley lowlands; frequently found near agricultural areas. White-tailed kites also inhabit herbaceous and open stages of most habitats in cismontane California. They forage in undisturbed, open grasslands, meadows, farmlands and emergent wetlands; however, they will rarely dive into tall cover. They use a variety of tree species to perch and roost, preferring to place their nests near tops of dense oak, willow, or other tree stands. Nests are usually located near an open foraging area that supports dense vole populations.

Survey Results

There are suitable nesting trees within the BSA and suitable foraging habitat adjacent to the BSA. There are large trees that line CR 98 that provide suitable nesting habitat. Dryland grain crops adjacent to the BSA provide nearby foraging habitat. There were no active white-tailed kite nests observed during the biological evaluation; however, based on the presence of suitable trees within the BSA, there is potential for future nest establishment. There are four (4) CNDDB occurrences indicating nesting within 5 miles of the BSA (#43, #44, #50, #64). The most recent of these occurrences (#64) was recorded in 2003.

Project Impacts

The project will impact 0.71 acres of Great Valley Oak Riparian land cover type that could potentially serve as white-tailed kite nesting habitat and 12.95 acres of Cultivated Land and Grassland Alliance land cover types that could potentially serve as white-tailed kite foraging habitat as defined by the Yolo HCP/NCCP. The BSA contains white-tailed kite foraging habitat and nest trees, which triggers Avoidance and Minimization Measures per the Yolo HCP/NCCP. There will be no impacts to white-tailed kite individuals with the implementation of avoidance and minimization measures.

Avoidance and Minimization Efforts for Swainson's Hawk and White-tailed Kite

The following are recommended avoidance and minimization measures for Swainson's hawk and white-tailed kite as specified by the Yolo HCP/NCCP:

AMM16, Minimize Take and Adverse Effects on Habitat of Swainson's Hawk and White-tailed Kite. The project proponent will retain a qualified biologist to conduct planning-level surveys and identify any nesting habitat present within 1,320 feet of the project footprint.

Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.

If a construction project cannot avoid potential nest trees (as determined by the qualified biologist) by 1,320 feet, the project proponent will retain a qualified biologist to conduct preconstruction surveys for active nests consistent, with guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000), between March 15 and August 30, within 15 days prior to the beginning of the construction activity. The results of the survey will be submitted to the Conservancy and CDFW. If active nests are found during preconstruction surveys, a 1,320-foot initial temporary nest disturbance buffer shall be established. If project related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then the qualified biologist will monitor the nest and will, along with the project proponent, consult with CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest disturbance buffer if Swainson's hawk or white-tailed kite are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the 1,320-foot buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior. Up to 20 Swainson's hawk nest trees

(documented nesting within the last 5 years) may be removed during the permit term, but they must be removed when not occupied by Swainson's hawks.

For covered activities that involve pruning or removal of a potential Swainson's hawk or white-tailed kite nest tree, the project proponent will conduct preconstruction surveys that are consistent with the guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000). If active nests are found during preconstruction surveys, no tree pruning or removal of the nest tree will occur during the period between March 1 and August 30 within 1,320 feet of an active nest, unless a qualified biologist determines that the young have fledged and the nest is no longer active.

Cumulative Impacts

There are no current or planned projects that will have cumulative effects on white-tailed kite or white-tailed kite habitat within the project BSA

Compensatory Mitigation

Per the Yolo HCP/NCCP, there is 0.71 acres of Great Valley Oak Riparian land cover type that could potentially serve as white-tailed kite nesting habitat and 12.95 acres of Cultivated Land and Grassland Alliance land cover types that could potentially serve as white-tailed kite foraging habitat. Impacts to white-tailed kite suitable habitat land cover types will be mitigated for in accordance with the Yolo HCP/NCCP (**Appendix D: Yolo HCP/NCCP Application Form 4**).

Tricolored Blackbird

Tricolored blackbirds are listed as threatened under the CESA, are also protected under the MBTA (16 USC §703) and CFGC §3503, and are a covered species under the Yolo HCP/NCCP. They range from southern Oregon through the Central Valley, and coastal regions of California into the northern part of Mexico. Tricolored blackbirds are medium-size birds with black plumage and distinctive red marginal coverts, bordered by whitish feathers. Tricolored blackbirds nest in large colonies within agricultural fields, marshes with thick herbaceous vegetation, or in clusters of large blackberry bushes near a source of water and suitable foraging habitat. They are nomadic migrators, so documenting occurrence at any location does not mean that they will necessarily return to that area. Current threats facing tricolored blackbirds include colonial breeding in regards to small population size, habitat loss, overexploitation, predation, contaminants, extreme weather events, and drought, water availability, and climate change (CDFW 2018).

Survey Results

There is suitable nesting habitat within 1,300 feet of the BSA. There are blackberry brambles that line the banks of Dry Slough, north of the BSA, and Putah Creek, south of the BSA, which provide suitable nesting habitat within 1,300 feet of the BSA. In 1991, tricolored blackbirds were recorded nesting in the blackberry brambles north of the BSA (CNDDB Occurrence #404). Dryland grain crops (i.e. wheat) that occur within and adjacent to the BSA may also provide nesting habitat. Dryland grain crops have become an alternative nesting location for large colonies of tricolored blackbirds as most of the species' natural nesting habitat has been converted into other land uses (CDFW 2018). Tricolored blackbirds often forage in agricultural fields, which occur within and adjacent to the BSA.

There is potential for tricolored blackbird to occur within the BSA due to the presence of suitable nesting habitat within and within 1,300 feet of the BSA, as well as the presence of suitable foraging habitat within the BSA. No tricolored blackbirds or tricolored blackbird colonies were observed during protocol level surveys.

Project Impacts

Per the Yolo HCP/NCCP, the project may impact 12.95 acres of Cultivated Land and Grassland Alliance land cover types that could potentially serve as tricolored blackbird nesting and foraging habitat. The BSA contains and is within 1,300 feet of suitable tricolored blackbird nesting and foraging habitat, which triggers Avoidance and Minimization Measures per the Yolo HCP/NCCP. There will be no impacts to tricolored blackbird individuals with the implementation of avoidance and minimization measures.

Avoidance and Minimization Efforts

AMM21, Minimize Take and Adverse Effects on Habitat of Tricolored Blackbird. The project proponent will retain a qualified biologist to identify and quantify (in acres) tricolored blackbird nesting and foraging habitat (as defined in Yolo HCP/NCCP Appendix A, *Covered Species Accounts*) within 1,300 feet of the footprint of the covered activity. If a 1,300-foot buffer from nesting habitat cannot be maintained, the qualified biologist will check records maintained by the Conservancy (which will include CNDDB data, and data from the tricolored blackbird portal) to determine if tricolored blackbird nesting colonies have been active in or within 1,300 feet of the project footprint during the previous 5 years. If there are no records of nesting tricolored blackbirds on the site, the qualified biologist will conduct visual surveys to determine if an active colony is present, during the period from March 1 to July 30, consistent with protocol described by Kelsey (2008).

Operations and maintenance activities or other temporary activities that do not remove nesting habitat and occur outside the nesting season (March 1 to July 30) do not need to conduct planning or construction surveys or implement any additional avoidance measures.

If an active tricolored blackbird colony is present or has been present within the last five years within the planning-level survey area, the project proponent will design the project to avoid adverse effects within 1,300 feet of the colony site(s), unless a shorter distance is approved by the Conservancy, USFWS, and CDFW. If a shorter distance is approved, the project proponent will still maintain a 1,300-foot buffer around active nesting colonies during the nesting season but may apply the approved lesser distance outside the nesting season. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.

