Natural Environment Study

City of Manteca

San Joaquin County, California

10-SJ-99-120 PM 3.1 to PM 6.2

EA 10-1E740

November 2018

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

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Natural Environment Study

STATE OF CALIFORNIA
Department of Transportation
City of Manteca

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Summary

The California Department of Transportation (Caltrans) District 10, with the cooperation of the City of Manteca (City), proposes to reconstruct the existing State Route (SR) 99/120 interchange (Project).

This Project will:

1. add an additional lane to increase capacity on two connector ramps (eastbound SR-120 to southbound SR-99 and from northbound SR-99 to westbound SR-120);

2. add auxiliary lanes on SR-99 and SR-120 to improve merging traffic movements;

3. upgrade the existing interchange ramps at Austin Road;

4. replace the Austin Road structure over SR-99 with a four-lane structure over both SR-99 and Union Pacific Railroad (UPRR);

5. remove the existing at-grade crossing of the UPRR tracks at Austin Road;

6. construct a new connector road from Austin Road to Woodward Avenue to Moffat Boulevard;

7. widen the existing Woodward Avenue gated railroad crossing;

8. relocate the SR-99 Frontage Road along the east side of SR-99 from Austin Road for approximately 0.8 mile (mi); and,

9. install new signing/signals/lighting improvements.

The Biological Study Area (BSA), totaling approximately 326.94 acres (ac) is largely developed, and undeveloped areas are highly altered due to a long history of agricultural activities. As a result, natural communities have been displaced. Developed areas in the BSA, totaling 136.34 ac, consist of the existing SR-99 and SR-120 roads and roadsides, as well as all surrounding urban development. Undeveloped areas in the BSA, totaling 190.60 ac, are located primarily along the eastern outer margin of the SR-99/120 interchange, and from the Austin Road/SR-99 interchange south and east along the SR-99 corridor. Undeveloped areas in the BSA consist of active or fallow farmland areas near commercial and urban residential development, as well as the ruderal landscape between and adjacent to the roadways. Aquatic features in the BSA are limited to agricultural drainage ditches and shallow basins (totaling 0.71 ac) within the ruderal landscape. Permanent aquatic features in the general vicinity of the BSA include the Stanislaus River approximately 2.5 mi to the south and the San Joaquin River approximately 4.5 mi to the west.

Special status wildlife species that may occur in the BSA include pallid bat (*Antrozous pallidus*), Cooper's hawk (*Accipiter cooperii*), burrowing owl (*Athene cunicularia*), Aleutian cackling goose (*Branta hutchinsii leucopareia*), Swainson's hawk (*Buteo swainsoni)*, white-tailed kite (*Elanus leucurus*), California horned lark (*Eremophila alpestris actia*), merlin (*Falco columbarius*), and loggerhead shrike (*Lanius ludovicianus*).

One species listed as threatened under the California Endangered Species Act (CESA), Swainson's hawk, has the potential to occur in the BSA. The Project will result in permanent and temporary impacts to row crop and ruderal/disturbed habitat suitable for Swainson's hawk foraging. None of the habitat types identified within the BSA are considered suitable nesting habitat for Swainson's hawk, but there are known occurrences of Swainson's hawks nesting as near as 1.1 mi from the BSA, and there are isolated trees and structures within the ruderal/disturbed landscape of the BSA which Swainson's hawks could potentially use as nesting sites. However, with implementation of mitigation measures listed in this document, the Project will not result in take of Swainson's hawk. No Incidental Take Permit pursuant to Section 2081 of the California Fish and Game Code (CFGC) will be required.

The Project will have no effect on any federally listed or candidate species under Federal Endangered Species Act (FESA). Therefore, consultation with the United States Fish and Wildlife Service (USFWS) pursuant to Section 7 of the FESA will not be required.

The project is likely to require a Waste Discharge Waiver from the Regional Water Quality Control Board (RWQCB) pursuant to their authority under the Porter-Cologne Water Quality Control Act (PCWQCA). A United States Army Corps of Engineers (USACE) Section 404 Permit will not likely be required as the aquatic features within the BSA do not appear to have connectivity to any tributary waters or a significant nexus to interstate waters and, therefore, not subject to USACE jurisdiction. Likewise, a California Department of Fish and Wildlife (CDFW) Lake and Streambed Alteration Agreement will not likely be required.

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List of Abbreviated Terms

ACOE	Army Corps of Engineers
ac	acre(s)
BSA	Biological Study Area
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
City	City of Manteca
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CNPS	California Native Plant Society
CNDDB	California Natural Diversity Database
CWA	Clean Water Act
EFH	Essential Fish Habitat
EO	Executive Order
FESA	Federal Endangered Species Act
ft	foot/feet
MBTA	Migratory Bird Treaty Act
mi	mile(s)
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NMFS	National Marine Fisheries Service
OHWM	Ordinary High Water Mark
OWUS	Other Waters of the United States
PCWQCA	Porter-Cologne Water Quality Control Act
Project	SR-99/120 Interchange Improvement Project
RWQCB	Regional Water Quality Control Board
SR	State Route
UPRR	Union Pacific Railroad
U.S.	United States
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service

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Chapter 1 - Introduction

California Department of Transportation District 10 with the cooperation of the City of Manteca (City) proposes to reconstruct the existing State Route (SR) 99/120 interchange. The SR-99/120 Interchange Improvement Project (Project) is located in the southeast corner of the City, and includes the SR-99 corridor from south of Yosemite Avenue to east of Olive Avenue near the City of Ripon, and the SR-120 corridor from the Main Street on/off ramps east to its interchange with SR-99. Figure 1 shows the regional location of the Project, while Figures 2 and 3 show the Project vicinity on topographic and aerial bases.

1.1 Project History

1.1.1 PURPOSE AND NEED

The Project is part of a $1.2 billion regional transportation improvement plan to alleviate traffic congestion and reduce the number of traffic incidents in San Joaquin County. Specifically, to increase the capacity of connector ramps and improve the weaving, merge, and diverge movements between the SR-99/120 and SR-99/Austin Road interchanges in order to relieve congestion and improve the traffic operations.

1.2 Project Description

The Project will add an additional lane to increase capacity on two connector ramps (eastbound SR-120 to southbound SR-99 and from northbound SR-99 to westbound SR-120), add auxiliary lanes on SR-99 and SR-120 to improve merging traffic movements, upgrade the existing interchange ramps at Austin Road, replace the Austin Road structure over SR-99 with a four-lane structure over both SR-99 and Union Pacific Railroad (UPRR), relocate the existing at-grade crossing of the UPRR tracks at Austin Road to a new connector road from Austin Road to Moffat Boulevard, relocate the frontage road along the east side of SR-99 from Austin Road for approximately 0.8 mile (mi) and install new signals/lighting improvements (excavation depth will be 8 feet [ft] or less). Relocation of some existing utility poles, sewer and water lines will also occur.

This Project will provide traffic congestion relief and improved operations of the interchange. Foundations will be driven piles, either steel or concrete up to 50 ft deep. Excavation for structure footings will be up to 15 ft deep. Excavation for new drainage culverts would be up to 6 ft deep. Other roadway excavation will be up to 2 ft deep. No dewatering is expected as part of the Project. The Project will be importing fill only from commercial sources. Utility relocations will include some utility poles and sewer (up to 10 ft deep) and water lines (up to 5 ft deep).

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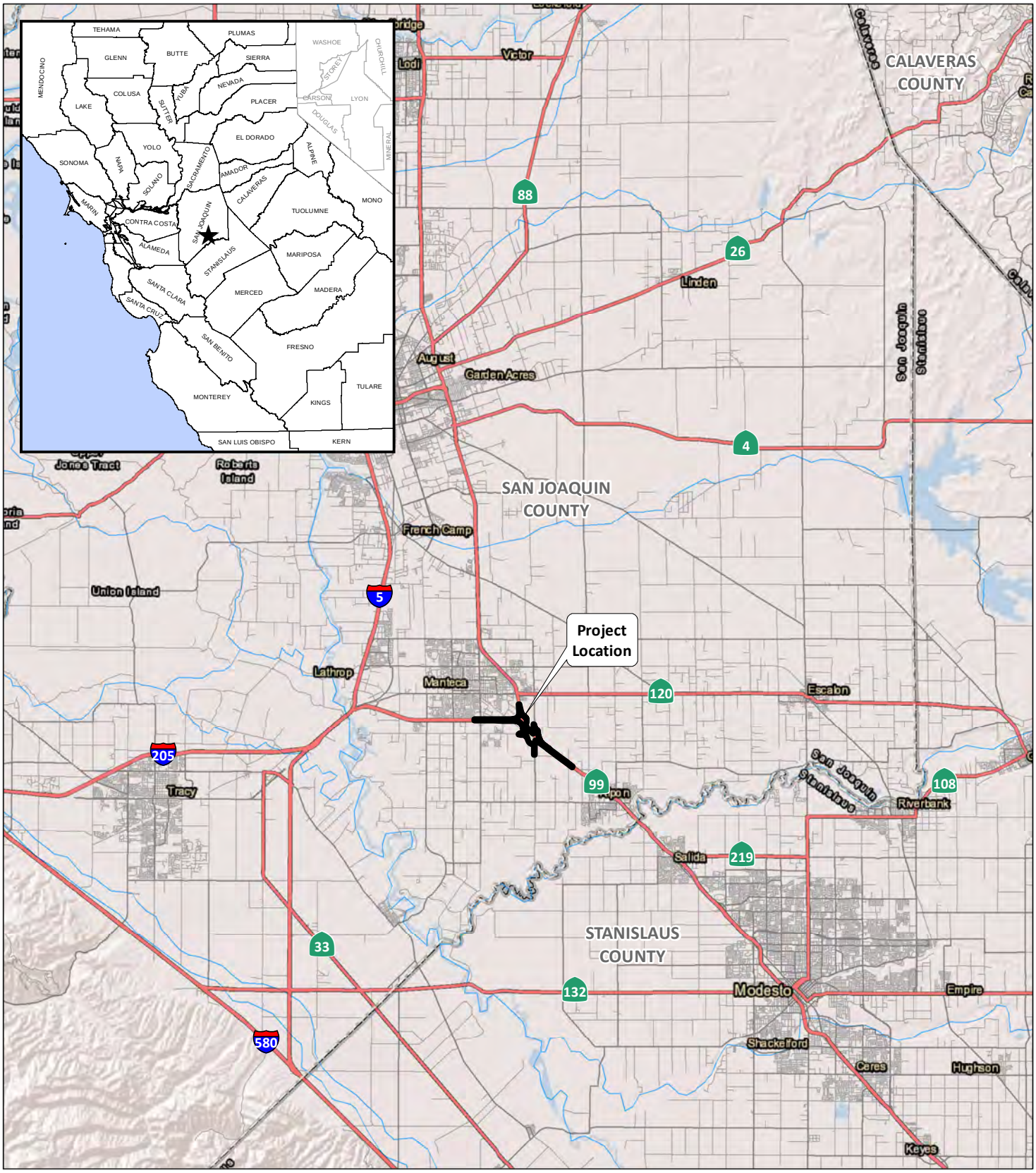

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Project Location

FIGURE 1

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, PM 3.10/6.20
EA 10-1E740

Regional Location

0 2.5 5
Miles

SOURCE: ESRI Imagery (2016)

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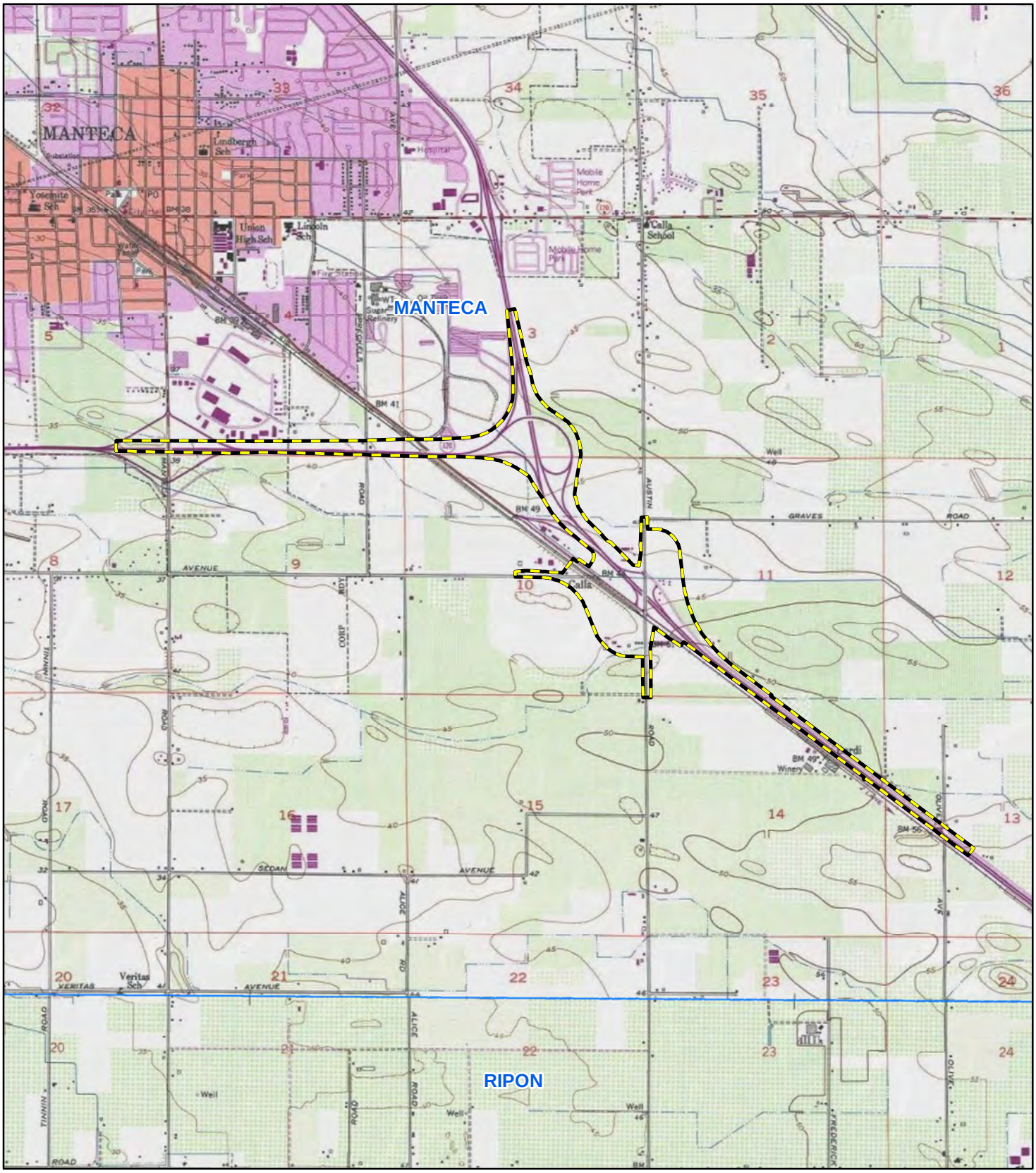

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Biological Study Area - (326.94 ac)

USGS 7.5' Quad Boundaries

0 1500 3000
FEET

FIGURE 2

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, PM 3.10/6.20
EA 10-1E740

Project Vicinity on Topographic Base

SOURCE: USGS 7.5-minute topographic quadrangle Manteca, Calif (1952, ed. 1994)

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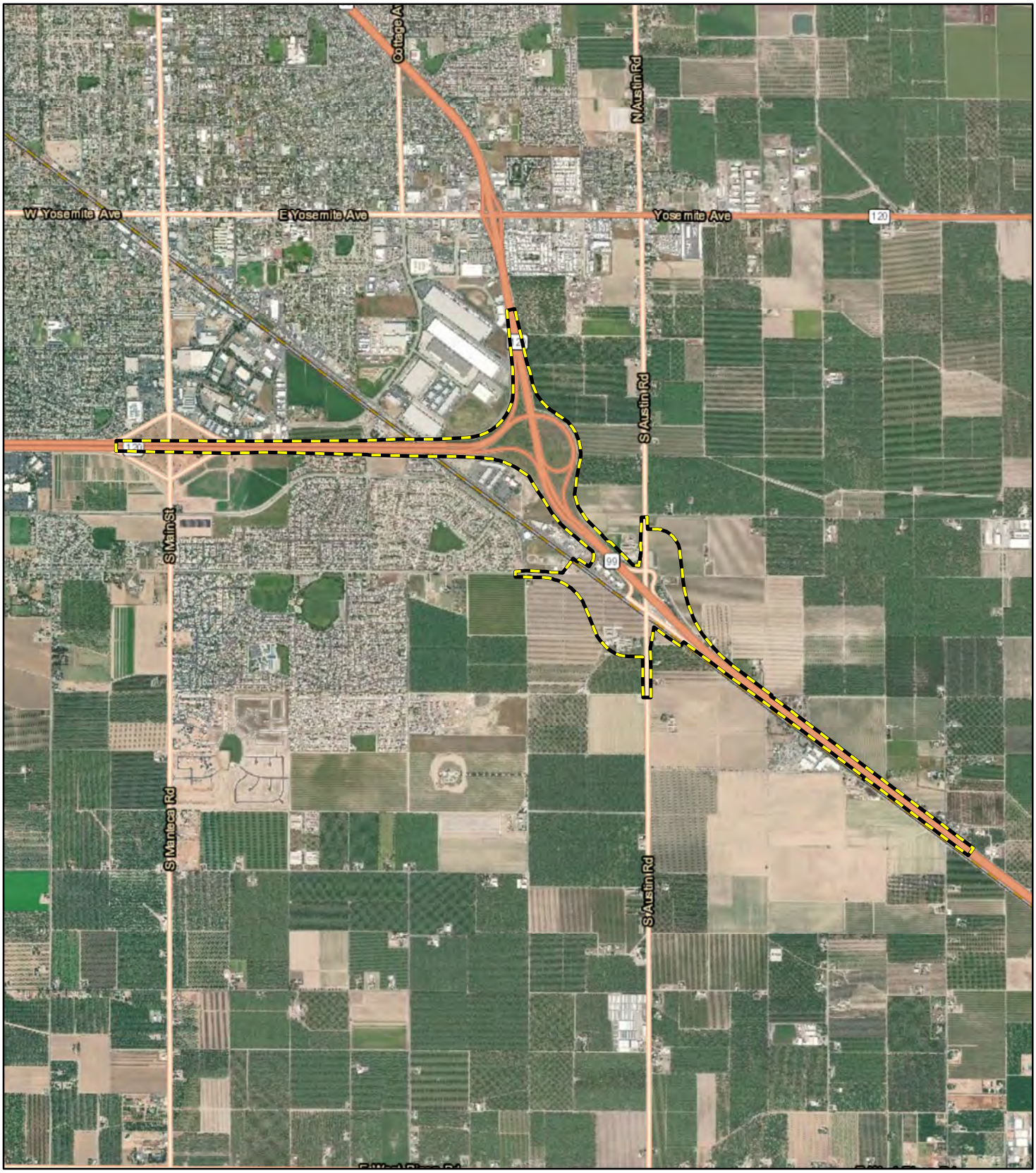

LEGEND

Biological Study Area - (326.94 ac)

0 1500 3000
FEET

SOURCE: NAIP Aerial Imagery (2016)

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FIGURE 3

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, PM 3.10/6.20
EA 10-1E740

Project Vicinity on Aerial Base

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1.2.1 PROJECT DESIGN ELEMENTS

The Project will be constructed in three phases, which are described below, and will include the following elements:

The Phase 1A Project would be as follows:

- widen the eastbound SR-120 to southbound SR-99 connector ramp from one-lane to two-lanes;
- remove the Austin Road overcrossing and replace with a longer structure spanning SR-99 and UPRR;
- add a new connecting road from Austin Road to East Woodward Avenue and Moffat Boulevard and modify the existing UPRR gated crossing at East Woodward Avenue to conform to the new connector road;
- modify the existing northbound Austin Road exit ramp to conform to the higher overcrossing profile grade; and
- temporarily close the Austin Road northbound entrance and southbound exit ramps on SR-99.

