ATTACHMENT B

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Initial Study / Mitigated Negative Declaration

Huff's Corner Levee Raise & Channel Reconfiguration Project

Lead Agency

Yolo County Administrator's Office
625 Court Street, Room 202
Woodland, CA 95695

Prepared: May 11, 2021

Adopted: July 30, 2021

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CHAPTER 1 – INTRODUCTION

1.1. PURPOSE OF DOCUMENT

This initial study/mitigated negative declaration (IS/MND) has been prepared by Yolo County to evaluate potential environmental effects resulting from the Huff's Corner Levee Raise and Channel Reconfiguration Project (Project).

This document has been prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations [CCR] Section 15000 et seq.). Under CEQA, an IS can be prepared by a lead agency to determine whether a project may have a significant effect on the environment (CEQA Guidelines Section 15063[a]), and then determine whether an environmental impact report must be prepared. Yolo County, the lead agency for this project, has prepared the following analysis, which identifies the potential physical environmental impacts of the Project, and the mitigation measures that would reduce "significant" and "potential significant" impacts to a "less-than-significant" level. As the lead agency, Yolo County is responsible for complying with the provisions of CEQA.

In accordance with the provisions of CEQA, Yolo County is distributing a notice of intent (NOI) to adopt an MND to solicit comments on the analysis and mitigation measures presented in this IS/MND. The NOI will be distributed to property owners within 1,000 feet of the Project site, as well as to the State Clearinghouse/Governor's Office of Planning and Research and each responsible and trustee agency.

A 30-day public review period of the IS/MND will commence on Wednesday, May 12, 2021, and end on Thursday June 10, 2021, at 5:00 pm. During this time, public agencies and interested individuals may submit written comments on the document. Any written comments on the IS/MND must be received by the point of contact listed below within the public review period.

The IS/MND is available for public review at the following locations during normal business hours:

Yolo County Administrator's Office, 625 Court Street, Room 202, Woodland, CA 95695
Yolo County Department of Community Services, 292 W. Beamer Street, Woodland, CA 95695

Please note that County offices may have modified public hours in response to the COVID-19 pandemic. It is recommended to verify hours by calling (530) 666-8150 (County Administrator) or (530) 666-8775 (Community Services).

The IS/MND is also posted to www.yolonaturalresources.org for electronic access.

Please direct all questions about the IS/MND, as well as comments on the document to:

Casey Liebler, Natural Resources Program Coordinator
Yolo County Administrator's Office
625 Court Street, Room 202
Woodland, CA 95695
(530) 666-8236
Casey.Liebler@yolocounty.org

1.2. PUBLIC REVIEW PROCESS

This IS/MND is being circulated for a 30-day public comment period and is available at the locations identified in Section 1.1. Following the 30-day public comment period, the County will consider comments in light of the whole record and make a determination on the completeness of the document and whether or not to adopt it.

1.3. DOCUMENT ORGANIZATION

The IS/MND is organized as follows:

Chapter 1 – Introduction: This chapter introduces the environmental review process and describes the purpose and organization of this document.

Chapter 2 – Project Information: This chapter provides detailed information about the Project.

Chapter 3 – Environmental Settings and Environmental Impacts: This chapter presents an analysis of a range of environmental issues identified in the CEQA Environmental Checklist and determines whether implementing the Project would result in no impact, a less-than-significant impact, or a less-than-significant impact with mitigation incorporated for the different issues. Mitigation measures are presented, where needed, to reduce impacts to a less-than-significant level.

Chapter 4 – List of Preparers: This chapter lists the organizations and people who prepared the document.

Chapter 5 – References: This chapter identifies the references used to prepared this IS/MND.

1.4. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below could potentially be affected by this Project, involving at least one impact that is still a "Potentially Significant Impact" (before any proposed mitigation measures have been adopted or before any measures have been made or agreed to by the Project proponent) as indicated by the checklist on the following pages.

☒ **Aesthetics**	☐ Agricultural and Forestry Resources	☐ Air Quality
☒ **Biological Resources**	☒ **Cultural Resources**	☐ Energy
☐ Geology & Soils	☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☐ Hydrology & Water Quality	☐ Land Use & Planning	☐ Mineral Resources
☐ Noise	☐ Population & Housing	☐ Public Services
☐ Recreation	☐ Transportation	☒ **Tribal Cultural Resources**
☐ Utilities & Service Systems	☐ Wildfire	☒ **Mandatory Findings of Significance**

1.5. DETERMINATION

On the basis of this initial evaluation:

☐ I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed Project MAY have an impact on the environment that is "potentially significant" or "potentially significant unless mitigated", but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis, as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed Project could have a significant effect on the environment, because the Project is consistent with an adopted general plan and all potentially significant effects have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT, the Project is exempt from further review under the California Environmental Quality Act under the requirements of Public Resources Code section 21083.3(b) and CEQA Guidelines Section 15183.

Elisa A.
Signature

May 11, 2021
Date

Elisa Sabatini
Printed Name

Manager of Natural Resources
Title

Yolo County
Agency

CHAPTER 2 – PROJECT INFORMATION

1.	**Project Title**	Huff's Corner Levee Raise and Channel Reconfiguration Project
2.	**Lead Agency Name and Address**	Yolo County Administrator's Office 625 Court Street, Room 202 Woodland, CA 95695
3.	**Contact Person and Phone Number**	Casey Liebler, Natural Resources Program Coordinator Casey.Liebler@yolocounty.org (530) 666-8236
4.	**Project Location**	More information below.
5.	**Project Sponsor's Name and Address**	Elisa Sabatini, Manager of Natural Resources Yolo County Administrator's Office 625 Court Street, Room 202 Woodland, CA 95695
6.	**General Plan Designation**	Agriculture (AG): APN 025-320-004 APN 025-320-010 APN 027-180-019 APN 025-310-044 APN 025-320-005 Open Space (OS): APN 025-320-004 APN 027-180-019 APN 025-310-025 APN 025-310-044
7.	**Zoning**	Agricultural Intensive (A-N): APN 025-320-004 APN 025-320-010 APN 027-180-019 APN 025-310-044 APN 025-320-005 Public Open Space (POS): APN 025-320-004 APN 027-180-019 APN 025-310-025 APN 025-310-044

8. Project Description

General Background

The section of Cache Creek known as "Huff's Corner" is a small reach on the right bank extending approximately 2,700-feet upstream from Interstate 5 (I-5), north of Woodland, in unincorporated Yolo County. The levee at Huff's Corner was initially constructed by the U.S. Army Corps of Engineers (USACE), although the precise date of construction is unknown. Topographic maps suggest this segment of the levee was constructed by 1951, although previous site records indicate it was constructed as early as 1938.

In October 2012, Yolo County, through the Central Valley Flood Protection Board (CVFPB), initiated the process of forming a Maintenance Area. The Maintenance Area was not formed due to the initial cost of completing the deferred maintenance required for the formation of a Maintenance Area was prohibitive to Yolo County and local landowners. In early 2018, Yolo County initiated engineering recommendations to determine what would be required to catch up on the deferred maintenance.

In addition to the deferred maintenance, two major improvement projects were identified: (1) a raise of the entire reach of levee to restore it to original design height; and (2) a channel reconfiguration to control erosion and remove excess sedimentation. These components are collectively referred to as the Huff's Corner Levee Raise and Channel Reconfiguration Project (Project).

Yolo County is the Lead Agency for this Project as defined by the CEQA, and the California Department of Water Resources (DWR) is a Responsible Agency as also defined by CEQA. Yolo County determined that the appropriate CEQA disclosure documentation for the Project is an Initial Study/Mitigated Negative Declaration.

Project Description

The Project was developed by Yolo County and is funded through a cost-share grant administered by the DWR via their Flood System Repair Program (FSRP) – Contract Number 460013693. While the majority of costs to design and construct the Project are funded by FSRP, Yolo County provides a significant share of costs in the form of direct expenditures and in-kind services with multiple Yolo County Staff.

There are two distinct components of this Project. The first is the levee "raise," which is more accurately described as a restoration action to return the levee to the original design height. The second component is the Cache Creek channel reconfiguration. Both components are fully analyzed and discussed in greater detail in this IS/MND.

Levee Restoration

USACE Periodic Inspection Reports identify the entire 2,700-foot reach as being freeboard deficient (i.e., below the design height). The Project will raise the entire reach approximately 4.0 to 6.0 feet to meet the 1957 design profile, which includes 3-feet of freeboard (levee that is not under water during a particular water level to which it is designed). County Road 18 is located on the levee crown over the western 1,100-feet of the proposed levee raise; the Project includes removal and replacement of the affected section of County Road 18.

To accomplish this required elevation, the design includes widening the base of the levee on the land side by approximately 12 to 15 feet and will include a revised Operations & Maintenance (O&M) Easement corridor extending an additional 15 feet beyond the new land side toe of the levee.

Furthermore, the portion of the levee that extends northward from the hairpin turn of County Road 18 to I-5 will be completely degraded down to level earth and a new levee will be built in the same location.

Channel Reconfiguration

The right bank of Cache Creek at Huff's Corner has approximately 100 linear feet of near-vertical bank, 30 to 50 feet high, which is undercut into the levee slope. The Project will repair this erosion site and is designed to address the root cause of the problem, namely an abrupt, near 90-degree bend of Cache Creek at the site of the worst erosion, before reaching the I-5 bridge. Significant point bar deposition has occurred on the inside edge of the bend opposite the eroded scarp. A vegetated island is also in the channel at this location.

The point bar and mid-channel island both have the effect of constraining the river flow, thereby increasing erosive potential, and pushing that highly erosive flow up against the eroding scarp and threatening to erode a bank stabilization project implemented in 2009. The Project will address these issues with a three-pronged approach.

First, sediment will be removed and off-hauled from the left-side secondary channel. Second, some of the vegetation currently stabilizing the mid-channel island will be removed. Finally, a sacrificial terrace will be constructed along the right bank which will serve to reduce flow velocity against the bank and direct flow more towards the center of the channel.

Project Details

Both components of this Project will be constructed concurrently in 2022. The Project may also initiate some pre-construction activities such as tree removal, vegetation removal, general site preparation, and utility relocations in advance of major construction with proper approvals and permissions in place.

The following is a general list of features needed to complete this Project and the anticipated schedule for each.

- Feature 1: Geotechnical Exploration – June 2021
- Feature 2: Design – Complete
- Feature 3: Permitting – Underway and anticipated completion by February 2022
- Feature 4: Real Estate and Right-of-Way – Underway
- Feature 5: Construction Management – Will be performed during all construction activities
- Feature 6: Construction – May to September 2022
- Feature 7: Environmental Mitigation – Underway and anticipated completion by February 2022
- Feature 8: Final Inspection and Completion Report – January 2023

Major construction activities for the levee raise include: clearing, grubbing, and stripping of the widened levee footprint; degradation of the existing levee (based on the geotechnical exploration findings); construction of approximately 2,700 linear feet of reconfigured levee; restoration of the final levee

embankment and staging/lay down areas; establishing erosion control vegetation on the embankment slopes and toe access corridors as appropriate; replacement of County Road 18, including signage and road markings; and installation/replacement of gates, fences, and other similar features.

Major construction activities for the erosion control/channel reconfiguration include: excavation and export of sediment material excavated from within the channel, removal and export of vegetation, installing deterrents for motorized vehicle access, and import of boulders and placement of boulder structures along the right bank.

Construction Management

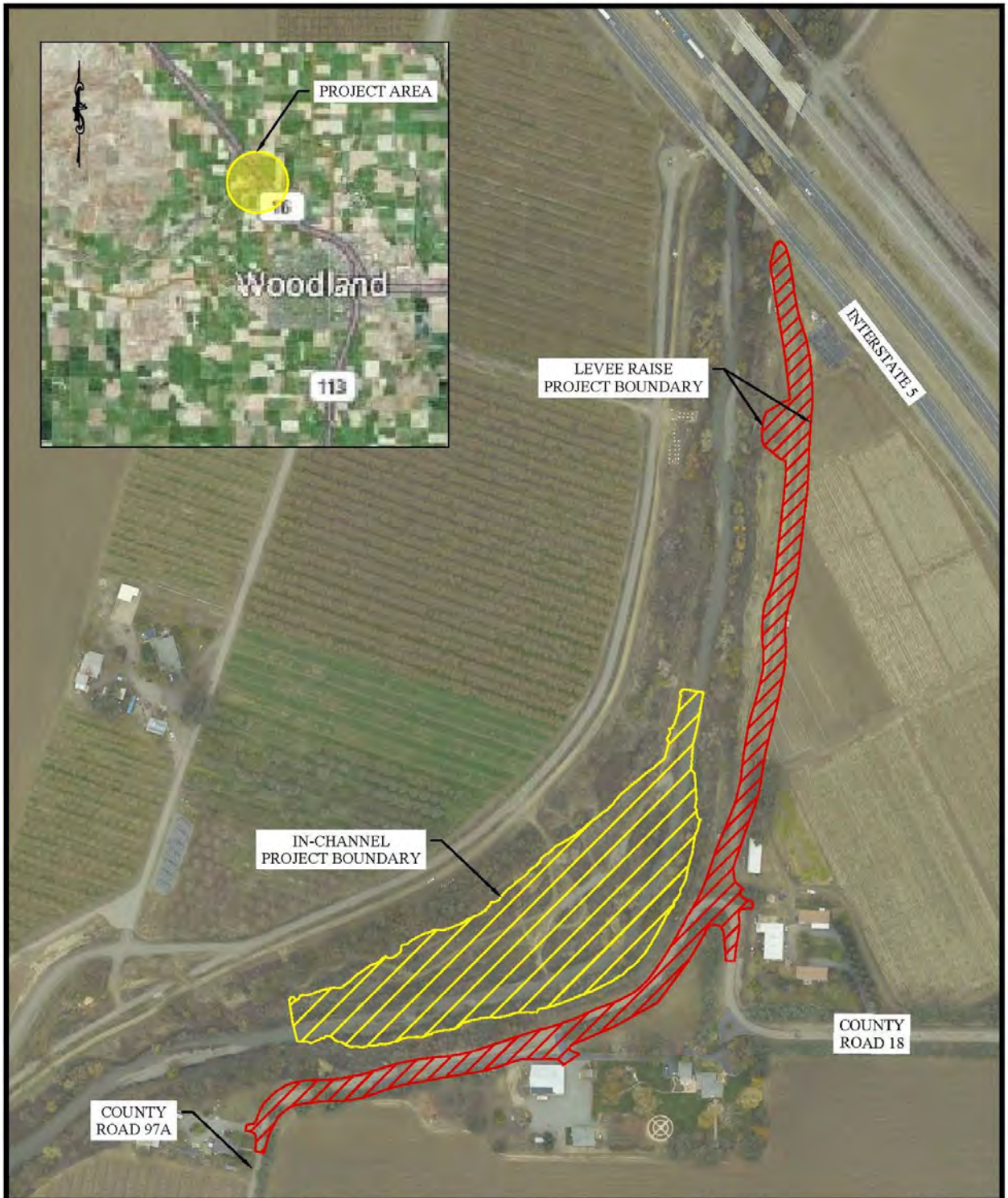
Yolo County and its engineering consultant will perform necessary field construction management. This will include: ensuring the completion of environmental permitting; monitoring contractor performance in compliance with plans and specifications; coordinating with DWR, other regulatory agencies, and stakeholders; and ensuring appropriate environmental monitoring during construction.

Real Estate

Yolo County will perform necessary real estate activities, including, but not limited to: environmental site assessments, real estate assessments and appraisals, property acquisition negotiations, and negotiation of temporary and/or long-term easements as necessary to complete site repairs. The Project will require permanent real estate acquisition to complete the levee component, and temporary construction easements or right of way access for staging areas during the whole construction phase.

Environmental Permitting

Yolo County will be responsible for obtaining environmental, regulatory permits and discussed in greater detail within the applicable Resource Sections within this IS/MND.



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Sacramento, California 95825
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HUFF'S CORNER LEVEE RAISE & CHANNEL RECONFIGURATION PROJECT

FIGURE 2-1 - PLAN VIEW OVERALL PROJECT

SCALE:	1" = 300'
JOB NUMBER:	5327-5.3.1
DRAWN BY:	MC
DATE:	4/26/2021
SHEET:	N/A

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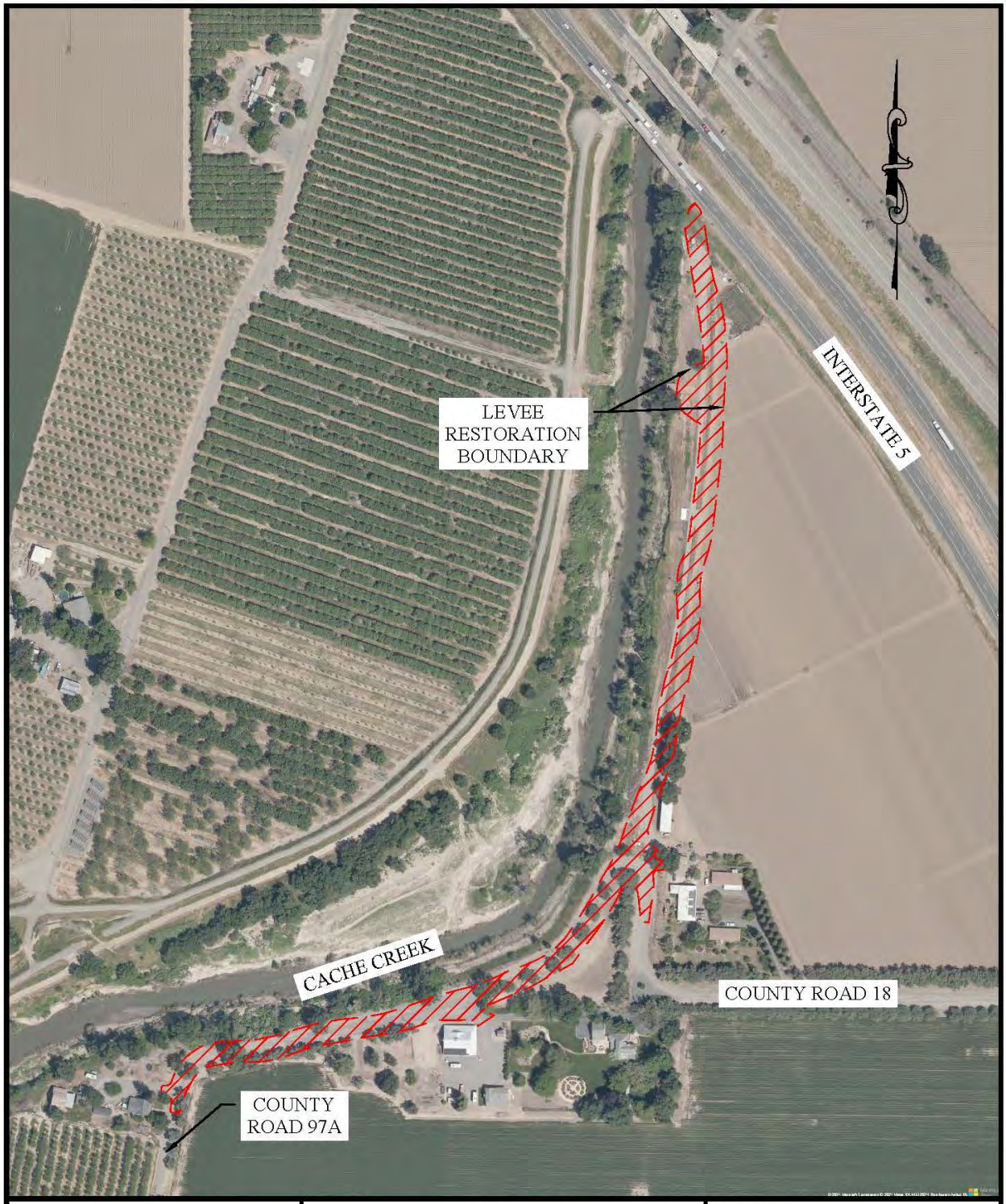

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HUFF'S CORNER LEVEE RAISE & CHANNEL RECONFIGURATION PROJECT

FIGURE 2-2 - PLAN VIEW LEVEE COMPONENT

SCALE:	1" = 300'
JOB NUMBER:	5327-5.3.1
DRAWN BY:	MC
DATE:	4/26/2021
SHEET:	N/A

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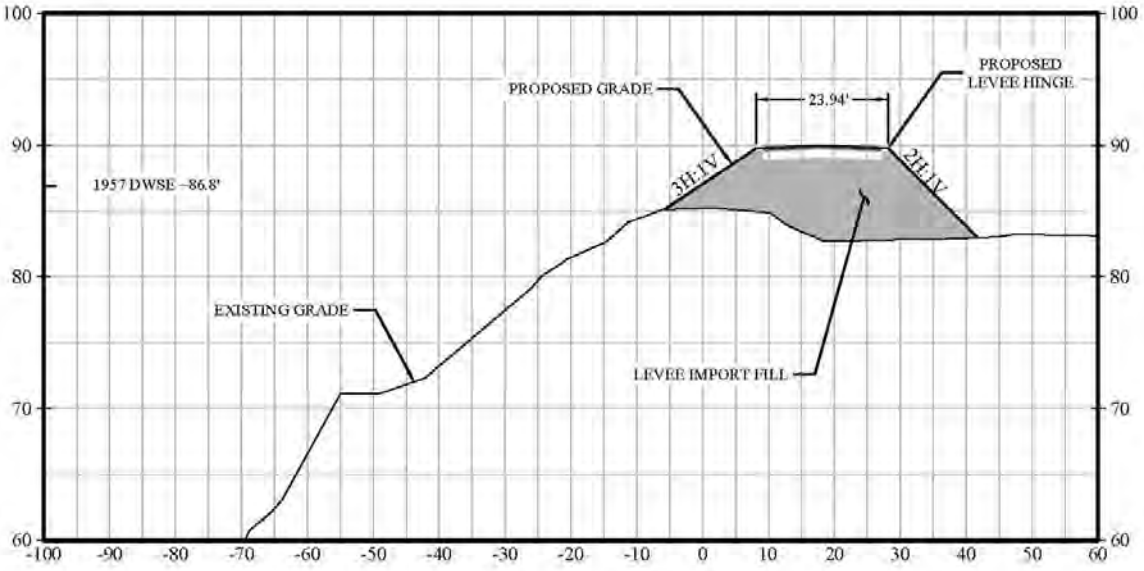
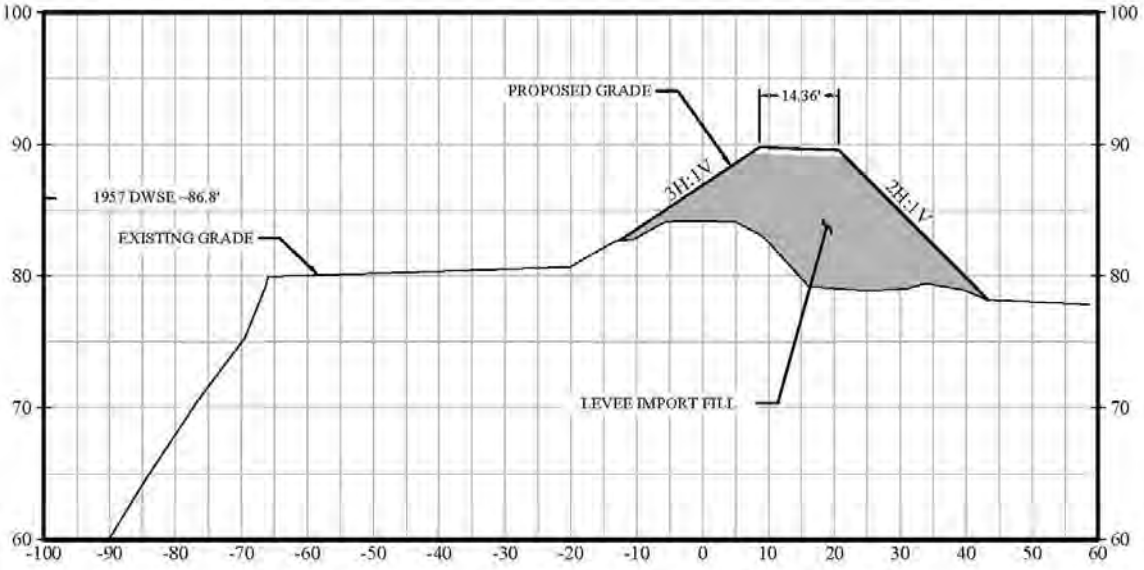


TYPICAL SECTION - STA. 0+00 - 12+00



TYPICAL SECTION - STA. 12+00 - 27+50

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HUFF'S CORNER LEVEE RAISE & CHANNEL RECONFIGURATION PROJECT

FIGURE 2-3 - TYPICAL SECTIONS LEVEE COMPONENT

SCALE:	1"=30'
JOB NUMBER:	5327-5.3.1
DRAWN BY:	MC
DATE:	4/26/2021
SHEET:	N/A

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HUFF'S CORNER LEVEE RAISE & CHANNEL RECONFIGURATION PROJECT

FIGURE 2-4 - PLAN VIEW IN-CHANNEL COMPONENT

SCALE:	1" = 300'
JOB NUMBER:	5327-5.3.1
DRAWN BY:	MC
DATE:	4/26/2021
SHEET:	N/A

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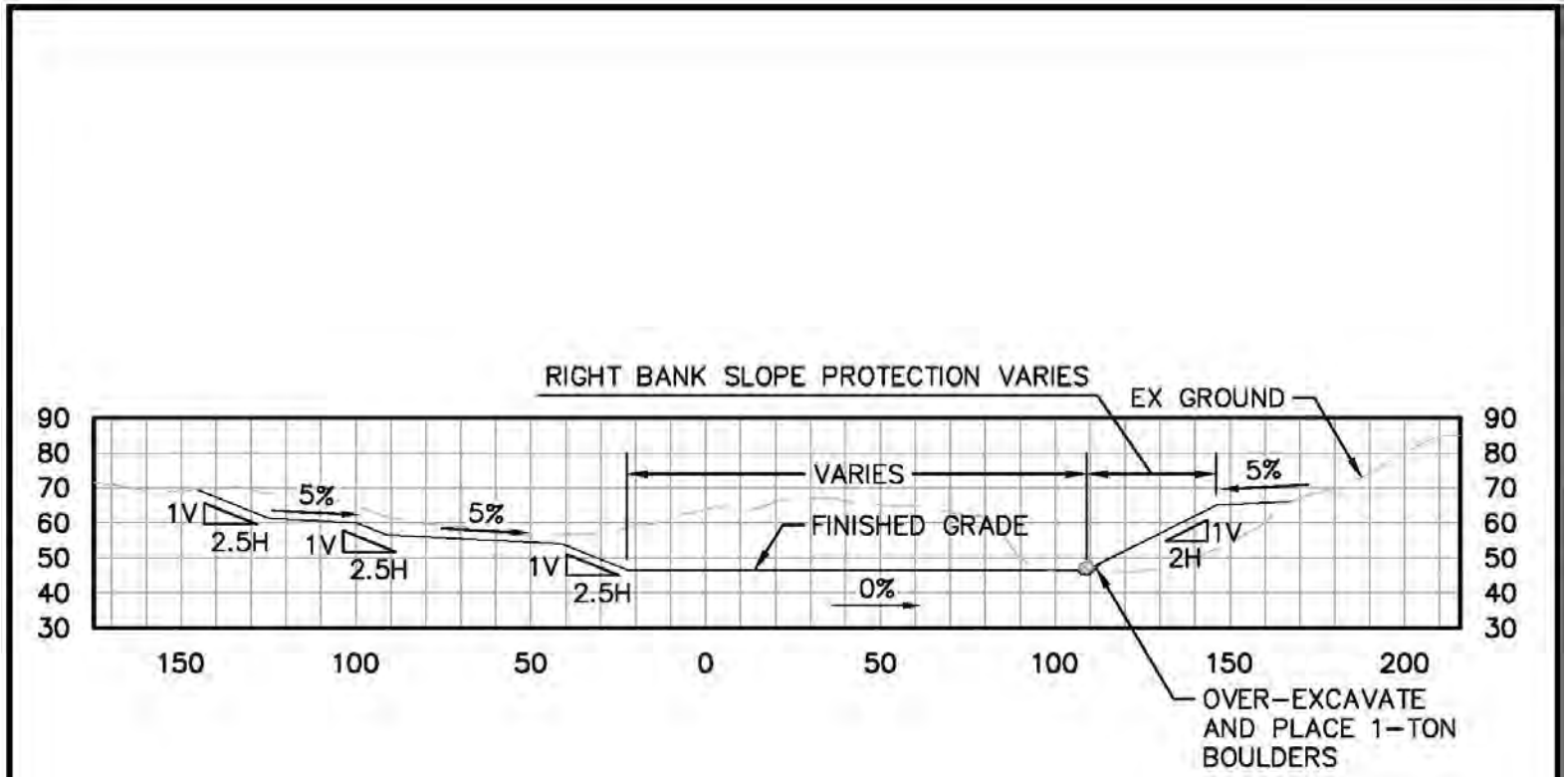

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HUFF'S CORNER LEVEE RAISE & CHANNEL RECONFIGURATION PROJECT

FIGURE 2-5 - TYPICAL SECTIONS IN-CHANNEL COMPONENT

SCALE:	N.T.S.
JOB NUMBER:	5327-5.3.1
DRAWN BY:	MC
DATE:	4/26/2021
SHEET:	----------

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9. Surrounding Land Uses and Setting

The Project area is located in a rural setting of the Sacramento Valley along the banks of Cache Creek, one of the numerous perennial waterways in the vicinity. The Dunnigan Hills are three miles to the west and the Sacramento River is approximately 10 miles to the east. Land use is predominantly agricultural in this region, but several small towns and communities are scattered across the landscape.

10. Required Agency Approvals

The Project will require the following agency approvals:

Federal:

- United States Army Corps of Engineers – Section 408 Permit
- United States Army Corps of Engineers – Section 404 Permit
- United States Fish & Wildlife Service – Section 7 – Endangered Species Act
- National Marine Fisheries Service – Section 7 – Endangered Species Act
- Completion of the consultation process with the State Historic Preservation Officer under Section 106 of the National Historical Preservation Act with respect to the issuance of applicable Federal permits.

State:

- California Department of Fish and Wildlife – Section 1600 Lake and Streambed Alteration Agreement
- California Department of Transportation – Encroachment Permit
- Central Valley Flood Protection Board – Encroachment Permit
- Central Valley Regional Water Quality Control Board – Section 401 Water Quality Certification

Local:

- Yolo Habitat Conservancy – Certificate of Compliance with Yolo Habitat Conservation Plan/Natural Communities Conservation Plan (Yolo HCP/NCCP)
- Yolo County – Flood Hazard Development Permit

11. Have California Native American tribes traditionally affiliated with the Project area requested consultation pursuant to the Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

On September 18, 2020, the County sent letters via electronic mail to the following tribes: the Cortina Rancheria Band of Wintun Indians of California, the Ione Band of Miwok Indians, the Torres Martinez Desert Cahuilla Indians, the United Auburn Indian Community of the Auburn Rancheria, the Wilton Rancheria, and the Yocha Dehe Wintun Nation. On September 28, 2020, the County received an electronic mail response from the Wilton Rancheria requesting an initiation of consultation under Assembly Bill (AB)

52. On October 27, 2020, County staff and members from the project environmental team held an online meeting with representatives from the Wilton Rancheria. On November 4, 2020, the County received a letter (dated October 21, 2020), from the Yocha Dehe Wintun Nation expressing their concerns that the Project could impact known cultural resources. Additionally, the letter contained a recommendation that cultural monitors be present during development and ground disturbance. These issues are discussed in the sections of this document related to cultural and tribal resources (Sections 3.5 and 3.18).

CHAPTER 3 – ENVIRONMENTAL SETTINGS AND ENVIRONMENTAL IMPACTS

3.1. AESTHETICS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the Project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experiences from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☒	☐	☐
d) Create new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

3.1.1 ENVIRONMENTAL SETTING

Aesthetics, as addressed in the CEQA, refers to visual considerations in the physical environmental Aesthetics analysis or visual resource analysis. This is a systematic process to logically assess visible change in the physical environment and the anticipated viewer response to that change Aesthetic resources are generally defined as both the natural and built features of the landscape that contribute to the public's experience and appreciation of the environment. Aesthetic impacts may occur depending on the extent to which a project's presence would negatively alter the perceived visual character and quality of the environment.