Cumulative Impacts

There are no current or planned projects that will have cumulative effects on tricolored blackbird habitat within the project BSA.

Compensatory Mitigation

Per the Yolo HCP/NCCP, there is 12.95 acres of Cultivated Land and Grassland Alliance land cover types that could potentially serve as tricolored blackbird nesting and foraging habitat. Impacts to tricolored blackbird suitable habitat land cover types will be mitigated for in accordance with the Yolo HCP/NCCP (**Appendix D: Yolo HCP/NCCP Application Form 4**).

Least Bell's Vireo

The least Bell's vireo is federally and State listed as endangered, is protected under the MBTA (16 USC §703) and CFGC §3503, and is a covered species under the Yolo HCP/NCCP. It is a riparian forest nester, nesting in extensive riparian forests of willow, cottonwood, and blackberry. Least Bell's vireo has been considered to be extirpated from northern California since the early 1980s (USFWS 1998); however, wildlife biologists detected least Bell's vireo individuals at South Fork Putah Creek in 2010, 2011, and 2013 (CNDDB 2019). Breeding behavior was observed, but no confirmed evidence of nesting was found. There is one (1) CNDDB occurrence (#328) of least Bell's vireo located 10 miles east of the southernmost portion of the BSA. All other occurrences within 60 miles of the BSA are occurrences from the late 1800s that are believed to be extirpated.

The Yolo HCP/NCCP requires that if construction activity will encroach within 500 feet of suitable habitat and there are no breeding season records for the species within one-quarter mile of the covered activity within the previous three years, a qualified biologist

will conduct planning-level surveys for active territories, consistent with USFWS (2001) guidelines, during the breeding season (April 1 to July 15). Protocol level surveys were conducted by approved senior biologist Melissa Murphy in May 2019 and no observations were recorded of least Bell's vireo.

Survey Results

The BSA is located within 500 feet of Putah Creek within Planning Unit 9, but construction activities will occur further than 500 feet from least Bell's vireo modeled habitat. Therefore, no planning level or preconstruction surveys are required.

Project Impacts

No impacts to least Bell's vireo and no loss of modeled habitat are expected. The project will have no effect on least Bells' vireo.

Avoidance and Minimization Efforts

AMM19, Minimize Take and Adverse Effects on Least Bell's Vireo. The project proponent will retain a qualified biologist to conduct planning-level surveys and determine if habitat for least Bell's vireo (as defined in Yolo HCP/NCCP Appendix A, Covered Species Accounts) is present within 500 feet of covered activities. If habitat is present, the project proponent will redesign the project to avoid or minimize activities within 500 feet of least Bell's vireo habitat. If the activity will encroach within 500 feet of habitat and there are no breeding season records for the species within one-quarter mile of the covered activity within the previous three years, the qualified biologist will conduct planning-level surveys for active territories, consistent with USFWS (2001) guidelines, during the breeding season (April 1 to July 15).

- If an occupied territory is discovered during planning-level surveys, or there is a record of the species occurring within one-quarter mile of the covered activity within the previous three years, the project proponent will design the project to avoid activities within 500 feet of suitable habitat, unless the Conservancy, USFWS, and CDFW approve a shorter distance.
- If an activity occurs within 500 feet of suitable habitat during the breeding season, regardless of whether or not the species was detected during planning-level surveys or there are records for the species in the area, a qualified biologist will conduct preconstruction surveys, consistent with USFWS (2001) guidelines, during the same season when the activity will occur. If active territories are found, the project proponent will avoid activity within 500 feet of the habitat from April 1 to July 15. This buffer may be reduced with approval from the Conservancy, USFWS, and CDFW.

- The project proponent will avoid disturbance of previous least Bell's vireo territories (up to three years since known nest activity) during the breeding season, unless the disturbance is to maintain public safety. Least Bell's vireo uses previous territories; disturbance during the breeding season may preclude birds from using existing unoccupied territories.
- The required buffer may be reduced in areas where barriers or topographic relief features are adequate for protecting the nest from excessive noise or other disturbance.

  Conservancy staff members will coordinate with the wildlife agencies and evaluate exceptions to the minimum non-disturbance buffer distance on a case-by-case basis. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.
- If occupied territories are identified, a qualified biologist will monitor construction activities in the vicinity of all active territories to ensure that covered activities do not affect nest success.

Cumulative Impacts

There are no current or planned projects that will have cumulative effects least Bell's vireo habitat within the project BSA.

Compensatory Mitigation

As there will be no impacts to least Bell's vireo or least Bell's vireo habitat, no compensatory mitigation will be required.

Northern Harrier

The northern harrier is a SSC in the state of California. They range throughout California in low elevation areas such the Central Valley, desert and coastal regions. Northern harriers are dimorphic. Males have grey tones, while females and juveniles display a rusty brown coloring. Suitable habitat for foraging and breeding include fresh water and coastal marshes, annual and perennial grasslands, pastures and low growing crops, sagebrush scrub, and desert sinks. Northern harriers nest on the ground among tall grasses or shrubs. Current threats facing northern harriers include loss of foraging and nesting habitat, small mammal control, and human disturbances (Shuford and Gardali 2008).

Survey Results

There is suitable foraging and nesting habitat present immediately adjacent to the BSA. There is one (1) CNDDB occurrence (#51) located about 2.7 miles east of the BSA, where

a pair of northern harriers was observed nesting in a wheat field in 2015. There are no other CNDDB occurrences within 30 miles of the BSA.

Project Impacts

There will be no impacts to northern harrier with the implementation of avoidance and minimization measures.

Avoidance and Minimization Efforts

The following are recommended avoidance and minimization measures for northern harrier:

- Project activities and vegetation removal within the BSA shall be initiated outside of the bird nesting season (February 1 – August 31).
- If project activities and vegetation removal cannot be initiated outside of the bird nesting season, then the following will occur:
    - A qualified biologist will conduct a pre-construction survey within 7 days prior to the initiation of project activities.
    - If an active northern harrier nest (i.e. with egg(s) or young) is observed within 250 feet of the BSA during the pre-construction survey, then a species protection buffer will be established. The species protection buffer will be defined by the qualified biologist in consultation with CDFW. Construction activity shall be prohibited within the buffer zones until the young have fledged or the nest fails. Nests shall be monitored once per week and a report submitted to the lead agency weekly.

Cumulative Impacts

There are no current or planned projects that will have cumulative effects northern harrier within the project BSA.

Compensatory Mitigation

As there will be no impacts to northern harrier, no compensatory mitigation will be required.

Migratory Birds and Raptors

Nesting birds are protected under the MBTA (16 USC 703) and the CFGC (3503). The MBTA (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in

North America, excluding introduced (i.e. exotic) species (50 Code of Federal Regulations §10.13). Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance has the potential to affect bird species protected by the MBTA.

The CFGC (§3503.5) states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (owls) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto". Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (§3503) also states that "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto".

Survey Results

There is suitable nesting habitat within the BSA for migratory birds and raptors protected under the MBTA and CFGC. There are suitable trees, shrubs, and structures that offer nesting habitat for a variety of avian species.

There is potential for a variety of migratory birds and raptors to occur within the BSA due to the presence of suitable nesting habitat.

Project Impacts

There will be no impacts to migratory birds and raptors with the implementation of avoidance and minimization measures.