The Phase 1B Project would be constructed concurrently or subsequent to the Phase 1A Project:

- widen the northbound SR-99 to westbound SR-120 connector ramp from one-lane to two-lanes;
- convert the existing 99/120 separation structure to two lanes and construct a new separation structure to serve the eastbound 120 to northbound 99 connector ramp; and
- add an auxiliary lane in the existing median of westbound SR-120 from Main Street to SR-99.

Phase 1C would complete the Project as planned by:

- restoring the southbound exit ramp from SR-99 to Austin Road by constructing a grade separated braided ramp to eliminate the weaving with SR-120 merging traffic;

- construct the entrance ramp from Austin Road to northbound SR-99 and to westbound SR-120 as a loop ramp that will provide separate traffic movements to SR-99 and SR-120;

- relocate the northbound SR-99 exit ramp to Austin Road to accommodate the loop on ramp

- relocate the SR-99 frontage road for approximately 0.8 miles

- add an auxiliary lane in each direction on SR-99 from SR-120 to approximately 1.7 mile south of the Austin Road overhead by shifting the median away from the UPRR ROW and relocating the frontage road; and

- add an auxiliary lane in the existing median of eastbound SR-120 from Main Street to SR-99 to provide a dedicated lane to connect to the new 99/120 separation structure.

Chapter 2 - Study Methods

2.1 Regulatory Requirements

2.1.1 SPECIAL STATUS SPECIES

Special status species include plants and wildlife that are: 1) listed as rare, threatened, or endangered by United States Fish and Wildlife Service (USFWS) or the California Department of Fish and Wildlife (CDFW) under State or federal endangered species acts; 2) are on formal lists as candidates for listing as threatened or endangered; 3) are on formal lists as species of concern; or 4) are otherwise recognized at the State, federal, or local level as sensitive.

The laws and regulations listed in Table 1 regulate the treatment of special status species in California.

Table 1: Federal and State Laws and Regulations

Policy Title	Summary
Federal	
Federal Endangered Species Act	Under Federal Endangered Species Act (FESA), it is unlawful to "take any species listed as threatened or endangered". "Take" is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." An activity is defined as "take" even if it is unintentional or accidental. Take provisions under FESA apply only to listed fish and wildlife species under the jurisdiction of the USFWS and/or the National Oceanic & Atmospheric Administration and National Marine Fisheries Service (NMFS). Consultation with USFWS or NMFS is required if a project "may affect" a listed species. When a species is listed, USFWS and/or NMFS, in most cases, must officially designate specific areas as critical habitat for the species. Consultation with USFWS and/or NMFS is required for projects that include a federal action or federal funding if the project may affect designated critical habitat.
Magnuson-Stevens Fishery Conservation and Management Act	Under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), Essential Fish Habitat (EFH) must be designated in every fishery management plan. EFH includes "…those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The MSA requires consultation with NMFS for projects that include a federal action or federal funding and may adversely modify EFH.

Section 404: Clean Water Act	Under Section 404 of the Clean Water Act (CWA), the United States Army Corp of Engineers (USACE) regulates the discharge of dredged or fill material into waters of the United States. Waters of the United States are those waters that have a connection to interstate commerce, either direct via a tributary system or indirect through a nexus identified in the USACE regulations. These include interstate waters, the territorial seas, tributaries, and/or waters adjacent to these features. In non-tidal waters, the lateral limit of jurisdiction under Section 404 extends to the ordinary high water mark (OHWM) of a waterbody or, where adjacent wetlands are present, beyond the OHWM to the limit of the wetlands. The OHWM is defined as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area" (33 CFR 328.3). In tidal waters, the lateral limit of jurisdiction extends to the high tide line or, where adjacent wetlands are present, to the limit of the wetlands. <u>Wetlands</u>: Wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for a life in saturated soil conditions" (1987 USACE Wetland Delineation Manual [1987 Manual]). <u>Non-wetland Waters</u>: Non-wetland waters essentially include any body of water, not otherwise exempted, that displays an OHWM. <u>Other Waters of the U.S.</u>: OWUS applies to wetlands and non-wetland waters that do not fall into one of the categories which define waters of the U.S. These typically include features such as intrastate lakes, mudflats, prairie potholes, playa lakes, and vernal pools, among others. OWUS are considered jurisdictional by the USACE if they demonstrate a significant nexus to jurisdictional waters.
Section 401: Clean Water Act	Under Section 401 of the CWA, the State Water Resources Control Board must certify all activities requiring a 404 permit. The Regional Water Quality Control Board (RWQCB) regulates these activities and issues water quality certifications for those activities requiring a 404 permit. In addition, the RWQCB has authority to regulate the discharge of "waste" into waters of the State pursuant to the Porter-Cologne Water Quality Control Act (PCWQCA).

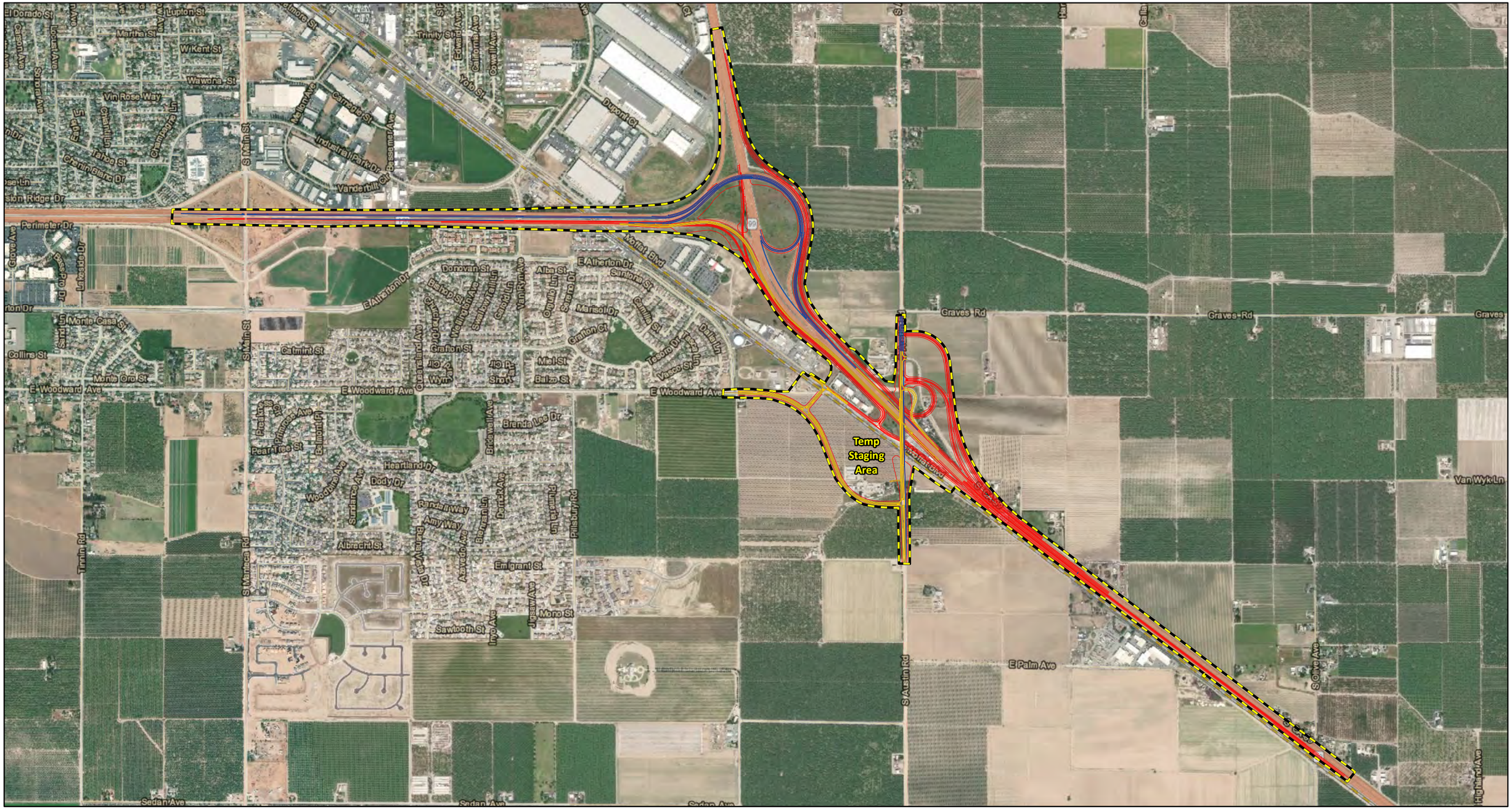
Migratory Bird Treaty Act	The Migratory Bird Treaty Act (MBTA) prohibits actions that will result in "take" of migratory birds, their eggs, feathers, or nests. "Take" is defined in the MBTA as any means or any manner to hunt, pursue, wound, kill, possess, or transport, any migratory bird, nest, egg, or part thereof. Migratory birds are also protected, as defined in the MBTA, under Section 3513 of the CFGC.
Executive Order 11990: Protection of Wetlands	Executive Order (EO) 11990 mandates leadership on the part of federal agencies to reduce loss and degradation of wetlands and to preserve and enhance the beneficial values and functions of wetlands. Each federal agency "shall avoid undertaking or providing assistance for new construction located in wetlands unless the head of the agency finds that: (1) there is no practicable alternative to such construction, and (2) that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use".
Executive Order 13112: Invasive Species	Under EO 13112, an invasive species is defined as "an alien species (a species not native to a particular ecosystem) whose introduction does or is likely to cause economic and environmental harm or harm to human health". Invasive species are determined by the Invasive Species Council. In addition to other mandates, EO 13112 mandates federal agencies whose actions may affect the status of invasive species to "not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species".
State	
California Endangered Species Act	Under the California Endangered Species Act (CESA), it is unlawful to "take" any species listed as rare, threatened, or endangered. Under CESA, "take" means to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill". CESA take provisions apply to fish, wildlife, and plant species. Take may result whenever activities occur in areas that support a listed species. Consultation with CDFW is required if a project will result in "take" of a listed species.
California Fish and Game Code (Breeding Birds)	Section 3503 of the California Fish and Game Code (CFGC) prohibits the take, possession, or needless destruction of the nest or eggs of any bird, except as otherwise provided by the CFGC or other regulation.

Section 1602: California Fish and Game Code	CDFW, through provisions of Section 1602 of the CFGC, is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be substantially adversely affected. Streams (and rivers) are defined by the presence of a channel bed and banks, and at least an ephemeral or intermittent flow of water. CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by CDFW. CDFW generally includes, within the jurisdictional limits of streams and lakes, any riparian habitat present. Riparian habitat includes willows, cottonwoods, and other vegetation typically associated with the banks of a stream or lake shoreline. In most situations, wetlands associated with a stream or lake would fall within the limits of riparian habitat. Thus, defining the limits of CDFW jurisdiction based on riparian habitat will automatically include any wetland areas. Riparian communities may not fall under USACE jurisdiction unless they are below the OHWM or classified as wetlands. Section 3503 of the CFGC prohibits the take, possession, or needless destruction of the nest or eggs of any bird, except as otherwise provided by the CFGC or other regulation.
Porter-Cologne Water Quality Act (Cal. Water Code § 13000 et seq.)	The PCWQCA grants ultimate authority over state water rights and water quality policy to the SWRCB. This includes oversight of water quality on a day-to-day basis, preparation, and update of water quality control plans, and issuing Section 401 water quality certifications.

2.2 Studies Required

Prior to conducting any field studies, the limits of the Biological Study Area (BSA) were established, totaling approximately 326.94 acres (ac), including portions of SR-99 and SR-120 and associated on- and off-ramps, Austin Road, East Woodward Avenue, and 99 Frontage Road. The BSA consists of the Project footprint, access and staging areas, and lands beyond the footprint to the edge of the road right-of-way that could potentially be affected by Project construction and/or were determined necessary to inventory in order to perform an adequate analysis of Project impacts (Figure 4).

The studies required to fully document the environmental conditions of the BSA included a general biological survey habitat mapping, delineation of potential jurisdictional waters, and a site assessment for Swainson's hawk.



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Biological Study Area - (326.94 ac)

Project Design

Phase 1a

Phase 1b

Phase 1c

0 750 1500
FEET

SOURCE: NAIP Aerial Imagery (2016); Project Design- Mark Thomas (2/2018)

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FIGURE 4

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, PM 3.10/6.20
EA 10-1E740

Biological Study Area and Project Design

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2.2.1 LITERATURE REVIEW

A list of sensitive wildlife and plant species potentially occurring within the BSA and vicinity was compiled to evaluate potential impacts resulting from the Project construction.

Sources used to compile the list include the California Natural Diversity Data Base (CNDDB) (CDFW 2018), the USFWS IPaC Trust Resources (USFWS 2018), the National Marine Fisheries Google Earth Species List (NMFS 2018), and the California Native Plant Society (CNPS 2018) Online Edition referencing the Manteca, Stockton East, Stockton West, Peters, Lathrop, Avena, Vernalis, Ripon, and Salida United States Geological Survey 7.5-minute quadrangles. All lists are included in Appendix B.

The determination of whether a species could potentially occur within the BSA was based on the availability of suitable habitat within and adjacent to the BSA, as well as known occurrences of the species in or adjacent to the BSA according to the CNDDB. Those species that could potentially occur in the BSA based on habitat suitability or on known occurrences in or within the vicinity of the BSA are discussed in Sections 4.2 and 4.3.

2.2.2 FIELD SURVEYS

Field surveys conducted for the Project included a general biological survey (including vegetation mapping), a preliminary jurisdictional delineation, and a site assessment for Swainson's hawk.

2.2.2.1 General Biological Survey / Vegetation Mapping

A general biological survey and vegetation mapping of the BSA was conducted by LSA biologists Anna Van Zuuk and Dan Williams November 21 – 22, 2017. The naturally occurring vegetation in the BSA was classified according to A Manual of California Vegetation, Second Edition (Sawyer, Keeler-Wolf, and Evans 2008), as appropriate. Managed, disturbed, or developed areas were classified according to their dominant plant species. The names of the plant species are consistent with The Jepson Manual: Vascular Plants of California, Second Edition (Baldwin, B. G., et. al., editors 2012) and the Jepson Online Interchange for California Floristics (Jepson eFlora 2018).

Wildlife species observed during the survey were identified and recorded. During this survey, the BSA was also surveyed for potential habitat to support special status plants.

2.2.2.2 Preliminary Jurisdictional Waters Delineation

A delineation of all aquatic features in the BSA was conducted November 21 – 22, 2017, by LSA biologist Anna Van Zuuk.

All aquatic features in the BSA were delineated in accordance with the United States Army Corps of Engineers Research and Development Center Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid Southwest Region (September 2008). Seven formal observation points were described in the field. At each point, a pit was dug and soils and hydrology examined; vegetation was also characterized at each data point.

All aquatic features were located in the field using a GPS unit with submeter accuracy. All data was entered into a GIS database to calculate the extent of mapped features in the BSA. Wetland data forms are provided in Appendix C.

2.2.2.3 Site Assessment for Swainson's Hawk

In addition to the general biological field survey for special status species, special consideration was given to Swainson's hawk to identify potential nesting and foraging habitat for this species. This site assessment was conducted by LSA biologist Dan Williams on November 21 – 22, 2017 in accordance with the Staff Report regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (CDFW 1994).

2.3 Agency Coordination and Professional Contacts

No agency coordination has occurred for this Project.

2.4 Limitations That May Influence Results

No problems or limitations were encountered during the research, fieldwork, or document preparation that influenced the results presented herein.

Surveys conducted in November were intended as reconnaissance level surveys to identify potentially sensitive habitats, which could support special status species. In the event that sensitive habitats were identified, additional surveys would be required (for plants and wildlife). However, no sensitive habitats which could support special status plants were identified, and therefore no additional species-specific plant surveys need to be conducted during the appropriate bloom periods. No protocol level surveys were conducted for any special status species. However all species with the potential to occur based on existing habitat conditions will require protocol level surveys prior to the start of construction, as described in the appropriate 'Avoidance and Minimization Measures' sections in Chapter 4.