Regional Setting

Yolo County lies within California's Central Valley and the northern portion of the Sacramento-San Joaquin River Delta, directly west of Sacramento and northeast of Solano and Napa counties. The Central Valley is predominately flat, contrasting with California's Coast Ranges to the west and the Sierra Nevada to the east. The Sacramento River flows from north of the County into the Sacramento-San Joaquin River Delta at the southern end of the County.

Local Setting

Yolo County is predominantly rural, having an agricultural character throughout most of the eastern portion of the County, and a more topographically varied-foothill/mountain character in the western

portion of the County. The Capay Hills rise in the western portion of the County and – along with the Blue Ridge at the western County boundary – enclose the eastern and western edges of the Capay Valley, respectively. This valley extends from the Town of Rumsey in the north to just south of the Town of Brooks; Cache Creek runs along its length before heading east through the center of the County. East of the Capay Hills lie the Dunnigan Hills, which run roughly northwest-southeast along I-5 from the Town of Dunnigan to south of the Town of Zamora.

Lands to the east of I-5 are dominated by Prime Farmland that supports alfalfa, rice, tomato, and seed crops. In the northern and eastern portions of the County, the visual landscape if dominated by nut orchards, particularly almonds and walnuts.

The Project falls within the Cache Creek Visual Analysis Subarea which extends generally east of the community of Capay through the center of the County to the Yolo Bypass, just east of the City of Woodland. Within this subarea, Cache Creek becomes braided past gravel mining operations and consists of several shallow channels (LSA Associates, 2009). Along the creek, wetland grasses, rushes, and sedges grow under a canopy of cottonwoods, willows, oaks, and elders. At the western end, the creek is restricted within levees that terminate in the Settling Basin before emptying into the Yolo Bypass. Adjoining the mining areas along the creek are a variety of crop fields, which give the landscape a diverse visual character where orderly crop plantings intermingle with natural settings. The Cache Creek subarea also contains Monument Hill, which is the dominant feature of the horizon and affords uninterrupted views across the County from all cardinal points.

Scenic Highways

Yolo County has no designated Federal or State Scenic Highways (LSA Associates, 2009). A portion of State Round 16 (from approximately the town of Capay at County Road 85, north to the County line) is identified by Caltrans as "eligible" for designation as a State Scenic Highway, but is not officially designated. However, Yolo County has designated the following as local scenic highways:

- State Route 16: Colusa County to Capay
- State Route 128: Winters to Napa County line
- County Roads 116 and 116B: Knights Landing to the eastern terminus of County Road 16
- County Roads 16 and 117 and Old River Road: County Road 107 to West Sacramento
- South River Road: West Sacramento city limits to Sacramento County line

Figure IV.N-1 of the Yolo County 2030 Countywide General Plan EIR displays the location of these local scenic highways (LSA Associates, 2009).

Light and Glare

Unincorporated Yolo County is a predominantly rural, agricultural county with approximately 35 isolated areas of existing development. Because of its rural character, night lighting and glare mostly occur within and around these developed communities, although individual areas supporting agriculture and other industries produce limited amounts of nocturnal lighting and glare on an intermittent basis when evening activities require additional lighting. Existing sources of ambient nighttime lighting generally include neon

and fluorescent signs in developed areas; exterior lighting along buildings for safety, architectural accent, or to illuminate nighttime operations; lights within buildings that illuminate the exteriors of buildings through windows; landscape and wayfinding signage lighting; street and parking lot lighting; and vehicle headlights. Glare is created by natural (i.e., sunlight) and artificial light reflecting from the surfaces of existing windows and buildings.

Project Viewshed and Key Observation Points

The total Project area encompasses approximately 9.23 acres. The majority of this area is within the banks of Cache Creek and is dominated by valley foothill riparian (4.42 acres), lacustrine/riverine (0.86 acres), and barren (0.47 acres) natural communities. The rest of the Project area consists of ruderal (1.34 acres), agriculture (0.13 acres), and developed (2.01 acres) natural communities.

The existing landscape of the surrounding area is considered to have moderate to low visual quality and consists of a blend of agricultural land, residences, farming operation-related buildings on the agricultural properties, and riparian creek habitat.

Key observation points of the Project site would be on County Road 18, I-5, inside the Cache Creek channel, and from the residences located to the south and east of the Project site.

3.1.2 REGULATORY SETTING

Yolo County currently does not have any County-wide regulations applicable to visual and scenic resources. Design review is performed on a project-by-project basis during application review, and design controls are generally implemented at the town level.

3.1.3 POTENTIAL ENVIRONMENTAL IMPACTS

Except as provided in Public Resources Code Section 21099, would the Project:

a) Have a substantial effect on a scenic vista?

For the purposes of determining significance under CEQA, a "scenic vista" is defined as a viewpoint that provides expansive views of highly valued landscape for the benefit of the public. As mentioned previously, the Project area is considered to have moderate to low visual quality. Views of the Project site are primarily only available to those within close proximity. The Project site is not considered a scenic vista since it does not provide sustained high-value landscape for the benefit of the public. Site-specific changes to the visual character for residents are discussed below in item (c) on this section. **Therefore, the Project would result in a <u>less-than-significant impact</u>.**

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historical building within a state scenic highway?

As discussed, there are no designated Federal or State Scenic Highways within this part of Yolo County. The nearest local scenic highway is County Road 116/116B, approximately 6.75 miles east of the Project site. **Therefore, the Project would result in <u>no impact</u>.**

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Since the Project site is situated adjacent to agricultural lands with little development, the surrounding area is considered a non-urbanized area. The adjacent land uses are primarily agricultural, including associated residences and utility-related facilities. The visual character of the area would change with the construction of the Project. Residents in the Project area describe concern that the removal of non-native ornamental trees (primarily olive trees) and other mature native trees will create an undesirable aesthetic impact. In order to reduce this impact, Yolo County has agreed to work directly with landowners to address their concerns and reduce the impacts to the existing visual character and quality of public views of the site and its surroundings. Implementation of Mitigation Measure AES-1 would reduce any impacts to a less-than-significant level. **Therefore, the Project would result in a <u>less-than-significant impact with mitigation incorporated</u>.**

AES-1. Yolo County shall commit to providing each directly impacted landowner that will experience tree removal with the options described below with a written agreement during the land acquisition process.

(1) Landowner agrees that no "in-kind" visual replacement is required and that the tree removal(s) will result in the final aesthetic view.

(2) Landowner agrees that Yolo County will replace each tree in its relative position outside of the new project boundary with an "in-kind" tree of their liking. Every effort will be made to install fairly mature trees in lieu of immature plantings unless the landowner prefers the latter.

(3) Landowner agrees that Yolo County will provide another form of aesthetic feature which may include, but not be limited to, shrubs, line of ornamental hedge, and/or fencing. The cost of this Mitigation Measure shall remain relatively consistent with item #2 above, and not require Yolo County to agree to an exorbitant remedy.

Timing/Implementation: No later than December 1, 2023
Monitoring/Enforcement: Yolo County

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Construction of the Project, as well as on-going operations and maintenance, would not create a new source of substantial light or glare. **Therefore, the project would result in <u>no impact</u>.**

3.2. AGRICULTURAL AND FOREST RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.1 ENVIRONMENTAL SETTING

The California Department of Conservation (DOC) classifies farmlands based on a system that combined technical soil ratings and a current land use, as a part of the Farmland Mapping and Monitoring Program (FMMP). Descriptions of the FMMP categories are presented in Table 3.2-1. The categories of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland are collectively referred to under CEQA as "Important Farmland."

Table 3.2-1. Farmland Mapping and Monitoring Program Mapping Categories

Category	Defined as "Important Farmland" under CEQA[1]	Definition
Prime Farmland	Yes	Farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the 4 years before the mapping date.
Farmland of Statewide Importance	Yes	Farmland similar to Prime Farmland, but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the 4 years before the mapping date.
Unique Farmland	Yes	Farmland of lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the 4 years before the mapping date.
Farmland of Local Importance	No	Land of importance to the local agricultural economy as determined by each County's Board of Supervisors and local advisory committee.
Farmland of Local Potential	No	Land that is of prime or Statewide importance, but that is not presently irrigated or cultivated.
Grazing Land	No	Land of which the existing vegetation is suited to the grazing of livestock.
Urban and Built-Up Land	No	Land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
Other Land	No	Land not included in any other mapping category. Common examples include low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.
Water	No	Perennial water bodies with an extent of at least 40 acres.

[1] "Important farmland" is defined by CEQA under Public Resources Code Section 21060.01 and State CEQA Guidelines Appendix G.

Source: DOC, 2021a

The Project site is predominately designated as "other land" by the DOC (approximately 8.82 acres); however, extremely small portions are designated as "prime farmland" (approximately 0.30 acres) and "unique farmland" (0.11 acres) (DOC, 2021b).

The Project site is located on privately held parcels that are zoned as Public Open Space (POS) and Agricultural Intensive (A-N). Two of these parcels (APN 025-210-025 and 025-310-044) are enrolled under a Williamson Act Contract. The portions of these Williamson Act parcels that are impacted by the Project are within the Lower Cache Creek channel, and are not farmable due to the terrain and frequent inundation of the creek.

3.2.2 POTENTIAL ENVIRONMENTAL IMPACTS

Would the Project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The relatively minor encroachment of shifting the levee prism landward results in a minor loss of conversion of Prime and Unique Farmland, less than 0.41 acres that are not farmable, to the expanded flood management facility (e.g., expanded levee). The Project is exempt from the County's Agricultural Conservation and Mitigation Ordinance. The remaining acreage within those parcels would still exceed the minimum parcel size needed for viable farming, and the Project would not affect the on-going agricultural operations. Farming operations will be interrupted during construction, and this Project does not result in a significant relative loss of Farmland economic impact to agricultural operations in the area. **Therefore, the Project would result in a <u>less-than-significant impact</u>.**

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

The affected parcels within the Project area are zoned predominately zoned Public Open Space (POS), with a small portion of the Project area zoned A-N (Agricultural Intensive). This particular levee system predates County Zoning Code, and State projects, such as this one, are except from the County's Zoning Code. Development near the toe of the levee is subject to certain restrictions by Section 8-2.306 (ad) of the County Zoning Code. However, none of the neighboring uses would be affected by the Project's expansion of the existing levee.

As previously mentioned, there are two privately-owned parcels within the Project area that are under a Williamson Act Contract. The only portion of these Williamson Act parcels that will be impacted by the Project are within the Lower Cache Creek channel, which is not farmable due to terrain and frequent inundation. The in-channel area has never been actively farmed and is not permitted within the channel boundaries. The Project meets the "principles of compatibility" used to determine whether an activity is compatible with agriculture on Williamson Act contracted land. *See* Government Code § 51238.1.

First, the project will not "significantly compromise the long-term productive agricultural capability of the subject contracted parcel or parcels or on other contracted lands in agricultural preserve" due to the small amount of land needed and the lack of active farming on the affected area. Second, the project "will not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels or on other contracted lands in agricultural preserves" because the existing

and reasonably foreseeable operations will continue unaffected by the project. Finally, the project "will not result in the significant removal of adjacent contracted land from agricultural or open-space use" for the same reasons. The Project therefore is compatible with agriculture and does not conflict with the Williamson Act contract. **Therefore, the Project would result in a <u>less-than-significant impact</u>.**

c) Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code section 122220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

As stated above, the Project area is predominately zoned POS with a small portion zoned A-N. Project activities would not occur on land zoned as forest, timberland, or timberland zoned Timberland Production. **Therefore, the Project would result in <u>no impact</u>.**

d) Result in the loss of forest land or conversion of forest land to non-forest use?

The Project site does not contain forest land. **Therefore, the Project would result in <u>no impact</u>.**

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

There would be no additional direct or indirect effects on farmland other than those impacts previously described. **Therefore, the Project would result in <u>no impact</u>.**

3.3. AIR QUALITY

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.3.1 ENVIRONMENTAL SETTING

Yolo County is located within the Sacramento Valley Air Basin (SVAB) and under the jurisdiction of the Yolo-Solano Air Quality Management District (YSAQMD). The Federal Clean Air Act (CAA) and the California Clean Air Act (CCAA) require that Federal and State ambient air quality standards (AAQS) be established, respectively, for six common air pollutants, which are known as criteria pollutants. The SVAB is designated nonattainment for the Federal particulate matter 2.5 microns in diameter ($PM_{2.5}$) and the State particulate matter 10 microns in diameter (PM_{10}) standards, as well as for both the Federal and State ozone standards.

The CAA requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The SIPs are modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins, as reported by their jurisdictional agencies. Due to the nonattainment designations, YSAQMD, along with the other air districts in the SVAB region, periodically prepares and updates air quality plans that provide emission reduction strategies to achieve attainment of the Federal AAQS, including control strategies to reduce air pollutant emissions via regulations, incentive programs, public education, and partnerships with other agencies.

General conformity requirements of the SIP include whether a project would cause or contribute to new violations of any Federal AAQS, increase the frequency or severity of an existing violation of any Federal AAQS, or delay timely attainment of any Federal AAQS. In addition, a project would be considered to conflict with, or obstruct implementation of, an applicable air quality plan if the project would be inconsistent with the emissions inventories contained in the air quality plan. Emission inventories are developed based on projected increases in population; employment; regional vehicle miles traveled

(VMT); and associated area sources within the region, which are based on regional projections that are in turn based on General Plans and zoning designations for the region.

Due to the nonattainment designations of the area, YSAQMD has developed plans to attain the State and Federal standards for ozone and particulate matter. The plans include the 2013 Ozone Attainment Plan, the $PM_{2.5}$ Implementation/Maintenance Plan, and the 2016 Triennial Assessment and Plan Update. Adopted YSAQMD rules and regulations, as well as the thresholds of significance, have been developed with the intent to ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with applicable air quality plans. Thus, by exceeding the YSAQMD's mass emission thresholds for operational or construction emissions of ROG, NO_X, or PM_{10}, a project would be considered to conflict with or obstruct implementation of the YSAQMD's air quality planning efforts. The YSAQMD mass emission thresholds for operational and construction emissions are shown in Table 3.3-1 below.

Table 3.3-1. YSAQMD Thresholds of Significance

Pollutant	Construction Thresholds	Operational Thresholds
ROG	10 tons/year	10 tons/year
NO_x	10 tons/year	10 tons/year
PM_{10}	80 lbs/day	80 lbs/day

Source: YSAQMD. Handbook for Assessing and Mitigating Air Quality Impacts. July 11, 2007.

Implementation of the Project would contribute to local emissions in the area during construction activities. The proposed project's construction emissions from soil hauling and operation of off-road equipment have been estimated using the Sacramento Metropolitan Air Quality Management District (SMAQMD)'s Road Construction Emissions Model (RoadMod), Version 9.0.0. While the Project site is not located within the jurisdiction of SMAQMD, the model is an industry standard tool for evaluating construction emissions throughout the State. SMAQMD's RoadMod requires the user to input information related to the area of disturbance; the length of time a project would occur; and for linear non-roadway projects, a list of equipment that would be used during Project construction. Construction timing, soiling hauling volumes, and equipment information for the Project were provided by the Project applicant. Based on the anticipated phasing of the Project, the air quality analysis considered the following four components:

1. Levee Soil Import and Construction
2. In-Channel Soil Export and Construction
3. In-Channel Boulder Import
4. Paving along County Road 18

All RoadMod results are included in Appendix B.

Operations of the Project would not emit any criteria pollutants. As such, the Project would not result in any operational air quality emissions, and a less-than-significant impact would occur. The results of the emissions analysis for construction emissions are discussed in further detail below.

3.3.2 CONSTRUCTION EMISSIONS ANALYSIS

As previously noted, construction of the Project would involve two distinct components, with four separate actions. However, the potential exists that such components may overlap temporally and result

in additive emissions. In order to provide the most conservative analysis, this report assumes that all phases take place concurrently. The estimated construction-related emissions from implementation of the Project is presented in Table 3.3-2.

As shown in the table, the combined construction emissions of ROG, NO_X, and PM_{10} from all components of the Project would be below the applicable YSAQMD thresholds of significance. Consequently, the construction-related emissions from any component individually would also be below the applicable YSAQMD thresholds of significance, and construction-related emissions from the Project would not result in a significant contribution to the region's nonattainment status of ozone or PM and would not violate an air quality standard or contribute substantially to an existing or projected air quality violation.

Table 3.3-2. Maximum Construction-Related Emissions from Project

	ROG (tons/yr)	**NO_x (tons/yr)**	**PM_{10} (tons/yr)**
1. Levee Soil Import and Construction	0.12	1.42	2.14
2. In-Channel Soil Export and Construction	0.18	1.84	2.33
3. In-Channel Boulder Import	0.00	0.01	2.74
4. Paving along County Road 18	0.02	0.22	8.98
PM Dust Emissions from Haul Trucks[1]	-	-	0.56
Total Project Emissions	**0.32**	**3.48**	**16.73**
YSAQMD Threshold of Significance	**10.0**	**10.0**	**80.0**
Exceeds Threshold?	**NO**	**NO**	**NO**

[1] Dust emissions from haul trucks operating on an unpaved roadway segment were calculated off-model using emissions factors from the U.S. Environmental Protection Agency's AP-42. See question d for additional information.

Source: RoadMod, 2020 (Appendix B)

All projects within the YSAQMD, including the Project, are required to comply with all YSAQMD rules and regulations for construction, including, but not limited to: Rule 2.1 (Control of Emissions), Rule 2.28 (Cutback and Emulsified Asphalts), and Rule 2.11 Particulate Matter Concentration). Compliance with the aforementioned rules and regulations related to construction would help to minimize criteria pollutant emissions generated during construction activities. Because compliance with the YSAQMD rules and regulations would likely result in an additional reduction in emissions, construction emissions from the Project would be slightly reduced from what is presented in Table 3.3-2.

Because the Project's estimated unmitigated construction emissions of ROG, NO_X, and PM_{10} would be below the applicable YSAQMD thresholds of significance, construction activities associated with development of the Project would not contribute to the YSAQMD's non-attainment status for ozone or PM. Accordingly, construction of the Project would not violate any AAQS or contribute substantially to an existing or projected air quality violation, and a less-than-significant impact would occur.

3.3.3 CUMULATIVE EMISSIONS ANALYSIS

A cumulative impact analysis considers a project over time in conjunction with other past, present, and reasonably foreseeable future projects whose impacts might compound those of the Project being assessed. Due to the dispersive nature and regional sourcing of air pollutants, air pollution is already largely a cumulative impact. The non-attainment status of regional pollutants, including ozone and PM, is a result of past and present development and thus, cumulative impacts related to these pollutants could be considered cumulatively significant.

As per the YSAQMD's Handbook, any proposed project that would individually have a significant air quality impact would also be considered to have a significant cumulative impact (YSAQMD, 2007). As discussed above, construction emissions would be below the YSAQMD's project-level thresholds and the Project would not generate any operational emissions. Thus, project emissions would be below the YSAQMD's cumulative-level thresholds as well. Accordingly, impacts related to a cumulatively considerable net increase in emissions of criteria pollutants for which the YSAQMD region is in non-attainment under an applicable Federal or State AAQS would be considered less than significant.

3.3.4 SENSITIVE RECEPTORS ANALYSIS

Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, and/or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Sensitive receptors are typically defined as facilities where sensitive receptor population groups (i.e., children, the elderly, the acutely ill, and the chronically ill) are likely to be located. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals, and medical clinics.

Policy CO-A107 of the Yolo County General Plan provides a County-specific definition of sensitive receptors using the following criteria: residentially designated land uses; hospitals, nursing/convalescent homes, and similar board and care facilities; hotels and lodgings; schools and day care centers; and neighborhood parks. Considering Yolo County's definition of sensitive receptors, the nearest sensitive receptors to the Project site are Cache Creek High School and low-density residential uses located over 3,000 feet north of the Project site. However, a farm dwelling currently exists approximately 150 feet south of the Project site. Due to the close proximity to the Project site, the farm dwelling is considered another sensitive land use for the purposes of this analysis.

The major pollutant concentrations of concern are localized carbon monoxide (CO) emissions and toxic air contaminant (TAC) emissions, which are addressed in further detail below.

Localized CO Emissions

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. High levels of localized CO concentrations are only expected where background levels are high, and traffic volumes and congestion levels are high. Accordingly, a land use project could result in impacts associated with localized CO concentrations at roadway intersections if the project generates substantial traffic. Considering the Project would not result in an increase in traffic or otherwise generate operational emissions, the Project would not be expected to generate substantial concentrations of localized CO emissions.

TAC Emissions

Another category of environmental concern is TACs. The California Air Resources Board's (CARB's) Air Quality and Land Use Handbook: A Community Health Perspective (Handbook) provides recommended setback distances for sensitive land uses from major sources of TACs, including, but not limited to, freeways and high traffic roads, gas stations, chrome plating operations, distribution centers, and rail

yards. The CARB has identified diesel particulate matter (DPM) from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Health risks associated with TACs are a function of both the concentration of emissions and the duration of exposure, where the higher the concentration and/or the longer the period of time that a sensitive receptor is exposed to pollutant concentrations would correlate to a higher health risk.

Short-term, construction-related activities could result in the generation of TACs, specifically DPM, from on-road haul trucks and off-road equipment exhaust emissions. The CARB considers distribution centers to be significant sources of DPM due to the high volume of heavy-duty diesel vehicles used in the distribution of goods. As defined by CARB, distribution centers are facilities that serve as a distribution point for the transfer of goods (CARB, 2005). Such facilities include cold storage warehouses, goods transfer facilities, and inter-modal facilities such as ports that attract in excess of 100 heavy-duty trucks per day. Based on the volume of fill required for the Project, and the conservative assumption that all phases would occur at once, the Project would result in approximately 57 heavy-duty haul trucks accessing the site per day. As such, the Project would not involve more than 100 heavy-duty trucks accessing the site per day and construction of the Project would not be considered to involve a substantial amount of DPM emissions from heavy-duty diesel vehicles.

In addition, construction is temporary, and would only occur over approximately four months. Health risks are typically associated with exposure to high concentrations of TACs over extended periods of time (e.g., 30 years or greater). Research conducted by CARB indicates that DPM is highly dispersive in the atmosphere. Considering the nearest sensitive receptor is located over 100 feet from the Project site, DPM associated with the Project would be partially dispersed before reaching any sensitive receptors.

Finally, all construction equipment and operation thereof would be regulated per the CARB's In-Use Off-Road Diesel Vehicle Regulation. The In-Use Off-Road Diesel Vehicle Regulation includes emissions reducing requirements such as limitations on vehicle idling, disclosure, reporting, and labeling requirements for existing vehicles, as well as standards relating to fleet average emissions and the use of Best Available Control Technologies. Thus, on-site emissions of PM would be reduced, which would result in a proportional reduction in DPM emissions and exposure of nearby residences to DPM.

Based on the above, the Project would not expose nearby sensitive receptors to substantial concentrations of TACs.

3.3.5 OTHER EMISSIONS ANALYSIS

Emissions of pollutants have the potential to adversely affect sensitive receptors within the Project area. Pollutants of principal concern include emissions leading to odors, emissions of dust, or emissions considered to constitute air pollutants. Air pollutants have been discussed in the sections above. Therefore, the following discussion focuses on emissions of odors and dust during construction and operation of the Project.

Odors

According to the YSAQMD, common types of facilities that are known to produce odors include, but are not limited to, wastewater treatment facilities, chemical or fiberglass manufacturing, landfills, composting facilities, food processing facilities, refineries, dairies, and asphalt or rending plants (YSAQMD, 2007).

Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The presence of an odor impact is dependent on a number of variables including: the nature of the odor source; the frequency of odor generation, the intensity of odor, the distance of odor source to sensitive receptors; wind direction, and the sensitivity of the receptor. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative analysis to determine the presence of a significant odor impact is difficult. The Project would not introduce any identified odor-generating land uses.

Diesel fumes from construction equipment and heavy-duty trucks could be found to be objectionable; however, operation of construction equipment would be regulated by YSAQMD rules and regulations and would occur intermittently throughout the course of a day. All construction equipment and operation thereof would be regulated, as per the statewide In-Use Off-Road Diesel Vehicle Regulation. For the aforementioned reasons the Project would not result in noticeable objectionable odors associated with construction.

The YSAQMD regulates objectionable odors through Rule 2.5, Nuisance, which prohibits any person or source from emitting air contaminants that result in injury, nuisance, or annoyance to the public. Rule 2.5 is enforced based on complaints. If complaints are received, the YSAQMD is required to investigate the complaint and determine a solution, which could include operational modifications. Thus, although not anticipated, if odor complaints are made during construction of the Project, the YSAQMD would ensure that such odors are addressed, and any potential odor effects reduced to less than significant.

Dust

The Project would be required to comply with YSAQMD Rule 2.11 (Particulate Matter Concentration) and Rule 2.19 (Particulate Matter Process Emission Rate). In addition, the YSAQMD encourages all projects to implement best management practices to reduce dust emissions and avoid localized health impacts. The YSAQMD's best management practices for dust include the following:

- Watering all active construction sites at least twice daily
- Maintenance of at least two feet of freeboard in haul trucks
- Covering of all trucks hauling dirt, sand, or loose materials
- Application of non-toxic binders to expose areas after cut and fill operations and hydroseeding of area, as applicable and/or necessary
- Planting of vegetative ground cover in disturbed areas as soon as possible
- Covering of inactive storage piles
- Sweeping of streets if visible soil material is carried out from the construction site
- Treatment and accesses to distance of 100 feet from the paved road with a six-to 12-inch layer of wood chips, mulch, or gravel

Compliance with the aforementioned rules and regulations would help to minimize dust emissions generated during construction activities. Additionally, with the incorporation of Mitigation Measure BIO-7, any dust-related impacts would be less-than-significant.

Heavy trucks would haul fill along an unpaved portion of County Road 18, which could generate dust in the Project vicinity. Based on the emission factors provided by the U.S. Environmental Protection Agency AP-42 Section 13.2.2 (Unpaved Roads), the use of haul trucks on the unpaved portion of County Road 18 would generate 0.05 lbs/day of $PM_{2.5}$ and 0.51 lbs/day of PM_{10} (USEPA, 2020). Such an increase in dust would remain well below the applicable threshold of significance for PM.

Implementation of all applicable YSAQMD rules would ensure that construction of the Projects would not result in substantial emissions of dust. Following Project construction, County Road 18 would be fully paved, and the site would not be further disturbed. The paving of County Road 18 would remove an existing source of dust. Thus, Project operations would not include sources of dust that could adversely affect a substantial number of people.

3.3.6 POTENTIAL ENVIRONMENTAL IMPACTS

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

The analysis described in Section 3.3.2 concludes that the Project would not result in the emission of criteria air pollutants in excess of the applicable YSAQMD thresholds of significance and, thus, would not conflict with or obstruct the implementation of any applicable air quality plans. **Therefore, the Project would result in a <u>less-than-significant impact</u>.**

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

The analysis described in Section 3.3.3 concludes that the Project would not result in a cumulatively considerable net increase of a criteria air pollutant for which the Project region is non-attainment under an applicable AAQS. **Therefore, the Project would result in a <u>less-than-significant impact</u>.**

c) Expose sensitive receptors to substantial pollutant concentrations?

The analysis described in Section 3.3.4 concludes that the Project would not be expected to result in the production of substantial concentrations of localized CO, TACs, including DPM, or criteria pollutants. **Therefore, the Project would result in a <u>less-than-significant impact</u>.**

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The analysis described in Section 3.3.5 concludes that implementation of the Project would not result in other emissions (such as those leading to odors) which would adversely affect a substantial number of people. **Therefore, the Project would result in a <u>less-than-significant impact</u>.**

3.4. BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the Project :				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

3.4.1 ENVIRONMENTAL SETTING

A Biological Resources Assessment (BRA) for the Project was prepared by Estep Environmental Consulting in April 2021. The information contained within the BRA is summarized in the following sections. For specific information, please refer to Appendix C.

The BRA's objective was to provide sufficient information on biological resources in and adjacent to the Project area to determine the effects on those resources from Project activities; make significance determinations pursuant to CEQA; to satisfy the requirements of the Lake and Streambed Alteration Agreement (LSA) pursuant to Section1 600 of the California Department of Fish and Wildlife (CDFW) Code and requirements under Section 404 of the Clean Water Act; and recommend mitigation measures, including consistency with the Yolo HCP/NCCP.

Field surveys and site assessments were conducted on August 16, 2020, August 22, 2020, February 26, 2021, and March 29, 2021. The survey was conducted by walking throughout the entire survey area, which was established to include the Project area and an approximate 200-foot extension around the Project boundary.

Natural communities, vegetation, and wildlife habitats were inspected, mapped, and photographed; slopes were measured; all trees and tree sizes were documented; wildlife species occurrences were recorded using binoculars and spotting scope; and occurrences and potential habitat for each special-status species was documented. Additionally, blue elderberry (*Sambucus nigra* spp. *cerulea*), a host plant for the Federally threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), was mapped within the survey area and basal stems were counted and measured according to standard US Fish and Wildlife Service protocol.

In addition to field surveys, a variety of other sources of information were used in the assessment, including:

- Cache Creek Resources Management Plan (2019)
- Cache Creek Annual Status Reports (1998 – 2019)
- Lower Cache Creek Blue Elderberry Report (Rayburn 2017)
- Lower Cache Creek Invasive Species Mapping and Prioritization Project (Rayburn 2016)
- Lower Cache Creek Biological Resources Study (1995 – 2016) (Tompkins et al. 2017)
- California Natural Diversity Data Base (2020)
- Yolo County General Plan (Yolo County 2009)
- Yolo County HCP/NCCP (www.yolohabitatconservancy.org/)
- eBird (online database of bird observations) (https://ebird.org/home)
- Tricolored blackbird portal (https://tricolor.ice.ucdavis.edu/)
- 2020 Distribution, Abundance, and Habitat Associations of the Swainson's Hawk in Yolo County (Estep 2020)
- Other local research, surveys, and environmental documents

Biological Communities

The channel reconfiguration portion of the Project area is entirely within the levees of the Cache Creek basin and includes streamside riparian vegetation, shrub, and herbaceous natural communities on the lower and upper slopes of the basin; and patches of mature woodland primarily on the upper slopes and along the upper bench. The steeper south slope (50-90%), supports more dense riparian scrub vegetation while the less steep north slope (15-30%) supports more open herbaceous vegetation.

The levee rehabilitation portion of the Project area consists of paved road (County Road 18), roadside ruderal or ornamental vegetation, ruderal vegetation along the existing levee from County Road 18 to I-5, and developed areas associated with three rural residences adjacent to the Project area.

The following natural communities were mapped within the Project area, and are explained in greater detail beginning on page 10 of the BRA:

- Valley Football Riparian
    - Cottonwood/Valley Oak Riparian
    - Mixed Willow Riparian
    - Riparian Scrub
    - Herbaceous
- Lacustrine and Riverine
- Barren
- Ruderal
- Agriculture
- Developed

Fish and Wildlife

The Cache Creek corridor supports a relatively high diversity of wildlife species, and is the primary natural land refuge for wildlife in Yolo County. Extending from the higher elevation Coastal Ranges to the interior Central Valley, Cache Creek serves as an important corridor for fish and wildlife movement and because of the extent and intensity of surrounding cultivated lands, supports wildlife habitat that are unique in the region. A list of wildlife species documented during the two-day survey period is contained in Table 3.4-1. It is important to note that this table does not include all of the wildlife species that could potentially occur within the Project area. The "Fish and Wildlife" section of the BRA, beginning on page 19, provides further details on the fish and wildlife resources that are expected to occur within the Project area.