Avoidance and Minimization Efforts

The following are recommended avoidance and minimization measures for migratory birds and raptors:

- Project activities and vegetation removal within the BSA shall be initiated outside of the bird nesting season (February 1 – August 31).
- If project activities and vegetation removal cannot be initiated outside of the bird nesting season than the following will occur:
    - A qualified biologist will conduct a pre-construction survey within 7 days prior to the initiation of project activities.
    - If an active northern harrier nest (i.e. with egg(s) or young) is observed within 250 feet of the BSA during the pre-construction survey, then a species protection buffer will be established. The species protection

buffer will be defined by the qualified biologist in consultation with CDFW. Construction activity shall be prohibited within the buffer zones until the young have fledged or the nest fails. Nests shall be monitored once per week and a report submitted to the lead agency weekly.

Cumulative Impacts

There are no current or planned projects that will have cumulative effects on migratory birds and raptors within the project BSA.

Compensatory Mitigation

As there will be no impacts to nesting migratory birds and raptors, no compensatory mitigation will be required.

Chapter 5 – Conclusions and Regulatory Determinations

Federal Endangered Species Act Consultation Summary

The USFWS was consulted on March 19, 2019 and the NMFS was consulted on March 20, 2019 for lists of endangered, threatened, sensitive, and rare species and their habitats with potential to occur within the BSA. The lists were later referenced to determine appropriate biological and botanical surveys and potential species occurrence.

Essential Fish Habitat Consultation Summary

As there are no perennial drainages that could support anadromous fish species, there is no Essential Fish Habitat present within the BSA.

California Endangered Species Act Consultation Summary

The CDFW and CNPS were consulted on March 19, 2019 for lists of State endangered, threatened, sensitive, and rare species and their habitats with potential to occur within the BSA. The list was later referenced to determine appropriate biological and botanical surveys and potential species occurrence.

Wetlands and Other Waters Coordination Summary

A delineation of WOTUS was conducted by Gallaway Enterprises on April 30, 2019. The results of the delineation will be summarized in a Draft Delineation of Waters of the United States report, which will be submitted to the Corps as part of the permitting process (**Appendix C**).

One (1) wetland feature and six (6) potentially jurisdictional drainages were identified within the BSA. Five (5) drainages are anticipated to be impacted by project activities. As there are jurisdictional waters that will be impacted by project activities, a CDFW §1602 Streambed Alteration Agreement, RWQCB §401 Water Quality Certification permit, and a Corps Nationwide §404 14 permit are necessary. The project will result in 0.27 acres (1,483 linear feet) of permanent impacts to drainages (**Figure 6: Anticipated Impacts to Waters of the U.S.**). Mitigation for impacts to jurisdictional WOTUS will be addressed through the purchase of credits at a Corps-approved mitigation bank or payment to a Corps-approved in-lieu fund.

Invasive Species

Several invasive species such as yellow star-thistle, mustard, and fennel (*Foeniculum vulgare*) were observed within the BSA during the biological evaluation. Yellow star-thistle is a non-native species recognized by the California Invasive Plant Council (CAL-IPC) as a species of high concern which could pose severe ecological impacts.

It is recommended that general best management practices (BMP) be implemented prior and during construction activities as recommended under the CAL-IPC Preventing the Spread of Invasive Plants: Best Management Practices for Transportation and Utility Corridors (2012). The following are the recommended general BMP's under CAL-IPC.

- Provide prevention training to staff and contractors prior to starting work.
- Schedule activities to minimize potential for introduction and spread of invasive plants.
- Designate specific areas for cleaning tools, vehicles, equipment, clothing and gear.
- Plan travel routes to avoid areas infested with invasive plants.
- Clean tools, equipment, vehicles and animals before transporting materials and before entering and leaving worksites.
- Clean clothing, footwear and gear before leaving infested areas.
- Prepare worksites to limit the introduction and spread of invasive plants.
- Minimize soil and vegetation disturbance.

Chapter 6 – References

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USFWS. 1998. Draft Recovery Plan for the Least Bell's Vireo (*Vireo bellii pusillus*). U.S. Fish and Wildlife Service, Portland, Oregon. 139 pp.

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Appendix A – Species Lists

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Consultation Code: 08ESMF00-2020-SLI-2781
Event Code: 08ESMF00-2020-E-08513
Project Name: CR 98

September 01, 2020

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2020-SLI-2781

Event Code: 08ESMF00-2020-E-08513

Project Name: CR 98

Project Type: TRANSPORTATION

Project Description: Road widening and rehabilitation

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.55707030728996N121.80312558983957W

Counties: Yolo, CA

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **proposed** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/2891
Species survey guidelines:
https://ecos.fws.gov/ipac/guideline/survey/population/205/office/11420.pdf

California Tiger Salamander *Ambystoma californiense*	Threatened

Population: U.S.A. (Central CA DPS)
There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/2076

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/321

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/7850
Habitat assessment guidelines:
https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/498

Vernal Pool Tadpole Shrimp *Lepidurus packardi*	Endangered

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/2246

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

CNPS California Native Plant Society

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

1 matches found. *Click on scientific name for details*

Search Criteria

Found in Quad 3812157

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	1B.2	S2	G3

Suggested Citation

California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 01 September 2020].

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Merritt (3812157))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
Antioch multilid wasp *Myrmosula pacifica*	IIHYM15010	None	None	GH	SH	
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S3	SSC
California alkali grass *Puccinellia simplex*	PMPOA53110	None	None	G3	S2	1B.2
California tiger salamander *Ambystoma californiense*	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Ferris' milk-vetch *Astragalus tener var. ferrisiae*	PDFAB0F8R3	None	None	G2T1	S1	1B.1
giant gartersnake *Thamnophis gigas*	ARADB36150	Threatened	Threatened	G2	S2	
heartscale *Atriplex cordulata var. cordulata*	PDCHE040B0	None	None	G3T2	S2	1B.2
hoary bat *Lasiurus cinereus*	AMACC05030	None	None	G5	S4	
Keck's checkerbloom *Sidalcea keckii*	PDMAL110D0	Endangered	None	G2	S2	1B.1
northern harrier *Circus hudsonius*	ABNKC11011	None	None	G5	S3	SSC
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G5	S3	SSC
Sacramento Valley tiger beetle *Cicindela hirticollis abrupta*	IICOL02106	None	None	G5TH	SH	
silver-haired bat *Lasionycteris noctivagans*	AMACC02010	None	None	G5	S3S4	
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S3	
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	IICOL48011	Threatened	None	G3T2	S2	
vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened	None	G3	S3	
vernal pool tadpole shrimp *Lepidurus packardi*	ICBRA10010	Endangered	None	G4	S3S4	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
western bumble bee *Bombus occidentalis*	IIHYM24250	None	Candidate Endangered	G2G3	S1	
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western spadefoot *Spea hammondii*	AAABF02020	None	None	G3	S3	SSC
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
white-tailed kite *Elanus leucurus*	ABNKC06010	None	None	G5	S3S4	FP

Record Count: 25

Appendix B – Project Site Photos

Project Site Photos

Taken April 30, 2019

Looking southeast at County Road 98.

Looking south at typical agricultural habitat adjacent to County Road 98.

Looking south at annual grassland habitat adjacent to County Road 98.

Looking northeast at vegetated corridor adjacent to County Road 98.

Looking west at dry riverine habitat under County Road 98.

Looking west at the elderberry shrub present near the southern boundary of the project.

Appendix C – Draft Delineation of Waters of the U.S. Map

Draft Delineation of Waters of the U.S.