As stated in Table 2 and Section 4.3.5, suitable habitat for Swainson's hawk is present within the BSA and numerous CNDDB records for this species exist in the vicinity. Surveys were specifically intended to identify potential habitat, not to observe individuals.

While the USACE Manual for conducting wetland delineations is designed so that wetlands and other waters may be identified without the presence of standing water, sufficient rainfall occurred prior to surveys to allow for identification of any potential aquatic features in the BSA.

Chapter 3 - Results: Environmental Setting

3.1 Description of the Existing Biological and Physical Conditions

3.1.1 STUDY AREA

The BSA, totaling approximately 326.94 ac, is located in the southern outskirts of the City in San Joaquin County and includes portions of SR-99 and SR-120 and associated on- and off-ramps, South Main Street, Van Ryn Avenue, Moffat Boulevard, Woodward Avenue, Austin Road, and 99 Frontage Road.

Lands in the BSA consist largely of developed commercial and urban residential areas with some areas of agricultural land east and south of the existing SR-99/SR-120 interchange. Naturally occurring vegetation communities as classified by Sawyer, Keeler-Wolf, and Evans (2008) are discussed below in Section 3.1.3.1.

3.1.2 PHYSICAL CONDITIONS

The BSA lies in the Central Valley, which is characterized by large flat areas of agricultural farmland interspersed with urban population centers. The terrain in the BSA and surrounding areas is relatively flat and gently slopes from east to west at elevations ranging from 34 feet to 80 feet above mean sea level. The BSA consists of a mix of developed and undeveloped areas; however, the undeveloped areas in the BSA are highly altered due to a long history of agricultural activities. Undeveloped areas, totaling 190.60 ac, occur along the eastern outer margin of the SR-99/120 interchange, and from the Austin Road/SR-99 interchange south and east along the SR-99 corridor. These areas consist of active or fallow farmland areas near commercial and urban residential development. Developed areas, totaling 136.34 ac, consist of SR-99 and SR-120, the existing interchange, several surface streets including South Main Street, Van Ryn Avenue, Moffat Boulevard, Woodward Avenue, Austin Road, and 99 Frontage Road as well as surrounding urban development.

Aquatic resources within the BSA are limited to roadside runoff ditches and agricultural or urban runoff detention basins. Aquatic features in the general vicinity of the BSA include the Stanislaus River approximately 2.5 mi to the south, the San Joaquin River approximately 4.5 mi to the west.

Representative photos of the BSA are included in Appendix D.

3.1.3 BIOLOGICAL CONDITIONS IN THE BIOLOGICAL STUDY AREA

3.1.3.1 Vegetation Communities

There are no natural communities within the BSA. Vegetation communities in the BSA include ruderal/disturbed, orchard, row crops, vineyard, and barren. Vegetation communities and land uses in the BSA are shown in Figure 5 and summarized in Table 2.

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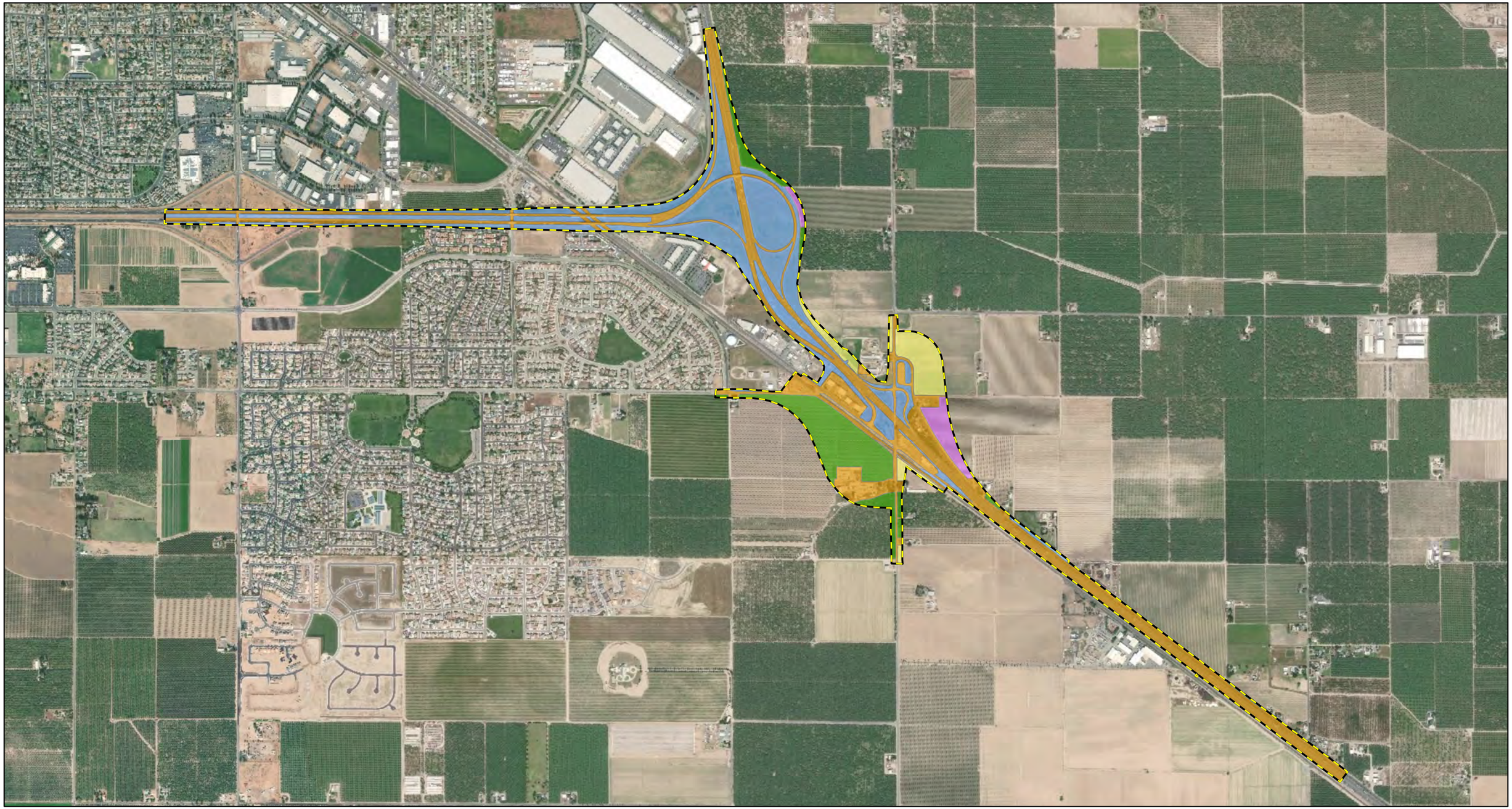

LEGEND

Vegetation Communities and Land Uses - (326.94 ac)

- Barren - (4.28 ac)
- Developed - (136.34 ac)
- Orchard - (41.48 ac)
- Row Crops - (19.89 ac)
- Ruderal/Disturbed - (115.74 ac)
- Vineyards - (9.21 ac)

0 750 1500
FEET

SOURCE: ESRI Imagery (2016),Mapping - LSA (11/2017)

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FIGURE 5

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, PM 3.10/6.20
EA 10-1E740

Vegetation Communities and Land Uses in the BSA

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Table 2: Vegetation Communities and Land Uses in the BSA (acres)

Vegetation Communities and Land Uses	Acres
Vegetation Communities	
Ruderal /Disturbed	115.74
Orchard	41.48
Row Crops	19.89
Vineyards	9.21
Barren	4.28
Subtotal	*190.60*
Land Uses	
Developed	136.34
Subtotal	*136.34*
Total	**326.94**

Ruderal/Disturbed

Ruderal/disturbed areas are defined as areas alongside or adjacent to urban and residential development where native plant species have been almost entirely replaced by weedy introduced species, such as wild oat (*Avena fatua*), prickly lettuce (*Lactuca serriola*), and yellow star thistle (*Centaurea solstitialis*). Ruderal/disturbed habitat, totaling approximately 115.74 ac, is present at the west end of the BSA along the SR-120/South Main Street Interchange, SR-99/SR-120 Interchange, and SR-99/Austin Road Interchange. This habitat type also contains aquatic features identified within the BSA; none of these features (basins and ditches) support wetlands and vegetatively function the same as the surrounding ruderal/disturbed areas.

Orchard

This habitat type consists of maintained orchards (mostly almonds) with heavily cultivated and irrigated soils. This habitat type, totaling approximately 41.48 ac, is located in various scattered locations along the BSA alignment, most notably along the southern and eastern extent of the BSA, and along both sides of Austin Road south of SR-99.

Row Crops

Row crops include a diversity of field crop types in addition to recently tilled fields where no crop growth is evident. Also included in this community are fallow fields, provided they are obviously part of an ongoing agricultural operation, and fields that have been recently tilled or disked but where little (i.e., stubble) or no crop growth is evident. Row crops, totaling approximately 19.89 ac, are located along SR-120 west of the Union Pacific Railroad and adjacent to the SR-99/Austin Road Interchange.

Vineyards

This habitat type consists of maintained vineyards with heavily cultivated and irrigated soils. This habitat type, totaling approximately 9.21 ac, is located in two locations along

the BSA alignment: along the southern and eastern extent of the BSA and along both sides of Austin Road south of SR-99.

Barren

Barren areas consist of hard-packed soil that is completely devoid of vegetation. This habitat type, totaling approximately 4.28 ac, is located between Austin Road and its westbound on-ramp for SR-120.

Developed

Developed areas in the BSA, totaling 136.34 ac, consist of the existing SR-99 and SR-120 roads and roadsides, as well as all surrounding urban development.

3.1.3.2 Description of Common Animal Species

The sections below discuss animal species observed and/or likely to occur within the BSA. A complete list of observed species is provided in Appendix E.

Mammals

Mammal species observed in the BSA during field surveys include: California ground squirrel (*Otospermophilus beecheyi*), brown rat (*Rattus norvegicus*), and coyote (*Canis latrans*). In addition, dirt mounds most likely constructed by Botta's pocket gopher (*Thomomys bottae*) were observed in the BSA. Common mammal species that may also occur in the BSA include: Virginia opossum (*Didelphis virginiana*), black-tailed jackrabbit (*Lepus californicus*), and striped skunk (*Mephitis mephitis*).

Birds

Birds observed in the BSA during field surveys include red-tailed hawk (*Buteo jamaicensis*), killdeer (*Charadrius vociferus*), Eurasian collared-dove (*Streptopelia decaocto*), yellow-billed magpie (*Pica nuttalli*), Brewer's blackbird (*Euphagus cyanocephalus*), and house sparrow (*Passer domesticus*). Common bird species that may also occur in the BSA include: red-shouldered hawk (*Buteo lineatus*), ring-necked pheasant (*Phasianus colchicus*), western kingbird (*Tyrannus verticalis*), cliff swallow (*Petrochelidon pyrrhonata*), chipping sparrow (*Spizella passerina*), and great-tailed grackle (*Quiscalus mexicanus*).

Amphibians and Reptiles

No amphibian or reptile species were observed during the field surveys. Common amphibian species likely to occur in the BSA include: Pacific chorus frog (*Pseudacris sierra*) and western toad (*Anaxyrus boreas*). Common reptile species likely to occur in the BSA include gopher snake (*Pituophis catenifer*), common kingsnake (*Lampropeltis getulus*), and western fence lizard (*Sceloporus occidentalis*).

3.1.3.3 Wildlife Migration Corridors

Wildlife migration corridors are linear habitats that function to connect two or more areas of significant wildlife habitat. These corridors may function on a local level as links between small habitat patches (e.g., streams in urban settings) or may provide critical connections between regionally significant habitats (e.g., deer movement corridors). Wildlife migration corridors typically include vegetation and topography that facilitate the movements of wild animals from one area of suitable habitat to another in order to fulfill

foraging, breeding, and territorial needs. These corridors often provide cover and protection from predators that may be lacking in surrounding habitats. Wildlife migration corridors generally include riparian zones and similar linear expanses of contiguous habitat.

During the field surveys, there was no substantial evidence that any portion of the BSA is used as a wildlife migration corridor. The BSA is comprised of multiple roads, a patchwork of agricultural parcels, industrial areas, and residential developments which are all impediments to wildlife movement.

3.1.3.4 Aquatic Resources

Aquatic resources within the BSA, totaling 0.712 ac, consist of shallow basins (0.566 ac) and ephemeral ditches (0.146 ac) which only hold water following storm events, and were identified based on the presence of an OHWM or other hydrology indicators. These features are generally located in the central portion of the BSA along the SR-99 corridor and the SR-120 and Austin Road interchanges, within the ruderal/disturbed habitat type (Figure 6). These features typically contain vegetation which is largely homogeneous with surrounding areas; no wetlands were identified within any of these features.

Indicators used to determine the limits of the OHWM of each feature included scour marks along the banks of the ephemeral ditches, watermarks and vegetative drift deposits, general topography of the area, and review of aerial imagery.

The aquatic resources within the BSA described above are expected to be under the jurisdiction of the RWQCB pursuant to the PCWQCA. There are no aquatic resources within the BSA which are expected to be under the jurisdiction of the USACE or CDFW.

3.1.3.5 Invasive Species

Many non-native plant species have been part of the California landscape for the past 150 years and are considered naturalized in the wild. Some examples of these introduced plant species observed during surveys include common oats (*Avena sativa*), black mustard (*Brassica nigra*), ripgut brome (*Bromus diandrus*), Italian thistle (*Carduus pycnocephalus*), and foxtail barley (*Hordeum murinum*), among others. These species are primarily annual or biennial and considered to be moderately invasive at worst. Two species of concern were observed in the BSA during surveys: yellow star thistle (*Centaurea solstitalis*) and perennial pepperweed (*Lepidium latifolium*). These species have an invasive rating of 'High' per the California Invasive Plant Council Invasive Plant Inventory Online Database (http://www.cal-ipc.org/paf/).

3.2 Regional Species and Habitats of Concern

Table 3 provides a list of special status species that are known to occur in the region, and therefore could potentially occur in the BSA. This list was compiled as described in Section 2.2.1. A review was conducted of the specific habitats required by each species listed in Table 3, and the specific habitats and habitat conditions present in the BSA. Based on this evaluation, it was determined whether the species listed in Table 3 had potential to occur in the BSA. Special status species that were observed, or determined to potentially occur in the BSA based on availability of suitable habitat or other factors such as plucking posts, scat, nests, dens, etc., are discussed more fully in Sections 4.2 and 4.3 of this report. Species determined unlikely to occur in the BSA based on these

same factors are documented accordingly in the table and not discussed further in this report.

LEGEND

Biological Study Area - (326.94 ac)

Non-404 Non-Wetland Waters - (0.712 ac)

Shallow Basins - (0.566 ac)

Ephemeral Ditches - (0.146 ac)

0 750 1500
FEET

SOURCE: NAIP Aerial Imagery (2016); Mapping LSA (11/2017)

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FIGURE 6

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, PM 3.10/6.20
EA 10-1E740

Overview of Aquatic Features in the BSA

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Table 3: Special Status Species and Natural Communities Potentially Occurring or Known to Occur in the Project Area

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale
Mammals					
Antrozous pallidus	Pallid bat	SSC	Found in a variety of habitats, including grassland, chaparral, woodland, and forest. Most common in open, dry habitats with rocky areas for roosting. Roosts in caves, crevices, mines, hollow trees, buildings.	HP	Marginally suitable habitat is present for this species which may roost in trees, buildings, or crevices in overpass structures. See discussion in Section 4.3.1.
Neotoma fuscipes riparia	Riparian woodrat	FE; SSC	Known only in Stanislaus and San Joaquin Counties along the San Joaquin, Stanislaus, and Tuolumne Rivers. Requires riparian habitat where trees and brush are available for cover and nesting.	A	Suitable habitat is not present; there are no riparian areas in the BSA.
Sylvilagus bachmani riparius	Riparian brush rabbit	FE; SE	This species inhabits dense areas of Valley riparian forest with thickets of rose and blackberry. Grazing includes grasses and forbs, always near cover.	A	Suitable habitat is not present; there are no riparian forests in the BSA.
Birds					
Accipiter cooperii	Cooper's hawk	SWL	Nests in woodlands, stands of trees around rural residences, as well as urban and suburban parks and neighborhoods with plentiful small birds for prey.	SP	Suitable habitat is present for this species; multiple trees near residences and other structures with small birds in the area are present within the BSA. A pair of Cooper's hawks was observed during the general biological survey engaged in a courtship flight over the agricultural complex west of Austin Road and south of Moffat Boulevard. One of these two hawks was also observed perched in an ornamental pine tree very near one of the residences in this complex,

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale
					and an inactive nest which may have been used by these hawks in the recent past was observed in this same pine. See discussion in Section 4.3.2.
Agelaius tricolor	Tricolored blackbird	ST	Nests in freshwater marshes with tules or cattails, or in other dense thorny vegetation such as thistle, blackberry thickets, etc. in close proximity to open water. Foraging?	A	No suitable nesting habitat is present; there is no freshwater marsh or dense thorny vegetation near water in the BSA. While there are CNDDB occurrences from the 1930s and as recently as 1974, of nesting colonies from within the BSA and approximately 2.3 mi northwest of the BSA respectively, this species was not observed during follow up visits documented in the CNDDB which describe the habitat at those locations as having since been developed.
Athene cunicularia	Burrowing owl	SSC	Burrow sites in open, dry, annual, or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals (in California, most commonly California ground squirrel).	HP	Marginally suitable foraging and nesting habitat is present for this species in the row and field cropland as well as along the roadway shoulders and cloverleaves. See discussion in Section 4.3.3.
Branta hutchinsii leucopareia	Aleutian cackling goose	FD	Nests in far northern Alaska and Arctic Canada. During migration and on wintering grounds, frequents agricultural lands such as pastures and grain fields, and roosts at night on inland lakes and coastal islands.	HP	The species does not nest in the region, but agricultural fields within and adjacent to the BSA (especially the row croplands north and east of SR-99 near Austin Road) may provide suitable foraging habitat for this species during the winter months. The closest CNDDB occurrence is from San Joaquin River NWR approximately 6.7 mi south of the BSA. See discussion in Section 4.3.4.