Table 3.4-1. List of Wildlife Species Detected During Surveys

Common Name	Scientific Name
Reptiles	
Alligator lizard	*Elgaria* spp.
Western fence lizard	*Sceloporus occidentalis*
Birds	
Canada goose	*Branta canadensis*
Great-blue heron	*Ardea herodias*
Great egret	*Ardea alba*
Canada goose	*Branta canadensis*
Turkey vulture	*Cathartes aura*
Swainson's hawk	*Buteo swainsoni*
Red-tailed hawk	*Buteo jamaicensis*
Red-shouldered hawk	*Buteo lineatus*
American kestrel	*Falco sparverius*
California quail	*Callipepla californica*
Mourning dove	*Zenaida macroura*
Anna's hummingbird	*Calypte anna*
Nuttall's woodpecker	*Picoides nuttallii*
Northern flicker	*Colaptes auratus*
Black phoebe	*Sayornis nigricans*
Western kingbird	*Tyrannus verticalis*
Loggerhead shrike	*Lanius ludovicianus*
California scrub jay	*Aphelocoma californica*
Yellow-billed magpie	*Pica nuttalli*
American crow	*Corvus brachyrhynchos*
Common raven	*Corvus corax*
Cliff swallow	*Petrochelidon pyrrhonota*
Tree swallow	*Tachycineta bicolor*
Oak titmouse	*Baeolophus inornatus*
Northern mockingbird	*Mimus polyglottos*
European starling	*Sturnus vulgaris*
California towhee	*Melozone crissalis*
Song sparrow	*Melospiza melodia*
Red-winged blackbird	*Agelaius phoeniceus*
Mammals	
Black-tailed deer	*Odocoileus hemionus columbianus*
Coyote (sign)	*Canis latrans*
Raccoon (sign)	*Procyon lotor*
Black-tailed jackrabbit	*Lepus californicus*
Audubon's cottontail	*Sylvilagus audubonii*
Striped skunk (sign)	*Mephitis mephitis*
California ground squirrel	*Spermophilis becheyi*
Pocket gopher (sign)	*Thomomys bottae*

Source: Estep Environmental Consulting (Appendix C; pg. 33)

Special-Status Species

Special-status species are generally defined as species that are assigned a status designation indicating possible risk to the species. These designations are assigned by State and Federal resource agencies (e.g., California Department of Fish and Wildlife, U.S. Fish and Wildlife Service) or by private research or conservation groups (e.g., National Audubon Society, California Native Plant Society). Assignment to a special-status designation is usually done on the basis of a declining or potentially declining population, either locally, regionally, or nationally. The extent to which a species or population is at risk usually determines the status designation. The factors that determine risk to a species or population generally fall into one of several categories, such as habitat loss or modification affecting the distribution and abundance of a species; environmental contaminants affecting the reproductive potential of a species; or a variety of mortality factors such as hunting or fishing, interference with man-made objects (e.g., collision, electrocution, etc.), invasive species, or toxins.

For the purposes of the biological resources assessment, special-status species were defined as follows:

- Species that are listed, proposed, or candidates for listing under the Federal Endangered Species Act (50 CFR 17.11 – listed; 61 FR 7591, February 28, 1996 - candidates)
- Species that are listed or proposed for listing under the California Endangered Species Act (Fish and Game Code 1992 Sections 2050 et seq.; 14 CCR Sections 670.1 et seq.)
- Species that are designated as Species of Special Concern by CDFW
- Species that are designated as Fully Protected by CDFW (Fish and Game Code, Section 3511, 4700, 5050, and 5515
- Species included on Lists 1B or 2 by the California Native Plant Society (CNPS)
- Species that meet the definition of rare or endangered under CEQA (14 CCR Section 15380)

The presence/absence of special-status species, or their potential for presence, is determined through onsite surveys to detect individuals and evaluate the quality of potential habitats, and through a search of available databases and related source material that documents occurrences of special-status species. Table 3.4-1 lists the special-status species with potential to occur in the vicinity of the Project based existing information on their local and regional distribution, occurrence data provided by CNDDB and other sources, and the onsite surveys and habitat assessment.

Each species in Table 3.4-2 is described in more detail, beginning on page 25 of the BRA. The discussion includes associated habitat associations, the presence/absence of suitable habitat, reported occurrences, and a determination of the potential for occurrence in the vicinity of the Project area.

The Yolo HCP/NCCP covers 12-special status species, eight of which have the potential to occur in the Project area. These species are highlighted in green in Table 3.4-2. The Project area lacks suitable habitat for the remaining four species: palmate-bracted bird's beak (*Cordylanthus palmatus)*, giant garter snake (*Thamnophis gigas*), California tiger salamander (*Ambystoma californiense*), and yellow-billed cuckoo (*Coccyzus americanus*). As a result, these species are not included in further analysis in the BRA.

Table 3.4-2. Special-Status Species with Potential to Occur in the Vicinity of the Project Area

Species	Status State/ Federal/ CNPS	Habitat Association	Habitat Present in the Project Area	Observed Onsite During Survey	Reported Occurrence in the Project Area
Sacramento hitch *Lavinia exilicauda exilicauda*	CSC/-	Streams, sloughs, lakes, reservoirs	Yes[1]	No	No
Hardhead *Mylopharodon conocephalus*	CSC/-	Streams, sloughs, lakes, reservoirs	Yes[1]	No	No
Chinook salmon *Oncorhynchus tshawytscha*	T,E/T,E	Rivers, streams	Yes[1]	No	No
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	-/T	Elderberry shrubs	Yes	Yes[2]	Yes[2]
Western pond turtle *Actinemys marmorata*	CSC/-	Streams, ponds, canals	Yes	No	No
Northern harrier *Circus cyaneus*	CSC/-	Grasslands, pastures, fields, seasonal wetland	Yes	No	No
White-tailed kite *Elanus leucurus*	FP/-	Nests in trees, hunts in grassland/farmland/wetland	Yes	No	No
Swainson's hawk *Buteo swainsoni*	T/-	Nests in trees, hunts in grassland and farmlands	Yes	Yes	Yes
Burrowing owl *Athene cunicularia*	CSC/-	Grasslands, pasturelands, edges of cultivated fields	Marginal	No	No
Long-eared owl *Asio otus*	CSC/-	Riparian woodlands, with adjacent open land for hunting.	Yes	No	No
Bank swallow *Riparia riparia*	T/-	Vertical cut banks along streams	Marginal	No	No
Least Bell's Vireo (Nesting) *Vireo bellii pusillus*	E/E	Willow-dominated riparian shrub and woodland	Marginal	No	No
Loggerhead shrike *Lanius ludovicianus*	CSC/-	Riparian and other woodlands for nesting, grasslands, cultivated habitats for foraging	Yes	Yes	Yes
Yellow-breasted chat *Icteria virens*	CSC/-	Dense riparian thickets with willow near waterways for nesting.	Marginal	No	No
Yellow warbler *Setophaga petechia brewsteri*	CSC/-	Riparian forests, occasionally montane shrubbery in open conifer forests.	Yes	No	No
Tricolored blackbird *Agelaius tricolor*	T/-	Marsh, blackberry bramble, willow scrub for nesting; grasslands, pastures, cultivated lands for foraging	Marginal	No	No
Palid bat *Antrozous pallidus*	CSC/-	Grasslands, shrub lands, woodlands.	Foraging	No	No
Townsends big-eared bat *Corynorhinus townsendii*	CSC/-	Caves, bridges, buildings	Foraging	No	No

Species	Status State/ Federal/ CNPS	Habitat Association	Habitat Present in the Project Area	Observed Onsite During Survey	Reported Occurrence in the Project Area
Western red bat *Lasiurus blossevillii*	CSC/-	Riparian woodland, fruit orchards	Yes	No	No
Black walnut ***Juglans hindsii***	-/-/1B	Riparian, woodlands	Yes	Yes	Yes
Green = species covered by Yolo HCP/NCCP T=threatened; E=Endangered; CSC=California species of species concern; FP=state fully protected; 1B=CNPS rare plant rank					
[1] *Stream habitat is present onsite; however, lower Cache Creek does not support permanent flows during the summer months in most years and the creek is no longer hydrologically connected to the Sacramento River other than during high flows through the Yolo Bypass and Cache Creek Settling Basin. As a result, habitat is considered seasonally present onsite, but these species are not expected to occur.* ***[2]*** *Presence of VELB is based on the presence of suitable elderberry shrubs. No beetles were observed.*					

Source: Estep Environmental Consulting (Appendix C; pg. 24)

3.4.2 REGULATORY SETTING

Federal

Clean Water Act – Sections 401, 402, 404
Section 404 of the Clean Water Act protects Waters of the U.S., including wetlands and drainages, by requiring projects that would discharge dredge or fill material into them to obtain a permit or authorization from USACE. The permitting program is designed to minimize the fill of Waters of the U.S. and when impacts cannot be avoided, require compensatory mitigation.

Section 401 of the Clean Water Act requires any applicant for a Federal license or permit that could result in any discharge into a navigable water (i.e., USACE permit to fill wetlands), to obtain water quality certification from the Regional Water Quality Control Board (RWQCB). Section 402 of the Clean Water Act requires projects that disturb 1 acre or more or are part of a larger project to notify the State Water Resources Control Board (SWRCB) and to prepare a Stormwater Pollution Protection Plan (SWPPP) that will minimize construction and stormwater related impacts to waterways.

State

California Fish and Game Code – Section 1600-1607 (Lake and Streambed Alteration Agreement)
A Lake and Streambed Alteration Agreement (LSA) must be issued under Sections 1600-1607 of the California Fish and Game (CFG) Code to obtain authorization from CDFW if a project would divert, obstruct, or change the natural flow of the bed, channel, or bank of any river, stream, or lake. An LSA must also be issued if the project would use material from the streambeds designated by CDFW in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit.

California Fish and Game Code – Section 3503.5 (Birds of Prey)
Section 3503.5 prohibits the take, possession, or destruction of any birds of prey or their nests or eggs. The CDFW may issue permits authorizing take, pursuant to CESA.

Local

Yolo Habitat Conservation Plan/Natural Communities Conservation Plan
The Yolo HCP/NCCP is a comprehensive, county-wide plan to provide for the conservation of State and Federally listed and other sensitive species and the natural communities and agricultural land on which they depend, as well as a streamlined permitting process to address the effects of a range of future anticipated activities on covered species. The Yolo Habitat Conservancy (Conservancy), which consists of Yolo County and the incorporated cities of Davis, West Sacramento, Winters, and Woodland, developed the Yolo HCP/NCCP, which provides the basis for issuance of long-term permits under the Federal Endangered Species Act (FESA) and California Natural Community Conservation Planning Act (NCCPA) that cover an array of public and private activities, including activities that are essential to the ongoing viability of Yolo County's agricultural and urban economies. Specifically, the Yolo HCP/NCCP provides the Permittees (i.e., Yolo County, the four incorporated cities, and the Conservancy) with incidental take permits from both the U.S. Fish and Wildlife Service (USFWS) and the CDFW for the 12 sensitive species covered by the plan. This action is pursuant to Section 10(a)(1)(B) of the FESA and Section 2835 of the NCCPA chapter of the California Fish and Game Code (Fish & Game Code). The Yolo HCP/NCCP ensures compliance with the FESA, NCCPA, and the California Endangered Species Act (CESA) for covered activities that may affect the covered species.

Yolo County General Plan

Because the Project area is located outside of the city limits in Yolo County, the Yolo County General Plan is also relevant to this assessment. The Yolo County General Plan includes numerous policies regulating and emphasizing the protection of natural resources. Those most relevant to the proposed Project include the following:

- **Policy CO-2.1.** Consider and maintain the ecological function of landscapes, connecting features, watersheds, and wildlife movement corridors.
- **Policy CO-2.3.** Preserve and enhance those biological communities that contribute to the county's rich biodiversity including blue oak and mixed oak woodlands, native grassland prairies, wetlands, riparian areas, aquatic habitat, agricultural lands, heritage valley oak trees, remnant valley oak groves, and roadside tree rows.
- **Policy CO-2.38.** Avoid adverse impacts to wildlife movement corridors and nursery sites (e.g., nest sites, dens, spawning areas, breeding ponds).
- **Policy CO-2.41.** Require that impacts to species listed under the State or Federal Endangered Species Acts, or species identified as special-status by the resource agencies, be avoided to the greatest feasible extent. If avoidance is not possible, fully mitigate impacts consistent with applicable local, State, and Federal requirements.
- **Policy CO-2.42.** Projects that would impact Swainson's hawk foraging habitat shall participate in the Agreement Regarding Mitigation for Impacts to Swainson's Hawk Foraging Habitat in Yolo County entered into by the CDFG and the Yolo County HCP/NCCP Joint Powers Agency, or satisfy other subsequent adopted mitigation requirements consistent with applicable local, State, and Federal requirements.

3.4.3 IMPACTS ANALYSIS

Biological Communities

A detailed description of the impacts of the Project to Biological Resources begins on page 32 of the BRA. The information contained below is a high-level summary of the information in the report.

The BRA assumed that all vegetation occurring within the Project boundary (limits of grading) would be removed by Project activities. Although, following removal of accumulated sediment and recontouring and stabilizing the creek banks, the channel reconfiguration area will be partially revegetated to reestablish the valley foothill riparian natural community.

Table 3.4-3 shows the impact acreages for each natural community. Figure 3.4-1 illustrates the distribution of each natural community within the Project area. Specific impacts to each natural community are described in the Biological Resources Assessment, beginning on page 33.

Table 3.4-3. Acres of Impacted Natural Communities

Project Component	Natural Community	Impacted Acres
Channel Reconfiguration *(5.75 acres)*	Valley Foothill Riparian (Cottonwood/Valley Oak Riparian)	0.46
	Valley Foothill Riparian (Mixed Willow Riparian)	0.90
	Valley Foothill Riparian (Riparian Scrub)	0.36
	Valley Foothill Riparian (Herbaceous)	2.70
	Lacustrine/Riverine	0.86
	Barren	0.47
Levee Rehabilitation *(3.48 acres)*	Ruderal	1.34
	Agriculture	0.13
	Developed	2.01

Source: Estep Environmental Consulting (Appendix C; pg. 33)

Wildlife Corridors

As mentioned previously, Cache Creek is an important movement corridor for birds, mammals, and reptiles in Yolo County. Lower Cache Creek occurs within an extensive agricultural landscape and provides one of the few natural corridors through the region. Over the course of several weeks, the Project will remove most of the vegetation along an approximately 1,300-foot linear section of the creek, use heavy equipment to removal thousands of yards of accumulated sediment, and then re-contour and restore the basin. The creek is expected to be dry during most of this work and so aquatic organisms should not be substantially affected. Birds that use the creek as a flight corridor may be temporarily disturbed, but also not substantially affected. Movement of mammals and reptiles, however, could be substantially disrupted during the construction and rehabilitation period. Although, the movement corridor will be restored upon completion of the Project, the temporary blockage caused by the Project would constitute a significant impact. This impact is reduced to a level of less-than-significant through implementation of AMMs, pursuant to the Yolo HCP/NCCP.

Special Status Species

An in-depth analysis of the Project's impact to special-status species begins on page 37 of the BRA. In short, the Project could have impacts on the following species; thus, requiring mitigation:

- Valley elderberry longhorn beetle
- Swainson's hawk
- White-tailed kite
- Northern harrier

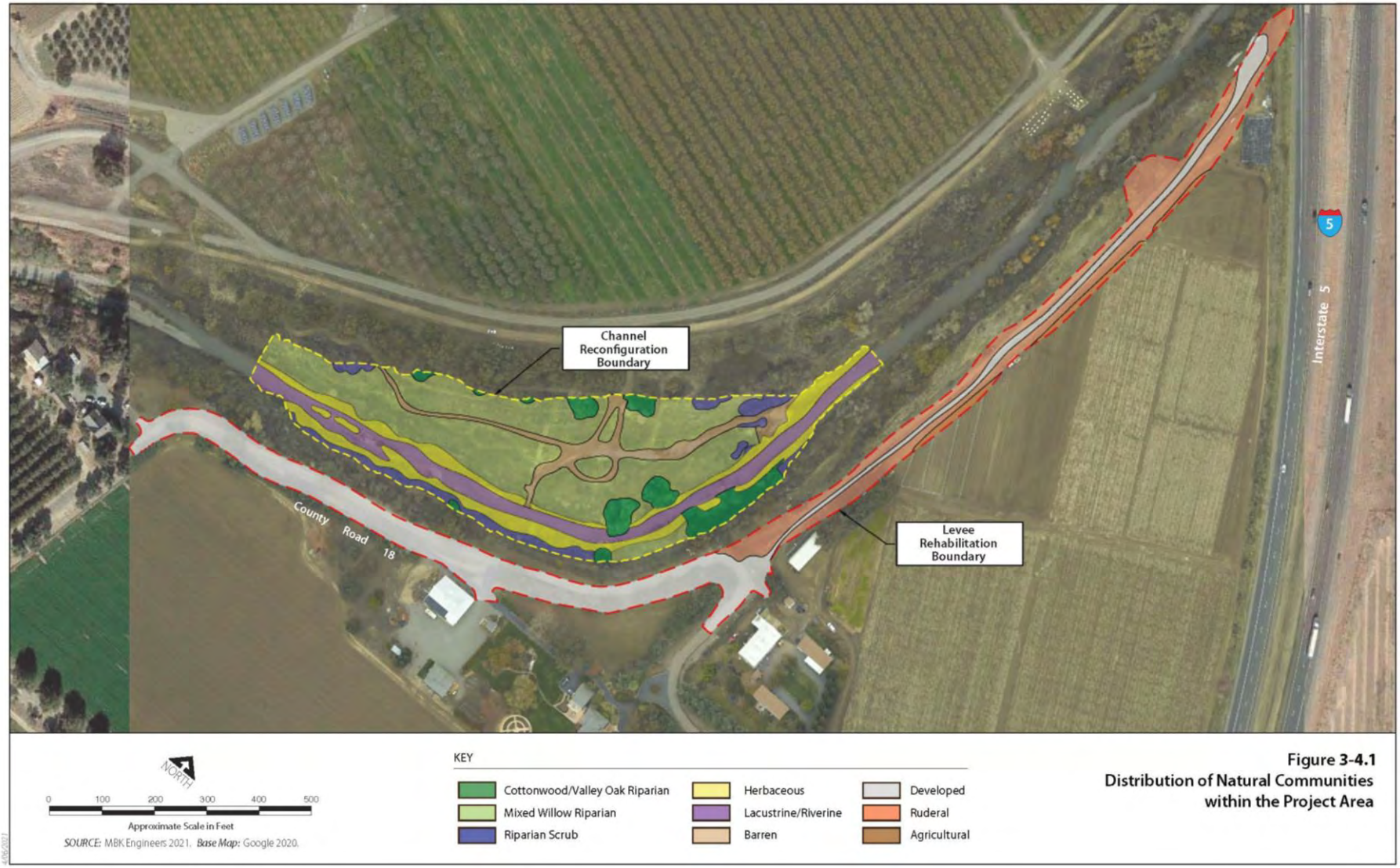

Figure 3-4.1
Distribution of Natural Communities within the Project Area

Analysis in the BRA concludes that the Project is not expected to have impacts on the following species; thus, requiring no mitigation:

- Sacramento hitch
- Hardhead
- Chinook salmon
- Burrowing owl
- Long-eared owl
- Loggerhead shrike
- Bank swallow
- Least Bell's vireo
- Yellow-breasted Chat
- Yellow warbler
- Tricolored blackbird
- Palid bat
- Western red bat

3.4.4 POTENTIAL ENVIRONMENTAL IMPACTS

Would the Project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

As described above, 20 special-status species have the potential to occur in the vicinity of the Project area. The Project is anticipated to have impacts on four of these species: valley elderberry longhorn beetle; Swainson's hawk, white-tailed kite, and northern harrier. The first three species are covered by the Yolo HCP/NCCP. Impacts to special-status species, including the northern harrier, which is not a covered species, will be mitigated through implementation of the following Yolo HCP/NCCP AMMs, and additional preconstruction surveys for northern harrier, reducing the impacts on the species. Impacts on habitat for valley elderberry longhorn beetle will be addressed through implementation of the Yolo HCP/NCCP and its incorporation of the Cache Creek Resources Management Plan per Section 6.5.8.1.1. **Therefore, the Project would result in a <u>less-than-significant impact with mitigation incorporated</u>.**

BIO-1. Yolo County shall implement the relevant provisions of the Yolo HCP/NCCP and its incorporation of the Cache Creek Resources Management Plan (Section 6.5.8.1.1) to mitigate impacts on Covered Species, including valley elderberry longhorn beetle, Swainson's hawk, and white-tailed kite. The Project is exempt from HCP/NCCP land cover fees and from the compensatory mitigation described in AMM12 of

the HCP/NCCP (Minimize Take and Adverse Effects on Habitat of Valley Elderberry Longhorn Beetle), but will benefit from the ongoing implementation of the Cache Creek Management Plan (CCRMP), which is designed to protect and enhance habitat for these, and other, special-status species. AMMs that address disturbances to covered species, such as AMM 16 (below), will apply to the Project.

Timing/Implementation: Before Construction
Monitoring/Enforcement: Yolo County

BIO-2. Yolo County shall implement Yolo HCP/NCCP AMM16 (Minimize Take and Adverse Effects on Habitat of Swainson's Hawk and White-Tailed Kite), described in greater detail below:

> *The project proponent will retain a qualified biologist to conduct planning-level surveys and identify any nesting habitat present within 1,320 feet of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.*
>
> *If a construction project cannot avoid potential nest trees (as determined by the qualified biologist) by 1,320 feet, the project proponent will retain a qualified biologist to conduct preconstruction surveys for active nests consistent, with guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000), between March 15 and August 30, within 15 days prior to the beginning of the construction activity. The results of the survey will be submitted to the Yolo Habitat Conservancy and CDFW. If active nests are found during pre-construction surveys, a 1,320-foot initial temporary nest resource protection buffer shall be established. If project related activities within the temporary nest resource protection buffer are determined to be necessary during the nesting season, then the qualified biologist will monitor the nest and will, along with the project proponent, consult with CDFW to determine the best course of action necessary to Chapter 5 Avoidance and Minimization Measures Implementation Handbook Permitting Guide 65 January 2020 avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest resource protection buffer if Swainson's hawk or white-tailed kite are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the 1,320-foot resource protection buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior. Up to 20 Swainson's hawk nest trees (documented nesting within the last 5 years) may be removed during the permit term, but they must be removed when not occupied by Swainson's hawks.*
>
> *For covered activities that involve pruning or removal of a potential Swainson's hawk or white-tailed kite nest tree, the project proponent will conduct pre-construction surveys that are consistent with the guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000). If active nests are found during pre-construction surveys, no tree pruning or removal of the nest tree will occur during the period between March 1 and August 30 within 1,320 feet of an active nest, unless a qualified biologist determines that the young have fledged and the nest is no longer active.*

Timing/Implementation: Before Construction
Monitoring/Enforcement: Yolo County

BIO-3. Concurrent with implementation of AMM16, Yolo County will conduct preconstruction surveys for northern harrier within the Project area and implement similar avoidance protocols or coordination with CDFW in the event active nests are found.

Timing/Implementation: Before Construction
Monitoring/Enforcement: Yolo County

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

As previously mentioned, it is assumed that all vegetation occurring within the Project boundary (limits of grading) would be removed by Project activities (although the channel reconfiguration area will be partially revegetated), impacting approximately 9.23 acres. Impacts on riparian habitat and other sensitive natural communities will be addressed through implementation of the Yolo HCP/NCCP and its incorporation of the Cache Creek Resources Management Plan per Section 6.5.8.1.1. **Therefore, the Project would result in a <u>less-than-significant impact with mitigation incorporated</u>.**

BIO-4. Yolo County shall implement relevant provisions of the Yolo HCP/NCCP to avoid and minimize potential impacts to covered species and other wildlife, including AMMS 3, 4, 5, 6, 7, 8, and 18. To address mitigation for impacts on riparian habitat and other sensitive natural communities that may provide habitat for covered species, the Yolo HCP/NCCP incorporates the Cache Creek Resources Management Plan (Section 6.5.8.1.1). The Project is exempt from HCP/NCCP land cover fees and from the compensatory mitigation described in AMM12 of the HCP/NCCP (Minimize Take and Adverse Effects on Habitat of Valley Elderberry Longhorn Beetle), but will benefit from the ongoing implementation of the CCRMP, which is designed to protect and enhance riparian habitat and other sensitive natural communities, and provide habitat for covered species, including valley elderberry longhorn beetle.

Timing/Implementation: Before Construction
Monitoring/Enforcement: Yolo County

c) Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Impacts to the wetland natural communities (lacustrine and riverine) within the Project area will be mitigated through participation in the Yolo HCP/NCCP. Through compliance with provisions of the HCP/NCCP, including its incorporation of the CCRMP per Section 6.5.8.1.1 and adherence to relevant avoidance and minimization measures, the Project will contribute to the HCP/NCCP's conservation strategy, thereby fully mitigating for the loss of wetlands and benefiting associated species, including covered species. Impacts to Cache Creek wetland and waters (lacustrine and riverine) will also be mitigated through implementation of AMM10 of the Yolo HCP/NCCP. **Therefore, the Project would result in a <u>less-than-significant impact with mitigation incorporated</u>.**

BIO-5. Yolo County shall implement Yolo HCP/NCCP AMM10 (Avoid and Minimize Effects on Wetlands and Waters), as described in greater detail below.

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

Timing/Implementation: Before Construction
Monitoring/Enforcement: Yolo County

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

Minimizing the effects of disrupting wildlife movement along Cache Creek requires implementation of construction-related measures to allow for movement to the extent possible and avoid potential mortality of wildlife from operations. Although the approximately 1,300 linear foot area will be substantially disturbed, an undisturbed corridor will be retained along the northern edge of the Project area from the levee and extending downslope from 150 to 250 feet. This area consists of relatively dense cover of valley oak woodland and riparian scrub habitats. A narrower, undisturbed edge will also be retained along the south side of the Project from the levee and extending downslope between 20 and 100 feet throughout most of the length of the Project. Although the interior of the Project area will be cleared of all vegetation, these narrower corridors could continue to function as movement corridors, as long as other construction-related precautions are implemented.

The following avoidance and minimization measures, which are typical construction-related best management best practices, are taken from the Yolo HCP/NCCP and are designed to avoid and minimize effects on natural communities and covered species. They are also applicable to minimizing the disturbance within the retained undisturbed, vegetated corridors on the north and south sides of the Project area and allowing for some movement of wildlife throughout the Project area. Implementation of these AMMs, described below, will reduce the overall impact of the Project has on wildlife movement corridors. **Therefore, the Project would result in a <u>less-than-significant impact with mitigation incorporated</u>.**

BIO-6. Yolo County shall implement Yolo HCP/NCCP AMM3 (Confine and Delineate Work Area) as described in greater detail below:

Where natural communities and covered species habitat are present, workers will confine land clearing to the minimum area necessary to facilitate construction activities. Workers will restrict movement of heavy equipment to and from the project site to established roadways to minimize natural community and covered species habitat disturbance. The project proponent will clearly identify boundaries of work areas using temporary fencing or equivalent and will identify areas designated as environmentally sensitive. All construction vehicles, other equipment, and personnel will avoid these designated areas.

Timing/Implementation: Before and During Construction
Monitoring/Enforcement: Yolo County

BIO-7. Yolo County shall implement Yolo HCP/NCP AMM4 (Cover Trenches and Holes during Construction and Maintenance), described in greater detail below:

> *To prevent injury and mortality of giant garter snake, western pond turtle, and California tiger salamander, workers will cover open trenches and holes associated with implementation of covered activities that affect habitat for these species or design the trenches and holes with escape ramps that can be used during non-working hours. The construction contractor will inspect open trenches and holes prior to filling and contact a qualified biologist to remove or release any trapped wildlife found in the trenches or holes.*

Timing/Implementation: During Construction
Monitoring/Enforcement: Yolo County

BIO-8. Yolo County shall implement Yolo HCP/NCPP AMM5 (Control Fugitive Dust), described in greater detail below:

> *Workers will minimize the spread of dust from work sites to natural communities or covered species habitats on adjacent lands.*

Timing/Implementation: During Construction
Monitoring/Enforcement: Yolo County

BIO-9. Yolo County shall implement Yolo HCP/NCCP AMM6 (Conduct Worker Training), described in greater detail below:

> *All construction personnel will participate in a worker environmental training program approved/authorized by the Yolo Habitat Conservancy and administered by a qualified biologist. The training will provide education regarding sensitive natural communities and covered species and their habitats, the need to avoid adverse effects, State and* Federal *protection, and the legal implications of violating the ESA and Natural Community Conservation Planning Act permits. A pre-recorded video presentation by a qualified biologist shown to construction personnel may fulfill the training requirement.*

Timing/Implementation: Before Construction
Monitoring/Enforcement: Yolo County

BIO-10. Yolo County shall implement Yolo HCP/NCCP AMM7 (Control Nighttime Lighting of Project Construction Sites), described in greater detail below:

> *Workers will direct all lights for nighttime lighting of project construction sites into the project construction area and minimize the lighting of natural habitat areas adjacent to the project construction area.*

Timing/Implementation: During Construction
Monitoring/Enforcement: Yolo County

BIO-11. Yolo County shall implement Yolo HCP/NCCP AMM8 (Avoid and Minimize Effects of Construction Staging Areas and Temporary Work Area), described in greater detail below:

> *Project proponents should locate construction staging and other temporary work areas for covered activities in areas that will ultimately be a part of the permanent project development footprint. If construction staging and other temporary work areas must be located outside of permanent project footprints, they will be located either in areas that do not support habitat for covered species, or are easily restored to prior or improved ecological functions (e.g., grassland and agricultural land). Construction staging and other temporary work areas located outside of project footprints will be sited in areas that avoid adverse effects on the following.*
>
> - *Serpentine, valley oak woodland, alkali prairie, vernal pool complex, valley foothill riparian, and fresh emergent wetland land cover types.*
> - *Occupied western burrowing owl burrows.*
> - *Nest sites for covered bird species and all raptors, including noncovered raptors, during the breeding season.*
>
> *Project proponents will follow specific AMMs for sensitive natural communities and covered species in temporary staging and work areas. For establishment of temporary work areas outside of the project footprint, project proponents will conduct surveys to determine if any of the biological resources listed above are present.*
>
> *Within 1 year following removal of land cover, project proponents will restore temporary work and staging areas to a condition equal to or greater than the covered species habitat function of the affected habitat. Restoration of vegetation in temporary work and staging areas will use clean, native seed mixes approved by the Yolo Habitat Conservancy that are free of noxious plant species seeds.*

Timing/Implementation: Before, During, and After Construction
Monitoring/Enforcement: Yolo County

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The Project area is located in unincorporated Yolo County. While there are no applicable local ordinances, the Yolo County Oak Woodland Conservation and Enhancement Plan was established to promote voluntary efforts to conserve and enhance the County's existing oak woodlands and trees (Yolo County, 2007). The Project would result in the removal of an estimated 14 mature (i.e., greater than 12" diameter at breast height) valley oaks during the removal of approximately 0.46 acres of valley foothill riparian (cottonwood/valley oak riparian) habitat.

The Project will be implemented in accordance with the Yolo HCP/NCCP and thus will contribute to the HCP/NCCP's conservation strategy, thereby mitigating for the loss of valley-foothill riparian habitat and benefiting associated species. **Therefore, the Project would result in a <u>less-than-significant impact</u>.**

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

The Project will be implemented in accordance with the Yolo HCP/NCCP. Through participation in the HCP/NCCP application process, and implementation of the applicable AMMs, the Project would not conflict with the provisions of the HCP/NCCP. **Therefore, the Project would result in <u>no impact</u>.**

3.5. CULTURAL RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the Project :				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Cultural resources include prehistoric archaeological sites, historic archaeological sites, and historic structures, and generally consist of artifacts, food waste, structures, and facilities made by people in the past. Prehistoric (pre-contact) archaeological sites are places that contain the material remains of activities carried out by the native population of the area (Native Americans) prior to the arrival of Europeans in southern California. Artifacts found in prehistoric sites include flaked stone tools such as projectile points, knives, scrapers, drills, and the resulting waste flakes from tool production; ground stone tools such as manos, metates, mortars, pestles for grinding seeds and nuts; bone tools such as awls ceramic vessels or fragments; and shell or stone beads. Prehistoric features include hearths or rock rings bedrock mortars and milling slicks, rock shelters, rock art, and burials.

Places that contain the material remains of activities carried out by people during the period when written records were produced after the arrival of Europeans are considered historic archaeological sites. Historic archaeological material usually consists of domestic refuse, for instance bottles, cans, ceramics, and food waste, disposed of either as roadside dumps or near structure foundations. Archaeological investigations of historic-period sites are usually supplemented by historical research using written records.