Adjacent Wetland Features

Label	Cowardin	Type	Location (Lat/Long)		Width (ft)	Length (ft)	Area (sq ft)	Acres
WF01	POW	Pond	38.546708	-121.806	NA	NA	1362.2	0.03
					Adjacent Weltand Features Totals =	**NA**	**1362.2**	**0.03**

Other Waters

Label	Cowardin	Description	Location (Lat/Long)		Width (ft)*	Length (ft)	Area (sq ft)	Acres
T01	R4	Intermittent	38.547042	-121.8061	13.7	26.7	365.7	0.01
T02	R4	Intermittent	38.546865	-121.807	8.6	531.3	4592.1	0.11
T03	R4	Intermittent	38.548794	-121.8034	9.0	55.0	492.8	0.01
T04	R4SB	Intermittent	38.551535	-121.8028	16.0	438.1	7010.4	0.16
T05	R4SB	Intermittent	38.551721	-121.8034	20.4	36.5	746.1	0.02
T06	R4	Intermittent	38.550226	-121.8031	7.0	946.2	6623.1	0.15
					Tributary Totals =	**2033.8**	**19830.2**	**0.46**
					Total Waters of the U.S. =	**2033.8**	**21192.4**	**0.49**

*Widths are represented as averages

Non-Jurisdictional by Rule

Label	Cowardin	Description	Location (Lat/Long)		Width (ft)*	Length (ft)	Area (sq ft)	Acres
EX01	R4	Irrigation Ditch	38.573899	-121.8036	13.4	194.0	2600.5	0.06
EX02	R4	Irrigation Ditch	38.574678	-121.8029	18.0	491.2	8841.1	0.20
					Excluded Features Totals =	**685.2**	**11441.6**	**0.26**

Coordinate System: NAD 1983 California State Plane II (Feet)
Projection: Lambert Conformal Conic
Datum: North American 1983
Vertical Datum: NAVD 88

Made in accordance with the Updated Map & Drawing Standards for the South Pacific Division Regulatory Program

38.5869, -121.8034

County Rd 98

County Rd 30

P01 EX02 C06 P02 P03 EX01 C07

Panel 1
Panel 2

Project Boundary - (106.7 acres)
1 foot contours
OHWM Transect - 'X-X'
Culvert - C#
Flow Direction
Photo Points - P#*

Data Points

Test Pit - TP#

Wetland Features - WF# - (0.03 acres)

Pond

Other Waters - T# - (0.46 acres)

Intermittent

Non-Jurisdictional by Rule - (0.26 acres)

Irrigation Ditch

***See Figure 3, Ground Photographs Map, for additional information on Photo Points.**

NORTH

1:4,800 1 inch = 400 feet
0 200 400 Feet

Data Sources: ESRI, Yolo County 4/13/2018

County Road 98 Bike and Safety Improvements Phase II
Draft Delineation of Waters of the U.S.
Exhibit A (Panel 1 of 4)

Delineation by: E. Gregg
Map by: C. Davis
GE: #18-119

gallaway ENTERPRISES

Map Date: 08/31/2020

Panel 1

Panel 2

Draft Delineation of Waters of the U.S.

Adjacent Wetland Features

Label	Cowardin	Type	Location (Lat/Long)		Width (ft)	Length (ft)	Area (sq ft)	Acres
WF01	POW	Pond	38.546708	-121.806	NA	NA	1362.2	0.03
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Other Waters

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T03	R4	Intermittent	38.548794	-121.8034	9.0	55.0	492.8	0.01
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T05	R4SB	Intermittent	38.551721	-121.8034	20.4	36.5	746.1	0.02
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Coordinate System: NAD 1983 California State Plane II (Feet)
Projection: Lambert Conformal Conic
Datum: North American 1983
Vertical Datum: NAVD 88

Made in accordance with the Updated Map & Drawing Standards for the South Pacific Division Regulatory Program

County Rd 98

County Rd 31

P04

TP01

P11

P04

TP01

Project Boundary - (106.7 acres)

1 foot contours

OHWM Transect - 'X-X'

Culvert - C#

Flow Direction

Photo Points - P#*

Data Points

Test Pit - TP#

Wetland Features - WF# - (0.03 acres)

Pond

Other Waters - T# - (0.46 acres)

Intermittent

Non-Jurisdictional by Rule - (0.26 acres)

Irrigation Ditch

*See Figure 3, Ground Photographs Map, for additional information on Photo Points.

Panel 2

Panel 3

NORTH

1:4,800 1 inch = 400 feet
0 200 400 Feet

Data Sources: ESRI, Yolo County 4/13/2018

County Road 98 Bike and Safety Improvements Phase II
Draft Delineation of Waters of the U.S.
Exhibit A (Panel 2 of 4)

Delineation by: E. Gregg
Map by: C. Davis

gallaway ENTERPRISES

GE: #18-119 Map Date: 08/31/2020

Draft Delineation of Waters of the U.S.

Adjacent Wetland Features

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Other Waters

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T03	R4	Intermittent	38.548794	-121.8034	9.0	55.0	492.8	0.01
T04	R4SB	Intermittent	38.551535	-121.8028	16.0	438.1	7010.4	0.16
T05	R4SB	Intermittent	38.551721	-121.8034	20.4	36.5	746.1	0.02
T06	R4	Intermittent	38.550226	-121.8031	7.0	946.2	6623.1	0.15
					Tributary Totals =	**2033.8**	**19830.2**	**0.46**
					Total Waters of the U.S. =	**2033.8**	**21192.4**	**0.49**

*Widths are represented as averages

Non-Jurisdictional by Rule

Label	Cowardin	Description	Location (Lat/Long)		Width (ft)*	Length (ft)	Area (sq ft)	Acres
EX01	R4	Irrigation Ditch	38.573899	-121.8036	13.4	194.0	2600.5	0.06
EX02	R4	Irrigation Ditch	38.574678	-121.8029	18.0	491.2	8841.1	0.20
					Excluded Features Totals =	**685.2**	**11441.6**	**0.26**

Coordinate System: NAD 1983 California State Plane II (Feet)
Projection: Lambert Conformal Conic
Datum: North American 1983
Vertical Datum: NAVD 88

Made in accordance with the Updated Map & Drawing Standards for the South Pacific Division Regulatory Program

Panel 2
Panel 3
C05
P09
T05
'D-D'
'C-C'
"7 feet'
T04
'19 feet'
T06
C03
T03
P07
C04
'9 Feet'
P08
'A-A'
T02
T01
P06
C02
P05
WF01
C01
Russell Blvd
County Rd 98
P10
Hutchinson Dr
Panel 3
Panel 4

- Project Boundary - (106.7 acres)
- 1 foot contours
- OHWM Transect - 'X-X'
- Culvert - C#
- Flow Direction
- Photo Points - P#*

Data Points

- Test Pit - TP#

Wetland Features - WF# - (0.03 acres)

- Pond

Other Waters - T# - (0.46 acres)

- Intermittent

Non-Jurisdictional by Rule - (0.26 acres)

- Irrigation Ditch

***See Figure 3, Ground Photographs Map, for additional information on Photo Points.**

NORTH

1:4,800 1 inch = 400 feet
0 200 400 Feet

Data Sources: ESRI, Yolo County 4/13/2018

County Road 98 Bike and Safety Improvements Phase II
Draft Delineation of Waters of the U.S.
Exhibit A (Panel 3 of 4)

Delineation by: E. Gregg
Map by: C. Davis
GE: #18-119

gallaway ENTERPRISES

Map Date: 08/31/2020

Draft Delineation of Waters of the U.S.