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale
Buteo swainsoni	Swainson's hawk	ST	Nests in stands with few trees in riparian areas and oak savannas. Requires adjacent suitable foraging areas such as grasslands, alfalfa, or grain fields supporting rodent populations.	HP	Suitable foraging habitat for this species is present within the BSA; there is no suitable nesting habitat within the BSA. However, appropriate nesting habitat is present adjacent to the BSA, and agricultural fields within and adjacent to the BSA (especially the row croplands north and east of SR-99 near Austin Road) provide suitable foraging habitat. See discussion in Section 4.3.5.
Coccyzus americanus occidentalis	Western yellow-billed cuckoo	FT; SE	Mature cottonwood riparian forests with dense understory of willows, blackberry brambles, and grapevines.	A	Suitable habitat is not present in the BSA; no riparian woodlands are present in the BSA.
Elanus leucurus	White-tailed kite	SFP	Nests in foothill and valley oak savannas, river bottomlands, and deciduous woodlands adjacent to marshes. Forages in open grasslands, meadows, marshes, and some grassy roadsides.	HP	Suitable nesting and foraging habitat is present for this species; multiple trees within the BSA are appropriate nesting habitat and agricultural fields within and adjacent to the BSA (especially the row croplands north and east of SR-99 near Austin Road) provide suitable foraging habitat. See discussion in Section 4.3.2.
Eremophila alpestris actia	California horned lark	SWL	Open habitats, usually where trees and large shrubs are absent: short-grass prairie, bald hills, mountain meadows, open coastal plains, fallow grain fields, and alkali flats.	SP	Suitable nesting and foraging habitat is present for this species; areas of open fields are present in and adjacent to the BSA. A flock of horned larks was observed during the general biological survey in the fallow field east of Austin Road and its intersection with 99 Frontage Road. This species is confirmed present within the BSA. See discussion in Section 4.3.6.
Falco columbarius	Merlin	SWL	Nests in Alaska, Canada, the northern Rockies and the far northern tier of the Lower 48 states. During migration and on wintering grounds prefers open	SP	Suitable foraging and roosting habitat is present for this species; clumps of trees standing as windbreaks along the edges of farmland within the BSA are suitable roosting habitat for the species, and the species may forage in the orchards and vineyards,

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale
			woodlands, savannas, edges of grasslands, farms and ranches. Clumps of trees or windbreaks are required for roosting in open country.		the row and field cropland, as well as along the roadway shoulders. A merlin was observed during the general biological survey soaring over the field between the SR-99/120 connector ramp and the industrial complex to the west. This species is confirmed present within the BSA. See discussion in Section 4.3.7.
Lanius ludovicianus	Loggerhead shrike	SSC	Savanna, open woodlands, riparian woodlands, and agricultural fields and orchards. Requires shrubs or small trees for nesting, and open areas with reptile, small bird, or small mammal prey base for foraging. Also requires thorny vegetation or barbwire for impaling prey.	HP	Suitable nesting and foraging habitat is present for this species; agricultural fields and orchards with shrubs and trees nearby and barbwire fences are present within the BSA. See discussion in Section 4.3.6.
Melospiza melodia	Song sparrow (“Modesto” population)	SSC	Nest in freshwater marshes with emergent vegetation, willow stands, and riparian oak woodlands with understory of dense thorny vegetation such as blackberry brambles.	A	Suitable habitat is not present in the BSA; there are no marshes, willow stands, or riparian woodlands within the BSA.
Vireo bellii pusillus	Least Bell’s vireo	FE; SE	Riparian woodland and dry river bottoms with willow or mesquite component.	A	Suitable habitat is not present in the BSA; there are no riparian woodlands or dry river bottoms within the BSA.
Xanthocephalus xanthocephalus	Yellow-headed blackbird	SSC	Nests in fresh marshes with dense emergent vegetation (cattails, bulrushes, and reeds).	A	Suitable habitat is not present in the BSA; there are no emergent wetlands within the BSA.

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale
Reptiles					
Thamnophis gigas	Giant garter snake	FT, ST	Streams and sloughs, usually with mud bottom. One of the most aquatic of garter snakes; usually in areas of freshwater marsh and low-gradient streams with emergent vegetation, also drainage canals, irrigation ditches, ponds, and small lakes.	A	Suitable habitat is not present in the BSA; there are no streams or sloughs within the BSA.
Amphibians					
Ambystoma californiense	California tiger salamander	FT, ST	Most commonly found in annual grassland habitat, but also occurs in grassy understory of hardwood habitats, and less commonly along stream courses in riparian habitats. Requires vernal pools or other seasonal water bodies for breeding. Needs underground refuges, especially ground squirrel burrows, for remainder of year.	A	Suitable habitat is not present in the BSA; there is a known population of California tiger salamander 2.75 mi west of the BSA adjacent to the SR-120 McKinley Avenue underpass. However, there is no suitable aquatic habitat within the BSA or surrounding lands to support this species. Additionally 95 percent of estivation migration occurs within 0.5 mi of aquatic habitat. Not only is the BSA not located close enough to aquatic habitat to expect migration or estivation of this species in the BSA, but the area contains pockets of dense development bisecting any potential migration corridor. This species is considered absent from the BSA.
Anniella pulchra	Northern California legless lizard	SSC	Chaparral, coastal dunes, and coastal scrub with moist sandy or loose loamy soils.	A	Suitable habitat is not present in the BSA; there is no chaparral, dune, or scrub habitat within the BSA.
Rana draytonii	California red-legged frog	FT, SSC	Lowlands and foothills in or near permanent sources of slow moving, deep water with dense, shrubby or emergent riparian vegetation; also requires uplands for estivation.	A	Suitable habitat is not present in the BSA; there are no areas of permanent water within the BSA.

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale
Fish					
Acipenser medirostris	Green sturgeon	FT, SSC	Most often in marine waters; estuaries, lower reaches of large rivers, salt or brackish water off river mouths. Spawning occurs in deep pools of turbulent, freshwater river main streams.	A	Suitable habitat is not present in the BSA; there are no estuarine or riverine features in the BSA.
Hypomesus transpacificus	Delta smelt	FT, ST	Sacramento-San Joaquin delta. Seasonally in Suisun bay, Carquinez strait, and San Pablo bay. Seldom found at salinities greater than 10 parts per thousand. Most often in salinities less than 2 parts per thousand.	A	Suitable habitat is not present in the BSA; there are no aquatic features in the BSA.
Mylophardon conocephalus	Hardhead	SSC	Habitat includes deep, rock and sand bottomed pools of small to large rivers. Occurring in less disturbed sections of larger low – mid elevation streams.	A	Suitable habitat is not present in the BSA; there are no aquatic features in the BSA.
Oncorhynchus mykiss irideus	Steelhead (Central Valley DPS)	FT	Sacramento and San Joaquin Rivers and their tributaries.	A	Suitable habitat is not present in the BSA; the Sacramento and San Joaquin Rivers, or their tributaries, are not within the BSA.
Oncorhynchus tshawytscha	Central Valley spring-run chinook salmon	FT; ST	Sacramento and San Joaquin Rivers and tributaries.	A	Suitable habitat is not present in the BSA; the Sacramento and San Joaquin Rivers, or their tributaries, are not within the BSA.
Spirinchus thaleichthys	Longfin smelt	FC, ST	Occurs in variety of coastal waters near shore, bays, estuaries and rivers.	A	Suitable habitat is not present in the BSA; there are no aquatic features in the BSA.

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale
Invertebrates					
Anthicus sacramento	Sacramento anthicid beetle	CA SA	Restricted to sand dune areas. Inhabit sand slipfaces among bamboo and willow but may not depend on presence of these plant species.	A	Suitable habitat is not present in the BSA; no sand dunes are present in the BSA.
Bombus caliginosus	Obscure bumble bee	CA SA	Open grassy coastal prairie and coast range meadows.	A	Suitable habitat is not present in the BSA; no coastal areas are present in the BSA.
Bombus crotchii	Crotch bumble bee	CA SA	Open grassland and scrub habitats.	A	Suitable habitat is not present in the BSA; no natural grasslands or scrub habitats are present within the BSA.
Bombus occidentalis	Western bumble bee	CA SA	Open grassy areas, urban parks, gardens, chaparral, shrub areas, and mountain meadows (0 – 6,500 ft).	A	Suitable habitat is not present in the BSA; no natural grasslands, parklands, gardens, or chaparral habitats are present within the BSA.
Branchinecta conservatio	Conservancy fairy shrimp	FE	Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools. Astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, last until June.	A	Suitable habitat is not present in the BSA; no astatic pools are present in the BSA.
Branchinecta lynchi	Vernal pool fairy shrimp	FT	Endemic to the grasslands of the Central Valley, Central Coast Mountains and South Coast Mountains. Typically associated with small, shallow vernal pools with relatively short periods of inundation. Found in larger pools in southern extent of range.	A	Suitable habitat is not present in the BSA; no vernal pools are present in the BSA.

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale
Branchinecta mesovallensis	Midvalley fairy shrimp	CA SA	Vernal pools on gently undulating grazed grassland in the Central Valley.	A	Suitable habitat is not present in the BSA; no vernal pools are present in the BSA.
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	FT	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus nigra* ssp. *caerulea*). Prefers branches greater than 1 inch in diameter.	A	No elderberry shrubs (host plant) are present in or near the BSA. The closest CNDDB known occurrence is approximately 4 mi south of the BSA from Caswell Memorial State Park.
Lepidurus packardi	Vernal pool tadpole shrimp	FE	Vernal pools and swales in the Central Valley containing clear to highly turbid water.	A	Suitable habitat is not present in the BSA; no vernal pools occur in the BSA.
Linderiella occidentalis	California linderiella	CA SA	Vernal pools in Central Valley grasslands in elevations ranging from 130-550 ft.	A	Suitable habitat is not present in the BSA; no vernal pools occur in the BSA.
Lytta molesta	Moestan blister beetle	CA SA	Grasslands and vernal pools in Central Valley and low foothills; larvae parasitic on solitary bees.	A	Suitable habitat is not present in the BSA; no natural grasslands or vernal pools are present in the BSA.
Plants					
Astragalus tener var. *tener*	Alkalai milk-vetch	List 1B.2	Playas and vernal pools; valley and foothill grassland on alkaline soils, coastal bluff scrub, coastal dunes (3 – 200 ft). Blooms March – June.	A	Suitable habitat is not present in the BSA; no vernal pools or alkaline soils are present within the BSA.
Atriplex cordulata var. *cordulata*	Heartscale	List 1B.2	Alkaline flats and scalds in the Central Valley, sandy soils (10-900 ft). Blooms April – October.	A	Suitable habitat is not present in the BSA; no alkaline flats or scalds are present within the BSA.
Atriplex coronata var. *coronata*	Crownscale	List 4.2	Freshwater wetlands, vernal pools, Shadscale scrub, and grasslands with alkaline soils (0-650 ft). Blooms March – October.	A	Suitable habitat is not present in the BSA; no vernal pools, scrub, or alkaline soils are present within the BSA.

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale
Atriplex miniscula	Lesser saltscale	List 1B.2	Chenopod scrub, playas, valley and foothill grassland with sandy, alkaline soils (0-700 ft). Blooms April – October.	A	Suitable habitat is not present in the BSA; no Chenopod scrub, playas, or alkaline soils are present within the BSA.
Blepharizonia plumosa	Big tarplant	List 1B.1	Valley and foothill grasslands, often on dry hills and plains, clay to clay loam soils (0 – 650 ft). Blooms July – November.	A	Field surveys were conducted for this species during the normal blooming period with negative results. Consequently, this species is considered absent from the BSA.
Brasenia schreberi	Watershield	List 2B.3	Occurs almost always under natural conditions in wetlands (1,575 – 5,610 ft). Blooms June – September.	A	Suitable habitat is not present in the BSA; no wetlands are present in the BSA.
Centromadia parryi ssp. *rudis*	Parry's rough tarplant	List 4.2	Grassland, edge of marshes and vernal pools (0 – 1,600 ft). Blooms June – October.	A	Suitable habitat is not present in the BSA; no natural grasslands, marshes, or vernal pools are present in the BSA.
Chloropyron palmatum	Palmate-bracted bird's-beak	FE, SE, List 1B.1	Occurs in shadscale scrub, valley grasslands, and riparian areas (36 – 885 ft). Blooms May – October.	A	Suitable habitat is not present in the BSA; no shadscale scrub, natural grasslands, or riparian areas occur within the BSA.
Cirsium crassicaule	Slough thistle	List 1B.1	Occurs almost always in wetlands, specifically riparian areas and freshwater marshes (260 – 395 ft). Blooms May – August.	A	Suitable habitat is not present in the BSA; no marshes or vernal pools are present in the BSA.
Delphinium recurvatum	Recurved larkspur	List 1B.2	Chenopod scrub, valley and foothill grassland, and Cismontane woodland on alkaline soils (10 – 2,600 ft). Blooms March – June.	A	Suitable habitat is not present in the BSA; no chenopod scrub, natural grasslands, or Cismontane woodlands are present in the BSA.
Eryngium racemosum	Delta button-celery	SE; List 1B.1	Seasonally flooded clay depressions (10 – 100 ft). Blooms June – August.	A	Suitable habitat is not present in the BSA; no seasonally flooded clay depressions occur in the BSA.
Extriplex joaquinana	San Joaquin spearscale	List 1B.2	Occurs in shadscale scrub and valley grasslands (0 – 2,740 ft). Blooms April – September.	A	Suitable habitat is not present in the BSA; no shadscale scrub or natural grasslands are present in the BSA.

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale
Hibiscus lasiocarpus var. *occidentalis*	Wooly rose-mallow	List 1B.2	Occurs in riprap on sides of levees, as well as, freshwater marshes and swamps (0 – 2,690 ft). Blooms June – September.	A	Suitable habitat is not present in the BSA; no freshwater marsh habitat occurs in the BSA.
Lathyrus jepsonii var. *jepsonii*	Delta tule pea	List 1B.2	Occurs in wetlands, specifically freshwater and brackish marshes (0 to 1,740 ft). Blooms May – July.	A	Suitable habitat is not present in the BSA; no marsh habitat is present in the BSA.
Puccinellia simplex	California alkali grass	List 1B.2	Saline flats and mineral springs (< 2,952 ft). Blooms March – May.	A	Suitable habitat is not present in the BSA; no saline flats or mineral springs are present in the BSA.
Sagittaria sanfordii	Sanford's arrowhead	List 1B.2	Stagnant or slow-moving freshwater wetlands (0 – 4,165 ft). Blooms May – October.	A	Suitable habitat is not present in the BSA; no stagnant or slow-moving wetlands are present in the BSA.
Symphyotrichum lentum	Suisun marsh aster	List 1B.2	Occurs almost always in freshwater and brackish water marshes (0 – 1,010 ft). Blooms May – November.	A	Suitable habitat is not present in the BSA; no freshwater marsh habitat occurs in the BSA.
Trichocoronis wrightii var. *wrightii*	Wright's trichocoronis	List 2B.1	Occurs almost always in freshwater wetlands including meadows, marsh, and vernal pools. Occasionally found in non-wetlands (32 – 1,510 ft). Blooms May – September.	A	Suitable habitat is not present in the BSA; no freshwater wetlands are present in the BSA.
Trifolium hydrophilum	Saline clover	List 1B.2	Occurs in wetlands, primarily vernal pools (0 – 720 ft). Blooms April – June.	A	Suitable habitat is not present in the BSA; no vernal pools are present in the BSA.
Tuctoria greenei	Greene's tuctoria	FE, SR, List 1B.1	Occurs in valley grasslands, but mostly in freshwater wetlands (131 – 3,740 ft). Blooms May – July.	A	Suitable habitat is not present in the BSA; no natural grasslands or wetlands are present in the BSA.
Natural Communities					
Elderberry Savanna			An open, grassy, woodland area dominated by elderberry shrubs.	A	This community is not present in the BSA; no elderberry plants are present in the BSA.

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale
Great Valley Cottonwood Riparian Forest			Riparian woodland dominated by Fremont cottonwood (*Populus fremontii*).	A	This community is not present in the BSA; no riparian forests are present in the BSA.
Great Valley Mixed Riparian Forest			Riparian woodland composed of a variety of successional stages and tree species.	A	This community is not present in the BSA; no riparian forests are present in the BSA.
Great Valley oak riparian forest			Riparian woodland dominated by valley oak (*Quercus lobata*).	A	This community is not present in the BSA; no riparian forests are present in the BSA.

Status Codes

Federal
FE: Federally listed; Endangered
FT: Federally listed, Threatened
FPE: Federally Proposed for Listing as Endangered

FPT: Federally Proposed for Listing as Threatened
FC: Federal Candidate
FD: Federally Delisted
NMFS SC: National Marine Fisheries Service Species of Concern

California Native Plant Society designations:
List 1A: Plants presumed extinct in California
List 1B: Plants rare and endangered in California and throughout their range
List 2: Plants rare, threatened or endangered in California but more common elsewhere in their range
List 3: Plants about which we need more information; a review list
List 4: Plants of limited distribution; a watch list

State
ST: State listed; Threatened
SE: State listed; Endangered
SFP: State Fully Protected
SC: State Candidate
SWL: State Watch List
SR: State Rare
SSC: California Species of Special Concern

Habitat Presence:
HP: Habitat is, or may be present
SP: Species is present
A: No habitat present and no further work needed

CA SA: Special Animal: General term that refers to taxa that the CNDDB is interested in tracking regardless of legal or protection status: Includes the following categories in addition to those listed above:

- Taxa which meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the California Environmental Quality Act Guidelines.
- Taxa that are biologically rare, very restricted in distribution, declining throughout their range, or have a critical, vulnerable stage in their life cycle that warrants monitoring.
- Populations in California that may be on the periphery of a taxon's range, but are threatened with extirpation in California.
- Taxa closely associated with a habitat that is declining in California at an alarming rate (e.g., wetlands, riparian, old growth forests, desert aquatic systems, native grasslands, vernal pools, etc.)
- Taxa designated as a special status, sensitive, or declining species by other state or federal agencies, or non-governmental organization.