Historic structures include houses, garages, barns, commercial structures, industrial facilities, community buildings, flood control facilities, and other structures and facilities that are more than 50 years old. Historic structures may also have associated archaeological deposits, such as abandoned wells, cellars, and privies, refuse deposits, and foundations of former outbuildings.

In 2020, ECORP Consulting, Inc. prepared the *Cultural Resources Inventory Report for the Huff's Corner Levee Raise and Channel Reconfiguration Project* to assist the County in determining if cultural resources are present in or adjacent to the Project area and to assess the sensitivity of the Project area for undiscovered or buried cultural resources. This section of the Initial Study is based on the findings of the inventory report, which includes discussion of the cultural context of the Project area including regional and local pre-contact history (prehistory), ethnography, and regional and Project area histories. The inventory consisted of: a records search with the California Historical Resources Information System (CHRIS) at the Northwest Information Center (NWIC); a search of the Sacred Lands File of a Native American Heritage Commission (NAHC); a review of historic maps, photographs, records on file with the Office of Historic Preservation (OHP); ethnographic information; literature pertaining to the Project area

and surrounding region; a review of geological and soils data; and pedestrian survey by qualified professional archaeologists.

Due to the sensitive nature of cultural resources, the Cultural Resources Report is not included in the appendices. Specifically, Sections 6253, 6254, and 6254.10 of the California Code authorize State agencies to exclude archaeological site information from public disclosure under the Public Records Act. In addition, the California Public Records Act (Government Code § 6250 et seq.) and California's open meeting laws (The Brown Act, Government Code § 54950 et seq.) protect the confidentiality of Native American cultural place information. Under Exemption 3 of the Federal Freedom of Information Act (5 United States Code [USC] 5), because the disclosure of cultural resources location information is prohibited by the Archaeological Resources Protection Act of 1979 (16 USC 470hh) and Section 307103 of the National Historic Preservation Act (NHPA), it is also exempted from disclosure under the Freedom of Information Act. Likewise, the CHRIS prohibits public dissemination of records search information. In compliance with these requirements, the results of the Cultural Resources Report were prepared as a confidential document, which is not intended for public distribution in either paper or electronic format. However, all pertinent information necessary to provide substantial evidence for impact determinations is summarized in this section of the IS/MND.

3.5.1 ENVIRONMENTAL SETTING

The Project area is located in a rural portion of the Sacramento Valley along the banks of Cache Creek, one of numerous perennial waterways in the vicinity. The Dunnigan Hills are three miles to the west and the Sacramento River approximately 10 miles to the east. Land use is predominantly agricultural in this region, but several small towns and communities are scattered across the landscape. Elevations range from 65 to 80 feet above mean sea level.

The cultural setting of the Project area is summarized below. A more comprehensive cultural context is provided in the confidential cultural resources technical report (ECORP, 2020).

Pre-Contact History

It is generally believed that human occupation of California began at least 10,000 years before present (BP). The archaeological record indicates that between approximately 10,000 and 8,000 BP, a predominantly hunting economy existed, characterized by archaeological sites containing numerous projectile points and butchered large animal bones. Groups from this time period included only small numbers of individuals who did not often stay in one place for extended periods. Around 8,000 BP, there was a shift in focus from hunting toward a greater reliance on plant resources. Archaeological evidence of this trend consists of a much greater number of milling tools (e.g., metates and manos) for processing seeds and other vegetable matter. In sites dating to after about 5,000 BP, archaeological evidence indicates that reliance on both plant gathering and hunting continued as in the previous period, with more specialized adaptation to particular environments. During this period, new peoples from the Great Basin began entering southern California. These immigrants, who spoke a language of the Uto-Aztecan linguistic stock, seem to have displaced or absorbed the earlier population of Hokan-speaking peoples.

Ethnography

Ethnographically, the Project area is in the central portion of the territory occupied by the Penutian-speaking Hill Patwin. Patwin is part of the Wintun linguistic family. The ethnographic Hill Patwin occupied

the territory including the lower hills of the eastern Coast Range mountain slope, in the Long, Indian, Bear, Capay, Cortina, and Napa valleys. The descendants of the traditional Patwin, including the Yoche Dehe Wintun Nation, continue to reside in the region. The ethnography of the Project area is discussed in more detail in the Tribal Cultural Resources section of this Initial Study.

Project Area History

During the early stage of land development in Yolo County, many enterprising newcomers emigrated to the region, with a primary focus on ranching and agriculture. In 1850, George and John Stephens acquired property on Cache Creek and constructed an adobe granary – the first adobe structure in Yolo County. The Stephens raised cattle and farmed dry grains on their ranch. As their wealth increased, they started the Stephens Agricultural and Livestock Company and they owned the Cottonwood Ditch Company. At one point in time, the brothers owned 8,000 acres of land in Yolo County.

Extensive irrigation systems were built to support the growing agricultural community. Prior to the 1860s, the primary Sacramento Valley crop was wheat, watered primarily by tributaries flowing west down from the Sierra Nevada, as well as floodplains and alluvial fans created by the confluence of the Sacramento and San Joaquin rivers. However, a widespread drought and flood cycle from 1863 to 1865, coupled with an unstable wheat market and soil exhaustion, led the wheat growers in the Central Valley to embrace the benefits of irrigation and flood control. As more farmers turned to irrigated crops, they saw more returns on the investment in irrigation, and the systems began to proliferate. Communal arrangements for water distribution were developed, as opposed to individual landowners footing the bill on their land alone. Irrigation districts, along with private and municipal water companies, were initiated and became crucial to the large-scale development and success of irrigated agriculture. The Wright Act of 1887 provided for the formation of irrigation districts throughout the Central Valley that fell under the democratic control of the water users themselves. By 1929, there were 15 irrigation districts in the Sacramento Valley. The U.S. Reclamation Service (the predecessor to the U.S. Bureau of Reclamation) noticed the benefits of these systems and began establishing their own reclamation projects involving irrigation to help westerners improve their lands. With these Federal involvements, improvements such as concrete lining and upkeep were made to many of the canals and districts. The Yolo County Flood Control and Water Conservation District was established in 1951 and today manages several important water infrastructure elements including dams, canals, laterals, a hydroelectric plant, and reservoirs serving the water needs of residents of Davis, Winters, Capay, Esparto, and the surrounding lands.

Along with the increase of farmland and irrigation, a number of other enterprises began to emerge, most importantly, gravel mining in the 1870s. Exposed and easily accessible, gravel extraction along Cache Creek has a history that is over 100 years old, making it one of the most historic enterprises in Yolo County today.

3.5.2 REGULATORY SETTING

National Historic Preservation Act

The National Historic Preservation Act requires that the Federal government list significant historic resources on the National Register of Historic Places (NRHP), which is the nation's master inventory of known historic resources. The NRHP is administered by the National Park Service (NPS) and includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, State, or local level.

Section 106 of the NHPA states that Federal agencies with direct or indirect jurisdiction over Federally funded, assisted, or licensed undertakings must take into account the effect of the undertaking on any historic property that is included in, or eligible for inclusion in, the NRHP. Section 106 of the NHPA also states that the Advisory Council on Historic Preservation (ACHP) and State Historic Preservation Officer must be afforded an opportunity to comment on such undertakings, through a process outlined in the ACHP regulations at 36 Code of Federal Regulations (CFR) Part 800. For Federal undertakings, regulations (36 CFR 800) implementing Section 106 of the NHPA require that cultural resources be identified and then evaluated using NRHP eligibility criteria.

Under Federal regulations implementing Section 106 of the NHPA (36 CFR 800), cultural resources identified in the Project area must be evaluated using NRHP and eligibility criteria. The eligibility criteria for the NRHP are as follows (36 CFR 60.4):

> "The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess aspects of integrity of location, design, setting, materials, workmanship, feeling, association, and:
>
> a) is associated with events that have made a significant contribution to the broad patterns of our history;
>
> b) is associated with the lives of a person or persons significance in our past;
>
> c) embodies the distinctive characteristics of a type, period or method of construction, or represents the work of a master, or possesses high artistic value, or represents a significant and distinguishable entity whose components may lack individual distinction; or
>
> d) has yielded or may be likely to yield information important in prehistory or history."

In addition, the resource must be at least 50 years old, except in exceptional circumstances (36 CFR 60.4).

Effects to NRHP-eligible resources (historic properties) are adverse if the project may alter, directly or indirectly, any of the characteristics of an historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

California Register of Historical Resources

The California Register of Historic Resources (CRHR) is used by State and local agencies, private groups, and citizens to identify, evaluate, register, and protect California's historical resources. The CRHR is the list of the State's significant historical and archaeological resources. Under State law (CEQA), cultural resources are evaluated using CRHR eligibility criteria in order to determine whether any of the sites are Historical Resources, as defined by CEQA. CEQA requires that public agencies identify impacts to Historical Resources be identified and, if the impacts would be significant, that mitigation measures to reduce the impacts be incorporated.

Under CEQA, an Historical Resource is a term with a defined statutory meaning (Public Resources Code [PRC] § 21084.1). Under CEQA Guidelines Section 15064.5(a), historical resources include the following:

- A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR (PRC § 5024.1).
- A resource included in a local register of historical resources, as defined in PRC § 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC § 5024.1(g), will be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource will be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the CRHR (PRC Section 5024.1), including the following:

    a) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

    b) Is associated with the lives of persons important in our past;

    c) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

    d) Has yielded, or may be likely to yield, information important in prehistory or history.

The fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to PRC § 5020.1(k)), or identified in a historical resources survey (meeting the criteria in PRC § 5024.1(g)) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC §§ 5020.1(j) or 5024.1.

Historical resources are usually 45 years old or older and must meet at least one of the criteria for listing in the CRHR, described above (such as association with historical events, important people, or architectural significance), in addition to maintaining a sufficient level of integrity. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association [California Code of Regulations [CCR] Title 14, § 4852(c)].

Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be historical resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (PRC § 5024.1 and CCR, Title 14, § 4850). Unless a resource listed in a survey has been demolished, lost substantial integrity, or there is a preponderance of evidence indicating that it is otherwise not eligible for listing, a lead agency should consider the resource to be potentially eligible for the CRHR.

CEQA also requires lead agencies to determine if a proposed project would have a significant effect on unique archaeological resources. If a lead agency determines that an archaeological site is a historical

resource, the provisions of PRC Section 21084.1 and CEQA Guidelines Section 15064.5 would apply. If an archaeological site does not meet the CEQA Guidelines criteria for a historical resource, then the site may meet the threshold of PRC Section 21083.2 regarding unique archaeological resources. A unique archaeological resource is an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria.

"Unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person."

The CEQA Guidelines note that if a resource is neither a unique archaeological resource nor a historical resource, the effects of the project on that resource shall not be considered a significant effect on the environment (14 CCR Section 15064[c][4]).

If the project would result in a significant impact to a historical resource or unique archaeological resource, treatment options under PRC § 21083.2 include activities that preserve such resources in place in an undisturbed state. Other acceptable methods of mitigation under Section 21083.2 include excavation and curation or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a unique archaeological resource).

In addition to the mitigation provisions pertaining to accidental discovery of human remains, the CEQA Guidelines also require that a lead agency make provisions for the accidental discovery of historical or archaeological resources, generally. Pursuant to § 15064.5(f), these provisions should include "an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place."

3.5.3 CULTURAL RESOURCES ANALYSIS

The cultural resources analysis was based on a records and literature search conducted at the NWIC on November 10, 2020, a search of the NAHC's Sacred Lands File, a literature review, and a field survey. The field survey was conducted on November 4, 2020. The literature search included the results of previous surveys within a 0.5-mile (800-meter) radius of the entire Project area.

In addition to the official records and maps for archaeological sites and surveys in Yolo County, the following historic references were also reviewed: Historic Property Data File for Yolo County (OHP, 2012);

The National Register Information System (National Park Service [NPS], 2020); Office of Historic Preservation, California Historical Landmarks (OHP, 2019); California Historical Landmarks (OHP, 1996 and updates); California Points of Historical Interest (OHP, 1992 and updates); Directory of Properties in the Historical Resources Inventory (1999); Caltrans Local Bridge Survey (Caltrans, 2019); Caltrans State Bridge Survey (Caltrans, 2018); and Historic Spots in California (Kyle, 2002). Other references examined include a RealQuest Property Search and historic General Land Office land patent records (Bureau of Land Management, 2020). ECORP mailed letters to the Yolo County Historical Society and Gibson Historical Museum on October 27, 2020, to solicit comments or obtain historical information that the repository might have regarding events, people, or resources of historical significance in the area; no response was received. A search of the Sacred Lands File by the NAHC was negative for Native American cultural resources in the Project area.

Cultural Resources

Three previously recorded resources (pre-contact lithic scatter CA-YOL-37/P-57-40 and historic homesteads P-57-1383 and P-57-1386) were found to lie outside of the Project's footprint and will not be affected by the Project, and are not considered further.

The south bank of the Cache Creek Levee was found to be part of a larger levee system that had been previously recorded and evaluated in segments, collectively documented as CA-YOL-426H/P-57-594/P-57-650. The levee system was first mapped in 2007 as two small segments on either side of Cache Creek where it crosses Highway 113. Later, it was expanded to encompass several miles of levee along the northern (left) bank of the creek. The segment of the historic Cache Creek Levee within the Project area is located at the northernmost end of the RD-2035 – Willow Bypass System, constructed for the Sacramento River Flood Control Project built between 1938 and 1960. The precise date of construction of this segment of the levee is uncertain, but topographic maps suggest this segment of the levee was constructed by 1951 and previous site records indicate as early as 1938.

The segment of the levee within the Project area is approximately 15 feet wide at the crown. The width of the base is variable, due to the difference in height of the water side and land side slopes. The water side slope drops steeply from the levee road toward the creek channel and is approximately 40 to 50 feet in height. The land side slope is more gently sloped and five to 10 feet in height. The levee carries paved portions of County Road 18 and a short portion of County Road 97A.

The levee has one additional feature, designated as Feature 1, a row of eight historic olive trees planted in the land side slope of the levee, likely planted intentionally to stabilize the levee bank (if not also for olive production). The exact year in which they were planted is unknown but based on the review of topographic maps and photos, and the diameter of the trunks, they were likely planted at the time of levee construction. Additional olive trees extend outside of the current Project area.

In 2014, DWR (Pierce, 2014) carried out a formal evaluation of significance for an adjacent 11.81-mile long section of the north bank Cache Creek Levee between the town of Yolo and the Yolo Bypass (Sub-Unit 1 of Unit 126 of the Sacramento River Flood Control Project [SRFCP]). DWR found the levee to not be individually eligible but found it to be a contributing element to the SRFCP under NRHP Criterion A and CRHR Criterion 1 for its association with urban and agricultural growth of the Central Valley. The period of significance is 1917 to 1961. The section that was evaluated by DWR is the segment that was previously recorded as P-57-650 and then later combined into CA-YOL-246H/P-57-594. Therefore, this determination of eligibility is appropriate for the segment in the Project area as well, which means that a historical

resource, as defined by CEQA, is present within the Project area. Subsequently, DWR consulted with SHPO on a finding of no adverse effect to the historic property for a project that proposed to remove entire sections of the levee. On July 25, 2014, SHPO concurred with that finding.

In summary, there is one historical resource present within the Project area: a segment of the historic Cache Creek Levee. There are no unique archaeological resources present.

3.5.4 POTENTIAL ENVIRONMENTAL IMPACTS

Would the Project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

As previously described, there is one historical resource present within the Project area: a segment of the historic Cache Creek Levee. Similar to the segment evaluated by DWR, this segment retains integrity of location, setting, feeling, and association. Project implementation would result in the removal of approximately eight olive trees, degradation of the existing levee prism, the reconstruction of a new levee in the same alignment, and some additional erosion control features along its water slide slope. The Project would not change the alignment of the levee, and the Project will impact a very small segment of the entire levee. Following construction, the levee within the Project area will be rebuilt in its original alignment, the rural setting will remain as it currently is, it will continue to retain the feeling of a rural flood control feature, and it will still be associated with the SRFCP. The eight olive trees do not contribute to the significance of the levee system. As such, the Project would not adversely affect the aspects of integrity that convey its significance as a contributing element to a historic property. **Therefore, the Project would result in a less-than-significant impact.**

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Although a pre-contact archaeological site was mapped in the vicinity of the Project area previously, this resource could not be located during multiple survey efforts. The cultural resources survey for the Project did not result in the identification of any unique archaeological resources or any archaeological sites; therefore, the Project would not cause a substantial adverse change in the significance of a known archaeological resource. However, the location of the levee along a perennial waterway increases the potential for buried pre-contact deposits within the Project area, and many levee maintenance projects have resulted in post-review discovery of such deposits. Furthermore, the alluvial riverwash and floodplain soil types present in the Project area indicate a history of flood events that increase the likelihood for deeply buried archaeological sites. Based on these factors, there is a high potential for buried cultural resources in the Project area. If encountered and impacted during construction, the Project could cause a substantial adverse change in the significance of currently unknown archaeological resources, and this could be a significant impact. Mitigation Measure CUL-1 and CUL-2 would require training for contractors and archaeological monitoring during ground-disturbing activities to avoid these impacts. **Therefore, the Project would result in a less-than-significant impact with mitigation incorporated.**

CUL-1. Contractor Awareness Training. The County shall retain a qualified professional archaeologist to disseminate a contractor awareness training program to all construction supervisors prior to the start of

construction. The program will provide information about requirements for tribal monitoring (see TCR-1) and archaeological monitoring (see CUL-2), notification procedures when potential archaeological or tribal material is discovered (as specified in CUL-3), procedures for communication between construction personnel and monitoring personnel, and information about other treatment or issues that may arise if cultural resources (including human remains) are discovered during Project construction. Subsequent training of construction personnel will be provided as needed by the tribal monitor.

Timing/Implementation: During Construction
Monitoring/Enforcement: Yolo County

CUL-2. Archaeological Monitoring. All vegetation removal, soil excavation, and activity that has the potential to disturb more than six inches of original ground should be monitored by a qualified professional archaeologist working under the direction of a professional archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards for archaeology. The monitor must be given a minimum of 48 hours' notice of the opportunity to be present during these activities, to observe work activities, and to assist in ensuring that any archaeological resources, if present, are addressed in accordance with applicable law upon discovery. The monitor must be given a reasonable opportunity to inspect soil and other material as work proceeds to assist in determining if resources are present. If potential resources are discovered, a reasonable work pause or redirection of work by the contractor may be requested until the procedures in CUL-3 are implemented. Monitoring will not occur for equipment set-up or tear-down that does not disturb the ground surface more than six inches in depth; hydroseeding; paving; placement of imported fill/gravel/rock; restoration; or backfilling of previously excavated areas that were already monitored.

Timing/Implementation: During Construction
Monitoring/Enforcement: Yolo County

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

No known dedicated cemeteries are located in or near the Project area and no human remains have been reported in the Project vicinity; therefore, the Project is not expected to disturb human remains. However, the potential exists for previously unknown pre-contact human remains to be unearthed during ground-disturbing activities, and if so, this impact could be significant. Implementation of Mitigation Measure CUL-3 would require specific procedures in the event of the discovery so that discoveries are handled in accordance with State law. **Therefore, the Project would result in a <u>less-than-significant impact with mitigation incorporated</u>.**

CUL-3. Post-Review Discoveries. If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for pre-contact and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.

- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify the USACE and County. The agencies shall consult on a finding of eligibility, and implement appropriate treatment measures, if the find is determined to be an Historical Resource under CEQA or a historic property under Section 106 NHPA. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not an Historical Resource under CEQA or a Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction.
- If the find includes human remains, or remains that are potentially human, the Contractor shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Yolo County Coroner (as per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

Timing/Implementation: During Construction
Monitoring/Enforcement: Yolo County

3.6. ENERGY

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the Project :					
a)	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b)	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

3.6.1 ENVIRONMENTAL SETTING

Power is generated in the County from a variety of sources, including fossil fuels, natural gas fields, hydroelectric facilities, solar energy, hydrogen fuels, and biofuels (LSA Associates, 2009).

No existing facilities exist within the Project area consume energy. The Project site consists of approximately 5.75 acres of in-channel riparian habitat and 3.48 acres of a constructed levee road.

3.6.2 POTENTIAL ENVIRONMENTAL IMPACTS

Would the Project:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Construction activities associated with the Project would require consumption of petroleum fuels (primarily diesel) by construction workers travelling to and from the site, by haul trucks importing and exporting construction materials and supplies to the site, and by heavy construction equipment usage onsite. The energy required would be temporary and would not be substantial. Once the Project is complete, there would be no additional onsite energy consumption. **Therefore, the Project would result in a less-than-significant impact.**

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The short-term construction activities of the Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. **Therefore, the Project would result in no impact.**

3.7. GEOLOGY AND SOILS

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the Project :					
a)	Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
	ii) Strong seismic ground shaking?	☐	☐	☐	☒
	iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
	iv) Landslides?	☐	☐	☐	☒
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in an on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	☒
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

3.7.1 ENVIRONMENTAL SETTING

Geologic Setting

Approximately 70 of the eastern portion of Yolo County is located in the Great Valley geomorphic province of California and consists of gently sloping to level alluvial plains. The remaining portion of the County is in the Coast Range geomorphic province. The Project falls within the Great Valley geomorphic province. Geologic units in the Great Valley area generally consists of Quaternary alluvium or basin deposits, and the Quaternary Modesto and Riverbank formations, both of which consists of somewhat older alluvium (LSA Associates, 2009).

Fault Rupture

Fault rupture is the surface displacement that occurs when movement on a fault deep within the earth breaks through to the surface. The Project site is not crossed by any known active faults (USGS, 2021), and is not located within an Alquist-Priolo Earthquake Fault Zone as shown on the State Fault Hazard Maps (CGS, 2021).

Seismicity

Yolo County has a low probability for earthquake hazards compared to the rest of California. There are two known faults in Yolo County -- the Hunting Creek Fault and the Dunning Hills Fault. The Hunting Creek Fault is located in the far northwestern portion of the County. Only a small portion of the fault lies within the County, as the vast majority of it is within Napa County. This is the only fault in the County subject to surface rupture; however, it is in an area that is sparsely populated. This fault has been identified by the California Geological Survey (CGS) as an Alquist-Priolo Earthquake Fault Zone. The Hunting Creek Fault is approximately 31.5 miles from the Project site.

The Dunnigan Hills Fault extends west of I-5 between the Town of Dunnigan and northwest of the Town of Yolo. This fault has caused Holocene (i.e., the last 11,000 years) displacement, but no displacement during historic times (approximately 200 years). This fault is considered potentially active, but has not been delineated as an Alquist-Priolo Earthquake Fault Zone, indicating that CGS does not consider it likely to generate surface rupture (LSA Associates, 2009). The Dunnigan Hills Fault is approximately 5 miles from the Project site.

Liquefaction

Liquefaction is the rapid transformation of saturated, loose, fine-grained sediment to a fluid-like state because of earthquake ground shaking. Liquefaction occurs in areas with saturated, loose unconsolidated sediments with groundwater levels of 50 feet or less. Neither the County nor the California Geological Survey have prepared a liquefaction hazard map for Yolo County, or the Project area. However, liquefaction risk if expected to be relatively higher in the Great Valley portion of the County, particularly along the floodplains of streams, where sediments are generally sandier than other areas (LSA Associates, 2009).

Slope Stability

Slope failure can occur as either rapid movement of large masses of soil ("landslide") or slow, continuous movement ("creep"). The primary factors influencing the stability of a slope are: 1) the nature of the underlying soil or bedrock, 2) the geometry of the slope (height and steepness), 3) rainfall, and 4) the presence of previous landslide deposits. Some of the natural causes of slope instability are earthquakes, weak materials, stream and coastal erosion, and heavy rainfall.

The Project is located within the Lower Cache Creek channel, along its banks, and atop the right bank levee. This area has been subject to prior slope instability due to erosional forces of the creek. Implementation of the Project will stabilize this bank, further reducing the likelihood of future slope instability. The Project site is subject to Low Landslide Susceptibility (Yolo County, 2009).

Subsidence

Subsidence is the decrease of ground elevation and has natural and human induced causes. Since the 1950s, the most common cause of subsidence in Yolo County has been groundwater withdrawal. The East Yolo Subbasin area has been affected most dramatically, with communities near Zamora, Knights Landing, and Woodland having experienced damage and loss in structural integrity to highways, levees, wells, and irrigation canals.

Soils

Yolo County contains important soil resources. Twelve soil associations have been identified in Yolo County, as shown in Table IV.L-1 of the Yolo County 2030 Countywide General Plan EIR. The Project is located within the Yolo-Brentwood association, which is defined as being well-drained; nearly level silt loams to silty clay loams; on alluvial fans (LSA Associates, 2009).

According to the UC Davis SoilWeb Mapping Database, two soil types are located within the Project area – Riverwash (Rh) and Yolo Silt Loam (Ya/MLRA 17) (UC Davis, 2021).

Riverwash is excessively drained, mapped at 0 to 2 percent slopes, and found on toeslopes and in-stream channels. The parent material is mixed sandy and gravelly alluvium. The top six inches are gravelly sand and from six to 60 inches is stratified gravelly coarse sand to sandy loam.

The second soil type, Yolo Silt Loam (Ya/MLRA 17) is well drained, mapped at 0 to 2 percent slopes, and found on alluvial plains and flood plains. The parent material is igneous, metamorphic, and sedimentary alluvium. The top 40 inches (or more) are a silt loam, with a horizon of 41 to 58 inches consisting of silt clay loam, returning to silt loam down to 65 inches.

Both types of soil are classified by the U.S. Department of Agriculture (USDA) as having "normal" expansion potential (Yolo County, 2021).

Paleontological Resources

The Cultural Resources section of the Yolo County 2030 Countywide General Plan EIR includes a discussion of the paleontological resources and identifies known fossil localities in several geologic formations in the County. The Project area is underlain by the Holocene alluvium, which is the youngest (surface) geological unit in Yolo County (Graymer, et al. 2002).

Late Holocene alluvial deposits overlie over Pleistocene alluvium and/or the upper Tertiary bedrock formations in the southern and eastern portions of the County. This alluvium consists of sand, silt, and gravel deposited in fan, valley fill, terrace, or basin environments. This unit is typically in smooth, flat valley bottoms, in medium-sized drainages, and in other areas where the terrain allows a thin veneer of this alluvium to deposit. These alluvial deposits contain vertebrate and invertebrate fossils of extant, modern taxa, which are generally not considered paleontologically significant (LSA Associates, 2009b).

A search of the University of California Museum of Paleontology Localities revealed no paleontological finds within Holocene soils within Yolo County. All 133 paleontological finds within Yolo County have been recovered from Tertiary or earlier soils. There are no soils of this age within approximately 15 miles of the Project area (UCMP, 2021).

3.7.2 POTENTIAL ENVIRONMENTAL IMPACT

Would the Project:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

The Project is not crossed by any known faults and is not in an Alquist-Priolo Earthquake Zone. The closest active fault, the Hunting Creek Fault, is approximately 31.5 miles west of the Project site. The site would not experience fault rupture from known mapped earthquake faults. **Therefore, the Project would result in no impact.**

ii) Strong seismic ground shaking?

The Project would not include the construction of structures intended for human occupancy. **Therefore, the Project would result in no impact.**

iii) Seismic-related ground failure, including liquefaction?

The Project would not include the construction of any structures intended for human occupancy. **Therefore, the Project would result in no impact.**

iv) Landslides?

The Project would improve the slope stability of the right bank of the Lower Cache Creek. The Project would not include the construction of any structures intended for human occupancy. Therefore, the Project would result in **no impact**.

b) Result in substantial soil erosion or the loss of topsoil?

The Project consists of the removal of in-channel sediment and the rehabilitation of an existing levee road. Project activities would not result in substantial soil erosion of the loss of topsoil. Therefore, the Project would result in **no impact**.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in an on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

The Project is not located in an area of unstable geological materials. In fact, the Project would increase the stability of the underlying materials through compaction of the new levee prism. Construction of the Project would not create a significant risk to people or structures from an unstable geologic unit or unstable soil. **Therefore, the Project would result in no impact.**

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

The Project is located on riverwash and Yolo Silt Loam. These soils are classified by the USDA as having normal expansion potential. Furthermore, the Project would not include the construction of any structures intended for human occupancy. **Therefore, the Project would result in no impact.**

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems in areas where sewers are not available for the disposal of wastewater?

The Project does not involve the construction or altering of septic tanks or alternative waste water disposal systems. **Therefore, the Project would result in no impact.**

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Based on the lack of paleontological resources within Holocene alluvium, the Project is not likely to directly or indirectly destroy a unique paleontological resource, site, or other unique geologic feature. **Therefore, the Project would result in no impact.**

3.8. GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the Project :				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the mission of greenhouse gases?	☐	☐	☒	☐

3.8.1 ENVIRONMENTAL SETTING

Emissions of greenhouse gas (GHG) contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. An individual project's GHG emissions are at a micro-scale level relative to global emissions and effects to global climate change; however, an individual project could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As such, impacts related to emissions of GHG are inherently considered cumulative impacts.

Implementation of the Project would cumulatively contribute to increases of GHG emissions. The primary source of GHG emissions for the Project would be mobile source emissions from haul trucks, and GHG emissions from the use of construction equipment. The common unit of measurement for GHG is expressed in terms of annual metric tons of CO2 equivalents ($MTCO_2e$/yr).

3.8.2 REGULATORY SETTING

In recognition of the global scale of climate change, California has enacted several pieces of legislations in an attempt to curb GHG emissions. Specifically, AB 32 and, more recently, SB 32, have established statewide GHG emissions reduction targets. Accordingly, the CARB has prepared the Climate Change Scoping Plan for California (Scoping Plan), approved in 2008 and updated in 2014 and 2017, which provides the outline for actions to reduce California's GHG emissions and achieve the emissions reduction targets required by AB 32 and SB 32. In concert with statewide efforts to reduce GHG emissions, air districts, counties, and local jurisdictions throughout the State have implemented their own policies and plans to achieve emissions reductions in line with the Scoping Plan and emissions reduction targets, including AB 32 and SB 32.

The YSAQMD's Handbook for Assessing and Mitigating Air Quality Impacts handbook includes screening methodology and recommended thresholds of significance, including mass emission thresholds for construction-related and operational criteria pollutants (YSAQMD, 2017). However, the YSAQMD has not yet established or adopted methodology or thresholds for the assessment of impacts related to GHG emissions. In the absence of District-adopted methodology or thresholds for assessing GHG emissions,

the YSAQMD currently recommends GHG analysis consistent with the Sacramento Metropolitan Air Quality Management District (SMAQMD) adopted thresholds of significance.

While SMAQMD recognizes that emissions from a single project cannot be determined to substantially impact overall GHG emissions levels in the atmosphere, an emissions threshold is useful to trigger further project review and assess mitigation. Projects exceeding SMAQMD's thresholds would constitute the vast majority of GHG emissions, and exceedance of the thresholds would allow for future project review contributing to the emissions reduction goals of AB 32, SB 32, the Scoping Plan, and relevant Executive Orders. SMAQMD has established a threshold for both construction and operational GHG emissions of 1,100 $MTCO_2e$/yr.

3.8.3 GREENHOUSE GAS EMISSIONS ANALYSIS

Construction Greenhouse Gas Emissions

Construction-related GHG emissions are a one-time release and are, therefore, not typically expected to generate a significant contribution to global climate change, as global clime change is inherently a cumulative effect that occurs over a long period of time and is quantified on a yearly basis. However, construction-related GHG emissions have been estimated for implementation of the Project and have been compared to the identified threshold of significance, as presented in Table 3.8-1.

Table 3.8-1. Unmitigated Construction-Related GHG Emissions ($MTCO_2e$/yr)

	Project Emissions
1. Levee Soil Import and Construction	174.86
2. In-Channel Soil Export and Construction	450.39
3. In-Channel Boulder Import	3.61
4. Paving along County Road 18	34.30
Total Project Emissions	**663.16**
Applicable Threshold of Significance	**1,100.00**
Exceeds Threshold?	**NO**

Source RoadMod, 2020 (Appendix B)

As noted in Section 3.3 (Air Quality), constructed-related emissions were modeled using RoadMod. As shown in Table 3.8-1, the Project's maximum annual construction GHG emissions of 663.16 $MTCO_2e$/yr would be below the SMAQMD 1,100 $MTCO_2e$/yr threshold.