Adjacent Wetland Features

Label	Cowardin	Type	Location (Lat/Long)		Width (ft)	Length (ft)	Area (sq ft)	Acres
WF01	POW	Pond	38.546708	-121.806	NA	NA	1362.2	0.03
					Adjacent Weltand Features Totals =	**NA**	**1362.2**	**0.03**

Other Waters

Label	Cowardin	Description	Location (Lat/Long)		Width (ft)*	Length (ft)	Area (sq ft)	Acres
T01	R4	Intermittent	38.547042	-121.8061	13.7	26.7	365.7	0.01
T02	R4	Intermittent	38.546865	-121.807	8.6	531.3	4592.1	0.11
T03	R4	Intermittent	38.548794	-121.8034	9.0	55.0	492.8	0.01
T04	R4SB	Intermittent	38.551535	-121.8028	16.0	438.1	7010.4	0.16
T05	R4SB	Intermittent	38.551721	-121.8034	20.4	36.5	746.1	0.02
T06	R4	Intermittent	38.550226	-121.8031	7.0	946.2	6623.1	0.15
					Tributary Totals =	**2033.8**	**19830.2**	**0.46**
					Total Waters of the U.S. =	**2033.8**	**21192.4**	**0.49**

*Widths are represented as averages

Non-Jurisdictional by Rule

Label	Cowardin	Description	Location (Lat/Long)		Width (ft)*	Length (ft)	Area (sq ft)	Acres
EX01	R4	Irrigation Ditch	38.573899	-121.8036	13.4	194.0	2600.5	0.06
EX02	R4	Irrigation Ditch	38.574678	-121.8029	18.0	491.2	8841.1	0.20
					Excluded Features Totals =	**685.2**	**11441.6**	**0.26**

Coordinate System: NAD 1983 California State Plane II (Feet)
Projection: Lambert Conformal Conic
Datum: North American 1983
Vertical Datum: NAVD 88

Made in accordance with the Updated Map & Drawing Standards for the South Pacific Division Regulatory Program

Hutchinson Dr
P10
Panel 3
Panel 4
County Rd 98
38.5272, -121.8031
Putah Creek

Project Boundary - (106.7 acres)
1 foot contours
OHWM Transect - 'X-X'
Culvert - C#
Flow Direction
Photo Points - P#*

Data Points
Test Pit - TP#

Wetland Features - WF# - (0.03 acres)
Pond

Other Waters - T# - (0.46 acres)
Intermittent

Non-Jurisdictional by Rule - (0.26 acres)
Irrigation Ditch

***See Figure 3, Ground Photographs Map, for additional information on Photo Points.**

NORTH

1:4,800 1 inch = 400 feet
0 200 400 Feet

Data Sources: ESRI, Yolo County 4/13/2018

County Road 98 Bike and Safety Improvements Phase II
Draft Delineation of Waters of the U.S.
Exhibit A (Panel 4 of 4)

Delineation by: E. Gregg
Map by: C. Davis
gallaway ENTERPRISES
GE: #18-119
Map Date: 08/31/2020

Appendix D – Yolo HCP/NCCP Application Form 4

REPORTING FORM

PURPOSE

Complete this form to report coverage under the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (Yolo HCP/NCCP) as a Permittee. Chapter 4 of the Permitting Guide, available on the Yolo Habitat Conservancy's ("Conservancy") web site under the "Permitting" tab, provides instructions for form completion. The form requirements are minimum requirements; the Conservancy may request more information to clarify or complete the form. Submittal of a preliminary reporting form to the Conservancy is encouraged to ensure timely and accurate completion, until such time that member agency applicants have become familiarized with the reporting form process and requirements. If an application fee is required (see Screening Form, Box Y), the Permittee should submit this fee to the Conservancy early in the application process. The Permitting Guide and additional resources are available on the Conservancy's web site under the "Permitting" tab.

BOX A: Preliminary/Final Application Form	
Check one box.	
☐ Preliminary Form (signature not required)	☒ Final Form (complete form and signature required)

BOX B: APPLICATION DETAILS	
1 Project name	County Road 98 Bike and Safety Improvement Project, Phase II
2 Submittal date	TBD
3 Member agency internal tracking number	Federal Project Number STPL 5922(102)
4 Member agency	☒ Yolo County ☐ City of Davis ☐ City of Woodland ☐ City of West Sacramento ☐ City of Winters

BOX C: MEMBER AGENCY CONTACT INFORMATION			
1 Member agency			
1.a Member agency name	Yolo County Community Services Department		
1.b Mailing address	292 West Beamer Street, Woodland, CA 95695		
1.c Phone (home/office)	(530) 666-8775	1.d Phone (Cellular)	
1.e Email	lilia.razo@yolocounty.org		

BOX D: PROJECT INFORMATION

1	Project address and location	CR 98 (see attached map)
2	Assessor parcel number(s) APNs and acreage by parcel (not applicable for linear projects)	N/A
3	Total acreage of parcel(s) (not applicable for linear projects)	Project acreage: 106 acres
4	Using the GeoMapper's Spatially Defined Planning Unit Map, find your proposed project site. Check the Planning Unit in which your project lies.	Yolo County Planning Units ☐ 1 – Little Blue Ridge ☐ 2 – North Blue Ridge ☐ 3 – South Blue Ridge ☐ 4 – Capay Hills ☐ 5 – Dunnigan Hills ☐ 6 – Upper Cache Creek ☐ 7 – Lower Cache Creek ☐ 8 – Upper Putah Creek ☒ 9 – Lower Putah Creek ☐ 10 – Hungry Hollow Basin ☒ 11 – Willow Slough Basin ☐ 12 – Colusa Basin ☐ 13 – Colusa Basin Plains ☐ 14 – North Yolo Basin ☐ 15 – South Yolo Basin ☐ 16 – Yolo Basin Plains ☐ 17 – North Yolo Bypass ☐ 18 – South Yolo Bypass Cities ☐ 19 – City of Woodland ☒ 20 – City of Davis ☐ 21 – City of West Sacramento ☐ 22 – City of Winters

5 ☒ Provide a project description. Please refer to the Permitting Guide for details to include in the project description. Label as Attachment 1 or indicate in this box the document name and page numbers of the report where this information can be found, and attach report or relevant excerpts.

Page 1 in Natural Environment Study

6 ☐ Provide a legible vicinity map of the project site and surrounding area (PDF). Refer to the Permitting Guide for more information about details to include on the vicinity map. Label as Attachment 2. Rather than a separate PDF, applicant may include the site plan in the Planning-Level survey report or other report.

If so, provide report name and page number here, and attach report or relevant excerpts:

Page 2

7 ☒ Provide a site plan that shows the proposed project site and surrounding area. (PDF and CAD or GIS-compatible). Refer to the Permitting Guide (Page 7-2) for more information about details to include in the site plan. Label as Attachment 3. Rather than a separate PDF, applicant may include the site plan in the Planning-Level survey report or other report. if so, provide report name and page number here, and attach report or relevant excerpt:

Pages 3, 6

BOX E: NATURAL COMMUNITY AND LAND COVER IMPACTS AND MITIGATION FEES

Complete Items 1-26 below, referring to the Permitting Guide for calculation methods.

- Total fee amount for each land cover type will be auto-generated based on acreage amount (and for recurring temporary impacts, number of years out of the 50-year permit term the impact will occur).
- Temporary impact fee formula = land cover fee x area of temporary effect in acres x (F/50) where F = the number of years in which the activity will occur during the rest of the permit term (until 2069).
- Must include required land cover fee buffer area associated with the project. This is generally 10 feet for linear projects (e.g. roads, utility cooridors, pipelines) and 50 feet for all other projects. See Chapter 4 of the Permitting Guide under Box E instructions regarding the option of lumping land cover categories for the fee buffer calculations for linear projects.
- Fees will be updated annually, typically in March.
- Wetland fees are in addition to land cover fees.

Submit a planning-level survey, including a field-verified land cover map and the name and qualifications of the qualified biologist(s) responsible for preparation of the report. Label as Attachment 4. Mapped areas shown on the site plan (Attachment 3 in Box D, Item 7) should be consistent with the acreages entered below. Include photographs of temporary impact areas. Label photos as Attachment 5.