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

4.1 Natural Communities of Special Concern

Some aquatic features such as riparian habitats and wetland communities are considered sensitive under the California Environmental Quality Act (CEQA) and may be regulated by CDFW pursuant to Section 1600 of the CFGC, as described in Table 1. Additionally, these communities may also be regulated by the USACE and/or RWQCB if determined to be waters of the U.S. or waters of the State, as described in Table 1. The aquatic features (agricultural ditches and basins) in the BSA do not support riparian or wetland habitats and are not considered a natural community of concern.

No natural communities occur in the BSA; therefore, no impacts are expected to occur to natural communities of special concern.

4.2 Special-Status Plant Species

No special status plant species are expected to occur in the BSA; therefore, no impacts are expected to occur to special status plants.

4.3 Special-Status Wildlife Species

After evaluation of the special status wildlife species with potential to occur in the BSA, as shown in Table 3, the following wildlife species were determined to have a reasonable likelihood of occurring in the BSA and, therefore, may be affected by the Project.

4.3.1 PALLID BAT

Pallid bat (*Antrozous pallidus*) is a California Species of Special Concern which is a locally common species at low elevations, and is a yearlong resident through most of its range. It uses a wide variety of habitats from sea level up through mixed conifer forests, but is most common in open, dry habitats with rocky areas for roosting. This bat forages among trees and shrubs and over open ground, and often takes prey on the ground. Its diet consists of a variety of insects and spiders, including large, hard-shelled prey, which are often carried to a perch or night roost for consumption. Caves, crevices, and sometimes hollow trees and buildings are used for day roosts. Roosts must protect bats from high temperatures. Night roosts may be in more open sites, such as porches and open buildings. Pallid bats are social, and most roost in groups of 20 or more. Maternity colonies form in early April, and may have 10 to 100 individuals. Males may roost separately or in the nursery colony.

4.3.1.1 Survey Results

No pallid bats or sign of the presence of any bat species (e.g., urine staining, droppings etc.) was observed anywhere in the BSA during the biological survey. However, the weep holes on the underside of the Austin Road overcrossing provide

potential day roost habitat for pallid bat. While no sign of bat usage was observed on any structures in the BSA during the biological survey, the underside of the Austin Road overcrossing could not adequately be accessed to determine with certainty that bats were not present there.

The row crops, orchards, and vineyards, as well as the ruderal areas in and adjacent to the BSA provide potential foraging habitat for pallid bat.

4.3.1.2 Project Impacts

The Project will permanently impact 57.96 acres (ac) and temporarily impact 117.20 ac of row crops, orchard, vineyard, and ruderal/disturbed areas, which are potential foraging habitat for pallid bat. Permanent impacts will occur as a result of Project cut and fill activities; temporary impacts will occur as a result of Project access and staging during construction activities.

With implementation of the avoidance and minimization measures in Section 4.3.1.3, the Project is not expected to result in take of this species.

4.3.1.3 Avoidance and Minimization Measures

The following avoidance and minimization measures will be implemented to reduce the potential for take of pallid bats:

1. Focused bat surveys shall be conducted in the BSA by a qualified bat biologist to determine if nursery or roost sites are present. Focused surveys shall be the responsibility of the City. If pallid bats are roosting in the BSA, the following measures shall be implemented:

    a. Prior to the nursery season for pallid bat (April through September), sites shall be sealed or otherwise rendered unusable to bats (e.g., install grating).

    b. Seal hibernation sites, prior to the hibernation season (November through March) when hibernation sites are identified in the BSA. Alternatively, grating may be installed.

    c. When colonial roosting sites which are located in trees or structures must be removed, removal shall occur outside of the nursery and/or hibernation seasons and shall occur during dusk and/or evening hours after bats have left the roosting site.

4.3.1.4 Compensatory Mitigation

Potential impacts to pallid bat will be minimized with implementation of the avoidance and minimization measures in Section 4.3.1.3. The Project is not expected to result in take of this species; no compensatory mitigation is proposed.

4.3.1.5 Cumulative Effects

Impacts to pallid bats in the general vicinity of the Project likely will occur through habitat loss during public works projects similar in scope to the subject Project. Other projects in the region with similar impacts will also be required to minimize and/or mitigate those impacts. Considering the amount of habitat available for pallid bats in the region relative to the amount of habitat in the BSA, and implementation of the avoidance and minimization measures detailed above, the Project will not substantially contribute to cumulative effects to pallid bats.

4.3.2 COOPER'S HAWK AND WHITE-TAILED KITE

Cooper's hawk (*Accipiter cooperii*) is a State Watch List species protected under the CFGC. Cooper's hawks are a woodland dwelling hawk species which specialize in hunting small to medium-sized birds which they pursue through the air. They are fairly common and range over much of the continent from southern Canada south through Mexico. In California, Cooper's hawks are yearlong resident birds throughout much of the state (with the exception of the desert regions), and many other individuals arrive to spend the winter from more northern regions, or migrate through the state to winter further south.

White-tailed kite (*Elanus leucurus*) is fully protected under the CFGC. The species occurs from western Oregon south to northern Baja California. In California, white-tailed kites range throughout the Central Valley, west of the Sierra, and the coast and coastal valleys from Humboldt County south. White-tailed kites nest and forage in a variety of settings. They build stick nests in the tops of trees and eggs are laid from January to June. They forage for small rodents over grassland and open savanna.

4.3.2.1 Survey Results

A pair of Cooper's hawks was observed in a courtship flight over an almond orchard in the BSA during the biological survey on November 21, 2017. One individual of the pair was also observed perched and occasionally vocalizing in an ornamental pine tree near the orchard property approximately 250 ft west of Austin Road and approximately 650 ft southwest of its intersection with Moffat Boulevard. An inactive nest which may have been used by these hawks in the recent past was observed in this same pine tree.

No white-tailed kites were observed in the BSA during the field surveys. The nearest CNDDB record of white-tailed kite (dated 2002) is from the Kennedy neighborhood of Stockton approximately 10.4 mi north of the BSA. This record is of one adult individual exhibiting nesting behavior in a cottonwood tree.

Roadside landscape and windbreak trees, orchards, as well as the edges of agricultural fields in and adjacent to the BSA provide potential foraging habitat for Cooper's hawk, and while the species typically prefers denser stands of trees than those that occur within the BSA to nest in, the roadside landscape, windbreak and ornamental trees provide potential nesting habitat for the species within the BSA.

There are numerous trees within and in the vicinity of the BSA that are potential nest trees for white-tailed kites. The row crops and ruderal/disturbed areas in the BSA provide potential foraging habitat for the species. Since suitable foraging and nesting habitat is present, and the BSA is within the known range of the species, this species has the potential to occur in the BSA.

4.3.2.2 Project Impacts

The Project will permanently impact 45.39 ac and temporarily disturb 103.35 ac of potential nesting (orchard) and foraging (ruderal/disturbed) habitat for Cooper's hawks. Permanent impacts will occur as a result of project cut and fill activities; temporary impacts will occur as a result of project access and staging during construction activities.

The Project will permanently impact 42.60 ac and temporarily disturb 86.78 ac of row crops and ruderal/disturbed habitat, which is potential foraging habitat for white-tailed kite. Permanent impacts will occur as a result of project cut and fill activities; temporary impacts will occur as a result of project access and staging during construction activities. No impacts to potential nesting habitat will occur.

With implementation of the avoidance and minimization measures in Section 4.3.2.3, the Project is not expected to result in take of these species.

4.3.2.3 Avoidance and Minimization Efforts

The following avoidance and minimization measures will be implemented to reduce the potential for take of Cooper's hawk and white-tailed kite:

1. If possible, all trees that will be impacted by the Project construction shall be removed during the non-nesting season (between September 1 and January 31), to avoid take of a nest or bird. If this is not possible, a survey for nesting Cooper's hawks and white-tailed kites shall be conducted in the BSA and within a 300 ft radius by a qualified biologist. The survey shall be conducted a maximum of 10 days prior to the start of construction. The survey area may be decreased due to property access constraints, etc.

2. If nesting Cooper's hawks or white-tailed kites are found within 300 ft of the BSA, a qualified biologist shall evaluate the potential for the Project to disturb nesting activities. The evaluation criteria shall include, but are not limited to, the location/orientation of the nest in the nest tree, the distance of the nest from the BSA, and line of sight between the nest and the BSA.

3. CDFW shall be contacted to review the evaluation and determine if the Project can proceed without adversely affecting nesting activities.

4. If work is allowed to proceed, a qualified biologist shall be on-site weekly during construction activities that occur in breeding season to monitor nesting activity. The biologist shall have the authority to stop work if it is determined the Project is adversely affecting nesting activities.

5. If the qualified biologist determines that the setback can be reduced, initial construction activities in the vicinity of the nest shall be monitored by a qualified biologist. If the biologist determines nesting is not affected by construction activities with the reduced setback, work can proceed. If it is determined that construction activities are adversely affecting the nesting birds with the reduced setback, all construction within 300 ft of a nest shall be halted until the biologist can establish an appropriate setback.

6. Worker environmental awareness training shall be conducted by a qualified biologist for all construction personnel. The training shall instruct workers about the purpose of ESA fencing and the resources being protected.

4.3.2.4 Compensatory Mitigation

Potential impacts to Cooper's hawk and white-tailed kite will be minimized with implementation of the avoidance and minimization measures in Section 4.3.2.3. The Project is not expected to result in take of these species; no compensatory mitigation is proposed.

4.3.2.5 Cumulative Effects

Impacts to Cooper's hawks and white-tailed kites in the general vicinity of the Project likely will occur through habitat loss during public works projects similar in scope to the subject project. Other projects in the region with similar impacts will also be required to minimize and/or mitigate those impacts. Considering the amount of habitat available for Cooper's hawks and white-tailed kites in the region relative to the amount of habitat in the BSA, and implementation of the avoidance and minimization measures detailed above, the Project will not substantially contribute to cumulative effects to these species.

4.3.3 BURROWING OWL

Burrowing owl (*Athene cunicularia*) is a California Species of Special Concern with no federal status. Burrowing owls occur in warm valleys, open, dry grasslands, deserts, and scrublands associated with agriculture and urban areas that support populations of California ground squirrels. Burrowing owls nest below ground, using abandoned burrows of other species (most commonly ground squirrel) and feed on insects and small mammals.

4.3.3.1 Survey Results

Burrowing owl is well documented in the general area of the BSA. The CNDDB includes a total of 10 records for this species within 10 mi of the BSA. The closest occurrence, dated 2000, is from approximately 2.5 mi to the northwest of the BSA in a detention basin near the San Joaquin Rail Station parking lot.

The row crops and ruderal habitats within the BSA provide potential foraging and nesting habitat for burrowing owl. Burrows of suitable size were observed at various locations along the SR-99 and SR-120 embankments and in the largest expanses of ruderal habitat between the on-ramps of the SR-99/120 interchange, but no sign of

owl presence (e.g., whitewash, prey remains, etc.) was observed during the biological survey. However, this species could occur in the BSA.

4.3.3.2 Project Impacts

The Project will permanently impact 42.60 ac and temporarily disturb 86.78 ac of row crops and ruderal/disturbed habitat, which is potential nesting and foraging habitat for burrowing owl. Permanent impacts will occur as a result of project cut and fill activities; temporary impacts will occur as a result of project access and staging during construction activities.

With implementation of the avoidance and minimization measures in Section 4.3.3.3, the Project is not expected to result in take of this species.

4.3.3.3 Avoidance and Minimization Efforts

The following avoidance and minimization measures will be implemented to reduce the potential for take to burrowing owl:

1. Preconstruction surveys for burrowing owl shall be conducted by a qualified biologist in accordance with CDFWs 2012 Staff Report on Burrowing Owl Mitigation.

2. If burrowing owls are identified during the preconstruction survey, passive exclusion shall be implemented per CDFWs 2012 Staff Report on Burrowing Owl Mitigation (including avoidance of occupied burrows during the breeding season from February 1 to August 31).

3. Following construction, all fill slopes, temporary impact and/or otherwise disturbed areas shall be restored to preconstruction contours (if necessary) and revegetated with the native seed mix specified in Table 4. Invasive exotic plants will be controlled pursuant to the measures presented in Section 5.7.

Table 4: Native Species Mix

Scientific Name	Common Name	Rate (lbs./Acre)	Minimum Percent Germination
Artemisia douglasiana	Mugwort	2.0	50
Bromus carinatuscarinatus	California brome	5.0	85
Elymus trachycaulus	Slender wheatgrass	2.0	60
Elymus X triticum	Regreen	10.0	80
Eschscholzia californica	California poppy	2.0	70
Hordeum brachyantherum	California barley	2.0	80
Lupinus bicolor	Bicolored lupine	4.0	80

4.3.3.4 Compensatory Mitigation

Potential impacts to burrowing owl will be minimized with implementation of avoidance and minimization efforts in Section 4.3.3.3. The Project is not expected to result in take of this species; no compensatory mitigation is proposed.

4.3.3.5 Cumulative Effects

Impacts to burrowing owls in the general vicinity of the Project likely will occur through habitat loss during public works projects similar in scope to the subject project. Other projects in the region with similar impacts will also be required to minimize and/or mitigate those impacts. Considering the amount of habitat available for burrowing owls in the region relative to the amount of habitat in the BSA, and implementation of the avoidance and minimization measures detailed above, the Project will not substantially contribute to cumulative effects to burrowing owls.

4.3.4 ALEUTIAN CACKLING GOOSE

Aleutian cackling goose (*Branta hutchinsii leucopareia*) is a federally delisted species. This species nests in the Aleutian Islands off Alaska and winters along much of the west coast and in the Central Valley where it forages in flooded, disced, cut, or irrigated fields. Cackling geese are highly mobile while foraging, and can relocate to nearby foraging habitat if they are disturbed.

4.3.4.1 Survey Results

The CNDDB contains two records of Aleutian cackling goose from within 10 mi of the BSA, both of which are from approximately 6.5 mi south of the BSA near the San Joaquin River National Wildlife Refuge.

The row crops in the BSA provide potential foraging habitat for this species. Since potential foraging habitat is present, this species could occur in the BSA during its nonbreeding (wintering) season (October through March).

4.3.4.2 Project Impacts

The Project will permanently impact 7.75 ac and temporarily disturb 9.92 ac of row crop habitat, which is potential wintering/foraging habitat for Aleutian cackling goose. Permanent impacts will occur as a result of project cut and fill activities; temporary impacts will occur as a result of project access and staging during construction activities.

The Project is not expected to result in take of this species; see Section 4.3.4.3.

4.3.4.3 Avoidance and Minimization Efforts

The risk of actually killing or harming this species during project construction is nearly nonexistent because this species is highly mobile while foraging. Therefore, avoidance measures for this species are not included; this is considered to be consistent with the provisions of the MBTA.

4.3.4.4 Compensatory Mitigation

Potential take of Aleutian cackling goose is highly unlikely for the reasons outlined in Section 4.3.4.3; no compensatory mitigation is proposed.

4.3.4.5 Cumulative Effects

Impacts to Aleutian cackling goose in the general vicinity of the Project likely will occur through habitat loss during public works projects similar in scope to the subject project. Other projects in the region with similar impacts will also be required to minimize and/or mitigate those impacts. Considering the amount of habitat available for this species in the region relative to the amount of habitat in the BSA, the Project will not substantially contribute to cumulative effects to Aleutian cackling goose.

4.3.5 SWAINSON'S HAWK

Swainson's hawk (*Buteo swainsoni*) is a State threatened species. It has no formal federal status. Most Swainson's hawks are long distance migrants, leaving California by the end of October to winter in South America, and returning north to nest by the end of March. A few individuals overwinter in the Sacramento-San Joaquin Delta region. In California, Swainson's hawks nest on the Modoc Plateau and the Great Basin, and throughout the Central Valley from about the Red Bluff area south to Kern County. Nests are built in the tops of large trees, often those associated with riparian habitats, or isolated trees in agricultural areas. They are known to forage up to 10 mi from their nest sites.

4.3.5.1 Survey Results

Swainson's hawks are well-documented in the area; there are 99 records of Swainson's hawk within a 10 mi radius of the BSA. The closest occurrence of this species, dated 2011, is a nest located approximately 1.1 mi north of the BSA in a eucalyptus tree near SR-99.

There are numerous trees within and in the vicinity of the BSA that are potential nest trees for Swainson's hawks, and the row crop and ruderal/disturbed areas in the BSA provide potential foraging habitat for the species. Since suitable foraging habitat is present, and there are numerous records of Swainson's hawks nesting nearby, this species is highly likely to occur in the BSA.

4.3.5.2 Project Impacts

The Project will permanently impact 42.60 ac and temporarily disturb 86.78 ac of row crops and ruderal/disturbed habitat, which is foraging habitat for Swainson's hawk. Permanent impacts will occur as a result of project cut and fill activities; temporary impacts will occur as a result of project access and staging during construction activities.

4.3.5.3 Avoidance and Minimization Efforts

The following avoidance and minimization measures will be implemented to reduce the potential for take of Swainson's hawks:

1. If work begins between February 1 and August 31, an early season preconstruction survey for nesting Swainson's hawks shall be conducted between January and March in the BSA and immediate vicinity (an approximately 0.25 mi radius) by a qualified biologist when tree foliage is relatively sparse and nests are easy to identify. A second preconstruction survey for nesting Swainson's hawks shall be conducted in the BSA and immediate vicinity (an approximately 0.25 mi radius) by a qualified biologist no more than 10 days prior to initiation of earthmoving activities.
2. If nesting Swainson's hawks are found within the survey area, a qualified biologist shall evaluate the potential for the Project to disturb nesting activities. CDFW shall be contacted to review the evaluation and determine if the Project can proceed without adversely affecting nesting activities. CDFW shall also be consulted to establish protection measures such as buffers. Disturbance of active nests shall be avoided until it is determined by a qualified biologist that nesting is complete and the young have fledged, or that the nest has failed. If work is allowed to proceed, at a minimum, a qualified biologist shall be on-site during the start of construction activities during the nesting season to monitor nesting activity. The monitor shall have the authority to stop work if it is determined the Project is adversely affecting nesting activities.
3. Worker environmental awareness training will be conducted by a qualified biologist for all construction personnel. This training instructs workers to recognize Swainson's hawks and their habitat(s).
4. Brightly colored ESA fencing shall be placed along the limits of work to prevent unnecessary encroachment into adjacent areas. Fencing shall be maintained in good condition for the duration of construction activities.
5. Following construction, all fill slopes, temporary impact and/or otherwise disturbed areas shall be restored to preconstruction contours (if necessary) and revegetated with the native seed mix specified in Table 4. Invasive exotic plants will be controlled pursuant to the measures presented in Section 5.7.