Operational Greenhouse Gas Emissions

Operations of the Huff's Corner levee would not emit any GHGs. As such, the Project would not result in any operational GHG emissions.

3.8.4 POTENTIAL ENVIRONMENTAL IMPACTS

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Implementation of the Project would cumulatively contribute to increases of GHG emissions. The primary source of GHG emissions for the Project would be mobile source emissions from haul trucks, and GHG emissions from the use of construction equipment. However, the GHG emissions associated with Project construction would be below the applicable threshold of significance. **Therefore, the Project would result in a <u>less-than-significant impact</u>.**

b) Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

As demonstrated in Section 3.8.3, the Project's maximum annual construction GHG emissions total is below the threshold set forth by the SMAQMD and, as a result, the Project would not conflict with the relevant plan for reducing the emissions of GHGs. **Therefore, the Project would result in a <u>less-than-significant impact</u>.**

3.9. HAZARDS & HAZARDOUS MATERIALS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the Project :				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant loss, injury or death involving wildland fires?	☐	☐	☐	☒

3.9.1 ENVIRONMENTAL SETTING

The California Department of Toxic Substances Control (DTSC) defines a hazardous material as: "a substance or combination of substances that, because of its quantity, concentration or physical, chemical, or infectious characteristics, may either: 1) cause, or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating illness; or 2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, disposed of, or otherwise managed." Hazardous materials are generally classified based on the presence of one or more of the following four properties: toxicity, ignitability, corrosivity and reactivity.

Regulations governing the use, management, handling, transportation, and disposal of hazardous materials and waste are administered by Federal, State, and local governmental agencies. Federal

regulations governing hazardous materials and waste include the Resource Conservation, and Recovery Act of 1976 (RCRA); the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA); and the Superfund Amendments and Re-authorization Act of 1986 (SARA).

The California DTSC maintains a hazardous waste and substances site list, also known as the "Cortese List." The Project site is not on the Cortese List.

Phase II Environmental Site Assessment (ESA)

In December 2020, a Phase II ESA for the Project area was completed by Wallace-Kuhl & Associates (WKA). The purpose of the Phase II ESA was to determine if chemicals of potential concern (COPCs) associated with historical land uses are present in the Project area surface soil at concentrations that would pose a threat to human health or the environment.

In the Phase II ESA, WKA identified the following recognized environmental conditions (RECs) associated with historical land use activities.

- On-site concerns were noted form the presence of CR 18 and CR 97A since at least 1907 and I-5 since at least 1941 for the potential presence of aerially-deposited lead in surface soils along roadways closest to I-5.
- On-site concerns were noted from the debris pile in the location reported used as a burn pile on APN 027-180-019 and potential impacts to soils as a result of burning.
- On-site concerns were noted from the older pole-mounted transformer that was not labeled regarding PCBs content on APN 025-320-005. If the transformer contained PCBs and leaked, soils beneath the transformer may be impacted.

WKA also identified the following COPCs, and the likely sources listed below that have the potential to impact surface soils at the site from historical land use activities.

- Aerially deposited lead as a COPC in surface soil adjacent to the levee road located immediately north of CR 18 and 97A at the site from local and highway vehicular traffic;
- PCBs as a COPC in surface soil beneath the older pole-mounted transformer that was not labeled regarding PCB content on APN 025-320-005; and,
- Heavy metals, PCBs, total extractable petroleum hydrocarbons (TEPH), Total petroleum hydrocarbons (TPH) as gasoline, volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), and semi-volatile organic compounds (SVOCs) as COPCs in surface soil located in the immediate vicinity of the debris pile at the location reportedly used as burn pile.

Following the collection of soil samplings from Project area, and subsequent laboratory analyses, the results of the Phase II ESA showed no concentrations of lead in soil samples collected along the levee road that pose a threat to human health under a residential land use scenario. PCBs, TPH as gasoline, TEPHs, PAHs, VOCs, and SVOCs in soil samples collected in the vicinity of the debris pile were not detected at levels that pose a threat to human health under an unrestricted land use scenario. Lastly, PCBs in soil samples collected below the pole-mounted transformer were not detected at levels that pose a threat to human health under an unrestricted land use scenario.

With the exception of arsenic, metals were not reported in the soil samples at levels that pose a threat to human health under a residential land use scenario. Arsenic was reported in the composite soil sample collected beneath and in the immediate vicinity of the debris piles at levels consistent with typical naturally occurring background arsenic levels in this area of Yolo County. Based on these findings, WKA made no recommendation for further investigation of the Project area.

3.9.2 POTENTIAL ENVIRONMENTAL IMPACTS

Would the Project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The Project involves the excavation of in-channel sediment, as well as the rehabilitation of an existing levee. Hazardous materials would not be transported, used, or disposed during Project construction or on-going operation. **Therefore, the Project would result in no impact.**

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

As described above, results from the Phase II ESA show that COPCs were not detected at levels that pose a threat to human health. **Therefore, the Project would result in no impact.**

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The nearest school is Cache Creek High School located at 14320 2nd Street, Yolo CA 95697. The school is approximately 1,900 feet away from the Project site and located on the other side of the I-5 freeway. The school would not be affected by Project construction. **Therefore, the Project would result in no impact.**

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

The Project site is not included on a list of hazardous materials sites compiled under Government Code Section 65962.5. **Therefore, the Project would result in no impact.**

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

The Project site is not located within an airport land use plan, or is located within two miles of a public airport. **Therefore, the Project would result in no impact.**

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Normal ingress and egress routes along County Road 18 will be altered during construction activities. However, adequate access for emergency vehicles and evacuations will be maintained at all times to reach residences located within the Project area. **Therefore, the Project would result in a <u>less-than-significant impact</u>.**

g) Expose people or structures, either directly or indirectly, to a significant loss, injury or death involving wildland fires?

During construction, and once completed, the Project will not expose people or structures to a new or increased significant risk of loss, injury or death involved wildland fires. **Therefore, the Project would result in <u>no impact</u>.**

3.10. HYDROLOGY & WATER QUALITY

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the Project :				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☐	☒
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☐	☒
iii) create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒
iv) impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

3.10.1 ENVIRONMENTAL SETTING

The major watersheds and surface water features in Yolo County include Cache Creek, Putah Creek, the Sacramento River, and the Yolo Bypass. Approximately 5.73 acres of the Project occurs within the channel of Cache Creek, and an additional 3.48 acres occurs on the right bank of the creek. An additional extensive network of sloughs, irrigation canals, and drainage ditches are located throughout the County. Yolo County does not have any natural lakes.

Groundwater

The Yolo Subbasin (Subbasin) is located in the southwestern side of the Sacramento Valley Groundwater Basin and is about 27 miles wide from west to east and up to 45 miles long from north to south. The

Subbasin is a result of the consolidation of portions of the Capay Valley, Colusa, and Subbasins within the Yolo Subbasin via two applications for jurisdictional modifications of the basin's boundary. The western portion of the Yolo Subbasin is bound by the west uplifted, mountainous coast range consisting of marine sedimentary rocks.

The southern Sacramento Valley, including the Yolo Subbasin, has been a tectonically subsiding sedimentary basin with accumulating nonmarine, continental deposits since middle Tertiary time (Miocene, 24 million years before present, mybp). Within these nonmarine sedimentary deposits, fresh groundwater extends to an elevation of -3,000 feet. Cache Creek enters the subbasin in the northwest portion and flows south and east through the central part of the subbasin towards the Cache Creek Settling Basin. Cache Creek is considered an intermittent stream and there is no hydraulic continuity to the Sacramento River during the summer months. In the winter months, Cache Creek flows over the Cache Creek Settling Basin weir, flowing into the Yolo Bypass, and ultimately into the Sacramento River, which is the eastern boundary of the subbasin. Putah Creek forms the southern boundary from the southwestern corner of the subbasin to the City of Davis at which point, the boundary follows the county line to the south (GEI Consultants, 2021).

Groundwater pollution potential is evaluated on the Drastic Index Range, which is a standardized system for evaluating the groundwater pollution potential of a given area based on hydro-geologic factors (such as depth to water, soils, topography, hydraulic conductivity, etc.). The higher the Drastic Index, the greater the potential for contamination from surface sources. The Project location has a Drastic Index of 140-159 along the levee and a Drastic Index of 180-199 within the Cache Creek channel (Yolo County, 2009).

Water Quality

Dozens of organizations and agencies perform regular water quality monitoring in the County. Chemicals such as boron, diazinon, mercury, and unknown toxics are pollutants found in Yolo County waterways. Studies on the physical and chemical characteristics of the Sacramento River and its tributaries within Yolo County have found high concentrations of nutrients and contaminants, particularly after major storms.

Flooding

Much of Yolo County is a natural floodplain, and there are five primary watersheds with the potential for flooding: Cache Creek Basin/Woodland; the Sacramento River corridor (including the Yolo Bypass, Clarksburg, and Knights Landing); Willow Slough (including Madison and Esparto), Colusa Basin Drain (including Knights Landing) and Dry Slough (including Winters, Yolo County Airport, D-Q University, and Davis). Areas within a designated 100-year floodplain in the County are residential and agricultural areas along Cache Creek, the Colusa Basin Drainage Canal, the Sacramento River, and the majority of the lower eastern portion of the County. The 500-year floodplain is most extensive north of the City of Woodland, the region west of the City of Davis and east of the Yolo Bypass, and through the City of West Sacramento south to Clarksburg (LSA Associates, 2009).

3.10.2 REGULATORY SETTING

Federal

Clean Water Act and California's Porter-Cologne Water Quality Contract Act
The State Water Resources Control Board (SWRCB) and its nine RQWCBs are responsible for the regulation and enforcement of the water quality protection requirements and the State's Porter-Cologne Water Quality Contract Act (Porter-Cologne). The National Pollutant Discharge Elimination System (NPDES) is the permitting program that allows point source dischargers to comply with the CWA and Porter-Cologne laws. This regulatory framework protects the beneficial uses of the State's surface and groundwater resources for public benefit and environmental protection. The Project is under the jurisdiction of the Central Valley Regional Water Quality Control Board and the SWRCB.

Projects that disturb one or more acres are required to obtain NPDES coverage under the California General Permit for Discharges of Storm Water Associated with Construction Activity. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP describes Best Management Practices (BMPs) the discharger will use to protect stormwater runoff. The SWPPP must contain a visual monitoring program and a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs.

Federal regulations at 40CFR 122.26(b)(14)(i)-(xi) require stormwater discharges associated with specific categories of industrial activity to be covered under NPDES permits (unless otherwise excluded). The Industrial General Permit regulates industrial stormwater discharges and authorized non-stormwater discharges from industrial facilities in California. The SWRCB and RQWCBs implement and enforce the Industrial General Permit.

State

Sustainable Groundwater Management Act
The 2014 Sustainable Groundwater Management Act (SGMA) requires local public agencies and Groundwater Sustainability Agencies (GSAs) in high- and medium-priority basins to develop and implement Groundwater Sustainability Plans (GSPs) or Alternatives to GSPs. GSP's are detailed road maps for how groundwater basins will be managed to reach long-term sustainability.

The Yolo Subbasin Groundwater Agency Board adopted Resolution 2018-1 in March 2018, formalizing the initiation of developing the Yolo Subbasin Groundwater Sustainability Plan (GSP). The development of the GSP has begun, but it has not been finalized.

3.10.3 POTENTIAL ENVIRONMENTAL IMPACTS

Would the Project:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Section 401 of the Clean Water Act requires that a State water quality certification must be obtained if a project may result in a discharge of pollutants into waters of the United States. The certification requires that the activities comply with all applicable water quality standards, limitations, and restrictions.

Construction of the Project in the creek channel could potentially risk violating water quality standards or waste discharge requirements from accidental release or spill of hazardous materials that could enter Cache Creek. The County will be required to obtain a 401 Water Quality Certification from the Regional Water Quality Control Board before proceeding with the Project. **Therefore, the Project would result in a less-than-significant impact.**

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The Project includes the rehabilitation of an existing levee and the removal of in-channel sediment from an island adjacent to the levee. A permanent long-term water source would not be required for Project construction or on-going operations and maintenance. The Project does include the gravelling and paving of the levee; however, since these areas are already graveled and paved, there would be no additional of impervious surfaces that would impact groundwater recharge. **Therefore, the Project would result in no impact.**

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) result in substantial erosion or siltation on- or off-site;

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

iii) create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or

iv) impede or redirect flood flows?

Implementation of the Project would not create new surfaces, buildings, and other improvements that could affect drainage flows. In fact, implementation of the Project would improve flood conditions at the Project area by raising the levee back to its original design height. **Therefore, the Project would result in no impact.**

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

The Project is located outside tsunami, or seiche zones. The Project is located in Flood Zone AE, meaning that it is in the 100-year floodplain and has a 1 percent annual chance of flooding. The risk of the release of pollutants due to Project inundation would be minimal since construction activities would occur during the dry season. Additionally, the Project will improve flood conditions in the Project area by raising the levee back to its original design height. **Therefore, the Project would result in a less-than-significant impact.**

e) Conflict with or obstruct implementation of a quality control plan or sustainable groundwater management plan?

The in-channel excavation activities could result in runoff. In addition, there is a potential for spills of oil, grease, or other water contaminants associated with the use of vehicles, equipment, and materials used in construction, as well as the potential for increase erosion and sedimentation associated with soil disturbance. As stated under Item a), Project activities would result in discharge of pollutants into waters of the United States, requiring that a State water quality certification be obtained. Compliance with this certification would reduce potential water quality impacts that could conflict with applicable water quality plans. Additionally, as stated under Item b), the Project would not significantly decrease groundwater supplies or interfere with groundwater recharge. **Therefore, the Project would result in a less-than-significant impact.**

3.11. LAND USE & PLANNING

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the Project :				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

3.11.1 ENVIRONMENTAL SETTING

The Project area is located in a rural setting of the Sacramento Valley along the banks of Cache Creek, one of the numerous perennial waterways in the vicinity. The Dunnigan Hills are three miles to the west and the Sacramento River approximately 10 miles to the east. Land use is predominantly agricultural in this region, but several small towns and communities are scattered across the landscape.

The Project area is comprised of several parcels which are designed as Agriculture (AG) and Open Space (OS) in the Yolo County General Plan (Yolo County, 2009). These parcels are also zoned as Agricultural Intensive (A-N) and Public Open Space (POS). The surrounding land carries the same designation and zoning.

3.11.2 REGULATORY SETTING

Yolo County General Plan

The following relevant policy is presented in the Yolo County General Plan Land Use and Community Character Element (Yolo County, 2018):

Policy LU-1.1 Assign the following range of land use designations throughout the County, as presented in detail in Table LU-4 (Land Use Designations):

Open Space (OS) includes public open space lands, major natural water bodies, agricultural buffer areas, and habitat. The primary land use is characterized by "passive" and/or very low-intensity management, as distinguished from AG or PR land use designations, which involve more intense management of the land. Detention basins are allowed as an ancillary use when designed with naturalized features and native landscaping, compatible with the open space primary use.

Agriculture (AG) includes the full range of cultivated agriculture, such as row crops, orchards, vineyards, dryland farming, livestock grazing, forest products, horticulture, floriculture, apiaries, confined animal facilities and equestrian facilities. It also includes agricultural industrial uses (e.g., agricultural research, processing and storage; supply; service; crop dusting; agricultural chemical and equipment sales; surface mining; etc.) as well as agricultural commercial uses (e.g., roadside stands, "Yolo Stores," wineries, farm-

based tourism (e.g., upick, dude ranches, lodging), horseshows, rodeos, crop-based seasonal events, ancillary restaurants and/or stores) serving rural areas. Agriculture also includes farmworker housing, surface mining, and incidental habitat.

Yolo County Code

Lands within the Project area have two different zonings – Public Open Space and Agricultural Intensive (Yolo County, 2021a).

Public and open space areas in Yolo County are separated into three zoning districts, with specific Use Types, minimum lot area, and other requirements, as described in greater detail in Section 8-2.802 (Public and Open Space Zones) of the Yolo County Code (Yolo County, 2021b).

The POS zone is to recognize major publicly-owned open space lands, major natural water bodies, agricultural buffer areas, and habitat preserves. The POS lands are characterized by passive or low management uses. Detention basins are allowed in the POS Zone if they are designed with naturalized features and native landscaping. The POS Zone implements the Open Space (OS) land use designation in the 2030 Countywide General Plan.

Agricultural land in Yolo County is separated into five zoning districts, with specific Use Types, minimum lot area, and other requirements, a described in more detail in Section 8-2.302 (Agricultural Zones) of the Yolo County Code (Yolo County, 2021b).

The A-N zone is applied to preserve lands best suited for intensive agricultural uses typically dependent on higher quality soils, water availability, and relatively flat topography. The purpose of the zone is to promote those uses, while preventing the encroachment of nonagricultural uses. Uses in the A-N Zone are primarily limited to intensive agricultural production and other activities compatible with agricultural uses. This includes allowing agriculturally-related support uses, excluding incompatible uses, and protecting the viability of the family farm.

3.11.3 POTENTIAL ENVIRONMENTAL IMPACTS

Would the Project:

a) Physically divide an established community?

The Project would not be located within an established community. The Project is located approximately 3 miles northwest of the City of Woodland and is primarily surrounded by private agricultural operations and rural residences. **Therefore, the Project would result in no impact.**

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The parcels within the Project area are zoned as A-N and POS. The parcels also have an existing overlying easement from the State of California for flood control that extends from each levee throughout the channel in the Project area. This easement is referred to as the Sacramento-San Joaquin Drainage District

(SSJDD) flood easement. The Project will remain within the easement boundary, with the exception of expanding it to coincide with the new boundaries of the levee and operations and maintenance area. This is consistent with the existing land use plan in the Project area. **Therefore, the Project would result in no impact.**

3.12. MINERAL RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the Project :				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

3.12.1 ENVIRONMENTAL SETTING

Preservation of mineral resources is addressed in the Yolo County General Plan, Conversation and Open Space Element. According to the General Plan, Yolo County has two primary mineral resources: mined aggregate and natural gas.

Mined Aggregate

The DOC has prepared two Surface Mining and Reclamation Act (SMARA) Special Reports (#156 and #245) for Yolo County. Special Report 156, published in 1988, evaluated the mineral resources within Sacramento, Cache Creek, Woodland, Davis, and Fairfield areas for Portland Cement Concrete-grade construction aggregate resource potential. Special Report 245, published in 2018, was the first mineral land classification study of concrete aggregate resources in the newly defined Greater Sacramento Area Production-Consumption Region, which includes Yolo County. All lands within the 6,080 square-mile area were assigned a Mineral Resource Zone (MRZ) classification based on geologic factors alone. Those lands with a previously designed MRZ classification were updated in this report.

SMARA requires that the State Geologist classify land into MRZ or Scientific Zones according to known or inferred mineral potential of the land. Descriptions of the MRZ zone are shown in Table 3.12-1.

Table 3.12-1. Mineral Resource Zone Descriptions

Mineral Resource Zone	Description
MRZ-1	Areas where adequate geologic information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
MRZ-2	Areas of identified mineral resource significance.
MRZ-3	Areas containing mineral occurrences of undetermined mineral resource significance.
MRZ-4	Areas where available information is inadequate for assignment to any other MRZ category.

Source: DOC, 2020

The Project site, located northwest of the City of Woodland within Yolo County is in an area identified as MRZ-3.

There are currently six aggregate mines currently in operation in Yolo County (Yolo County, 2019). The closest aggregate mining facility, the Teichert Schwarzgruber property, is located approximately 2 miles away from the Project site (DOC, 2016).

Natural Gas

There are approximately 25 gas fields located within Yolo County (Yolo County, 2019). Natural gas has been produced from the Dunnigan Hills northwest of Woodland, from the Fairfield Knolls gas field northeast of Winters, and from the Rumsey Hills area east of Rumsey. Natural gas wells have also been established in Clarksburg, Yolo, and Davis.

The Project site is surrounded by the following natural gas fields: Woodland Gas (ABD), Sugarfield Gas, and Crossroads Gas (ABD) (DOC, 2019). A small portion of the Project area (less than 0.1 acres) overlaps with the Woodland Gas (ABD) field.

3.12.2 POTENTIAL ENVIRONMENTAL IMPACTS

Would the Project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

The Project site is considered MRZ-3, meaning it is in an area containing mineral occurrences of undetermined mineral resource significance. **Therefore, the Project would result in no impact.**

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

The Project is not located in, or near, a mineral resource recovery site. **Therefore, the Project would result in no impact.**

3.13. NOISE

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the Project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

3.13.1 ENVIRONMENTAL SETTING

Community noise levels are typically related to the intensity of nearby human activity. Noise levels are generally considered "low" when ambient levels are below 45 decibels (dBA), "moderate" between 45 to 60 dBA, and "high" above 60 dBA. Surrounding land uses dictate what noise levels would be considered acceptable or unacceptable.

The Project site consists of 5.73 acres of in-channel creek habitat and 3.48 acres of a developed levee. The site is surrounded by mostly farmland/agricultural crops with isolated rural residences. The nearest noise receptors (residences) are located anywhere between 75 to 300 feet from the Project impact area. Additionally, I-5 is immediately adjacent to the Project and there are no sound barriers between the highway and residents. Construction-related noise will not exceed ambient noise generated by this high-traffic roadway.

3.13.2 REGULATORY SETTING

Regulating environmental noise is generally the responsibility of local governments. The USEPA once published guidelines on recommended maximum noise levels to protect public health and welfare. Yolo County has not yet adopted a comprehensive noise ordinance that sets specific noise levels for different zoning districts or for different land uses in the unincorporated area. However, the State of California Department of Health Services has developed Community Noise Exposure standards, that are set forth in the State's General Plan Guidelines (OPR, 2017). These standards are also included in the Yolo County 2030 Countywide General Plan and are used to provide guidance for new development projects.

The recommended standards provide acceptable ranges of noise levels to assess the compatibility of land uses in terms of the Community Noise Equivalent Leven (CNEL), which reflects an averaged noise level over a 24-hour or annual period. "Normally acceptable" noise levels are less than 75 dba CNEL and up to

80 dBA CNEL would be "conditionally acceptable" for outdoor noise levels in agricultural areas (Yolo County, 2009).

There are four publicly and privately-owned airports in Yolo County (Yolo County, 2009). Additionally, the Sacramento International Airport is located just to the east of the County. The nearest airport to the Project site is the Watts-Woodland airport (17992 County Road 94B, Woodland, CA 95695), which is located approximately 4.5 miles to the southwest.

3.13.3 POTENTIAL ENVIRONMENTAL EFFECTS

Would the Project result in:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction activities associated with the Project would incrementally increase noise levels on access roads leading to and from the site. Additionally, noise in the vicinity of the site would increase as trenching, excavation, paving, and other activities are performed. The types of equipment expected for construction would include haul truck, excavators, backhoes, graders, and scrapers. Table 5.13-1 shows the Typical Construction Equipment Noise Levels as reported in the Health and Safety Element of the General Plan (Yolo County, 2009).

Table 3.13-1. Typical Construction Equipment Noise Levels

Type of Equipment	Range of Maximum Sound Levels (dBA at 50 feet)	Suggested Maximum Sound Levels for Analysis (dBA at 50 feet)
Backhoe	81 to 90	86
Dozers	85 to 90	88
Excavator	81 to 90	86
Grader	79 to 89	85
Haul Trucks	83 to 94	88
Scraper	83 to 91	87

Source: Yolo County, 2009

Based on the typical noise levels for equipment that would be used for the Project, maximum noise levels during construction would be about 94 dBA at 50 feet. There are isolated rural residences in the vicinity of the Project site. These residences are as close as 75 feet from the Project boundary, and may experience an exterior noise level up to 91 dBA L_{max} during construction activities. This level is based on a "worst case" instantaneous peak noise level, while the overall average noise levels during the course of a typical construction day would be much lower.

It is expected that the short duration of construction activities lasting approximately four months would be audible during daytime hours in the vicinity of the nearest residences. General construction activities would be performed between 8:00 a.m. to 7:00 p.m. on Monday through Saturday.

The traffic noise on area roadways would increase with construction crew commutes and the transport of equipment and materials to and from the Project site. Intermittent noise increases due to passing trucks at 50 feet would generate roughly 85 dBA maximum (L_{max}) (Yolo County, 2009). Although construction traffic would temporarily increase noise along access routes, the effect of construction traffic on longer term (i.e., hourly or daily) ambient noise levels would be minimal.

Noise resulting from construction activities would be exempt from the standings for compatibility of land uses, and the construction noise levels would not conflict with Yolo County policies regarding compatibility of land uses with noise levels. Additionally, the Yolo County Code of Ordinances currently does not include a comprehensive noise ordinance with standards for noise-emitting construction activities. **Therefore, the Project would result in a <u>less-than-significant impact</u>.**

b) Generation of excessive groundborne vibration or groundborne noise levels?

The groundborne vibration levels generated by construction equipment and activities might be noticeable to receptors in the immediate vicinity of the construction work or staging areas. The activity would most likely to cause groundborne vibration would be the passing of heavy trucks. The impact from construction-related groundbourne vibration would be short-term and confined to only the immediate area around construction activities. **Therefore, the Project would result in a <u>less-than-significant impact</u>.**

c) For a project within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The nearest airport to the Project is the Watts-Woodland Airport located west of the City of Woodland. The airport is located approximately 4.5 miles southwest of the Project site. Due to the Project's distance from aviation facilities, construction of the Project would not expose people residing or working in the Project area to excessive noise levels. **Therefore, the Project would result in <u>no impact</u>.**

3.14. POPULATION & HOUSING

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the Project :				
a) Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace a substantial number of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.14.1 ENVIRONMENTAL SETTING

The Project site is located in a rural area of Yolo County, approximately 3,000 feet southwest of the town of Yolo, and 1.9 miles northwest of city of Woodland. The Project site is located along Lower Cache Creek, immediately upstream (west of) the I-5 crossing. The Project area is within the Lower Cache Creek channel, and along County Road 18 – a levee road boarding the south side of the in-channel area.

3.14.2 POTENTIAL ENVIRONMENTAL IMPACTS

Would the Project:

a) Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?

The Project would not involve the construction of new residences or new business, nor does it change current long-term jobs. **Therefore, the Project would result in no impact**.

b) Displace a substantial number of existing people or housing, necessitating the construction of replacement housing elsewhere?

The Project would not result in a population increase in Yolo County and would not displace existing housing or current residents. Project construction would occur for approximately four months and would not result in permanent relocation of workers to the Project area. **Therefore, the Project would result in no impact**.

3.15. PUBLIC SERVICES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

3.15.1 ENVIRONMENTAL SETTING

Fire Protection

Fire protection services for the area around the Project site are provided by two districts – the Willow Oak Fire Protection District and the Yolo Fire Protection District. The southwestern area of the Project area falls within the boundary of the Willow Oak Fire Protection District, and the northwestern area of the Project area falls within the boundary of the Yolo Fire Protection District.

The Willow Oak Fire Protection District serves approximately 34 square miles in central western Yolo County, and responds to fire prevention and emergency medical services. The Willow Oak Fire Protection District station is located at 18111 County Road 94B, Woodland, CA 95695, which is approximately 4.3 miles from the closest area of the Project site.

The Yolo Fire Protection District serves approximately 52 square miles in central western Yolo County, and responses to fire prevention and emergency medical services. The Yolo Fire Protection District station is located at 37720 Sacramento Street, Yolo, CA 95697, which is approximately 2,500 feet from the closest area of the Project site.

Police Protection

Police protection services for the area around the Project site are provided by the Yolo County Sheriff's Department out of the Sheriff's Office located in Woodland. The Sheriff's Office is located approximately 5.8 miles from the closest area of the Project site.

Schools

The Project site falls within the Woodland Joint Unified School District. The closest school is Cache Creek High School located at 14320 2nd Street, Yolo CA 95697. The school is approximately 1,900 feet away from the Project site.

Parks

The Yolo County Parks Department provides a variety of Parks that offer boating, camping and community parks. The nearest Yolo County owned park to the Project site is the Cache Creek Nature Preserve (34199 County Road 20, Woodland, CA 95695), which is approximately 3.6 miles away.

The City of Woodland Parks Department provides more than 394 acres of parks and recreation facilities, including 149 areas of developed parkland and 24 acres of other facilities). The nearest City of Woodland park is Traynham Park (313 Redwing Drive, Woodland, CA 95695), which is approximately 2 miles from the Project site.

3.15.2 POTENTIAL ENVIRONMENTAL IMPACTS

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?
Police protection?
Schools?
Parks?
Other public facilities?

The Project consists of the removal of in-channel sediment and the rehabilitation of an existing levee, and would not change the demand or services provided by any of the above listed public services. **Therefore, the Project would result in no impact.**

3.16. RECREATION

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.16.1 ENVIRONMENTAL SETTING

The Project is located in a rural area of Yolo County, northwest of the City of Woodland. The nearest recreational facility is approximately 2 miles away (Traynham Park in the City of Woodland). This facility provides picnic tables and a playground.

3.16.2 POTENTIAL ENVIRONMENTAL IMPACTS

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The Project would not involve any new development that could increase the use of existing parks or recreational facilities. **Therefore, the Project would result in no impact.**

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The Project would not involve any new development that could necessitate new or expanded recreational facilities. **Therefore, the Project would result in no impact.**

3.17. TRANSPORTATION

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the Project :				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☒	☐

3.17.1 ENVIRONMENTAL SETTING

The transportation system within the unincorporated areas of Yolo County consists of a system of State freeways, highways, and rural county roads that serve small communities and primarily agricultural uses. The main transportation corridors in Yolo County include Interstate 80, Interstate 5, Interstate 505.

Interstate 5 is the primary access point to the Project. While the Project site boarders I-5, the nearest on/off-ramp is approximately 0.75 miles away. To access the Project site from I-5, one must exit west onto State Route 16 and then head north on County Road 18. The Project site can also be accessed from the north via the County Road 17 off-ramp, heading west on County Road 17, and then south on County Road 97B.

3.17.2 POTENTIAL ENVIRONMENTAL IMPACTS

Would the Project:

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The Project would result in temporary vehicle trips during construction. Vehicles associated with construction of the Project would use regional and local roadways, primarily I-5, County Road 18 and County Road 97B. Vehicle trips would consist of any required construction material or equipment deliveries and construction worker trips. Once complete, the Project would not result in any operational changes at the Project site and would not generate any new vehicle trips. The negligible amount of vehicle trips required during construction would not conflict with any program, plan, ordinance, or policy addressing the circulation system. **Therefore, the Project would result in a <u>less-than-significant impact.</u>**

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b)?

CEQA Guidelines Section 15064.3(b) identifies VMT, the amount and distance of automobile traffic attributable to a project, as the most appropriate measure of transportation impact. Construction worker commuter trips are expected to come from the local area. Construction material and equipment deliveries are also expected to come from the local area as there are options within the County. Construction trips would be temporary and very limited in volume due to the limited materials and workers required for construction of the Project. Once complete, the Project would not result in any operational changes at the Project site and would not generate any new vehicle trips. **Therefore, the Project would result in a less-than-significant impact.**

c) Substantially increase hazards due to geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The Project would not involve any new hazardous design features nor introduce any new uses that may not incompatible with transportation. The Project would actually improve onsite circulation by smoothing out the hair-pin turn on County Road 18 upon completion of the levee rehabilitation. **Therefore, the Project would result in no impact.**

d) Result in inadequate emergency access?

Normal ingress and egress routes will be altered during construction activities along County Road 18. However, adequate access for emergency vehicles will be maintained at all times to reach residences located within the Project area. **Therefore, the Project would result in a less-than-significant impact.**

3.18. TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a public tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☒	☐	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evident, to be significant pursuant to the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of the Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Tribal cultural resources (TCRs) are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe, which meet specific definitions in State law (PRC Section 21047[a]). While these may share the same forms and characteristics of cultural resources, as described in Chapter 3.5, these resources have special meaning to Native American tribes. They may also take other forms that do not satisfy the definition of cultural resources or archaeological sites. These can include traditional plant gathering areas, locations used for ritual or spiritual practice, lines of sight, or other areas of sacred space.