Land Cover Types	Land Cover Permanently Impacted by Project (in acres)			Land Cover Temporarily Impacted by Project (in acres)	Years of Recurring Temporary Impact	Fees (Auto Generated)				
	Permanent Impact (acs)	Fee Buffer (acs)	TOTAL			Land Cover Fee (per acre)	Wetland Fee (per acre)	Permanent Impact, Land Cover Fee	Temporary Impact, Land Cover Fee	Wetland Fee
1 ☒ Developed (including ruderal with no covered species habitat)[a]	47.54	9.82	57.36	0	0	$0	$0	$0	$0	$0
2 ☐ Ruderal with covered species habitat[b]	0	0	0	0	0	$14,950	$0	$0	$0	$0
3 ☐ Barren, No Covered Species Habitat	0	0	0	0	0	$0	$0	$0	$0	$0
4 ☐ Barren, With Covered Species Habitat	0	0	0	0	0	$14,950	$0	$0	$0	$0
5 ☐ Vegetated Corridor with Giant Garter Snake Habitat	0	0	0	0	0	$14,950	$0	$0	$0	$0
6 ☒ Grassland (all types)	0.75	0.68	1.4300000000000002	0	0	$14,950	$0	$21528	$0	$0
7 ☐ Serpentine (all types)	0	0	0	0	0	$14,950	$0	$0	$0	$0
8 ☐ Chamise (all types)	0	0	0	0	0	$14,950	$0	$0	$0	$0

Land Cover Types	Land Cover Permanently Impacted by Project (in acres)			Land Cover Temporarily Impacted by Project (in acres)	Years of Recurring Temporary Impact	Fees (Auto Generated)				
	Permanent Impact (acs)	Fee Buffer (acs)	TOTAL			Land Cover Fee (per acre)	Wetland Fee (per acre)	Permanent Impact, Land Cover Fee	Temporary Impact, Land Cover Fee	Wetland Fee
9 ☐ Mixed Chaparral	0	0	0	0	0	$14,950	$0	$0	$0	$0
10 ☐ Oak-Foothill Pine (all types)	0	0	0	0	0	$14,950	$0	$0	$0	$0
11 ☐ Blue Oak Woodland	0	0	0	0	0	$14,950	$0	$0	$0	$0
12 ☐ Closed-Cone Pine-Cypress (all types)	0	0	0	0	0	$14,950	$0	$0	$0	$0
13 ☐ Montane Hardwood (all types)	0	0	0	0	0	$14,950	$0	$0	$0	$0
14 ☐ Valley Oak Woodland	0	0	0	0	0	$14,950	$0	$0	$0	$0
15 ☐ Alkali Prairie	0	0	0	0	0	$14,950	$0	$0	$0	$0
16 ☐ Vernal Pool Complex	0	0	0	0	0	$14,950	$0	$0	$0	$0
17 ☐ Fresh Emergent Wetland (all types)	0	0	0	0	0	$14,950	$76,042	$0	$0	$0
18 ■ Valley Foothill Riparian	0.71	.18	0.8899999999999999	0	0	$14,950	$84,217	$13305.4999	$0	$74953.1299
19 ■ Lacustrine and Riverine	.44	.03	0.47	0	0	$14,950	$60,986	$7026.5	$0	$28663.42
20 ■ Cultivated Land (all types)	12.2	4.58	16.78	0	0	$14,950	$0	$250861.000	$0	$0
21 ☐ Citrus/Subtropical	0	0	0	0	0	$14,950	$0	$0	$0	$0
22 ■ Deciduous Fruits/Nuts	7.73	2.66	10.39	0	0	$14,950	$0	$155330.5	$0	$0
23 ☐ Vineyards	0	0	0	0	0	$14,950	$0	$0	$0	$0
24 ☐ Turf Farm	0	0	0	0	0	$14,950	$0	$0	$0	$0
25 ☐ Flowers/Nursery/Tree Farms	0	0	0	0	0	$14,950	$0	$0	$0	$0
26 ■ Semiag/Incidental to Agriculture	4.59	1.06	5.65	0	0	$14,950	$0	$84467.5	$0	$0
27 ☐ Eucalyptus	0	0	0	0	0	$14,950	$0	$0	$0	$0

Land Cover Types	Land Cover Permanently Impacted by Project (in acres)			Land Cover Temporarily Impacted by Project (in acres)	Years of Recurring Temporary Impact	Fees (Auto Generated)				
	Permanent Impact (acs)	Fee Buffer (acs)	TOTAL			Land Cover Fee (per acre)	Wetland Fee (per acre)	Permanent Impact, Land Cover Fee	Temporary Impact, Land Cover Fee	Wetland Fee
28 ☐ Linear buffers – combine non-fee-paying land cover types	N/A	0	0	N/A	N/A	$0	$0	$ 0	$ 0	$ 0
29 ☐ Linear buffers – combine fee-paying land cover types [a]	N/A	0	0	N/A	N/A	$14,950	$0	$ 0	$ 0	$ 0
							TOTAL	$ 532,519	$ 0	$ 103,617
30							TOTAL LAND COVER IMPACTS AND MITIGATION FEES	$ 636135.55		
31							APPLICATION FEE CREDIT (Application fee paid prior to submittal of complete application. The 2019 and 2020 application fee amount is $1,981.	$ 0		
32							OTHER CREDITS (Advanced fee payment or in lieu fee credit – must be verified by Conservancy). Add Attachment 6	$ 0		
33							TOTAL LAND COVER IMPACTS AND MITIGATION FEES DUE	$ 636135.55		

[a] Fresh Emergent Wetland, Valley Foothill Riparian, and Lacustrine and Riverine land cover types cannot be lumped with other land cover types and need to be entered in the fee buffer column for Items 17, 18, and 19, respectively.

BOX F: CONDITIONS OF APPROVAL: PLANNING-LEVEL AND SPECIES-SPECIFIC PLANNING-LEVEL SURVEYS

Based on a Planning-Level Survey conducted by a qualified biologist using the land cover definitions described in the Permitting Guide in Table 2-1, indicate which sensitive natural communities and covered species are relevant to your project. Indicate below whether suitable covered species habitats are present (Column A) and, where applicable, if there is a need to conduct a Pre-Construction Survey, a more focused survey(s) for covered species (Column B) to confirm presence. Complete Species-Specific Planning-Level Survey as needed consistent with protocols provided in Appendix A of the Permitting Guide. Alternatively, covered species presence can be assumed, which would requires adherence to applicable AMMs and implementation of avoidance measures or Pre-Construction Surveys. Attach all Species-Specific Planning-Level Surveys as Attachment 6. Describe, map, and tabulate impacts the project will have on each natural community and each species for which habitat is present. Impact calculations must correspond to the permanent and temporary impact calculations in Box E. Label as Attachment 7. Alternatively, the impact assessment can be incorporated into the Planning-Level Survey. Important: Be aware of the timing requirements for conducting a species-specific planning-level survey (Table 6-1 in the Permitting Guide) to avoid project delays.