4.3.5.4 Compensatory Mitigation

Potential impacts to Swainson's hawks will be minimized with implementation of avoidance and minimization efforts in Section 4.3.5.3. The Project is not expected to result in take of this species; no compensatory mitigation is proposed.

4.3.5.5 Cumulative Effects

Impacts to Swainson's hawks in the general vicinity of the Project likely will occur through habitat loss during public works projects similar in scope to the subject project. Other projects in the region with similar impacts will also be required to minimize and/or mitigate those impacts. Considering the abundance of foraging habitat available for this species in the region relative to the amount of foraging

habitat in the BSA, and implementation of the avoidance and minimization measure detailed above, the Project will not substantially contribute to cumulative effects for Swainson's hawk.

4.3.6 CALIFORNIA HORNED LARK AND LOGGERHEAD SHRIKE

California horned lark (*Eremophila alpestris actia*) is a California Watch List species. This species is known from coastal regions and the Central Valley, inhabiting short-grass prairie, bald hills, mountain meadows, and fallow grain fields. They nest on the ground in grass-lined cup-shaped depressions in open grassy areas.

Loggerhead shrike (*Lanius ludovicianus*) is a California Species of Special Concern; it has no federal status. Loggerhead shrikes are predatory songbirds which feed on insects, lizards, rodents, and smaller birds. They often impale their prey on barbwire fences or thorny vegetation, and so they require habitats with at least one or the other. Nests tend to be built in dense trees or shrubs where the nests can be above ground and well hidden.

4.3.6.1 Survey Results

A flock of California horned larks was observed foraging in the fallow fields east of Austin Road and 99 Frontage Road during the biological survey on November 22, 2017.

No loggerhead shrikes were observed during the field surveys. The CNDDB contains a single record for loggerhead shrike, dated 2016, within the 9-quad search area located approximately 3.75 mi west of BSA in an empty parcel at the corner of Nestle Way and Christopher Way; a pair of adults was observed feeding four fledglings.

The row and field crop lands and ruderal habitats within the BSA provide suitable foraging and nesting habitat for this species. California horned lark is known to be present within the BSA.

The row crops within the BSA provide suitable foraging habitat for loggerhead shrike, and the orchard and vineyard habitats as well as shrubs and trees in the ruderal/disturbed areas provide potential nesting habitat. This species was not observed during the field visits. However, this species could occur in the BSA.

4.3.6.2 Project Impacts

The Project will permanently impact 42.60 ac and temporarily disturb 86.78 ac of row and field crop and ruderal/disturbed habitat, which is potential nesting and foraging habitat for horned lark. Permanent impacts will occur as a result of project cut and fill activities; temporary impacts will occur as a result of project access and staging during construction activities.

The Project will permanently impact 57.96 ac and temporarily disturb 117.20 ac of row crops, orchard, vineyard, and ruderal/disturbed habitat, which is potential habitat for loggerhead shrike. Permanent impacts will occur as a result of project cut and fill

activities; temporary impacts will occur as a result of project access and staging during construction activities.

With implementation of the avoidance and minimization measures in Section 4.3.6.3, the Project is not expected to result in take of these species.

4.3.6.3 Avoidance and Minimization Efforts

The following avoidance and minimization measures will be implemented to reduce the potential for take to California horned larks and loggerhead shrikes:

1. If construction begins during the nesting season (February 1 to August 31), a survey for nesting California horned larks and loggerhead shrikes shall be conducted in the BSA and within a 100 ft radius by a qualified biologist. The survey shall be conducted a maximum of 10 days prior to the start of construction.

2. If nesting California horned larks or loggerhead shrikes are found within 100 ft of the Project footprint during the survey, an initial setback of 100 ft from nesting areas shall be established and protected with ESA fencing. ESA fencing shall be maintained during the nesting season until construction is complete or the young have fledged, as determined by a qualified biologist.

3. A qualified biologist shall evaluate the potential for the proposed work to disturb nesting activities considering the 100-ft setback. The evaluation criteria shall include, but are not limited to, the location/orientation of the nest, the distance of the nest to the work limits, the line of sight between the nest and the work limits, and the description of the proposed work.

4. If work is allowed to proceed, a qualified biologist shall be on-site weekly during construction activities that occur in breeding season to monitor nesting activity. The biologist shall have the authority to stop work if it is determined the Project is adversely affecting nesting activities.

5. If the qualified biologist determines that the setback can be reduced, initial construction activities in the vicinity of the nest shall be monitored by a qualified biologist. If the biologist determines nesting is not affected by construction activities with the reduced setback, work can proceed. If it is determined that construction activities are adversely affecting the nesting birds with the reduced setback, all construction within 100 ft of a nest shall be halted until the biologist can establish an appropriate setback.

6. Worker environmental awareness training shall be conducted by a qualified biologist for all construction personnel. The training shall instruct workers about the purpose of ESA fencing and the resources being protected.

4.3.6.4 Compensatory Mitigation

Potential impacts to California horned lark and loggerhead shrike will be minimized with implementation of avoidance and minimization efforts in Section 4.3.6.3. The

Project is not expected to result in take of these species; no compensatory mitigation is proposed.

4.3.6.5 Cumulative Effects

Impacts to California horned lark and loggerhead shrike in the general vicinity of the Project likely will occur through habitat loss during public works projects similar in scope to the subject project. Other projects in the region with similar impacts will also be required to minimize and/or mitigate those impacts. Considering the amount of habitat available for this species in the region relative to the amount of habitat in the BSA, and implementation of the avoidance and minimization measures detailed above, the Project will not substantially contribute to cumulative effects for these species.

4.3.7 MERLIN

Merlin (*Falco columbarius*) is a State Watch List species. This small falcon nests in spruce forests in Alaska, across most of Canada, and south into the northern most United States, northern Rocky Mountains, and northern Great Plains. Merlin is an uncommon winter visitor to the rest of the U.S., including California, where single individuals will forage by ambushing small birds in low-level attack flights through open country such as grasslands, farms, and ranches. Open woodlands at the edges of grasslands, or stands of trees in open areas (such as windbreaks) are often used for roosting.

4.3.7.1 Survey Results

A merlin was observed soaring over the open area between the westbound SR-120 on ramp and the industrial area to the north during the biological survey on November 22, 2017. It then sped off further west in direct flight northwest toward Spreckles Avenue.

The orchard, row crop, vineyard, and ruderal/disturbed habitats within the BSA provide suitable winter foraging habitat for merlin, and the ornamental trees and windbreaks in various locations within the BSA provide shelter for them to roost. This species is known to occur within the BSA.

4.3.7.2 Project Impacts

The Project will permanently impact 57.96 ac and temporarily impact 117.20 ac of orchard, row crop, vineyard, and ruderal/disturbed habitat, which is potential foraging and roosting habitat for merlin. Permanent impacts will occur as a result of project cut and fill activities; temporary impacts will occur as a result of project access and staging during construction activities.

The Project is not expected to result in take of this species; see Section 4.3.7.3.

4.3.7.3 Avoidance and Minimization Efforts

The risk of actually killing or harming this species during project construction is nearly nonexistent because this species is highly mobile during the winter season and does not nest in California. Therefore, avoidance measures for this species are not included; this is considered to be consistent with the provisions of the MBTA.

4.3.7.4 Compensatory Mitigation

Potential take to merlin is highly unlikely for the reasons outlined in Section 4.3.7.3; no compensatory mitigation is proposed.

4.3.7.5 Cumulative Effects

Impacts to merlin in the general vicinity of the Project likely will occur through habitat loss during public works projects similar in scope to the subject project. Other projects in the region with similar impacts will also be required to minimize and/or mitigate those impacts. Considering the amount of habitat available for this species in the region relative to the amount of habitat in the BSA, and implementation of the avoidance and minimization measures detailed above, the Project will not substantially contribute to cumulative effects for merlin.

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Chapter 5 - Results: Permits and Technical Studies for Special Laws or Conditions

5.1 Federal Endangered Species Act Consultation Summary

The Project will have no effect on any federally listed or candidate species under FESA. Therefore, consultation with USFWS pursuant to Section 7 of the FESA will not be required.

5.2 Federal Fisheries and Essential Fish Habitat Consultation Summary

The Project will have no effect on any waters that support anadromous fish species nor will the project affect EFH. Therefore, consultation will not be required with NMFS pursuant to Section 7 of the FESA nor pursuant to the MSA.

5.3 California Endangered Species Act Consultation Summary

One species listed as threatened under CESA, Swainson's hawk, could occur in the BSA. The Project will result in permanent impacts to row crop and ruderal/disturbed habitat suitable for Swainson's hawk foraging. However, with implementation of mitigation measures listed in this document the Project will not result in take of Swainson's hawk. An Incidental Take Permit pursuant to Section 2081 of the CFGC will not be required.

5.4 Wetlands and Other Waters Coordination Summary

5.4.1 UNITED STATES ARMY CORPS OF ENGINEERS

The non-wetland aquatic features within the BSA do not appear to have connectivity to any tributary waters or a significant nexus to interstate waters and, as such, are not regulated by the USACE. Therefore, it is expected that the USACE will concur that no jurisdictional waters of the U.S. are present in the BSA and no permit pursuant to Section 404 of the CWA would be required.

5.4.2 REGIONAL WATER QUALITY CONTROL BOARD

Waters of the State, totaling 0.712 ac, include ephemeral ditches and shallow basins within the BSA; there are no wetlands in the BSA. The Project will result in 0.20 ac of permanent impacts and 0.02 ac of temporary impacts to waters of the State.

Discharges into waters of the State require a Waste Discharge Waiver from the RWQCB. The RWQCB may also opt to waive the Waste Discharge Waiver and instead issue waste discharge requirements for waters of the State pursuant to their authority under the PCWQCA.

5.4.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

The aquatic features within the BSA do not fall under the definition of CDFW waters (i.e., CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by CDFW). Therefore, a Lake and Streambed Alteration Agreement, pursuant to Sections 1600-1616 of the CFGC, is not required.

5.5 Executive Order 11990 – Protection of Wetlands

There are no wetlands present in the BSA. Therefore, the Project will not result in impacts to wetlands.

5.6 Migratory Bird Treaty Act and California Fish and Game Code (Breeding Birds)

Disturbance of migratory birds during their nesting season (February 1 to September 15) could result in “take” which is prohibited under the MBTA and Section 3513 of the CFGC. CFGC Section 3503 also prohibits take or destruction of bird nests or eggs.

The following seasonal work restrictions will be implemented during construction to minimize the potential for take of nesting birds:

1. If work must begin during the nesting season (February 1 to August 31), a qualified biologist shall survey all suitable nesting habitat in the BSA for presence of nesting birds. This survey shall occur no more than 10 days prior to the start of construction. If no nesting activity is observed, work may proceed as planned. If an active nest is discovered, a qualified biologist shall evaluate the potential for the Project to disturb nesting activities. The evaluation criteria shall include, but are not limited to, the location/orientation of the nest in the nest tree, the distance of the nest from the BSA, the line of sight between the nest and the BSA, and the feasibility of establishing no-disturbance buffers.

2. Additionally, CDFW shall be contacted to review the evaluation and determine if the Project can proceed without adversely affecting nesting activities.

3. If work is allowed to proceed, a qualified biologist shall be on-site weekly during construction activities to monitor nesting activity. The biologist shall have the authority to stop work if it is determined the Project is adversely affecting nesting activities.

5.7 Invasive Species

To avoid the introduction of invasive species into the BSA during project construction, contract specifications shall include, at a minimum, the following measures.

- All earthmoving equipment to be used during project construction shall be cleaned thoroughly before arrival on the project site.

- All seeding equipment (i.e. hydroseed trucks) shall be thoroughly rinsed at least three times prior to beginning seeding work.

- To avoid spreading any non-native invasive species already existing on-site, to off-site areas, all equipment shall be thoroughly cleaned before leaving the site.

- To avoid introduction of additional non-native species to the site, all fill dirt brought onto the site must be weed free.

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Chapter 6 - References

Baldwin, Bruce G. et. al., Ed. 2012. *The Jepson Manual: Vascular Plants of California, Second Edition*. University of California Press.

California Department of Fish and Wildlife (CDFW). 1994. Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo Swainsoni*) in the Central Valley of California. November 8, 1994. Sacramento, CA.

———. 2012. Staff Report on Burrowing Owl Mitigation. March 2012.

———. 2018. California Natural Diversity Data Base - Rarefind 5 online computer program. Sacramento, CA. Records search executed July 10, 2018. Sacramento, California.

CaliforniaHerps.com. Life history accounts, http://www.californiaherps.com (accessed September 8, 2017).

California Native Plant Society (CNPS). 2018. Inventory of Rare and Endangered Plants of California - Online Edition, V8-03. Records search executed July 10, 2017. Sacramento, California.

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual. Technical Report Y-97-1*. U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS.

Jepson Flora Project (eds.) 2018. *Jepson eFlora*, http://ucjeps.berkeley.edu/eflora/ [accessed on Aug 01, 2018].

National Marine Fisheries Service. 2018. Google Earth Species list. http://www.westcoast.fisheries.noaa.gov/maps_data/california_species_list_tools.html Records search executed July 10, 2018.

Sawyer, John O. Keeler-Wolf, Todd. and Evens, Julie M. 2008. *A Manual of California Vegetation: Second Edition*. California Native Plant Society. Sacramento, CA.

U.S. Army Corps of Engineers Research and Development Center. September 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid Southwest Region. ERDC/EL TR-08-28.

U.S. Army Corps of Engineers. June 2008. Regulatory Guidance Letter No. 08-02. Subject: Jurisdictional Determinations. June 26, 2008.

United States Fish and Wildlife Service (USFWS). 2018. Information for Planning and Consultation (IPaC). Official Species List obtained July 10, 2018. Sacramento, California: Sacramento Fish and Wildlife Office.

Appendix A Project Design

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PRELIMINARY

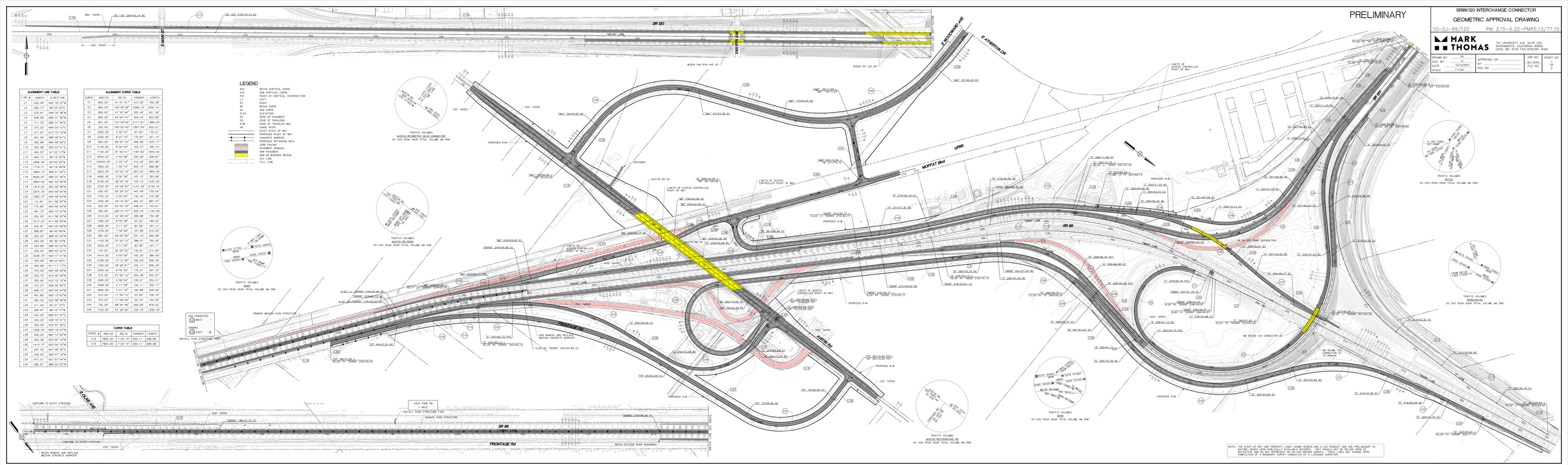
SR99/120 INTERCHANGE CONNECTOR

GEOMETRIC APPROVAL DRAWING

10-SJ-99/120 PM 3.15-6.22-PMR5.13/T7.15

MARK THOMAS
701 UNIVERSITY AVE, SUITE 200
SACRAMENTO, CALIFORNIA 95825
(916) 361-8100 FAX:(916)361-9180

DRAWN BY	BY		JOB NO.	SHEET NO.
CKD. BY		APPROVED ON	5A-15140	V
DATE	10/15/2007	BY	FILE NO.	P
SCALE	1"=100'	RCE NO.		