State law requires that TCRs be addressed separately from cultural resources and that confidentiality of these resources, as disclosed during tribal consultation under Assembly Bill 52, be maintained. In accordance with Section 21082.3(c)(1) of the PRC, "… information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with subdivision (r) of Section 6254 of, and Section 6254.10 of, the Government Code, and subdivision (d) of Section 15120 of Title 14 of the CCR, without the prior consent of the tribe that provided the information." Therefore, the details of tribal consultation summarized herein are provided in a confidential administrative record and not available for public disclosure without written permission from the tribes. However, all pertinent information necessary to provide substantial evidence for impact determinations is summarized in this section of the IS/MND.

3.18.1 ENVIRONMENTAL SETTING

Ethnographically, the Project area is in the central portion of the territory occupied by the Penutian-speaking Hill Patwin. The Patwin territory includes both the River and Hill Patwin and extends from the southern portion of the Sacramento River Valley to the west of the river, from the town of Princeton south to San Pablo and Suisun bays. As a language, Patwin (meaning "people") is a part of the Wintu language family. The Hill Patwin territory includes the lower hills of the eastern Coast Range mountain slope (Long, Indian, Bear, Capay, Cortina, and Napa valleys). Between there and the foothills, the grassy plains were largely unsettled, used mainly as a foraging ground by both valley and hill groups (Johnson, 1978). Before Euro-American contact, Patwin population numbers are not precisely known, but Kroeber (1976) estimates 12,500 people made up the Wintu, Nomlaki, and Patwin groups.

Politically, the ethnographic Patwin were divided into "tribelets," made up of a primary village and a series of smaller surrounding villages, presided over by a chief. Villages typically included family dwellings, acorn granaries, a sweathouse, and a dance house, owned by the chief. The chief's position was usually hereditary. They had unrestricted power and ruled over economic and ceremonial decisions (Johnson 1978).

Subsistence activities centered around hunting, fishing, and gathering. The ethnographic Patwin hunted deer, Tule elk, antelope, bear, ducks, geese, quail, turtles, fish, and other small animals. Individual and extended families "owned" hunting and gathering areas, and trespassing without permission was discouraged. Deer hunting was often done in communal drives, with the actual killing of the deer performed by individuals or groups. Decoys were used for attracting game such as deer and ducks. Game was prepared by roasting, baking, or drying the meat. Fishing was also an important subsistence activity. Types of fish included sturgeon, salmon, perch, chub, sucker, hardhead, pike, and trout, which were caught using nets and holding pens. Although acorns were the staple of the Patwin diet, they also harvested sunflower, alfilaria, clover, bunchgrass, wild oak, and yellow flower, which was parched or dried, then pounded into a meal. Buckeye, pine nuts, juniper berries, manzanita berries, blackberries, wild grapes, brodiaea bulbs, and tule roots were also collected. Each village had its own locations for these food sources, and the village chief was in charge of assigning particular families to each collecting area. (Johnson, 1978).

Patwin houses were built in the form of a dome, using tree branches for the framing, then covered with thatch and earth. House floors were typically dug out of the ground, and the walls were built up as a mound, with the entrance to the building made through the roof (Powers, 1976). As described by Kroeber (1976) and Johnson (1978) the closest ethnographic village location was *Moso*, located on the north bank of Cache Creek around the town of Capay.

Patwin culture is most distinctive in that it possessed three secret societies: the Ghost, Hesi, and Kuksu. These involved elaborate ceremonial activities consisting of singing and dancing (Foster, 1995). Membership included mostly males, beginning around the ages of eight to 16, but on limited occasions, included high-status women (Johnson, 1978). During ethnographic times, everyday Patwin life centered on the rituals performed within the secret societies. Details involving the ceremonies varied, but most had sacred dances requiring careful preparation, costume, and music. These dances could last several days. Detailed summaries are provided by Kroeber (1932) and Loeb (1933).

The earliest historical accounts of the Project area begin with Spanish mission registers of baptisms, marriages, and deaths of Native Americans. By 1800, Native Americans were taken from the Patwin

settlement of *Aguastos* in the south-central area, and from other villages, by emissaries of Mission Dolores. In addition, Franciscans from missions San Jose and Sonoma actively converted the southern Patwin. Between the 1830s and 1840s, both Mexicans and Americans rapidly overtook the Patwin territory under the authority of the Mexican government (Johnson, 1978).

The Spanish arrived on the central California coast in 1769, and by 1776 it had been explored by José Canizares. In 1808, Gabriel Moraga crossed into the territory. In 1833, a malaria epidemic in the Sacramento Valley killed an estimated 75 percent of the native population. The discovery of gold in 1848 at Sutter's Mill, near the Nisenan village of Colluma (now Coloma) on the South Fork of the American River, drew thousands of miners into the area, and led to widespread killing and the virtual destruction of most traditional Native American cultures.

3.18.2 REGULATORY SETTING

Assembly Bill 52

Effective July 1, 2015, AB 52 amended CEQA to require that: 1) a lead agency provide notice to those California Native American tribes that requested notice of projects proposed by the lead agency; and 2) for any tribe that responded to the notice within 30 days of receipt with a request for consultation, the lead agency must consult with the tribe. Topics that may be addressed during consultation include TCRs, the potential significance of Project impacts, type of environmental document that should be prepared, and possible mitigation measures and Project alternatives.

Pursuant to AB 52, PRC Section 21073 defines California Native American tribes as "a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of the Statutes of 2004." This includes both Federally and non-Federally recognized tribes.

Section 21074(a) of the PRC defines TCRs for the purpose of CEQA as:

1) Sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are any of the following:

    a. included or determined to be eligible for inclusion in the California Register of Historical Resources (CRHR); and/or

    b. included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and/or

    c. a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Because criteria (a) and (b) also meet the definition of an Historical Resource under CEQA, a TCR may also require additional consideration as an Historical Resource. TCRs may or may not exhibit archaeological, cultural, or physical indicators.

Recognizing that California tribes are experts in their tribal cultural resources and heritage, AB 52 requires that CEQA lead agencies provide tribes that requested notification an opportunity to consult at the commencement of the CEQA process to identify TCRs. Furthermore, because a significant effect on a TCR is considered a significant impact on the environment under CEQA, consultation is used to develop appropriate avoidance, impact minimization, and mitigation measures.

AB 52 further established that a substantial adverse change to a TCR has a significant effect on the environment. In assessing substantial adverse change, Yolo County must determine whether or not the Project will adversely affect the qualities of the resource that convey its significance. The qualities are expressed through integrity. Integrity of a resource is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association [CCR Title 14, Section 4852(c)]. Impacts are significant if the resource is demolished or destroyed or if the characteristics that made the resource eligible are materially impaired [CCR Title 14, § 15064.5(a)]. Accordingly, impacts to a TCR would likely be significant if the Project negatively affects the qualities of integrity that made it significant in the first place. In making this determination, the County need only address the aspects of integrity that are important to the TCR's significance; however, the County must take into account the views of the consulting tribes when making this determination.

3.18.3 TRIBAL CULTURAL RESOURCES ANALYSIS

Information about TCRs was drawn from: 1) the results of a search of the Sacred Lands File of the NAHC; 2) existing ethnographic information about pre-contact lifeways and settlement patterns; 3) information on archaeological site records obtained from surveys of the Project area and the California Historical Resources Information System; and 4) the tribal consultation record under AB 52 for the Project.

Sacred Lands File Search. A search of the NAHC Sacred Lands File was requested on October 23, 2020. The NAHC responded on October 28, 2020, that the sacred lands file search was negative, which means that no sacred lands have been recorded within the Project area. The NAHC included a list of suggested tribal representatives to contact who may have more information. The Cortina Rancheria and Yocha Dehe Wintun Nation were on the NAHC's list and were among the tribes contacted by Yolo County, as summarized above.

Ethnographic Information. The ethnographic information reviewed for the Project, including ethnographic maps (Johnson, 1978) shows the closest ethnographic village location as Churup. The village is mapped in the immediate vicinity of the Project area on the bank of Cache Creek, although the scale of the map cannot reveal whether or not the ethnographic village is mapped within the Project area boundaries.

Archaeological Site Records. The entire Project area was subjected to an archaeological survey and records search review. The entire Project area had been previously surveyed, and one Native American site had been previously identified within its boundaries: CA-YOL-37/P-57-40. This site was not relocated in the 2020 pedestrian survey by ECORP, nor in a previous survey conducted in 2019. In addition, approximately 30 percent of the area within a 0.5-mile radius surrounding the Project area has been subject to cultural surveys and three Native American sites have been previously recorded in the vicinity.

Tribal Consultation. At the time Yolo County was ready to initiate CEQA review, it had received written requests to receive Project notices from the following six California Native American Tribes, which

identified themselves as being traditionally and culturally affiliated with the lands subject to Yolo County's jurisdiction.

- Cortina Rancheria Band of Wintun Indians
- Ione Band of Miwok Indians
- Torres Martinez Desert Cahuilla Indians
- United Auburn Indian Community of Auburn Rancheria
- Wilton Rancheria
- Yocha Dehe Wintun Nation

On September 18, 2020, the County determined that it was ready to begin review under CEQA. The County sent letters to the address on file for each tribe listed above, informing them of the Project and formally offering an opportunity to consult under AB 52. The County requested responses to the offer to consult within 30 days of the receipt of the letter. No responses were received from Cortina Band of Wintun Indians, Ione Band of Miwok Indians, Torres Martinez Desert Cahuilla Indians, or the United Auburn Indian Community. Correspondence with Wilton Rancheria and Yocha Dehe Wintun Nation is summarized below.

On September 28, 2020, Wilton Rancheria representative Mariah Mayberry responded to Yolo County with a request for consultation. In the request, the tribe listed topics to discuss concerning the Project, and requested a tribal representative be allowed to observe and participate in all cultural resource surveys, the results of any existing cultural resource assessments, and records search data. The tribe also provided its preferred mitigation measures, and designated Ms. Mayberry as the point of contact for the consultation. On October 8, 2020, the County acknowledged receipt of the tribe's request to consult and asked Ms. Mayberry for availability to schedule a consultation meeting. No response was received.

On October 22, 2020, Yolo County sent another message to the tribe via email formally initiating consultation and inviting Ms. Mayberry to a virtual meeting on October 27, 2020. During the meeting, Ms. Mayberry did not identify any TCRs within the Project area, or express are any concerns that there might be TCRs within the Project area, but informed the County that Wilton Rancheria would defer consultation to the Yocha Dehe Wintun Nation. The County will formally conclude consultation with Wilton Rancheria prior to adoption of this IS/MND.

Separately, on October 19, 2020, a representative of the Yocha Dehe Wintun Nation left a voicemail at Yolo County stating the tribe would be sending a letter. The tribe formally responded to the County in a letter dated October 21, 2020, stating concerns that the Project could impact known cultural resources and requested that the County contact the tribe to set up a tribal monitoring agreement.

On October 29, 2020, the tribe was offered an opportunity to participate in the cultural resources survey of the Project area being conducted by ECORP Consulting, Inc. on November 4, 2020. Although the tribe did not send a representative to accompany the archaeologists during the survey and no information about known TCRs has been provided to the County, the County sent a letter to the tribe on November 24, 2020, to acknowledge receipt of the tribe's letter and to state the County's intention to enter into a Tribal Monitoring Agreement with the tribe to address the unanticipated discovery of TCRs during construction. The County will conclude consultation with the tribe in agreement, prior to adopted this IS/MND, about the potential impacts to TCRs and appropriate measures to mitigate for those impacts.

3.18.4 POTENTIAL ENVIRONMENTAL IMPACTS

a,b) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074, either because it is listed or eligible for listing on the California Register of Historical Resources, or a local register, or because it is determined by the County to be so, based on agency discretion and substantial evidence?

Pre-contact archaeological sites may be considered to be TCRs. Records search data identified pre-contact archaeological site CA-YOL-37/P-57-40 in the vicinity of the Project area, and ethnographic data shows known village sites mapped in the area. However, because no TCRs were identified during survey-level data or by tribes in consultation with Yolo County, the proposed Project would not cause a substantial adverse action to a known TCR. **Therefore, the Project would result in a less-than-significant impact with mitigation (TCR-1) incorporated.**

TCR-1. Tribal Monitoring. All vegetation removal, soil excavation, and any activity that has the potential to disturb more than six inches of original ground should be monitored by a qualified tribal monitor representing a consulting tribe. The monitor must be given a minimum of 48 hours' notice of the opportunity to be present during these activities and to coordinate closely with the archaeological monitor, to observe work activities, and assist in ensuring that sensitive tribal resources are not impacted. The monitor must be given a reasonable opportunity to inspect soil and other material as work proceeds to assist in determining if resources significant to the tribes are present. If potential tribal resources are discovered, a reasonable work pause or redirection of work by the contractor may be requested. If the tribe cannot recommend a monitor or if the tribal monitor does not report at the scheduled time, then all work will continue as long as the specified notice was provided. Tribal monitoring will not occur for equipment set-up or tear-down that does not disturb the ground surface more than six inches in depth; hydroseeding; paving; placement of imported fill/gravel/rock; restoration; or backfilling of previously excavated areas that were already monitored. Excavated sediment from the river channel will not be subjected to screening; however, any observed cultural materials will be collected and treated in accordance with the unanticipated discovery measures in CUL-3.

Timing/Implementation: During Construction
Monitoring/Enforcement: Yolo County

3.19. UTILITIES & SERVICE SYSTEMS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the Project :				
a) Require or result in the relocation or construction of new water or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statues and regulations related to solid waste?	☐	☐	☐	☒

3.19.1 ENVIRONMENTAL SETTING

No municipal water, wastewater treatment or storm water drainage facilities provide services to the Project site. PG&E does provide natural gas and electric to the nearby residents; there is a large transmission line in the Project area and under Cache Creek. AT&T does provide telecommunications/internet to at least one or more residents in the Project area.

3.19.2 POTENTIAL ENVIRONMENTAL IMPACTS

Would the Project:

a) Require or result in the relocation or construction of new water or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Both PG&E (electricity provider) and AT&T (telecommunications provider) will require relocation of infrastructure. In both cases, these services will be relocated in advance of the construction. Residents

will not experience any extended disruption of service, other than that required to change over to the newly installed infrastructure. Disruptions are anticipated to last for less than one business day. **Therefore, the Project would result in a <u>less-than-significant impact</u>.**

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

The source of construction water supply will be delivery tanker truck. There will be no water required for Project operation after construction occurs. **Therefore, the Project would result in a <u>less-than-significant impact</u>.**

c) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Wastewater treatment is not required for Project construction or Project operation. Temporary facilities will be provided for construction workers and will be removed upon completion of the Project. **Therefore, the Project would result in <u>no impact</u>.**

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Solid mineral waste generated by the Project will be utilized in a beneficial way as a landfill cap for Yolo County. Solid vegetation waste will be placed with other vegetative waste at the Yolo County Landfill for reuse, as appropriate. The Project would not affect the ability of the landfill to comply with Federal, State, and local statues and regulations pertaining to solid waste. **Therefore, the Project would result in <u>no impact</u>.**

e) Comply with federal, state, and local management and reduction statues and regulations related to solid waste?

As mentioned in (d), the solid waste material generated by the Project will be sent to the Yolo County Landfill. This facility is compliant with all Federal, State, and local management and reduction statues and regulations related to solid waste. The Project would not represent any new requirements for compliance. **Therefore, the Project would result in <u>no impact</u>.**

3.20. WILDFIRE

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project :				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

3.20.1 ENVIRONMENTAL SETTING

The California Department of Forestry and Fire Protection (CALFIRE) has mapped areas of significant fire hazards called Fire Hazard Severity Zones (FHSZ), in accordance with PRC Sections 4201-4204. A FHSZ is a mapped area that designates zones (based on factors such as fuel, slope, and fire weather) with varying degrees of fire hazard (i.e., moderate, high, and very high) (Yolo County, 2009). While FHSZs do not predict when or where a wildfire will occur, they do identify areas where wildfire hazards could be more severe and therefore are of greater concern. FHSZs are meant to help limit wildfire damage to structures through planning, prevention, and mitigation activities/requirements that reduce risk. These zones serve several purposes: they are used to designate areas where California's wildland urban interface building codes apply to new buildings; they can be a factor in real estate disclosure; and local governments consider fire hazard severity in the safety elements of their general plans.

According to the most recent CalFire maps for Yolo County, the Project area is not located within or near a Very High or High FHSZ (CalFire, 2020).

3.20.2 POTENTIAL ENVIRONMENTAL IMPACTS

If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the Project:

a) Substantially impair an adopted emergency response plan or emergency evaluation plan?

The Project site is not located in or near a State responsibility area or lands classified as very high fire severity zones. **Therefore, the Project would result in no impact.**

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

The Project site is not located in or near a State responsibility area or lands classified as very high fire severity zones. Additionally, the Project will remove a substantial quantity of vegetation and reduce fire risk. **Therefore, the Project would result in no impact.**

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

The Project site is not located in or near a State responsibility area or lands classified as very high fire severity zones. Additionally, the relocation of overhead power lines to underground and the decommissioning of other overhead power lines within the Project area result in a net reduction of fire risks. **Therefore, the Project would result in no impact.**

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The Project site is not located in or near a State responsibility area or lands classified as very high fire severity zones. Moreover, a primary goal of the Project is to restore the flood risk reduction from Cache Creek by increasing the levee to its original design. **Therefore, the Project would result in no impact.**

3.21. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐
c) Does the project have environmental effects that will cause substantial adverse effects on human begins, either directly or indirectly?	☐	☐	☒	☐

3.21.1 POTENTIAL ENVIRONMENTAL IMPACTS

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Based on the analysis provided in this Initial Study, the Project has a potential to result in adverse effects on the following resources: aesthetics (Section 3.1), biological resources (Section 3.4), cultural resources (Section 3.5), and tribal cultural resources (Section 3.18). Potential impacts on these resources are discussed in detail in the corresponding sections above. With implementation of identified mitigation measures, all potential impacts would be reduced to a less-than-significant level. **Therefore, the Project would result in a <u>less-than-significant impact with mitigation incorporated</u>.**

b) Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Based on the analysis provided in this Initial Study, the Project would have no significant cumulative impacts. The Project would require temporary construction activities for improvements, but would not

change existing operational activities at the Project site. Additionally, the Project would not have significant cumulative impacts with other past or future projects. **Therefore, the Project would result in a <u>less-than-significant impact</u>.**

c) Does the project have environmental effects that will cause substantial adverse effects on human begins, either directly or indirectly?

As described in this Initial Study, the Project would not have substantial effects on human beings, directly or indirectly. Most impacts on the environment are deemed to be at a less-than-significant level, and where the potential for a significant impact exists, mitigation measures have been included to reduce the impact to a less-than-significant level. **Therefore, the Project would result in a <u>less-than-significant impact</u>.**

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APPENDIX A

REPRESENTATIVE PROJECT AREA PHOTOGRAPHS

REPRESENATIVE PROJECT AREA PHOTOGRAPHS

HUFF'S CORNER LEVEE RAISE & CHANNEL RECONFIGURATION PROJECT

View of channel reconfiguration area from County Road 18, facing northeast (March 2021)

Representative photo of vegetation to be removed as a part of channel reconfiguration (March 2021)

Representative photo of channel reconfiguration area, facing west (March 2021)

View of levee restoration project area on top of County Road 18, facing east (March 2021)

View of western-most area of levee restoration project boundary, facing west (March 2021)

Representative photo of olive trees to be removed as a part of levee construction activities (March 2021)

View of eastern-most area of levee restoration project boundary, facing east (April 2021)

APPENDIX B

AIR QUALITY & GREENHOUSE GAS IMPACT ANALYSIS

Air Quality and Greenhouse Gas Impact Analysis

Huff's Corner Levee Raise and Channel Reconfiguration Project

Prepared for:
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April 2021

Prepared by

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INTRODUCTION

This Air Quality and Greenhouse Gas Impact Analysis identifies and analyzes the potential environmental impacts from the Huff's Corner Levee Raise and Channel Reconfiguration Project related to air quality and greenhouse gas (GHG) emissions. The information and analysis in this document are organized in accordance with the checklist in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. If the analysis provided in this document identifies potentially significant environmental effects of the project, mitigation measures that should be applied to the project are prescribed. All modeling results are included as an appendix to this document.

PROJECT SUMMARY

The approximately six-acre project site, identified as Huff's Corner, is located along Cache Creek in central Yolo County, California (Assessor's Parcel Numbers [APNs]: 025-310-025 and 027-180-019). Figure 1 illustrates the regional project location.

The Huff's Corner levee was initially constructed by the US Army Corps of Engineers (USACE) in 1960. The site currently carries flows from Cache Creek, and is bound by Interstate 5 (I-5) to the east, County Road 18 to the north and west, a farm dwelling to the south, and agricultural land to the east. I-5 is located approximately 780 feet east of the project site. The project site is zoned Public Open Space (POS) and is designated Open Space (OS) per the County's General Plan. The project site is shown in Figure 2.

The Huff's Corner Levee Raise and Channel Reconfiguration Project includes two distinct components: the levee raise (which can be described as a restoration action to return the levee to the original design height) and the Cache Creek channel reconfiguration. Both components are fully analyzed herein, and are collectively referred to as the proposed project.

The levee raise component of the proposed project would include the import of approximately 25,000 cubic yards (CY) of fill to raise the entire reach from 4.0 feet to 6.0 feet to meet the 1957 Design Profile, which includes three feet of freeboard. In addition, the portion of the levee that extends northward from the hairpin turn of County Road 18 to I-5 would be completely degraded to ground level and a new levee would be constructed. The levee raise project site plan is included as Figures 3 through 5.

The channel reconfiguration component of proposed project would involve the repair of the erosion onsite. At the site of the worst erosion, Cache Creek makes an abrupt bend before reaching the I-5 bridge. Significant point bar deposition has occurred on the inside edge of the bend opposite the eroded scarp. In addition, a vegetated island is located within the channel at this location. The point bar and mid-channel island both result in constraining the creek flow, thereby increasing the erosive potential and pushing the highly-erosive flow against the eroding scarp and threatening to erode a bank stabilization project which was implemented in 2009. The proposed project would address such erosion-related issues with a three-pronged approach. First, sediment would be removed and off-hauled from the northwest side of the channel. Second, portions of the vegetation currently stabilizing the mid-channel island would be removed. Sediment and vegetation removal would involve the export of approximately 28,000 CY of material. Finally, a series of boulders would be installed along the right bank, which would serve to reduce flow velocity against the bank and direct flow towards the center of the channel. In addition, the project would include the removal and replacement of the affected section of Country Road 18, which is located on the levee crown over the western 1,200 feet of the proposed levee raise. The channel reconfiguration project site plan is included in Figure 6.

Based on the anticipated phasing of the proposed project, this analysis considers the following four components:

1. Levee Soil Import and Construction;
2. In-Channel Soil Export and Construction;
3. In-Channel Boulder Import; and
4. Paving along County Road 18.