	A. Project Site Conditions Requiring Planning-Level Survey	B. Species-Specific Planning-Level Survey Results	C. Documentation
Sensitive Natural Communities			
1 Alkali prairie and vernal pool complex	Are vernal pools or alkali seasonal wetlands present within 250 feet of project footprint? ☐ Yes. *Design project to avoid vernal pools or alkali seasonal wetlands by 250 feet or lesser buffer if approved by wildlife agencies. Check Box G, AMMs 9 and 10. Go to Column C.* ☒ No	N/A	Map attached? (Attachment 4 or 6?) ☐ Yes ☐ No If vernal pools or alkali seasonal wetlands are present on or near the site, provide map showing how project avoids these wetlands.
2 Valley foothill riparian	Is valley foothill riparian present within 100 feet of the project site boundary? ☒ Yes. *Design project to avoid valley foothill riparian by 100 feet or count all portions within 100 feet in the impact acreage (see Permitting Guide Table 2-1). Check Box G, AMMs 9 and 10. Go to Column C and provide map.* ☐ No	N/A	Map attached? (Attachment 4 or 6?) ☒ Yes ☐ No Provide map showing the valley foothill riparian in relation to the project footprint.
3 Lacustrine and riverine	Are any streams, rivers, lakes, or ponds within 25 feet of project footprint inside urban planning units, or within 100 feet of project footprint outside urban planning units? ☒ Yes. *Design project to avoid these resources by 25 feet inside urban planning units or 100 feet outside urban planning units, or count all portions within these distances in the impact acreage, unless a variance is allowed. Check Box G, AMMs 9 and 10. Go to Column C and provide map.* ☐ No	N/A	Map attached? (Attachment 4 or 6?) ☒ Yes ☐ No Provide map showing any streams, rivers, lakes, or ponds in relation to the project footprint.

BOX F: CONDITIONS OF APPROVAL: CONDUCT PLANNING-LEVEL SURVEYS			
	A. Project Site Conditions Requiring Planning-Level Survey	B. Species-Specific Planning-Level Survey Results	C. Documentation
Sensitive Natural Communities			
4 Fresh emergent wetlands	Are there any fresh emergent wetlands within 50 feet of project footprint outside urban planning units? ☒ Yes. *Design project to avoid these resources by 50 feet, or count all portions within 50 feet in the impact acreage. Check Box G, AMMs 9 and 10. Go to Column C and provide map). Survey period: May 31–September 30* ☐ No	N/A	Map attached? (Attachment 4 or 6?) ☒ Yes ☐ No Provide map of fresh emergent wetlands in relation to the project footprint.
Plants			
5 Palmate-bracted bird's beak	Is suitable habitat present within 250 feet of the project site boundary? ☐ Yes. *Survey for palmate-bracted bird's beak consistent with Permitting Guide Appendix A. Check Box G, AMM 11. Go to Column B. Survey period: May 31–September 30* ☒ No	Is palmate-bracted bird's beak present? ☐ Yes. *Design project to avoid occupied habitat as described in AMM 11. Go to Column C.* ☐ No. *Go to Column C.*	Species-Specific Planning-Level Survey attached? (Attachment 6) ☐ Yes ☐ No *Include Species-Specific Planning-Level Survey and map of habitat and any plants found in relation to project footprint.*
Invertebrates			
6 Valley elderberry longhorn beetle	Is there presence of elderberry shrubs in the project site or within 100 feet outside of the project site boundary that could be impacted by the project? ☒ Yes. *Identify and map all elderberry shrubs in and within 100 feet of project footprint with stems greater than one inch in diameter at ground level. For mapped shrubs that cannot be avoided, quantify the number of stems greater than one inch in diameter at ground level, and identify any such stems with valley elderberry longhorn beetle exit holes. Check Box G, AMM 12. Go to Column C and provide survey report. Survey period: Year-round* ☐ No	N/A	Species-Specific Planning-Level Survey attached? (Attachment 6) ☒ Yes ☐ No

BOX F: CONDITIONS OF APPROVAL: CONDUCT PLANNING-LEVEL SURVEYS

	A. Project Site Conditions Requiring Planning-Level Survey	B. Species-Specific Planning-Level Survey Results	C. Documentation
Amphibians			
7 California tiger salamander	Is there presence of California tiger salamander aquatic or upland habitat in the project footprint, or aquatic habitat within 500 feet of the project footprint? ☐ Yes. *Check box G, AMM 13. Is the habitat within designated critical habitat for California tiger salamander, as determined using the GeoMapper?* ☐ Yes. Design project to avoid designated critical habitat. ☐ No. *If aquatic habitat cannot be avoided by 500 feet, either conduct surveys as described in the Permitting Guide Appendix A, or assume species presence. Survey period: After rainfall, November 1 to May 15. Go to Column B.* ☒ No	Are California tiger salamanders present or assumed to be present in aquatic habitat? ☐ Yes. *If the species is present or assumed to be present, the Yolo HCP/NCCP will not allow any loss of occupied aquatic habitat until at least four new occupied breeding pools are discovered or established and protected in the Plan Area. Contact Yolo Habitat Conservancy. Go to Column C.* ☒ No	Species-Specific Planning-Level Survey attached? (Attachment 6) ☐ Yes ☐ No
Reptiles			
8 Western pond turtle	Is western pond turtle habitat present in the project footprint? ☒ Yes. Check Box G, AMM 14. A qualified biologist is required to evaluate whether there is moderate to high likelihood of western pond turtle presence. G*o to Columns B and C.* ☐ No	Moderate to high likelihood of western pond turtle presence? ☒ Yes: Check Box F for western pond turtle Pre-construction surveys. ☐ No	Habitat evaluation attached? (Attachment 6) ☒ Yes ☐ No
9 Giant garter snake	Is there any giant garter snake habitat within the project footprint? ☐ Yes. *Design project to avoid or minimize impact on giant garter snake habitat to the extent practicable. If habitat cannot be avoided, see AMM 15. Check Box F for giant garter snake Pre-construction surveys, and check Box G, AMM 15.* ☒ No	N/A	N/A

BOX F: CONDITIONS OF APPROVAL: CONDUCT PLANNING-LEVEL SURVEYS			
	A. Project Site Conditions Requiring Planning-Level Survey	B. Species-Specific Planning-Level Survey Results	C. Documentation
Birds			
10 Swainson's hawk and white-tailed kite	Are there suitable Swainson's hawk or white-tailed kite nest trees within 1,320 feet of the project footprint? ☒ Yes. *If nest trees cannot be avoided by 1,320 feet, check Box F for hawk and kite Pre-construction surveys, and Box G, AMM 16.* ☐ No	N/A	N/A
11 Western yellow-billed cuckoo	Is suitable habitat present within 500 feet of the project site boundary? ☐ Yes. *If there are breeding records for the western yellow-billed cuckoo within ¼ mile of the project site from the previous three years (as determined by GeoMapper), then assume species is present. If there are no breeding records with ¼ mile, then either assume species is present or survey consistent with Chapter 6 of the Permitting Guide. See columns B and C. Check Box F for western yellow-billed cuckoo Pre-construction surveys and Check Box G, AMM 17.* *Survey period: June 1–August 30.* ☒ No	Is western yellow-billed cuckoo present or assumed to be present? ☐ Yes. *If project cannot avoid occupied habitat by 500 feet, avoid take of nesting birds as described in AMM 17.* ☐ No.	Species-Specific Planning-Level Survey attached? (Attachment 6) ☐ Yes ☐ No
12 Western burrowing owl	Is western burrowing owl habitat present on the project site, or within 500 feet of the project site? ☐ Yes. *Conduct planning-level surveys for occupied habitat as described in Permitting Guide Appendix A. Go to Columns B and C. Survey period: February 1–August 31 during the breeding season; September 1–January 31 during nonbreeding season.* ☒ No	Are burrowing owls present? ☐ Yes. *Check Box G, AMM18. If burrows cannot be avoided, consistent with Permitting Guide Chapter 5, Check Box F for western burrowing owl Pre-construction surveys.* ☒ No	Species-Specific Planning-Level Survey attached? (Attachment 6) ☐ Yes ☐ No