ALIGNMENT LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	425.46'	N42°18'07"W
L2	594.77'	N8°33'34"E
L3	370.41'	S48°34'38"W
L4	536.36'	N85°31'36"W
L5	711.23'	S89°21'36"E
L6	272.52'	N46°24'10"E
L7	417.83'	N12°15'19"W
L8	401.50'	S86°39'51"E
L9	262.88'	N84°58'10"E
L10	503.08'	S25°03'51"E
L11	424.57'	N12°23'17"W
L12	463.17'	N6°14'25"W
L13	2994.04'	N0°52'42"W
L14	1719.71'	N0°19'38"W
L15	4850.14'	S89°51'50"E
L16	6025.87'	S89°31'36"E
L17	4854.45'	N0°58'58"W
L18	1814.52'	N0°29'38"W
L19	2574.79'	N45°05'44"W
L20	1092.77'	N45°05'44"W
L21	12.40'	N11°06'25"W
L22	174.85'	N45°05'44"W
L23	461.75'	N50°12'47"W
L24	352.55'	N11°06'25"W
L25	2117.23'	N11°06'25"W
L26	525.81'	N62°28'58"W
L27	696.87'	N6°43'36"W
L28	225.00'	S89°40'22"W
L29	383.09'	N6°36'10"W
L30	245.60'	S89°40'22"W
L31	250.52'	N89°40'22"E
L32	2226.70'	N44°11'41"W
L33	300.06'	N6°24'40"E
L34	450.98'	N11°11'17"E
L35	274.00'	N52°48'49"W
L36	332.75'	N10°26'39"W
L37	300.00'	N11°11'17"E
L38	127.37'	N36°55'50"E
L39	948.77'	N45°05'44"W
L40	461.80'	N50°12'47"W
L41	482.34'	N33°58'36"W
L42	211.46'	N2°31'15"E
L43	285.87'	N41°41'17"W
L44	434.34'	N80°31'07"E
L45	339.35'	S28°18'41"E
L46	300.06'	S34°07'35"E
L47	1126.30'	N10°18'41"W
L48	200.00'	N44°13'00"W
L49	220.36'	N50°24'10"W
L50	1413.73'	N53°04'10"W
L51	497.05'	N41°06'35"E
L52	349.53'	S86°07'18"W
L53	677.51'	N21°13'54"W
L54	585.91'	N80°24'25"W

ALIGNMENT CURVE TABLE				
CURVE	RADIUS	DELTA	TANGENT	LENGTH
C1	850.00'	51°51'41"	413.30'	769.38'
C2	850.00'	140°58'56"	2390.15'	2091.35'
C3	850.00'	41°37'46"	325.40'	621.54'
C4	850.00'	44°04'14"	344.02'	653.80'
C5	831.00'	137°09'04"	2117.81'	1989.20'
C6	332.00'	160°50'40"	1967.84'	932.01'
C7	3000.00'	3°20'47"	87.83'	175.21'
C8	2340.00'	8°21'10"	170.87'	341.14'
C9	850.00'	69°57'10"	594.66'	1037.37'
C10	2136.00'	8°44'50"	163.27'	326.10'
C11	1150.00'	91°50'41"	1187.63'	1843.44'
C12	6000.00'	4°52'06"	255.09'	509.87'
C13	14000.00'	2°27'41"	412.00'	823.99'
C14	7800.00'	7°20'14"	500.12'	998.86'
C17	2800.00'	34°03'19"	857.52'	1664.25'
C18	4500.00'	5°30'36"	107.12'	363.90'
C19	2100.00'	39°04'18"	745.13'	1432.05'
C20	2700.00'	43°48'52"	1141.30'	2163.74'
C21	500.00'	83°39'22"	447.49'	730.04'
C22	7752.00'	2°00'00"	135.30'	270.58'
C23	1500.00'	34°18'24"	460.51'	897.27'
C24	500.00'	83°43'18"	448.01'	730.61'
C25	280.00'	229°51'47"	858.18'	1104.59'
C28	1010.00'	42°48'25"	395.88'	754.58'
C27	1590.00'	8°16'36"	83.32'	166.32'
C28	3000.00'	3°11'30"	83.58'	167.11'
C29	1578.00'	7°48'28"	107.68'	215.03'
C30	850.00'	64°10'56"	520.16'	949.48'
C31	1150.00'	37°22'01"	388.91'	750.05'
C32	3000.00'	3°11'30"	83.58'	167.11'
C33	150.00'	82°05'35"	130.61'	214.92'
C34	4414.00'	3°00'34"	193.35'	386.48'
C35	2186.00'	17°13'08"	330.63'	656.30'
C36	1350.00'	35°29'51"	432.11'	836.39'
C37	2340.00'	8°45'32"	179.21'	357.72'
C38	575.00'	61°50'13"	344.38'	620.57'
C39	2485.00'	5°48'34"	126.21'	252.21'
C40	7848.00'	2°11'25"	150.11'	300.13'
C41	4900.00'	3°51'16"	164.88'	329.64'
C42	514.00'	12°04'13"	53.58'	106.78'
C43	514.00'	11°08'49"	50.16'	100.00'
C44	730.00'	68°54'46"	500.90'	878.02'
C45	1100.00'	67°26'30"	734.19'	1284.79'

CURVE TABLE				
CURVE #	RAD=US	DELTA	TANGENT	LENGTH
C15	7800.00'	7°20'14"	500.11'	998.86'
C16	7800.00'	7°20'14"	500.11'	998.86'

NOTE: THE RIGHT-OF-WAY AND PROPERTY LINES SHOWN HEREON ARE A GIS PRODUCT AND ARE PRELIMINARY IN NATURE, BASED UPON PUBLICALLY AVAILABLE RECORDS. THEY SHOULD NOT BE RELIED UPON AS DEFINITIVE AND DO NOT REPRESENT AN ON-THE-GROUND SURVEY. THESE LINES MAY CHANGE UPON COMPLETION OF A BOUNDARY SURVEY CONDUCTED BY A LICENSED SURVEYOR.

SR99/120 CONNECTOR INTERCHANGE

GEOMETRIC APPROVAL DRAWING

TO-120-99-GAD-PR-3.15-6.22-PMR5.13/77.15

MARK THOMAS

TO: UNIVERSITY AVE, SUITE 200
EUGENE, OREGON 97401-3154
(541) 341-3162 FAX (541)341-3165

DRAWN BY:	TT	APPROVED BY:	JOB NO: 54001
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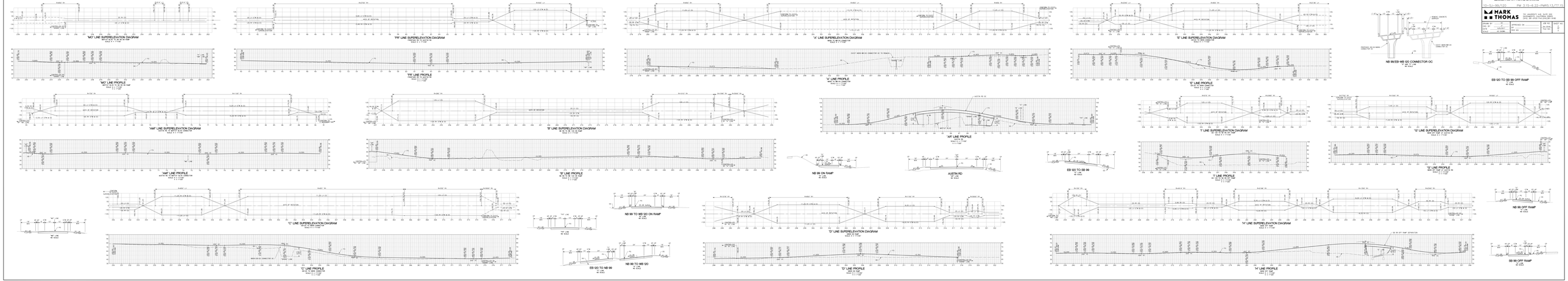
SCALE:	(1) 100ft.		TOT. NO: 9



Appendix B CNPS, USFWS, NMFS and CNDDB Lists

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Avena (3712171) OR Lathrop (3712173) OR Manteca (3712172) OR Peters (3712181) OR Ripon (3712162) OR Salida (3712161) OR Stockton East (3712182) OR Stockton West (3712183) OR Vernalis (3712163))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Candidate Endangered	G2G3	S1S2	SSC
Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Anniella pulchra northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
Anthicus sacramento Sacramento anthicid beetle	IICOL49010	None	None	G1	S1	
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T2	S2	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Atriplex cordulata var. cordulata heartscale	PDCHE040B0	None	None	G3T2	S2	1B.2
Atriplex minuscula lesser saltscale	PDCHE042M0	None	None	G2	S2	1B.1
Blepharizonia plumosa big tarplant	PDAST1C011	None	None	G1G2	S1S2	1B.1
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
Bombus crotchii Crotch bumble bee	IIHYM24480	None	None	G3G4	S1S2	
Bombus occidentalis western bumble bee	IIHYM24250	None	None	G2G3	S1	
Branchinecta conservatio Conservancy fairy shrimp	ICBRA03010	Endangered	None	G2	S2	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branchinecta mesovallensis midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
Branta hutchinsii leucopareia cackling (=Aleutian Canada) goose	ABNJB05035	Delisted	None	G5T3	S3	
Brasenia schreberi watershield	PDCAB01010	None	None	G5	S3	2B.3
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Chloropyron palmatum palmate-bracted salty bird's-beak	PDSCR0J0J0	Endangered	Endangered	G1	S1	1B.1
Cirsium crassicaule slough thistle	PDAST2E0U0	None	None	G1	S1	1B.1
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Delphinium recurvatum recurved larkspur	PDRAN0B1J0	None	None	G2?	S2?	1B.2
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Elderberry Savanna Elderberry Savanna	CTT63440CA	None	None	G2	S2.1	
Eremophila alpestris actia California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
Eryngium racemosum Delta button-celery	PDAPI0Z0S0	None	Endangered	G1	S1	1B.1
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Falco columbarius merlin	ABNKD06030	None	None	G5	S3S4	WL
Great Valley Cottonwood Riparian Forest Great Valley Cottonwood Riparian Forest	CTT61410CA	None	None	G2	S2.1	
Great Valley Mixed Riparian Forest Great Valley Mixed Riparian Forest	CTT61420CA	None	None	G2	S2.2	
Great Valley Valley Oak Riparian Forest Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	G1	S1.1	
Hibiscus lasiocarpos var. occidentalis woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
Hypomesus transpacificus Delta smelt	AFCHB01040	Threatened	Endangered	G1	S1	
Lanius ludovicianus loggerhead shrike	ABPBR01030	None	None	G4	S4	SSC
Lathyrus jepsonii var. jepsonii Delta tule pea	PDFAB250D2	None	None	G5T2	S2	1B.2
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Lytta moesta moestan blister beetle	IICOL4C020	None	None	G2	S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Melospiza melodia	ABPBXA3010	None	None	G5	S3?	SSC
song sparrow ("Modesto" population)						
Mylopharodon conocephalus	AFCJB25010	None	None	G3	S3	SSC
hardhead						
Neotoma fuscipes riparia	AMAFF08081	Endangered	None	G5T1Q	S1	SSC
riparian (=San Joaquin Valley) woodrat						
Oncorhynchus mykiss irideus pop. 11	AFCHA0209K	Threatened	None	G5T2Q	S2	
steelhead - Central Valley DPS						
Puccinellia simplex	PMPOA53110	None	None	G3	S2	1B.2
California alkali grass						
Sagittaria sanfordii	PMALI040Q0	None	None	G3	S3	1B.2
Sanford's arrowhead						
Spirinchus thaleichthys	AFCHB03010	Candidate	Threatened	G5	S1	SSC
longfin smelt						
Sylvilagus bachmani riparius	AMAEB01021	Endangered	Endangered	G5T1	S1	
riparian brush rabbit						
Symphyotrichum lentum	PDASTE8470	None	None	G2	S2	1B.2
Suisun Marsh aster						
Thamnophis gigas	ARADB36150	Threatened	Threatened	G2	S2	
giant gartersnake						
Trichocoronis wrightii var. wrightii	PDAST9F031	None	None	G4T3	S1	2B.1
Wright's trichocoronis						
Trifolium hydrophilum	PDFAB400R5	None	None	G2	S2	1B.2
saline clover						
Tuctoria greenei	PMPOA6N010	Endangered	Rare	G1	S1	1B.1
Greene's tuctoria						
Vireo bellii pusillus	ABPBW01114	Endangered	Endangered	G5T2	S2	
least Bell's vireo						
Xanthocephalus xanthocephalus	ABPBXB3010	None	None	G5	S3	SSC
yellow-headed blackbird						

Record Count: 55

CNPS California Native Plant Society

Plant List

Inventory of Rare and Endangered Plants

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

Search Criteria

Found in Quads 3712183, 3712182, 3712173, 3712172, 3712171, 3712181, 3712162 3712161 and 3712163;

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
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S2	G2T2
Atriplex cordulata var. cordulata	heartscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G3T2
Atriplex coronata var. coronata	crownscale	Chenopodiaceae	annual herb	Mar-Oct	4.2	S3	G4T3
Atriplex minuscula	lesser saltscale	Chenopodiaceae	annual herb	May-Oct	1B.1	S2	G2
Blepharizonia plumosa	big tarplant	Asteraceae	annual herb	Jul-Oct	1B.1	S2	G2
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep	2B.3	S3	G5
Centromadia parryi ssp. rudis	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	4.2	S3	G3T3
Chloropyron palmatum	palmate-bracted bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	May-Oct	1B.1	S1	G1
Cirsium crassicaule	slough thistle	Asteraceae	annual / perennial herb	May-Aug	1B.1	S1	G1
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	1B.2	S2?	G2?
Eryngium racemosum	Delta button-celery	Apiaceae	annual / perennial herb	Jun-Oct	1B.1	S1	G1
Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
Lathyrus jepsonii var. jepsonii	Delta tule pea	Fabaceae	perennial herb	May-Jul(Aug-Sep)	1B.2	S2	G5T2
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	1B.2	S2	G3
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	1B.2	S3	G3
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	1B.2	S2	G2
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	Asteraceae	annual herb	May-Sep	2B.1	S1	G4T3
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2

Suggested Citation

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Questions and Comments

rareplants@cnps.org

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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: July 10, 2018
Consultation Code: 08ESMF00-2017-SLI-3170
Event Code: 08ESMF00-2018-E-07804
Project Name: SR 99/120 Interchange Project

Subject: Updated 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: 08ESMF00-2017-SLI-3170

Event Code: 08ESMF00-2018-E-07804

Project Name: SR 99/120 Interchange Project

Project Type: TRANSPORTATION

Project Description: MKT1507

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/37.77507576825451N121.18082668960157W

Counties: San Joaquin, CA

Endangered Species Act Species

There is a total of 7 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.

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* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* 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	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

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

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

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

Quad Name **Manteca**
Quad Number **37121-G2**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -

Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

<u>ESA and MMPA Cetaceans/Pinnipeds</u>
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -

MMPA Pinnipeds -

Quad Name **Avena**
Quad Number **37121-G1**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

<u>ESA and MMPA Cetaceans/Pinnipeds</u>
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -

MMPA Pinnipeds -

Quad Name **Salida**
Quad Number **37121-F1**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

<u>ESA and MMPA Cetaceans/Pinnipeds</u>
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -

MMPA Pinnipeds -

Quad Name **Ripon**
Quad Number **37121-F2**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - **X**

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

<u>ESA and MMPA Cetaceans/Pinnipeds</u>
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -

MMPA Pinnipeds -

Quad Name **Vernalis**
Quad Number **37121-F3**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - **X**

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

<u>ESA and MMPA Cetaceans/Pinnipeds</u>
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -

MMPA Pinnipeds -

Quad Name **Lathrop**
Quad Number **37121-G3**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - **X**

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

<u>ESA and MMPA Cetaceans/Pinnipeds</u>
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -

MMPA Pinnipeds -

Quad Name **Stockton West**
Quad Number **37121-H3**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - **X**

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH - **X**
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

<u>ESA and MMPA Cetaceans/Pinnipeds</u>
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -

MMPA Pinnipeds -

Quad Name **Stockton East**
Quad Number **37121-H2**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

<u>ESA and MMPA Cetaceans/Pinnipeds</u>
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -

MMPA Pinnipeds -

Quad Name **Peters**
Quad Number **37121-H1**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

<u>ESA and MMPA Cetaceans/Pinnipeds</u>
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -

MMPA Pinnipeds -

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Appendix C Wetland Data Sheets

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 99/120 INTERCHANGE City/County: MANTECA Sampling Date: 11/21/2017

Applicant/Owner: CALTRANS, SAN JOAQUIN COUNTY State: CA Sampling Point: 1

Investigator(s): A. VAN ZUUK Section, Township, Range: _____

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

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. LIQUIDAMBAR STYRACIFLUA	5	N	FAC
2. SEQUOIA SEMPERVIRENS	25	Y	UPL
3.			
4.			
	30	= Total Cover	

Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Herb Stratum (Plot size: _____)			
1. SETARIA PARVIFLORA	80	Y	FAC
2. HETEROTHECA GRANDIFLORA	5	N	UPL
3. PLANTAGO LANCEOLATA	20	Y	FAC
4. TRIFOLIUM REPENS	5	N	FACU
5. LOTUS CORNICULATUS	12	N	FAC
6. CENCHRUS LONGISPINUS	8	N	UPL
7.			
8.			
	130	= Total Cover	

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust 7

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0	x 1 = 0
FACW species	0	x 2 = 0
FAC species	117	x 3 = 351
FACU species	5	x 4 = 20
UPL species	38	x 5 = 190
Column Totals:	160 (A)	561 (B)

Prevalence Index = B/A = 3.51

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12"	10YR 3/4	100	—	—	—	—	SAND	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): >12"

Water Table Present? Yes ___ No ✓ Depth (inches): >12"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0-3"

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

SATURATION LIKELY DUE TO RECENT RAINSTORM.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 99/120 INTERCHANGE City/County: MANTECA Sampling Date: 11/21/2017

Applicant/Owner: CALTRANS, SAN JOAQUIN COUNTY State: CA Sampling Point: 1A

Investigator(s): A. VAN ZUUK Section, Township, Range: _____

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

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:
UPLAND POINT.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. TRIBULUS TERRESTRIS	5	N	UPL
2. CROTON SETIGER	2	N	UPL
3. SALSOLA TRAGUS	1	N	FACU
4.			
5.			
6.			
7.			
8.			
	8 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 92 % Cover of Biotic Crust _____

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 0 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	1	x 4 =	4
UPL species	7	x 5 =	35
Column Totals:	8 (A)		39 (B)

Prevalence Index = B/A = 4.875

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:
LARGELY UNVEGETATED. ROADSIDE MAINTAINED VIA HERBICIDE TREATMENTS.