Figure 1
Regional Project Location

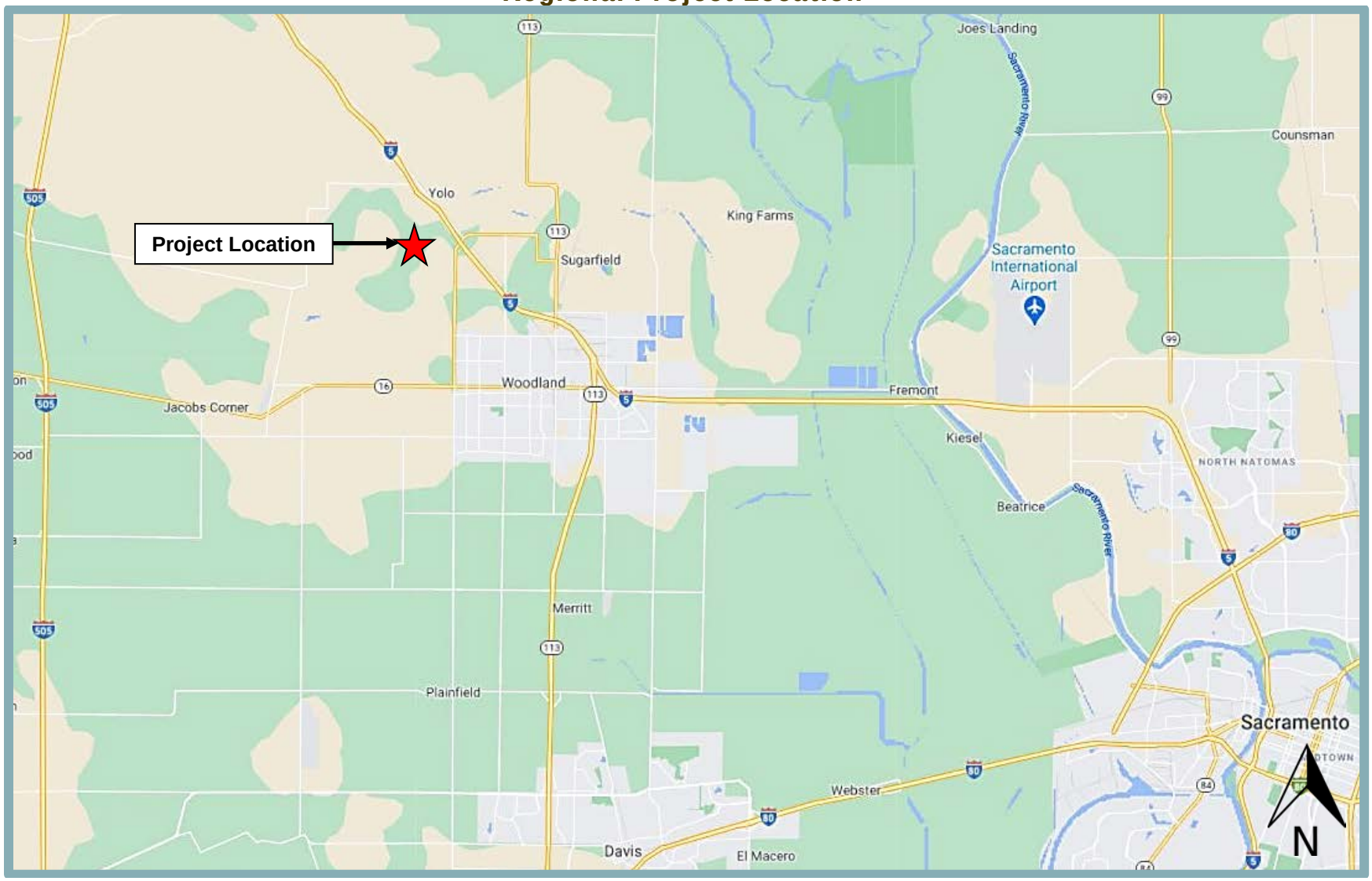


Figure 2
Project Site

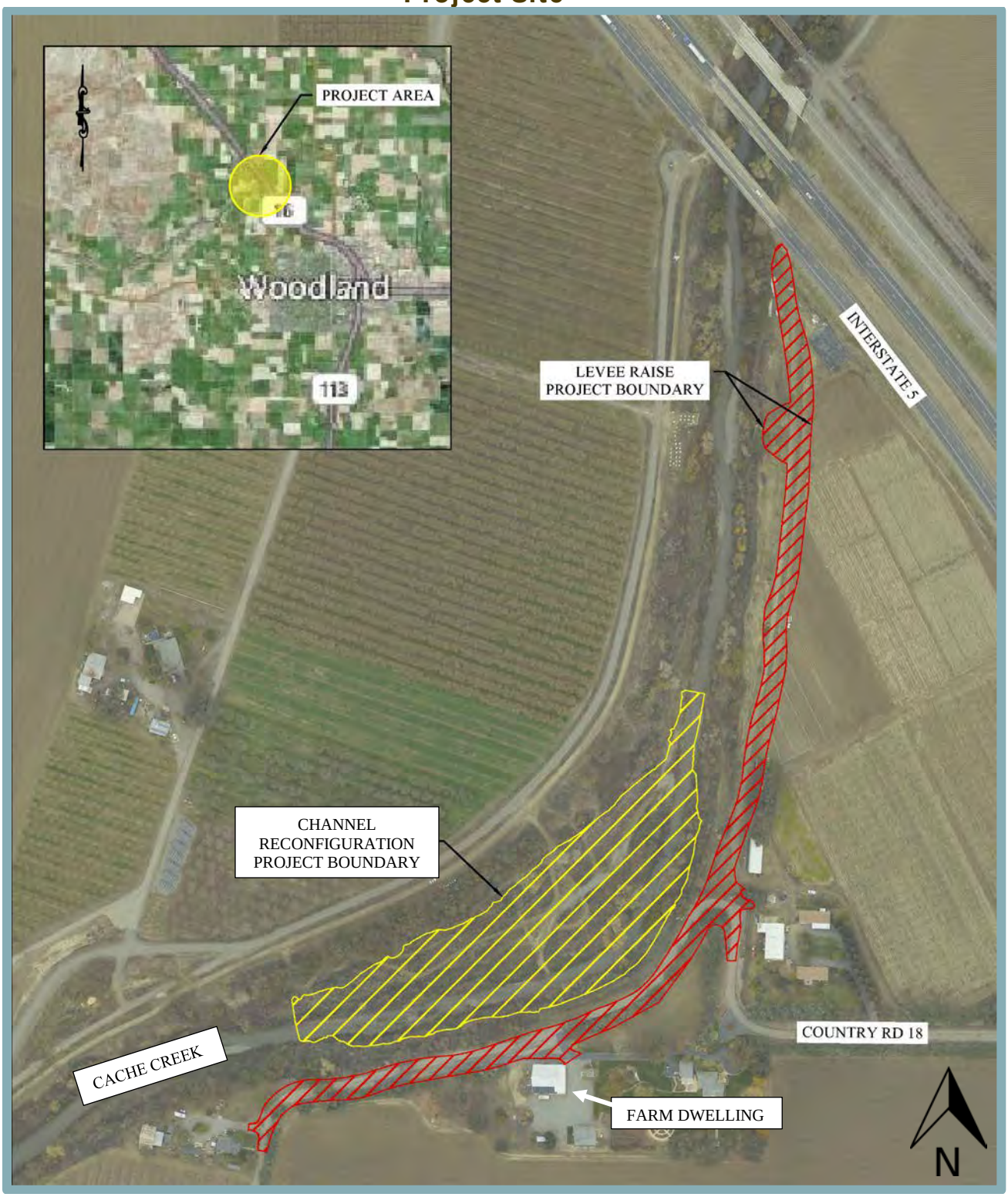


Figure 3
Levee Raise Project Site Plan – Southern Portion

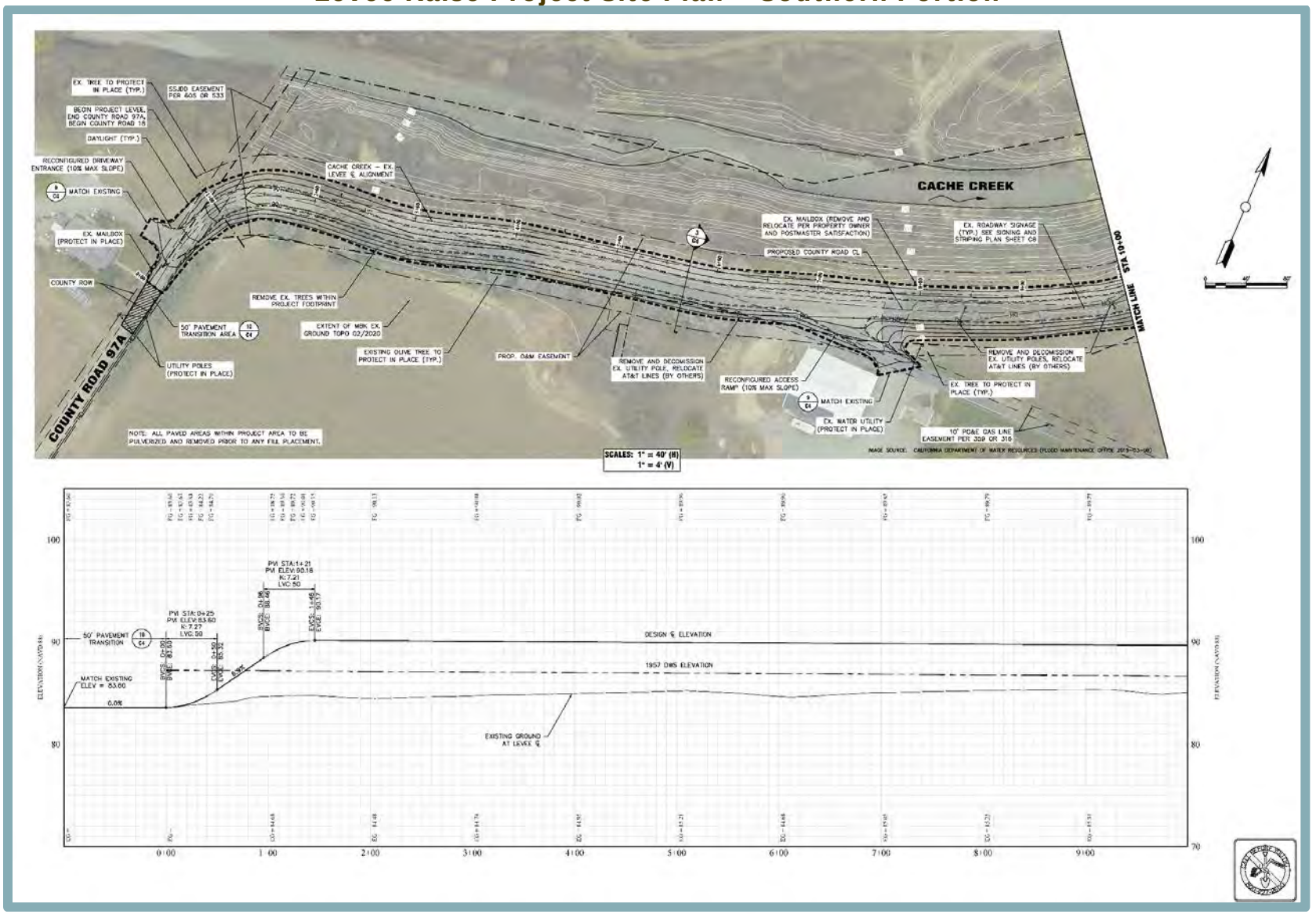


Figure 4
Levee Raise Project Site Plan – Middle Portion

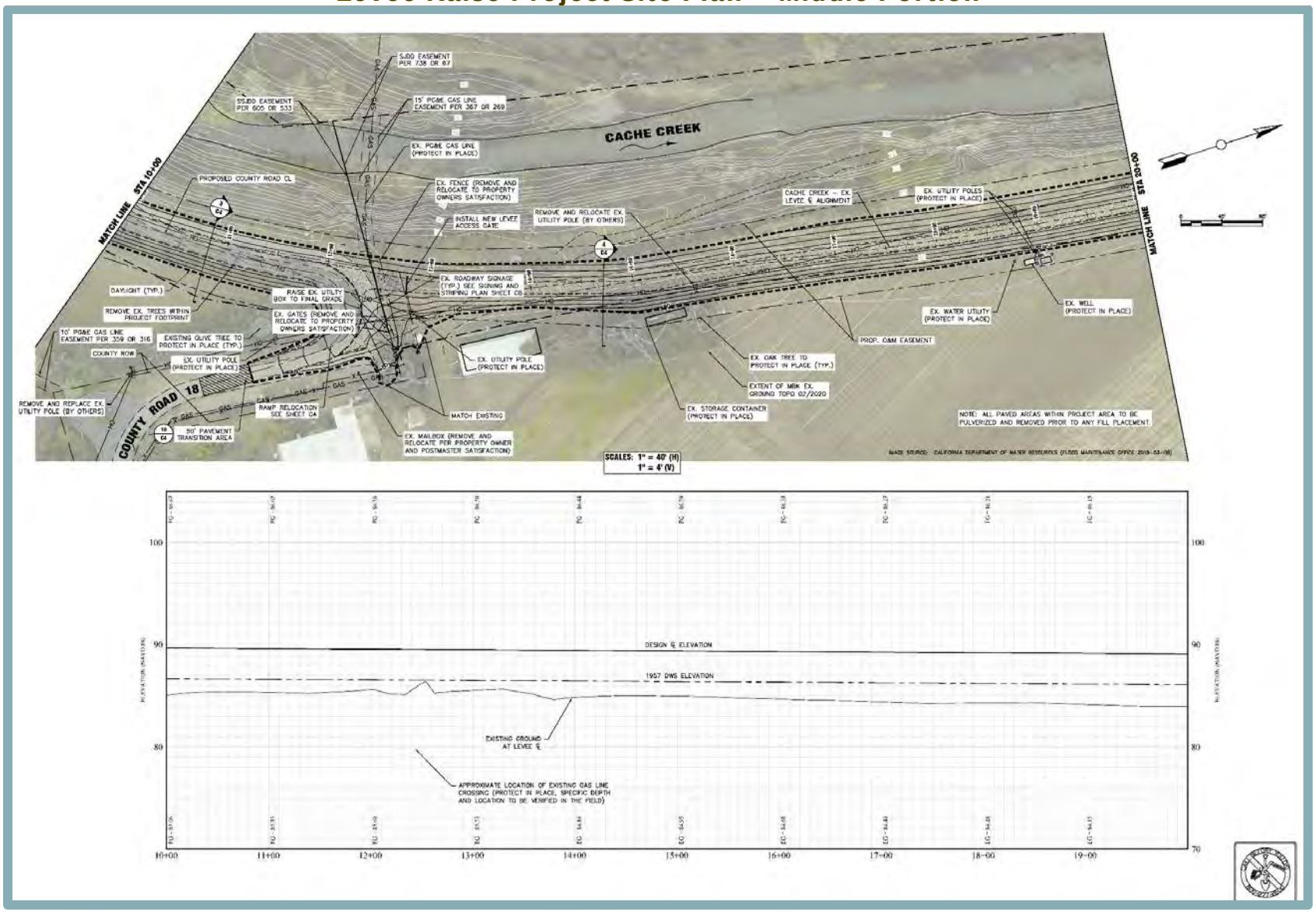


Figure 5
Levee Raise Project Site Plan – Northern Portion

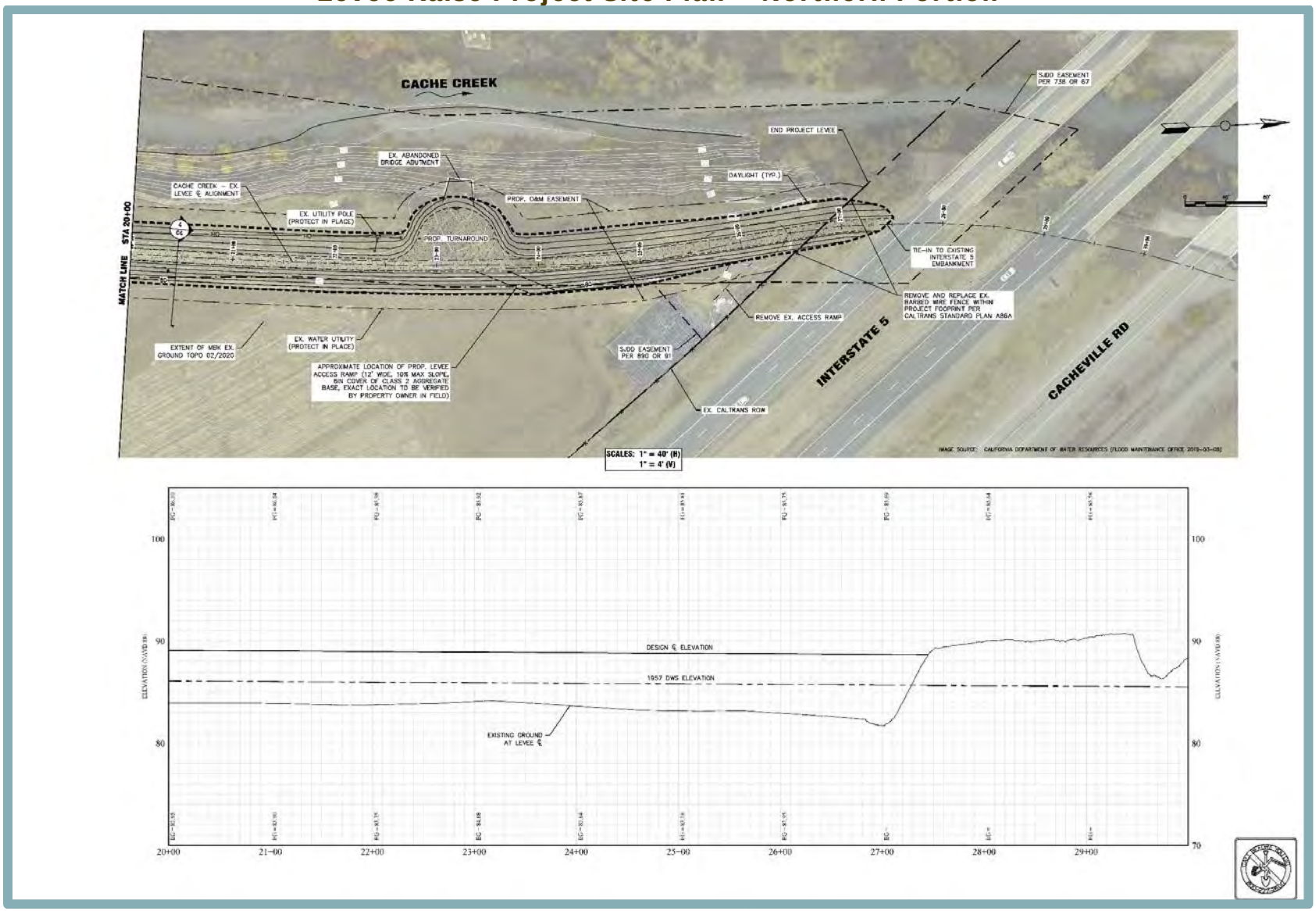
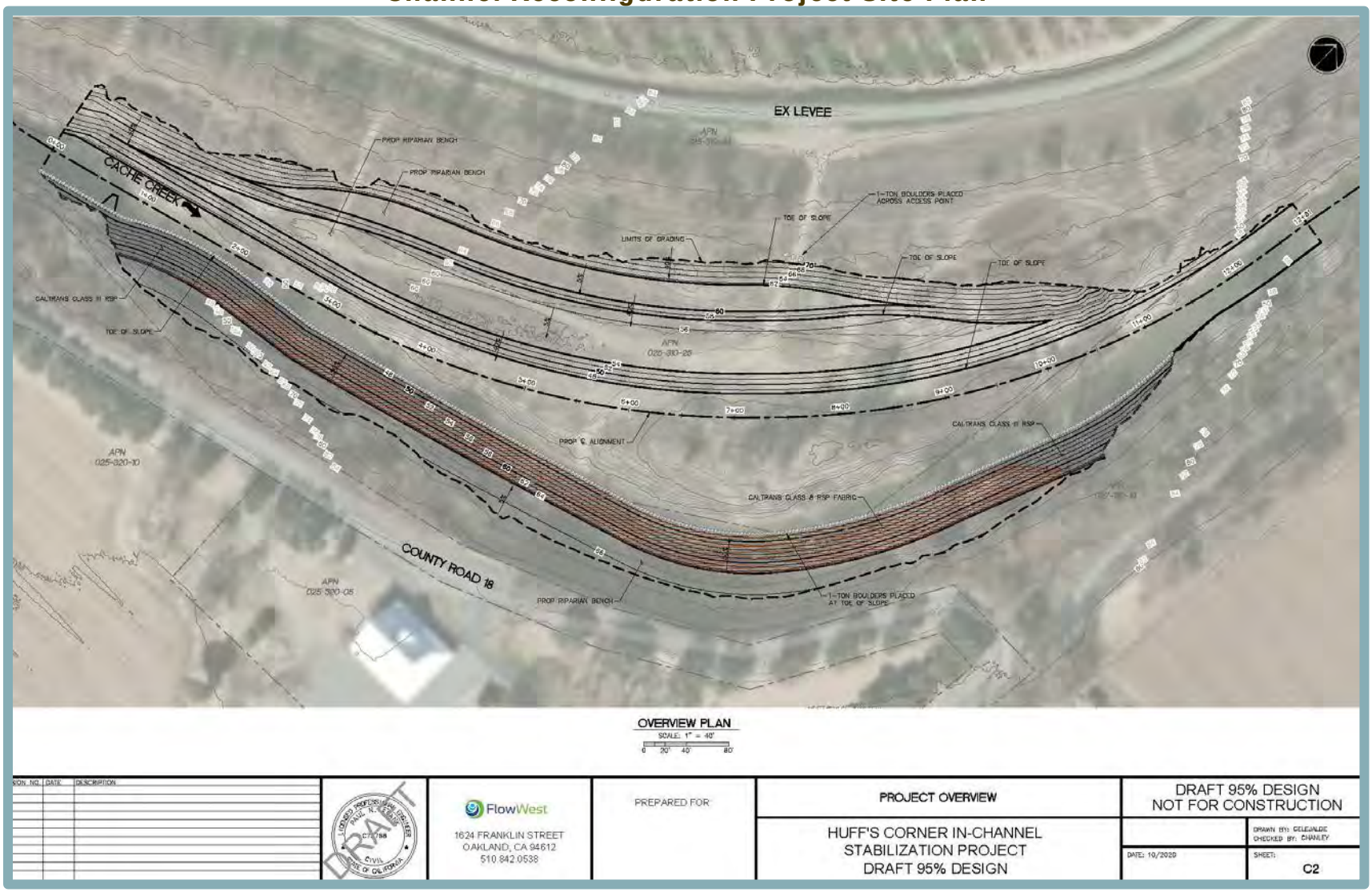


Figure 6
Channel Reconfiguration Project Site Plan



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III. AIR QUALITY. *Would the project:*		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a.	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	✖	☐
b.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	✖	☐
c.	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	✖	☐
d.	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	✖	☐

Discussion

a,b. Yolo County is located within the Sacramento Valley Air Basin (SVAB) and under the jurisdiction of the Yolo-Solano Air Quality Management District (YSAQMD). The federal Clean Air Act (CAA) and the California Clean Air Act (CCAA) require that federal and State ambient air quality standards (AAQS) be established, respectively, for six common air pollutants, known as criteria pollutants. The SVAB is designated nonattainment for the federal particulate matter 2.5 microns in diameter ($PM_{2.5}$) and the State particulate matter 10 microns in diameter (PM_{10}) standards, as well as for both the federal and State ozone standards.

The CAA requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The SIPs are modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins, as reported by their jurisdictional agencies. Due to the nonattainment designations, YSAQMD, along with the other air districts in the SVAB region, periodically prepares and updates air quality plans that provide emission reduction strategies to achieve attainment of the federal AAQS, including control strategies to reduce air pollutant emissions via regulations, incentive programs, public education, and partnerships with other agencies.

General conformity requirements of the SIP include whether a project would cause or contribute to new violations of any federal AAQS, increase the frequency or severity of an existing violation of any federal AAQS, or delay timely attainment of any federal AAQS. In addition, a project would be considered to conflict with, or obstruct implementation of, an applicable air quality plan if the project would be inconsistent with the emissions inventories contained in the air quality plan. Emission inventories are developed based on projected increases in population, employment, regional vehicle miles traveled (VMT), and associated area sources within the region, which are based on regional projections that are, in turn, based on General Plans and zoning designations for the region.

Due to the nonattainment designations of the area, YSAQMD has developed plans to attain the State and federal standards for ozone and particulate matter. The plans include the 2013 Ozone Attainment Plan, the $PM_{2.5}$ Implementation/Maintenance Plan, and the 2016 Triennial Assessment and Plan Update. Adopted YSAQMD rules and regulations, as well as the thresholds of significance, have been developed with the intent to ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with applicable air quality plans. Thus,

by exceeding the YSAQMD's mass emission thresholds for operational or construction emissions of ROG, NO_X, or PM_{10}, a project would be considered to conflict with or obstruct implementation of the YSAQMD's air quality planning efforts. The YSAQMD mass emission thresholds for operational and construction emissions are shown in Table 1 below.

Table 1
YSAQMD Thresholds of Significance

Pollutant	Construction Thresholds	Operational Thresholds
ROG	10 tons/yr	10 tons/yr
NO_X	10 tons/yr	10 tons/yr
PM_{10}	80 lbs/day	80 lbs/day

Source: YSAQMD. Handbook for Assessing and Mitigating Air Quality Impacts. July 11, 2007.

Implementation of the proposed project would contribute to local emissions in the area during construction activities. The proposed project's construction emissions from soil hauling and operation of off-road equipment have been estimated using the Sacramento Metropolitan Air Quality Management District (SMAQMD)'s Road Construction Emissions Model (RoadMod), Version 9.0.0. While the project site is not located within the jurisdiction of SMAQMD, the model is an industry standard tool for evaluating construction emissions throughout the State. SMAQMD's RoadMod requires the user to input information related to the area of disturbance, the length of time a project would occur, and, for linear non-roadway projects, a list of equipment that would be used during project construction. Construction timing, soiling hauling volumes, and equipment information for the proposed project were provided by the project applicant. All RoadMod results are included in Appendix A.

Operation of the Huff's Corner Levee Raise and Channel Reconfiguration Project would not emit any criteria pollutants. As such, the proposed project would not result in any operational air quality emissions, and a less-than-significant impact would occur. The results of the emissions analysis for construction emissions are discussed in further detail below.

Construction Emissions

As noted above, construction of the proposed project would involve two primary tasks with four separate components. However, the potential exists that such components may overlap temporally and result in additive emissions. In order to provide the most conservative analysis, this report assumes that all phases take place concurrently. The estimated construction-related emissions from implementation of the proposed project are presented in Table 2.

As shown in the table, the combined construction emissions of ROG, NO_X, and PM_{10} from the project would be below the applicable YSAQMD thresholds of significance. Consequently, the construction-related emissions from any component individually would also be below the applicable YSAQMD thresholds of significance, and construction-related emissions from either any component would not result in a significant contribution to the region's nonattainment status of ozone or PM and would not violate an air quality standard or contribute substantially to an existing or projected air quality violation.

Table 2
Maximum Construction-Related Emissions

	ROG (tons/yr)	NO_X (tons/yr)	PM_{10} (lbs/day)
1. Levee Soil Import and Construction	0.12	1.42	2.14
2. In-Channel Soil Export and Construction	0.18	1.84	2.33
3. In-Channel Boulder Import	0.00	0.01	2.74
4. Paving along County Road 18	0.02	0.22	8.98
PM Dust Emissions from Haul Trucks[1]	-	-	0.56
Total Project Emissions	***0.32***	***3.48***	***16.73***
YSAQMD Threshold of Significance	**10.0**	**10.0**	**80.0**
Exceeds Threshold?	**NO**	**NO**	**NO**

[1] Dust emissions from haul trucks operating on an unpaved roadway segment were calculated off-model using emssions factors from the U.S. Environmental Protection Agency's AP-42. See question d. for additional information.

Source: RoadMod, 2020 (see Appendix A).

All projects within the YSAQMD, including the proposed project, are required to comply with all YSAQMD rules and regulations for construction, including, but not limited to, Rule 2.1, Control of Emissions, Rule 2.28, Cutback and Emulsified Asphalts, and Rule 2.11, Particulate Matter Concentration. Compliance with the aforementioned rules and regulations related to construction would help to minimize criteria pollutant emissions generated during construction activities. Because compliance with the YSAQMD rules and regulations would likely result in an additional reduction in emissions, construction emissions from the project would be slightly reduced from what is presented in Table 2.

Because the proposed project's estimated unmitigated construction emissions of ROG, NO_X, and PM_{10} would be below the applicable YSAQMD thresholds of significance, construction activities associated with development of the proposed project would not contribute to the YSAQMD's nonattainment status for ozone or PM. Accordingly, construction of the proposed project would not violate any AAQS or contribute substantially to an existing or projected air quality violation, and a less-than-significant impact would occur.

Cumulative Emissions

A cumulative impact analysis considers a project over time in conjunction with other past, present, and reasonably foreseeable future projects whose impacts might compound those of the project being assessed. Due to the dispersive nature and regional sourcing of air pollutants, air pollution is already largely a cumulative impact. The nonattainment status of regional pollutants, including ozone and PM, is a result of past and present development and, thus, cumulative impacts related to these pollutants could be considered cumulatively significant.

Per the YSAQMD's Handbook, any proposed project that would individually have a significant air quality impact would also be considered to have a significant cumulative impact.[1] As discussed above, construction emissions would be below the YSAQMD's project-level thresholds and the proposed project would not generate any operational emissions. Thus, project emissions would be below the YSAQMD's cumulative-level

[1] Yolo-Solano Air Quality Management District. *Handbook for Assessing and Mitigating Air Quality Impacts*. July 11, 2007.

thresholds as well. Accordingly, impacts related to a cumulatively considerable net increase in emissions of criteria pollutants for which the YSAQMD region is in non-attainment under an applicable federal or State AAQS would be considered less than significant.

Conclusion

Construction and operations of the proposed project would not result in the emission of criteria air pollutants in excess of the applicable YSAQMD thresholds of significance and, thus, would not conflict with or obstruct the implementation of any applicable air quality plans. As a result, the proposed project would not result in a cumulatively considerable net increase of a criteria air pollutant for which the project region is non-attainment under an applicable AAQS. Therefore, a ***less-than-significant*** impact would result.

c. Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, and/or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Sensitive receptors are typically defined as facilities where sensitive receptor population groups (i.e., children, the elderly, the acutely ill, and the chronically ill) are likely to be located. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals, and medical clinics.

Policy CO-A107 of the Yolo County General Plan provides a County-specific definition of sensitive receptors using the following criteria: residentially designated land uses; hospitals, nursing/convalescent homes, and similar board and care facilities; hotels and lodgings; schools and day care centers; and neighborhood parks. Considering Yolo County's definition of sensitive receptors, the nearest sensitive receptors to the project site are Cache Creek High School and low-density residential uses located over 3,000 feet north of the project site. However, a farm dwelling currently exists approximately 150 feet south of the project site. Due to the close proximity to the project site, the farm dwelling is considered another sensitive land use for the purposes of this analysis.

The major pollutant concentrations of concern are localized carbon monoxide (CO) emissions and toxic air contaminant (TAC) emissions, which are addressed in further detail below.

Localized CO Emissions

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. High levels of localized CO concentrations are only expected where background levels are high, and traffic volumes and congestion levels are high. Accordingly, a land use project could result in impacts associated with localized CO concentrations at roadway intersections if the project generates substantial traffic. Considering the project would not result in an increase in traffic or otherwise generate operational emissions, the proposed project would not be expected to generate substantial concentrations of localized CO emissions.

TAC Emissions

Another category of environmental concern is TACs. The California Air Resources Board's

(CARB's) *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) provides recommended setback distances for sensitive land uses from major sources of TACs, including, but not limited to, freeways and high traffic roads, gas stations, chrome plating operations, distribution centers, and rail yards. The CARB has identified diesel particulate matter (DPM) from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Health risks associated with TACs are a function of both the concentration of emissions and the duration of exposure, where the higher the concentration and/or the longer the period of time that a sensitive receptor is exposed to pollutant concentrations would correlate to a higher health risk.

Short-term, construction-related activities could result in the generation of TACs, specifically DPM, from on-road haul trucks and off-road equipment exhaust emissions. The CARB considers distribution centers to be significant sources of DPM due to the high volume of heavy-duty diesel vehicles used in the distribution of goods. As defined by CARB, distribution centers are facilities that serve as a distribution point for the transfer of goods.[2] Such facilities include cold storage warehouses, goods transfer facilities, and inter-modal facilities such as ports that attract in excess of 100 heavy-duty trucks per day. Based on the volume of fill required for the proposed project, and the conservative assumption that all phases would occur at once, the project would result in approximately 57 heavy-duty haul trucks accessing the site per day. As such, the proposed project would not involve more than 100 heavy-duty trucks accessing the site per day and construction of the proposed project would not be considered to involve a substantial amount of DPM emissions from heavy-duty diesel vehicles.

In addition, construction is temporary, and would only occur over approximately four months. Health risks are typically associated with exposure to high concentrations of TACs over extended periods of time (e.g., 30 years or greater). Research conducted by CARB indicates that DPM is highly dispersive in the atmosphere. Considering the nearest sensitive receptor is located over 100 feet from the project site, DPM associated with the proposed project would be partially dispersed before reaching any sensitive receptors.

Finally, all construction equipment and operation thereof would be regulated per the CARB's In-Use Off-Road Diesel Vehicle Regulation. The In-Use Off-Road Diesel Vehicle Regulation includes emissions reducing requirements such as limitations on vehicle idling, disclosure, reporting, and labeling requirements for existing vehicles, as well as standards relating to fleet average emissions and the use of Best Available Control Technologies. Thus, on-site emissions of PM would be reduced, which would result in a proportional reduction in DPM emissions and exposure of nearby residences to DPM.

Based on the above, the proposed project would not expose nearby sensitive receptors to substantial concentrations of TACs.

Conclusion

Based on the above analysis, the proposed project would not be anticipated to result in the production of substantial concentrations of localized CO, TACs, including DPM, or

[2] California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005.

criteria pollutants. Therefore, the proposed project would not result in the exposure of sensitive receptors to substantial pollutant concentrations, and a ***less-than-significant*** impact would result.

d. Emissions of pollutants have the potential to adversely affect sensitive receptors within the project area. Pollutants of principal concern include emissions leading to odors, emissions of dust, or emissions considered to constitute air pollutants. Air pollutants have been discussed in sections "a" through "c" above. Therefore, the following discussion focuses on emissions of odors and dust during construction and operation of the project.

Odors

According to the YSAQMD, common types of facilities that are known to produce odors include, but are not limited to, wastewater treatment facilities, chemical or fiberglass manufacturing, landfills, composting facilities, food processing facilities, refineries, dairies, and asphalt or rending plants.[3] Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The presence of an odor impact is dependent on a number of variables including: the nature of the odor source; the frequency of odor generation; the intensity of odor; the distance of odor source to sensitive receptors; wind direction; and sensitivity of the receptor. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative analysis to determine the presence of a significant odor impact is difficult. The proposed project would not introduce any identified odor-generating land uses.

Diesel fumes from construction equipment and heavy-duty trucks could be found to be objectionable; however, operation of construction equipment would be regulated by YSAQMD rules and regulations and would occur intermittently throughout the course of a day. All construction equipment and operation thereof would be regulated per the statewide In-Use Off-Road Diesel Vehicle Regulation. For the aforementioned reasons, the project would not result in noticeable objectionable odors associated with construction.

The YSAQMD regulates objectionable odors through Rule 2.5, Nuisance, which prohibits any person or source from emitting air contaminants that result in injury, nuisance, or annoyance to the public. Rule 2.5 is enforced based on complaints. If complaints are received, the YSAQMD is required to investigate the complaint and determine a solution, which could include operational modifications. Thus, although not anticipated, if odor complaints are made during construction of the project, the YSAQMD would ensure that such odors are addressed and any potential odor effects reduced to less than significant.

Dust

The project would be required to comply with YSAQMD Rule 2.11, Particulate Matter Concentration, and Rule 2.19, Particulate Matter Process Emission Rate. In addition, the YSAQMD encourages all projects to implement best management practices to reduce dust emissions and avoid localized health impacts. The YSAQMD's best management practices for dust include the following:

[3] Yolo-Solano Air Quality Management District. *Handbook for Assessing and Mitigating Air Quality Impacts* [pg. 14]. July 11, 2007.

- Watering of all active construction sites at least twice daily;
- Maintenance of at least two feet of freeboard in haul trucks;
- Covering of all trucks hauling dirt, sand, or loose materials;
- Application of non-toxic binders to exposed areas after cut and fill operations and hydroseeding of area, as applicable and/or necessary;
- Application of chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days), as applicable and/or necessary;
- Planting of vegetative ground cover in disturbed areas as soon as possible;
- Covering of inactive storage piles;
- Sweeping of streets if visible soil material is carried out from the construction site; and
- Treatment of accesses to distance of 100 feet from the paved road with a six- to 12-inch layer of wood chips, mulch, or gravel.

Compliance with the aforementioned rules and regulations would help to minimize dust emissions generated during construction activities.

Heavy trucks would haul fill along an unpaved portion of County Road 18, which could generate dust in the project vicinity. Based on the emission factors provided by the U.S. Environmental Protection Agency AP-42 Section 13.2.2, Unpaved Roads,[4] the use of haul trucks on the unpaved portion of County Road 18 would generate 0.05 lbs/day of $PM_{2.5}$ and 0.51 lbs/day of PM_{10}. Such an increase in dust would remain well below the applicable threshold of significance for PM.

Implementation of all applicable YSAQMD rules would ensure that construction of the proposed project would not result in substantial emissions of dust. Following project construction, County Road 18 would be fully paved, and the site would not be further disturbed. The paving of County Road 18 would remove an existing source of dust. Thus, project operations would not include sources of dust that could adversely affect a substantial number of people.

Conclusion

For the aforementioned reasons, implementation of the proposed project would not result in other emissions (such as those leading to odors) which would adversely affect a substantial number of people, and the impact would be ***less than significant***.

[4] U.S. Environmental Protection Agency. Air Emissions Factors and Quantification; AP-42: Compilation of Air Emissions Factors. Available at: https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors#Proposed/. Accessed December 2020.

VIII. GREENHOUSE GAS EMISSIONS. *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	✖	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?	☐	☐	✖	☐

Discussion

a, b. Emissions of greenhouse gas (GHG) contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. An individual project's GHG emissions are at a micro-scale level relative to global emissions and effects to global climate change; however, an individual project could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As such, impacts related to emissions of GHG are inherently considered cumulative impacts.

Implementation of the proposed project would cumulatively contribute to increases of GHG emissions. The primary source of GHG emissions for the proposed project would be mobile source emissions from haul trucks, and GHG emissions from the use of construction equipment. The common unit of measurement for GHG is expressed in terms of annual metric tons of CO_2 equivalents ($MTCO_2e$/yr).

In recognition of the global scale of climate change, California has enacted several pieces of legislations in an attempt to curb GHG emissions. Specifically, Assembly Bill (AB) 32 and, more recently, Senate Bill (SB) 32, have established statewide GHG emissions reduction targets. Accordingly, the CARB has prepared the Climate Change Scoping Plan for California (Scoping Plan), approved in 2008 and updated in 2014 and 2017, which provides the outline for actions to reduce California's GHG emissions and achieve the emissions reduction targets required by AB 32 and SB 32. In concert with statewide efforts to reduce GHG emissions, air districts, counties, and local jurisdictions throughout the State have implemented their own policies and plans to achieve emissions reductions in line with the Scoping Plan and emissions reduction targets, including AB 32 and SB 32.

The YSAQMD's *Handbook for Assessing and Mitigating Air Quality Impacts* handbook includes screening methodology and recommended thresholds of significance, including mass emission thresholds for construction-related and operational criteria pollutants.[5] However, the YSAQMD has not yet established or adopted methodology or thresholds for the assessment of impacts related to GHG emissions. In the absence of District-adopted methodology or thresholds for assessing GHG emissions, the YSAQMD currently recommends GHG analysis consistent with the Sacramento Metropolitan Air Quality Management District (SMAQMD) adopted thresholds of significance.

While SMAQMD recognizes that emissions from a single project cannot be determined to

[5] Yolo-Solano Air Quality Management District. *Handbook for Assessing and Mitigating Air Quality Impacts*. July 11, 2007.

substantially impact overall GHG emissions levels in the atmosphere, an emissions threshold is useful to trigger further project review and assess mitigation. Projects exceeding SMAQMD's thresholds would constitute the vast majority of GHG emissions, and exceedance of the thresholds would allow for further project review contributing to the emissions reductions goals of AB 32, SB 32, the Scoping Plan, and relevant Executive Orders. SMAQMD has established a threshold for both construction and operational GHG emissions of 1,100 $MTCO_2e$/yr.

Construction GHG Emissions

Construction-related GHG emissions are a one-time release and are, therefore, not typically expected to generate a significant contribution to global climate change, as global climate change is inherently a cumulative effect that occurs over a long period of time and is quantified on a yearly basis. However, construction-related GHG emissions have been estimated for implementation of the project and have been compared to the identified threshold of significance, as presented in Table 3.

Table 3
Unmitigated Construction-Related GHG Emissions ($MTCO_2e$/yr)

	Project Emissions
1. Levee Soil Import and Construction	174.86
2. In-Channel Soil Export and Construction	450.39
3. In-Channel Boulder Import	3.61
4. Paving along County Road 18	34.30
Total Project Emissions	663.16
Applicable Threshold of Significance	**1,100.00**
Exceeds Threshold?	**NO**

Source: RoadMod 2020 (see Appendix A).