BOX F: CONDITIONS OF APPROVAL: CONDUCT PLANNING-LEVEL SURVEYS

	A. Project Site Conditions Requiring Planning-Level Survey	B. Species-Specific Planning-Level Survey Results	C. Documentation
13 Least Bell's vireo	Is least Bell's vireo habitat present in and within 500 feet of project footprint? ☒ Yes. *Check Box G, AMM 19. Are there nesting records for the species within ¼ mile of the site from the previous three years (determined using the GeoMapper)?* ☐ Yes. *Assume species is present. See Column B.* ☐ No. *Conduct planning-level surveys, as described in Permitting Guide Appendix A. See Columns B and C. Survey period: April 1–July 15* ☐ No	Are least Bell's vireo nests present or assumed to be present? ☒ Yes. *Check Box F for least Bell's vireo Pre-construction surveys. Avoid take of birds as described in AMM 19.* ☐ No.	Species –Specific Planning-Level Survey attached? (Attachment 6) ☒ Yes ☐ No
14 Bank swallow	Is bank swallow nesting habitat present on the project site, or within 500 feet of the project site? ☐ Yes. *Check Box G, AMM 20. Conduct planning-level surveys as described in Permitting Guide Appendix A. Go to Columns B and C. Survey period: March 1–August 15* ☒ No	Are nesting bank swallows present? ☐ Yes. *Check Box F for bank swallow Pre-construction surveys. Avoid take of birds as described in AMM 19.* ☐ No.	Species-Specific Planning-Level Survey attached? (Attachment 6) ☐ Yes ☐ No
15 Tricolored blackbird	Is tricolored blackbird nesting habitat present on the project site, or within 1,300 feet of the project site? ☒ Yes. *Conduct planning-level surveys as described in Permitting Guide Appendix A. Check Box G, AMM 21. Go to Column C. Survey period: March 1–July 30* ☐ No	N/A	Species-Specific Planning-Level Survey attached? (Attachment 6) ☒ Yes ☐ No

BOX G: CONDITIONS OF APPROVAL: CONDUCT PRE-CONSTRUCTION SURVEYS

Indicate which species in Items 1-7 are relevant to your project. Important: Refer to Chapter 4 of the Permitting Guide for information about survey purpose, the land cover types and site conditions requiring Pre-construction surveys, survey area size, and survey timing.

Birds			
1	☒ Swainson's hawk	4	☐ Western burrowing owl
2	☒ White-tailed kite	5	☒ Least Bell's vireo
3	☐ Western yellow-billed cuckoo		
Reptiles			
6	☐ Giant garter snake	7	☒ Western pond turtle

BOX H: CONDITIONS OF APPROVAL: AVOIDANCE AND MINIMIZATION MEASURES (AMMs)

Check the avoidance and minimization measures below that apply to your project. Refer to the Permitting Guide for assistance. Describe how you will fulfill the requirements of each required condition. Plan your construction carefully around the translocation or other dates required by the AMMs. Label as Attachment 8.

1	☑	AMM1: *Establish Resource Protection Buffers*
2	☐	AMM 2: *Design Developments to Minimize Indirect Effects at Urban-Habitat Interfaces (this AMM does not apply to new development where it is immediately adjacent to existing developed lands*)
3	☑	AMM 3: *Confine and Delineate Work Area*
4	☐	AMM 4: *Cover Trenches and Holes during Construction and Maintenance*
5	☐	AMM 5: *Control Fugitive Dust*
6	☑	AMM 6: *Conduct Worker Training*
7	☐	AMM 7: *Control Nighttime Lighting of Project Construction Sites*
8	☐	AMM 8: *Avoid and Minimize Effects of Construction Staging Areas and Temporary Work Areas*
9	☑	AMM 9: *Establish Resource Protection Buffers around Sensitive Natural Communities*
10	☐	AMM 10: *Avoid and Minimize Effects on Wetlands and Waters*
11	☐	AMM 11: *Minimize Take and Adverse Effects on Palmate-Bracted Bird's Beak*
12	☑	AMM 12: *Minimize Take and Adverse Effects on Habitat of Valley Elderberry Longhorn Beetle*
13	☐	AMM 13: *Minimize Take and Adverse Effects on Habitat of California Tiger Salamander*
14	☑	AMM 14: Minimize Take and Adverse Effects on Habitat of Western Pond Turtle
15	☐	AMM 15: *Minimize Take and Adverse Effects on Habitat of Giant Garter Snake*
16	☑	AMM 16: *Minimize Take and Adverse Effects on Habitat of Swainson's Hawk and White-Tailed Kite*
17	☐	AMM 17: *Minimize Take and Adverse Effects on Habitat of Western Yellow-Billed Cuckoo*
18	☐	AMM 18: *Minimize Take and Adverse Effects on Western Burrowing Owl*
19	☑	AMM 19: *Minimize Take and Adverse Effects on Least Bell's Vireo*
20	☐	AMM 20: *Minimize Take and Adverse Effects on Habitat of Bank Swallow*
21	☑	AMM 21: *Minimize Take and Adverse Effects on Habitat of Tricolored Blackbird*

BOX I: ATTACHMENT CHECKLIST

Indicate which attachments are provided below. Note: Attachments must meet the requirements described in Permitting Guide. If these requirements are not met, your application may be delayed.

All Projects

☑ Attachment 1. Project Description (Box C). Attach separately or indicate attached report page #s here: 1

☑ Attachment 2. Vicinity map PDF (Box C). Attach separately or indicate report page # here: 2 & 3

☑ Attachment 3. Site Plan (Box C). Attach separately or indicate report page # here: 3 & 6

BOX I: ATTACHMENT CHECKLIST
Projects with Impacts
☑ Attachment 4. Planning-Level Survey (Box D)
☐ Attachment 5. Photos of Temporary Impact Areas Attach separately or indicate report page #s here:
☑ Attachment 6. Species-Specific Planning-Level Survey(s) (Box E). Attach separately or indicate report page #s here:
☑ Attachment 7. Unavoidable Impacts on Covered species. Attach separately or indicate report page #s here:
☑ Attachment 8. Description of Compliance with Avoidance and Minimization Measures (Box G). Attach separately or indicate report page #s here:

BOX **J**: SIGNATURES				
☑ By checking the box and signing below I certify all information in the application is true and correct to the best of my knowledge. I also certify I understand the requirements of the AMMs, including dates for elderberry translocation or other dates that may affect construction timing.				
1 Member agency contact name and contact information	Name			
	Phone		Email	
2 Member agency signature			Date	

FORM SUBMITTAL INSTRUCTIONS
Submit this form to the Yolo Habitat Conservancy, 611 North Street Woodland, CA 95695 Phone: 530-723-5504 Provide a copy to the applicable planning office contact below, for informational purposes.

LOCAL AGENCY PLANNING OFFICE CONTACT INFORMATION				
Yolo County Stephanie Cormier Charlie Tschudin Planning Division PO Box 9, Woodland (530) 666-8041 (530) 666-8850	City of West Sacramento David Tilley Community Development Department 1110 West Capitol Ave., 2nd Floor, West Sacramento (916) 617-4645	City of Davis Sherri Metzker Community Development & Sustainability 23 Russell Blvd., Suite 2, Davis (530) 757-5610 ext. 7239	City of Woodland Cindy Norris Planning Division 300 First Street, Woodland (530) 661-5911	City of Winters Dagoberto Fierros Community Development Department 318 First Street, Winters (530) 794-6760

YOLO HABITAT CONSERVANCY CONTACT INFORMATION
Address: PO Box 2202, Woodland, CA 95776 Email: info@yolohabitatconservancy.org