SOIL

Sampling Point: 1A

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8"	10YR 3/4	100	—	—	—	—	SAND	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks: PACKED DIRT ALONG ROADSIDE.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): >8"

Water Table Present? Yes ___ No ✓ Depth (inches): >8"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0-2"

Wetland Hydrology Present? Yes ___ No ✓

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

Remarks: SATURATION LIKELY DUE TO RECENT RAINSTORM.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 99/120 INTERCHANGE City/County: MANTECA Sampling Date: 11/21/2017

Applicant/Owner: CALTRANS, SAN JOAQUIN COUNTY State: CA Sampling Point: 2

Investigator(s): A. VAN ZUUK Section, Township, Range: _____

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

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. HETEROTHECA GRANDIFLORA	15	Y	UPL
2. CROTON SETIGER	3	N	UPL
3. CENTAUREA SOLSTITIALIS	7	N	UPL
4. HYPOCHAERIS GLABRA	26	Y	UPL
5. ERODIUM CICUTARIUM	28	Y	UPL
6. SALSOLA TRAGUS	8	N	FACU
7.			
8.			
	87 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 3 % Cover of Biotic Crust 10

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12"	10YR 3/3	100	—	—	—	—	SILTY SAND	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): >12"

Water Table Present? Yes ___ No ✓ Depth (inches): >12"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0-4"

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks: RECENT RAINSTORM LIKELY CAUSE OF SATURATION.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 99/120 INTERCHANGE City/County: MANTECA Sampling Date: 11/22/2017

Applicant/Owner: CALTRANS, SAN JOAQUIN COUNTY State: CA Sampling Point: 3

Investigator(s): A. VAN ZUUK Section, Township, Range: _____

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

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks: WET DEPRESSION BETWEEN RAILROAD TRACKS AND 99 SOUTH RAMP. PACKED ROAD TURNOUT/SHOULDER.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. SALSOLA TRAGUS	2	N	FACU
2. HELIANTHUS ANNUUS	2	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	4 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 96 % Cover of Biotic Crust _____

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 0 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0	x 1 = 0
FACW species	0	x 2 = 0
FAC species	0	x 3 = 0
FACU species	4	x 4 = 16
UPL species	0	x 5 = 0
Column Totals:	4 (A)	16 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8"	10YR 3/2	100	—	—	—	—	LOAMY SAND	~5% COBBLES, R/R ROCK

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): >8"

Water Table Present? Yes ___ No ✓ Depth (inches): >8"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): >0"

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 99/120 INTERCHANGE City/County: MANTECA Sampling Date: 11/22/2017

Applicant/Owner: CALTRANS, SAN JOAQUIN COUNTY State: CA Sampling Point: 4

Investigator(s): A. VAN ZUUK Section, Township, Range: _____

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

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. AVENA SATIVA	10	N	UPL
2. FESTUCA PERENNIS	43	Y	FAC
3. CENTAUREA SOLSTITIALIS	12	N	UPL
4. ESCHSCHOLZIA CALIFORNICA	5	N	UPL
5. HORDEUM MARINUM	8	N	FAC
6.			
7.			
8.			
	78 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 14 % Cover of Biotic Crust 8

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	51	x 3 =	153
FACU species	0	x 4 =	0
UPL species	27	x 5 =	135
Column Totals:	78 (A)		288 (B)

Prevalence Index = B/A = 3.69

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-13"	10 YR 4/3	100	—	—	—	—	SAND	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): >13"

Water Table Present? Yes ___ No ✓ Depth (inches): >13"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): >0"

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 99/120 INTERCHANGE City/County: MANTECA Sampling Date: 11/22/2017

Applicant/Owner: CALTRANS, SAN JOAQUIN COUNTY State: CA Sampling Point: 4A

Investigator(s): A. VAN ZUUK Section, Township, Range: _____

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

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks: UPLAND POINT.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. AVENA SATIVA	30	N	UPL
2. CENTAUREA SOLSTITIALIS	55	Y	UPL
3. CROTON SETIGER	5	N	UPL
4.			
5.			
6.			
7.			
8.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust _____

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 4A

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10"	10YR 3/3	100	—	—	—	—	SAND	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): >10"
Water Table Present?	Yes ✓	No ___	Depth (inches): >10"
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 0-8"

Wetland Hydrology Present? Yes ___ No ✓

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 99/120 INTERCHANGE City/County: MANTECA Sampling Date: 11/22/2017

Applicant/Owner: CALTRANS, SAN JOAQUIN COUNTY State: CA Sampling Point: 5

Investigator(s): A. VAN ZUUK Section, Township, Range: _____

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

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. SALSOLA TRAGUS	80	Y	FACU
2. BRASSICA NIGRA	80	Y	UPL
3. CENTAUREA SOLSTITIALIS	15	N	UPL
4. CYNODON DACTYLON	15	N	FACU
5. GRINDELIA CAMPORUM?	10	N	FACW
6. TRITICUM AESTIVUM	5	N	UPL
7.			
8.			
	105 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-13"	10YR 3/3	100	—	—	—	—	LOAMY SAND	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): >13"

Water Table Present? Yes ___ No ✓ Depth (inches): >13"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0-4"

Wetland Hydrology Present? Yes ___ No ✓

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

Remarks:

SATURATION LIKELY DUE TO RECENT RAINSTORM.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 99/120 INTERCHANGE City/County: MANTECA Sampling Date: 11/22/2016

Applicant/Owner: CALTRANS, SAN JOAQUIN COUNTY State: CA Sampling Point: 6

Investigator(s): A. VAN ZUUK Section, Township, Range: _____

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

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. ERODIUM CICUTARIUM	8	N	UPL
2. ERODIUM BOTRYS	4	N	FACU
3. SILYBUM MARIANUM	16	Y	UPL
4. HETEROTHECA GRANDIFLORA	7	N	UPL
5. HELIANTHUS ANNUUS	2	N	FACU
6. CENTAUREA SOLSTITIALIS	10	N	UPL
7.			
8.			
	47 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 53 % Cover of Biotic Crust _____

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 6

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-14"	10 YR 4/3	100	—	—	—	—	SAND	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks: RAINSTORM SATURATION TO 8", ADDITIONAL SATURATION AFTER.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): >14"

Water Table Present? Yes ___ No ✓ Depth (inches): >14"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): >0"

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 99/120 INTERCHANGE City/County: MANTECA Sampling Date: 11/22/2017

Applicant/Owner: CALTRANS, SAN JOAQUIN COUNTY State: CA Sampling Point: 7

Investigator(s): A. VAN ZUUK Section, Township, Range: _____

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

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		

Herb Stratum (Plot size: _____)			
1. HETEROTHECA GRANDIFLORA	8	N	UPL
2. SALSOLA TRAGUS	5	N	FACU
3. HORDEUM MURINUM	5	N	FACU
4. ERODIUM CICUTARIUM	12	Y	UPL
5. BRASSICA NIGRA	2	N	UPL
6. CENTAUREA SOLSTITIALIS	1	N	UPL
7.			
8.			
	33 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 59 % Cover of Biotic Crust 8

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 7

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-1"	10 YR 3/1	100	—	—	—	—	LOAM	
1-10"	10 YR 3/2	100	—	—	—	—	SAND	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): >10"

Water Table Present? Yes ___ No ✓ Depth (inches): >10"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 70"

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks: SATURATION LIKELY DUE TO RECENT RAINSTORM

Appendix D Representative Photos

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View west at almond orchard about 0.2 mi southwest of Austin Rd/Moffat Blvd intersection.

View east at conifer on ranch property that had inactive probable raptor nest about 0.1 mi southwest of Austin Rd/Moffat Blvd intersection.

View north at Austin Rd and southern most portion of project area west of SR 99.

View northwest at 99 Frontage Road about 0.25 mi southeast of Moffat Blvd on-ramp for SR 99.

APPENDIX D
Page 1 of 3

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, P.M. 3.1/6.2
EA 10-1E740

Representative Photos

SOURCE: LSA (02/18).

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View northeast from about 0.1 mi west of SR 99/SR 120 interchange.

View southeast at on-ramp connecting SR 120 to southbound SR 99 from southwest portion of interchange.

View north at on-ramp connecting SR 120 to southbound SR 99 from southwest portion of interchange.

View west at on-ramp connecting SR 120 to southbound SR 99 from southwest portion of interchange.

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, P.M. 3.1/6.2
EA 10-1E740

Representative Photos

SOURCE: LSA (02/18).

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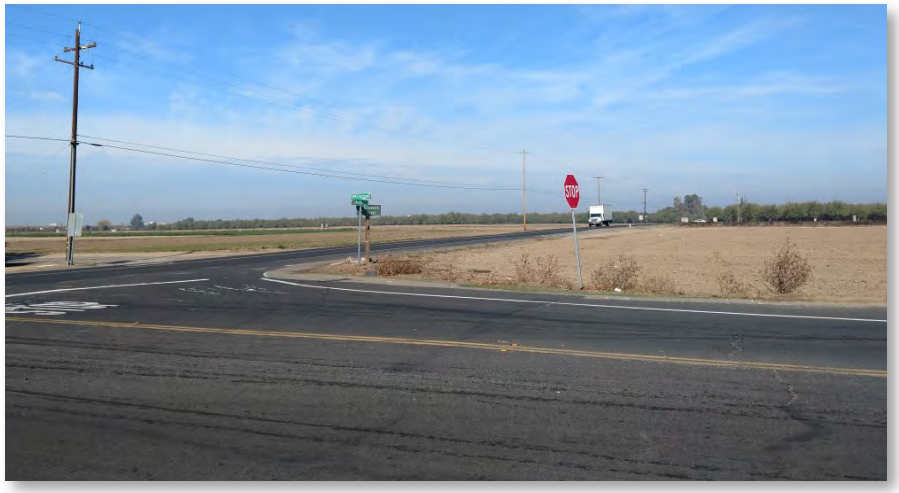
Sycamore tree with old raptor nest 70 feet west of Austin Rd/99 Frontage Road junction.



View northwest at Austin Rd/99 Frontage Road junction.

View southeast at Austin Rd overpass from northbound SR 99 on-ramp.

View east at embankment of westbound SR 120 on-ramp from northwest portion of interchange.

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, P.M. 3.1/6.2
EA 10-1E740

Representative Photos

SOURCE: LSA (02/18).

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Appendix E List of Plant and Wildlife Species Observed

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99/120 Interchange Wildlife Species List – 11/21-22/17

PLANTS

Tumbleweed (*Amaranthus albus*)
Common oats (*Avena sativa*)
Fivehook bassia (*Bassia hyssopifolia*) INVASIVE: limited
Birch sp. (*Betula* sp.)
Black mustard (*Brassica nigra*) INVASIVE: moderate
Ripgut brome (*Bromus diandrus*) INVASIVE: moderate
Incense cedar (*Calocedrus decurrens*)
Shepherd's purse (*Capsella bursa-pastoris*)
Italian thistle (*Carduus pycnocephalus*) INVASIVE: moderate
Australian pine (*Casuarina equisetifolia*)
Deodar cedar (*Cedrus deodara*)
Mat sandbur (*Cenchrus longispinus*)
Yellow star thistle (*Centaurea solstitialis*) INVASIVE: HIGH
Large mouse ears (*Cerastium glomeratum*)
Western redbud (*Cercis occidentalis*)
Lamb's quarters (*Chenopodium album*)
Feather fingergrass (*Chloris virgata*)
Mandarin orange (*Citrus reticulata*)
Field bindweed (*Convolvulus arvensis*)
Pampas grass sp. (*Cortaderia* sp.)
Turkey-mullein (*Croton setiger*)
Bermudagrass (*Cynodon dactylon*) INVASIVE: moderate
Jimsonweed (*Datura wrightii*)
Hairy crabgrass (*Digitaria sanguinalis*)
Jungle rice (*Echinochloa colona*)
Annual fireweed (*Epilobium brachycarpum*)
Fringed willowherb (*Epilobium ciliatum*)
Flax-leaved horseweed (*Erigeron bonariensis*)
Canada horseweed (*Erigeron canadensis*)
Broad leaf filaree (*Erodium botrys*)
Red-stemmed filaree (*Erodium cicutarium*) INVASIVE: limited
California poppy (*Eschscholzia californica*)
Gum sp. (*Eucalyptus* sp.)
Thyme-leafed spurge (*Euphorbia serpyllifolia*)
Flannelbush sp. (*Fremontodendron* sp.)

Dove's foot geranium (*Geranium molle*)
Gumplant sp. (*Grindelia* sp.)
Common sunflower (*Helianthus annuus*)
Toyon (*Heteromeles arbutifolia*)
Telegraph weed (*Heterotheca grandiflora*)
Short-podded mustard (*Hirschfeldia incana*) INVASIVE: moderate
Foxtail barley (*Hordeum murinum*) INVASIVE: moderate
Smooth cat's ear (*Hypochaeris glabra*) INVASIVE: limited
California black walnut (*Juglans hindsii*)
English walnut (*Juglans regia*)
Prickly lettuce (*Lactuca serriola*)
Duckweed sp. (*Lemna* sp.)
Broadleaved pepperweed (*Lepidium latifolium*) INVASIVE: HIGH
Bearded sprangletop (*Leptochloa fusca* ssp. *fascicularis*)
Sweetgum (*Liquidambar styraciflua*)
Bird's foot trefoil (*Lotus corniculatus*)
Southern magnolia (*Magnolia grandiflora*)
Apple sp. (*Malus* sp.)
Common mallow (*Malva neglecta*)
Cheeseweed mallow (*Malva parviflora*)
California burclover (*Medicago polymorpha*)
White mulberry (*Morus alba*)
Oleander (*Nerium oleander*)
Cutleaf evening primrose (*Oenothera laciniata*)
Olive (*Olea europaea*) INVASIVE: limited
Dwarf woodsorrel (*Oxalis micrantha*)
Annual bluegrass (*Poa annua*)
Ponderosa pine (*Pinus ponderosa*)
Gray pine (*Pinus sabiniana*)
Chinese pistache (*Pistacia chinensis*)
English plantain (*Plantago lanceolata*) INVASIVE: limited
Prostrate knotweed (*Polygonum aviculare* ssp. *depressum*)
Rabbitsfoot grass (*Polypogon monspeliensis*)
Fremont cottonwood (*Populus fremontii*)
Domestic almond (*Prunus dulcis*)
Jersey cudweed (*Pseudognaphalium luteoalbum*)
Scarlet firethorn (*Pyracantha coccinea*) INVASIVE: limited
Valley oak (*Quercus lobata*)
Live oak sp. (*Quercus* sp.)
Black locust (*Robinia pseudoacacia*) INVASIVE: limited
Curly dock (*Rumex crispus*) INVASIVE: limited

Russian thistle (*Salsola tragus*) INVASIVE: limited
Common groundsel (*Senecio vulgaris*)
Coast redwood (*Sequoia sepervirens*)
Marsh bristlegrass (*Setaria parviflora*)
Milk thistle (*Silybum marianum*) INVASIVE: limited
White nightshade (*Solanum americanum*)
Field sowthistle (*Sonchus arvensis*)
Sand spurry sp. (*Spergularia* sp.)
Common dandelion (*Taraxacum officinale*)
Puncturevine (*Tribulus terrestris*) INVASIVE: limited
White clover (*Trifolium repens*)
Winter wheat (*Triticum aestivum*)
Dwarf nettle (*Urtica urens*)
Rough cockleburr (*Xanthium strumarium*)
California fan palm (*Washingtonia filifera*)

BUTTERFLIES and MOTHS

Common buckeye (*Junonia coenia*)
Painted lady (*Vanessa cardui*)

BIRDS

Turkey vulture (*Cathartes aura*)
Cooper's hawk (*Accipiter cooperii*) courting pair at orchard SW of Austin and Moffat
Red-tailed hawk (*Buteo jamaicensis*)
American kestrel (*Falco sparverius*)
Merlin (*Falco columbarius*) single female soaring over interchange, then continuing west
Killdeer (*Charadrius vociferus*)
California gull (*Larus californicus*)
Rock pigeon (*Columba livia*)
Eurasian collared-dove (*Streptopelia decaocto*)
Mourning dove (*Zenaida macroura*)
Barn owl (*Tyto alba*) carcass along SR 99
White-throated swift (*Aeronautes saxatalis*)
Anna's hummingbird (*Calypte anna*)
Nuttall's woodpecker (*Picoides nuttallii*)
Northern flicker (*Colaptes auratus*)
Black phoebe (*Sayornis nigricans*)
California scrub-jay (*Aphelocoma californica*)
Yellow-billed magpie (*Pica nuttalli*)

American crow (*Corvus brachyrhynchos*)
Common raven (*Corvus corax*)
Horned lark (*Eremophila alpestris*) flock in fallow field E of Austin Rd and N of interchange
Oak titmouse (*Baeolophus inornatus*)
Ruby-crowned kinglet (*Regulus calendula*)
Western bluebird (*Sialia mexicana*)
American robin (*Turdus migratorius*)
Northern mockingbird (*Mimus polyglottos*)
European starling (*Sturnus vulgaris*)
American pipit (*Anthus rubescens*)
Yellow-rumped warbler (*Setophaga coronata*)
Savannah sparrow (*Passerculus sandwichensis*)
Lincoln's sparrow (*Melospiza lincolnii*)
Dark-eyed Junco (*Junco hyemalis*)
White-crowned sparrow (*Zonotrichia leucophrys*)
Golden-crowned sparrow (*Zonotrichia atricapilla*)
Lark sparrow (*Chondestes grammacus*)
Brewer's blackbird (*Euphagus cyanocephalus*)
Brown-headed cowbird (*Molothrus ater*)
Western meadowlark (*Sturnella neglecta*)
House finch (*Haemorhous mexicanus*)
Lesser goldfinch (*Spinus psaltria*)
American goldfinch (*Spinus tristis*)
House sparrow (*Passer domesticus*)

MAMMALS

California ground squirrel (*Otospermophilus beecheyi*)
Botta's pocket gopher (*Thomomys bottae*) mounds
Brown rat (*Rattus norvegicus*)
Coyote (*Canis latrans*) scat