As noted in the Air Quality section above, construction-related emissions were modeled using RoadMod. As shown in Table 3, the proposed project's maximum annual construction GHG emissions of 663.16 $MTCO_2e$/yr would be below the SMAQMD 1,100 $MTCO_2e$/yr threshold.

Operational GHG Emissions

Operations of the Huff's Corner levee would not emit any GHGs. As such, the proposed project would not result in any operational GHG emissions, and a less-than-significant impact would occur.

Conclusion

Based on the information presented above, the proposed project would not be considered to generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment, or conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Consequently, the project would not result in a cumulatively considerable incremental contribution to impacts related to GHG emissions or climate change and the project's impact would be ***less than significant***.

Appendix A

RoadMod Results

The maximum pounds per day in row 11 is summed over overlapping phases, but the maximum tons per phase in row 34 is not summed over overlapping phases.

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Huff's Corner - Levee Work Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation	2.77	12.04	32.22	2.14	1.45	0.68	1.44	1.30	0.14	0.04	3,884.19	0.83	0.23	3,974.17
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum (pounds/day)	2.77	12.04	32.22	2.14	1.45	0.68	1.44	1.30	0.14	0.04	3,884.19	0.83	0.23	3,974.17
Total (tons/construction project)	0.12	0.53	1.42	0.09	0.06	0.03	0.06	0.06	0.01	0.00	170.90	0.04	0.01	174.86

Notes:

Project Start Year ->	2021
Project Length (months) ->	4
Total Project Area (acres) ->	6
Maximum Area Disturbed/Day (acres) ->	0
Water Truck Used? ->	Yes

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	0	0
Grading/Excavation	0	284	0	300	0	40
Drainage/Utilities/Sub-Grade	0	0	0	0	0	0
Paving	0	0	0	0	0	0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Huff's Corner - Levee Work Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation	0.12	0.53	1.42	0.09	0.06	0.03	0.06	0.06	0.01	0.00	170.90	0.04	0.01	158.64
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum (tons/phase)	0.12	0.53	1.42	0.09	0.06	0.03	0.06	0.06	0.01	0.00	170.90	0.04	0.01	158.64
Total (tons/construction project)	0.12	0.53	1.42	0.09	0.06	0.03	0.06	0.06	0.01	0.00	170.90	0.04	0.01	158.64

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

The maximum pounds per day in row 11 is summed over overlapping phases, but the maximum tons per phase in row 34 is not summed over overlapping phases.

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Huff's Corner - In-Channel Work Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation	4.09	31.71	41.75	2.33	1.63	0.70	1.58	1.44	0.15	0.10	10,056.47	2.62	0.38	10,236.08
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum (pounds/day)	4.09	31.71	41.75	2.33	1.63	0.70	1.58	1.44	0.15	0.10	10,056.47	2.62	0.38	10,236.08
Total (tons/construction project)	0.18	1.40	1.84	0.10	0.07	0.03	0.07	0.06	0.01	0.00	442.48	0.12	0.02	450.39

Notes:

Project Start Year ->	2021
Project Length (months) ->	4
Total Project Area (acres) ->	6
Maximum Area Disturbed/Day (acres) ->	0
Water Truck Used? ->	Yes

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	0	0
Grading/Excavation	0	318	0	483	0	20
Drainage/Utilities/Sub-Grade	0	0	0	0	0	0
Paving	0	0	0	0	0	0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Huff's Corner - In-Channel Work Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation	0.18	1.40	1.84	0.10	0.07	0.03	0.07	0.06	0.01	0.00	442.48	0.12	0.02	408.59
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum (tons/phase)	0.18	1.40	1.84	0.10	0.07	0.03	0.07	0.06	0.01	0.00	442.48	0.12	0.02	408.59
Total (tons/construction project)	0.18	1.40	1.84	0.10	0.07	0.03	0.07	0.06	0.01	0.00	442.48	0.12	0.02	408.59

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

The maximum pounds per day in row 11 is summed over overlapping phases, but the maximum tons per phase in row 34 is not summed over overlapping phases.

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Huff's Corner - In-Channel Import

Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation	0.00	0.04	0.29	2.74	0.01	2.73	0.57	0.00	0.57	0.00	156.91	0.00	0.02	164.26
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum (pounds/day)	0.00	0.04	0.29	2.74	0.01	2.73	0.57	0.00	0.57	0.00	156.91	0.00	0.02	164.26
Total (tons/construction project)	0.00	0.00	0.01	0.06	0.00	0.06	0.01	0.00	0.01	0.00	3.45	0.00	0.00	3.61

Notes:

Project Start Year ->	2021
Project Length (months) ->	2
Total Project Area (acres) ->	6
Maximum Area Disturbed/Day (acres) ->	0
Water Truck Used? ->	No

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	0	0
Grading/Excavation	0	23	0	40	0	0
Drainage/Utilities/Sub-Grade	0	0	0	0	0	0
Paving	0	0	0	0	0	0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Huff's Corner - In-Channel Import

Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation	0.00	0.00	0.01	0.06	0.00	0.06	0.01	0.00	0.01	0.00	3.45	0.00	0.00	3.28
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum (tons/phase)	0.00	0.00	0.01	0.06	0.00	0.06	0.01	0.00	0.01	0.00	3.45	0.00	0.00	3.28
Total (tons/construction project)	0.00	0.00	0.01	0.06	0.00	0.06	0.01	0.00	0.01	0.00	3.45	0.00	0.00	3.28

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Huff's Corner - Paving

Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	0.87	6.45	9.52	1.60	0.40	1.20	0.61	0.36	0.25	0.01	1,431.01	0.42	0.02	1,445.95
Grading/Excavation	4.82	40.08	52.79	3.47	2.27	1.20	2.30	2.05	0.25	0.08	8,117.83	2.46	0.08	8,204.18
Drainage/Utilities/Sub-Grade	4.03	34.49	41.90	3.06	1.86	1.20	1.97	1.72	0.25	0.07	6,642.21	1.57	0.07	6,701.04
Paving	1.51	17.01	14.56	0.85	0.85	0.00	0.76	0.76	0.00	0.03	2,565.76	0.73	0.03	2,592.61
Maximum (pounds/day)	4.82	40.08	52.79	3.47	2.27	1.20	2.30	2.05	0.25	0.08	8,117.83	2.46	0.08	8,204.18
Total (tons/construction project)	0.02	0.17	0.22	0.02	0.01	0.01	0.01	0.01	0.00	0.00	33.96	0.01	0.00	34.30

Notes:

Project Start Year ->	2021
Project Length (months) ->	1
Total Project Area (acres) ->	1
Maximum Area Disturbed/Day (acres) ->	0
Water Truck Used? ->	No

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	160	0
Grading/Excavation	0	0	0	0	680	0
Drainage/Utilities/Sub-Grade	0	0	0	0	560	0
Paving	0	0	0	0	400	0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Huff's Corner - Paving

Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.00	0.00	0.72
Grading/Excavation	0.01	0.10	0.13	0.01	0.01	0.00	0.01	0.01	0.00	0.00	20.09	0.01	0.00	18.42
Drainage/Utilities/Sub-Grade	0.01	0.06	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	10.96	0.00	0.00	10.03
Paving	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.12	0.00	0.00	1.94
Maximum (tons/phase)	0.01	0.10	0.13	0.01	0.01	0.00	0.01	0.01	0.00	0.00	20.09	0.01	0.00	18.42
Total (tons/construction project)	0.02	0.17	0.22	0.02	0.01	0.01	0.01	0.01	0.00	0.00	33.96	0.01	0.00	31.11

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

HDT Unpaved Roads PM2.5				
	E=K*((s/12)^a)*((W/3)^b)			
		0.002959019	lb/VMT	
		1.343394774	g/VMT	
Variable	Definition	Source	Value	Unit
k	*particle size multiplier for particle size range and units of interest*	AP-42	0.15	lb/VMT
s	*Surface material silt content (%)*	CalEEMod	0.043	%
a	*Empirical Constant*	AP-42	0.9	
W	*Mean vehicle weight (tons)1*	US DOE	38	
b	*Empirical Constant*	Ap-42	0.45	

55200	CY soil to be hauled
4600	trucks
9200	truck trips
2500	linear feet of unpaved roadway
0.473485	miles of unpaved roadway
4356.061	haul truck VMT on unpaved roadway

1 - U.S. Department of Energy - Office of Energy Efficiency & Renewable Energy. Vehicle Technologies Office. Accessible at: https://www.energy.gov/eere/vehicles/fact-621-may-3-2010-gross-vehicle-weight-vs-empty-vehicle-weight. Accessed 3/30/2020
Unloaded vehicle = 13 tons + load of vehicles 25 tons = 38

HDT Unpaved Roads PM10				
	E=K*((s/12)^a)*((W/3)^b)			
		0.029590193	lb/VMT	
		13.43394774	g/VMT	
Variable	Definition	Source	Value	Unit
k	*particle size multiplier for particle size range and units of interest*	AP-42	1.5	lb/VMT
s	*Surface material silt content (%)*	CalEEMod	0.043	%
a	*Empirical Constant*	AP-42	0.9	
W	*Mean vehicle weight (tons)1*	US DOE	38	
b	*Empirical Constant*	Ap-42	0.45	

1 - U.S. Department of Energy - Office of Energy Efficiency & Renewable Energy. Vehicle Technologies Office. Accessible at: https://www.energy.gov/eere/vehicles/fact-621-may-3-2010-gross-vehicle-weight-vs-empty-vehicle-weight. Accessed 3/30/2020

Proposed Project					
	g/VMT	g/yr	tons/yr	lbs/yr	lb/day
PM2.5	1.343395	5851.909	0.006451	12.90125	0.050593
PM10	13.43395	58519.09	0.064506	129.0125	0.505931

APPENDIX C

BIOLOGICAL RESOURCES ASSESSEMENT

Biological Resources Assessment for the Huff's Corner Levee Rehabilitation and Channel Reconfiguration Project along Lower Cache Creek, Yolo County

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April 19, 2021

Introduction

Background and Purpose

Cache Creek is a major watercourse flowing through central Yolo County extending from its primary outlet at Clear Lake to the Cache Creek Settling Basin, east of Woodland (Figure 1). Flows are seasonally and annually variable, due to seasonal and variable precipitation in the higher elevation reaches, and significant water diversions, mostly for irrigation purposes, in the lower reaches downstream of Capay Diversion Dam. As a result, much of Lower Cache Creek is subject to extended dry periods during the summer. Lower Cache Creek has also been subject to significant aggregate mining since before World War II, and along with adjacent agricultural development, altered the morphology, hydrology, and vegetation characteristics of the stream (Yolo County 2019). Other upstream activities, particularly gold and mercury mining, have caused water quality issues along the creek, most notable of these is high levels of mercury (Domagalski et al. 2004).

To address these and other environmental issues, in 1996 the Yolo County Board of Supervisors formally adopted the Cache Creek Area Plan, a management plan that included 14.5 miles of lower Cache Creek, between the Capay Dam and the town of Yolo. One of two primary elements of the Cache Creek Area Plan is the Cache Creek Resources Management Plan (CCRMP). The CCRMP eliminated in-channel commercial mining and provides a policy and regulatory framework for management and restoration of lower Cache Creek. The CCRMP also established the Cache Creek Improvement Program (CCIP) to implement the goals, objectives, actions, and performance standards of the CCRMP related to the stabilization, maintenance, and riparian restoration of the Cache Creek channel. The CCIP functions as the implementation plan for the CCRMP and identifies categories of projects (bank stabilization, channel maintenance, revegetation, and habitat restoration) and standards for construction and restoration (Yolo County 2019).

Regulation of in-channel activities and conformance with provisions of the Cache Creek Area Plan, CCRMP, and CCIP are established through Yolo County Ordinance (Title 10, Chapter 3, Cache Creek Area Plan In-Channel Ordinance).

Technical studies for the CCRMP identified specific issues that contributed to channel bed degradation and adverse lateral erosion, including reduction in channel width, localized constrictions at bridge locations, prior in-channel mining, diversion of flow for irrigation, and sediment deposition. Updated technical evaluations completed each year and presented along with updated recommendations indicate that although there has been recovery, Cache Creek still exhibits unstable hydraulic and sediment transport conditions in the CCRMP area (Yolo County 2019).

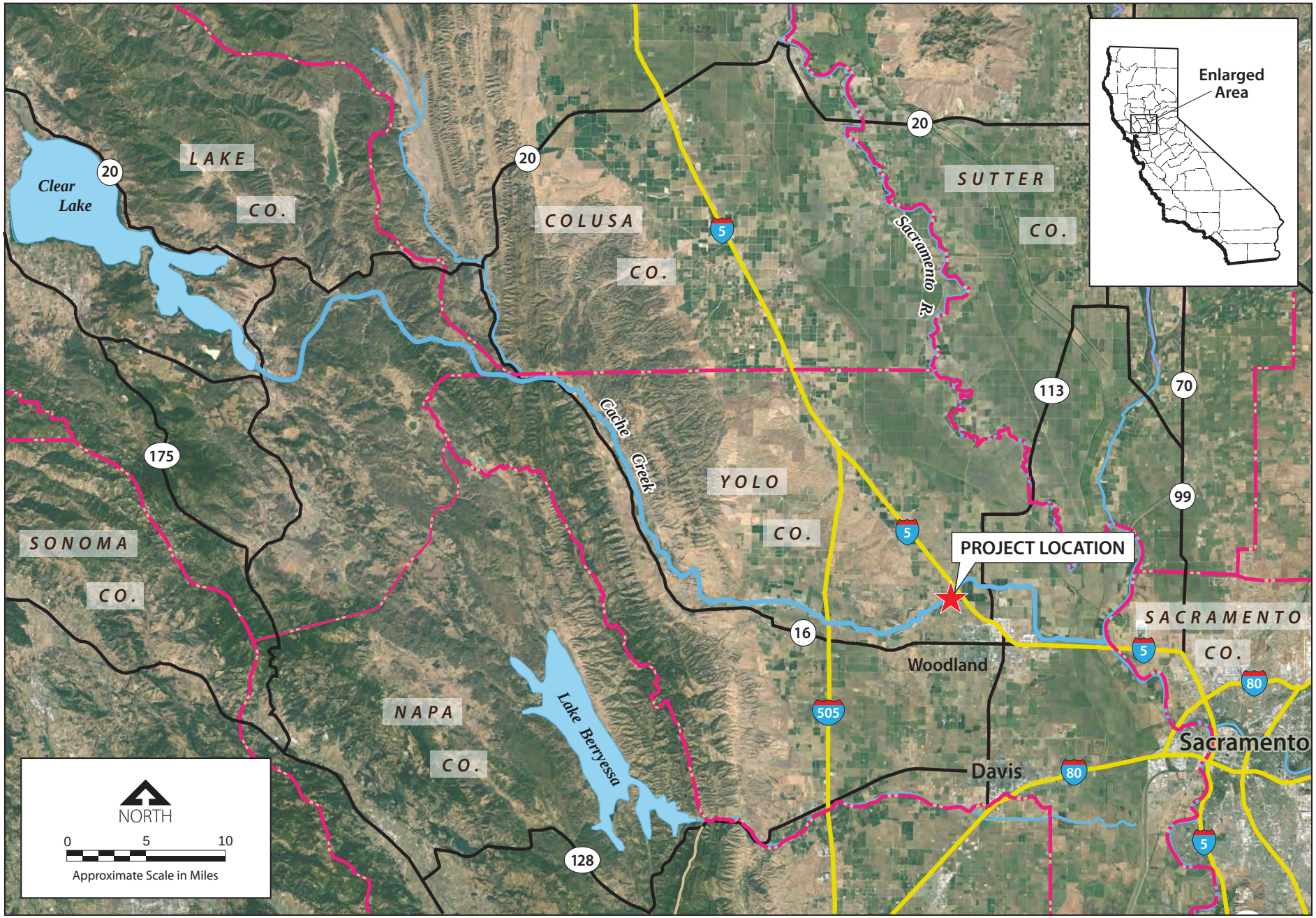


Figure 1
Regional Location of Huff's Corner Project along Cache Creek, Yolo County

Huff's Corner is a bend in Cache Creek just upstream from the Interstate 5 crossing within the lower-most reach (Rio Jesus Maria Reach) of the CCRMP area (Figure 2). The CCRMP identifies this site as subject to fine sediment deposition, leading to ongoing erosion and increased flood risk. Leathers (2010) describes channel migration at this site due to periodic high flows and the risk to infrastructure. The 2019 CCIP Annual Report recommends a continuation of detailed monitoring of fine sediment deposition and to complete an evaluation of the need to remove deposited fine sediment. In 2020, Yolo County determined that conditions at the Huff's Corner site warranted immediate remedy and targeted sediment removal, channel reconfiguration, and restoration actions to begin in 2021.

Planning and design for the reconfiguration of Huff's Corner, referred to as the Huff's Corner Levee Rehabilitation and Channel Reconfiguration Project (project), began in 2020. This biological resource assessment was conducted to support the relevant environmental review processes required for the project, including the California Environmental Quality Act (CEQA), Clean Water Act Sections 401, 402, and 404, Section 1600 of the California Fish and Game Code, and the Yolo County Habitat Conservation Plan/Natural Communities Conservation Plan (Yolo HCP/NCCP).

Location and Setting

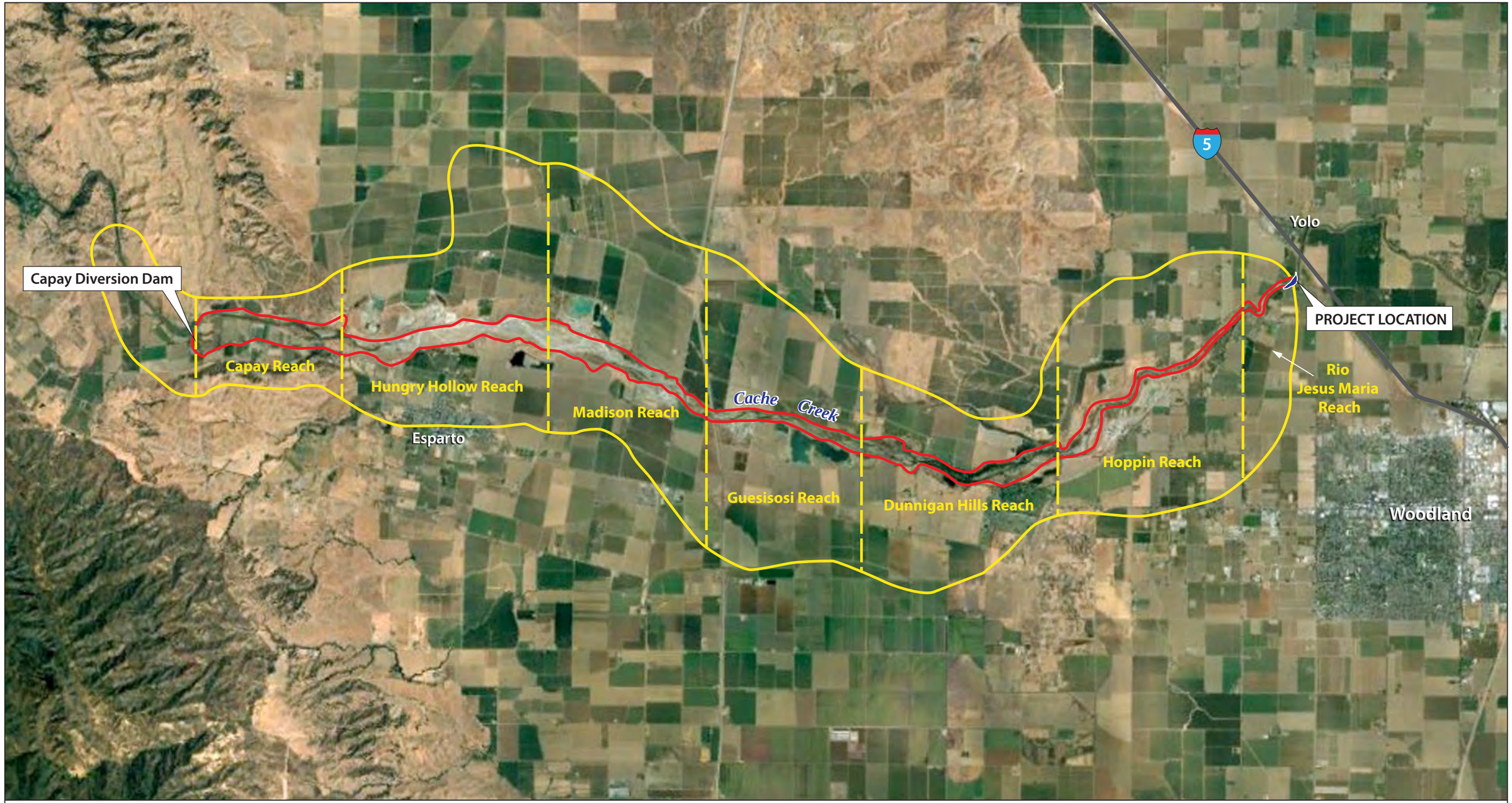
The project is located along Lower Cache Creek, immediately upstream (west of) the Interstate 5 crossing near the town of Yolo (Figure 2). County Road 18 is the levee road bordering the south side of the project (Figure 3).

The project is located within an intensively cultivated agricultural region. The project occurs within the boundaries of the existing levee roads on the north and south sides of the creek. Within these levees, the creek corridor consists of grassland, oak woodland, riparian, and aquatic natural communities. Cultivated land occurs immediately adjacent to the levees, extending into the surrounding cultivated landscape (Figure 3).

Project Description

The project includes two components, channel reconfiguration and levee rehabilitation. Channel reconfiguration will improve stream flows along an approximately 1,300-foot section of Cache Creek at Huff's Corner (Figure 3). The work is designed to alleviate erosion concerns on the southeast (right) bank and allow flows to more readily access the center-left (northwest) side of the channel by removing accumulated sediment from the left-side secondary channel. To do so, the sediment island that has formed separating the primary and secondary channels will be removed. Figure 4a is a schematic showing the grading plan for the channel reconfiguration project component.

The levee rehabilitation component is designed to upgrade and expand the levee on the south side of Cache Creek. It involves upgrading and expanding the levee for about 2,650 feet from



NORTH

0 1 2 3

Miles

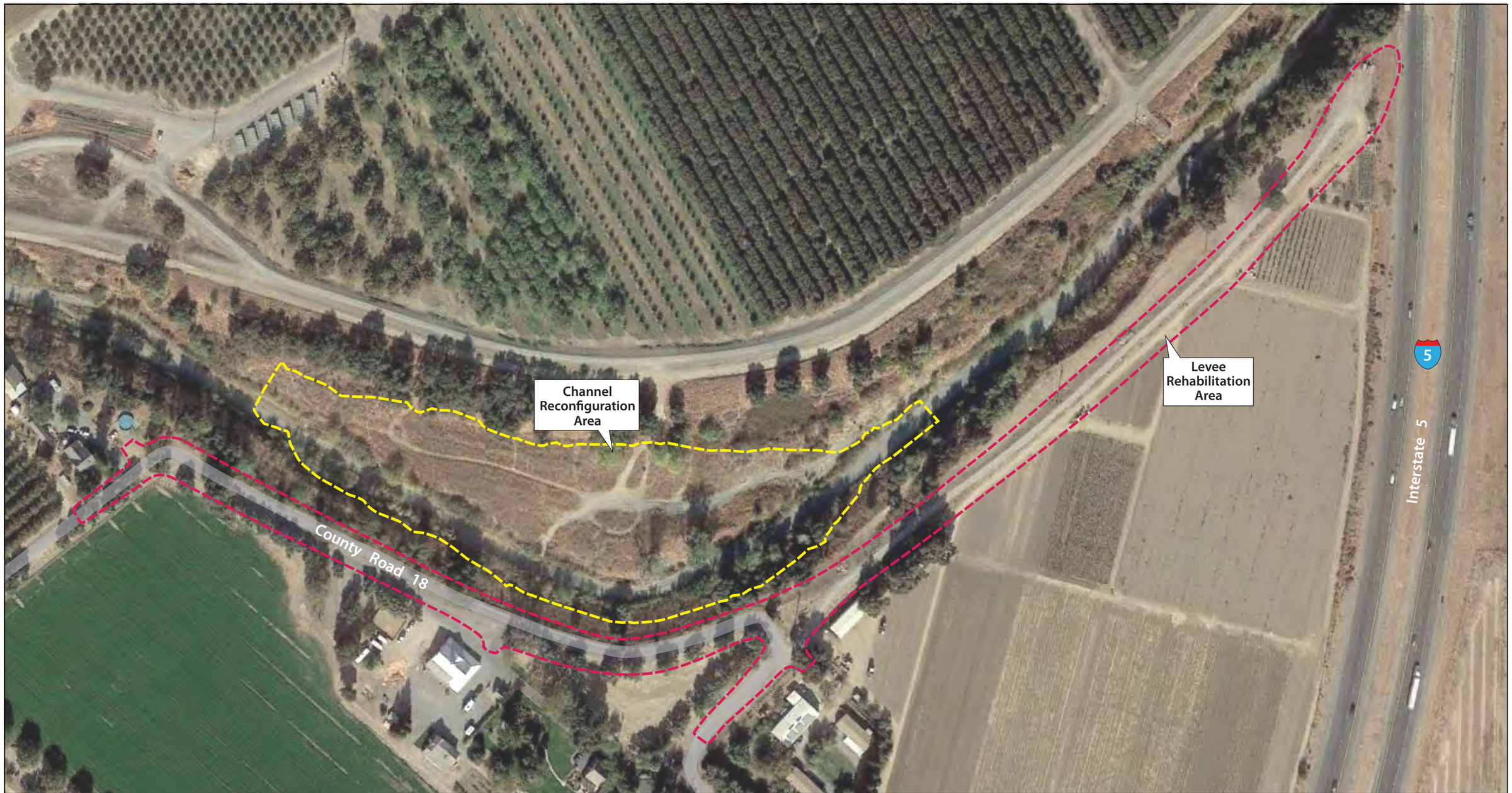
SOURCE: CCRMP 2019.
Base Map: Google 2020.

KEY

- Cache Creek Area Plan Boundary
- Cache Creek Resources Management Plan Boundary

Figure 2
Location of the Huff's Corner Project within the CCRMP Area along Lower Cache Creek, Yolo County

11/09/2020



NORTH

0 100 200 300 400 500

Approximate Scale in Feet

Base Map: Google 2020.

Figure 3
Huff's Corner Project Area, Lower Cache Creek, Yolo County

4/06/2021

County 97A to Interstate 5, including a realignment and upgrade to County Road 18. Figure 4b is a schematic showing the grading plan for the levee rehabilitation project component.

Study Objective

To provide sufficient information on biological resources in and adjacent to the project area to determine the effects on those resources from project activities, make significance determinations pursuant to CEQA, to satisfy the requirements of the Lake and Streambed Alteration Agreement (LSA) pursuant to Section 1600 of the DFG Code and requirements under Section 404 of the federal Clean Water Act, and recommend mitigation measures, including consistency with the Yolo HCP/NCCP.

Regulatory Framework

Several state and federal laws and regulations and Yolo County policies are relevant to the proposed project. Each is briefly described below.

CCRMP

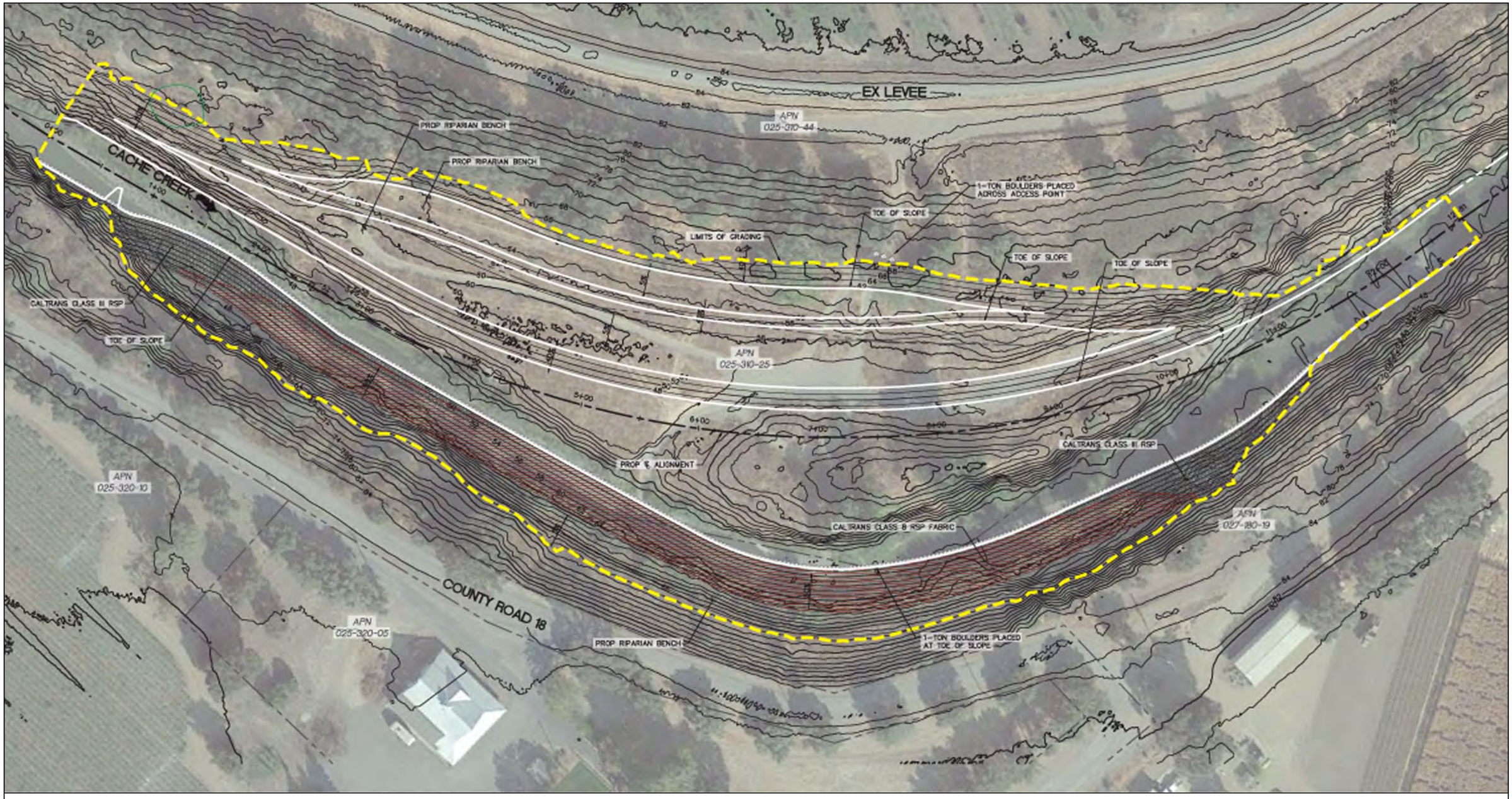
In June of 1994, the Board of Supervisors adopted a framework of goals and objectives for the Cache Creek Resources Management Plan (CCRMP). The document adopted a comprehensive outlook that was reflected in overall goals, which were based on the key assumption that "the Creek must be viewed as a total system, as opposed to a singular focus on the issue of mining." As a result, the conceptual plan offered a far broader scope than previous efforts.

The CCRMP is a scientifically based river management plan that eliminated in-channel commercial mining, established an "improvement program" for implementing on-going projects to improve channel stability, encouraged restoration along the creek banks pursuant to a carefully developed policy and regulatory framework, and established a framework for future recreation along the Creek. The CCRMP was adopted on August 20, 1996 (Board Resolution 96- 132), underwent a focused update on July 23, 2002 (Board Resolution 02-130), and a comprehensive update in 2019 (Yolo County 2019).

The CCRMP also established the Cache Creek Improvement Program (CCIP) for implementing on-going projects to improve, stabilize, and maintain the creek. Regulation of in-channel activities and conformance with provisions of the CCAP, CCRMP, and CCIP are established through Yolo County Ordinance (Title 10, Chapter 3, Cache Creek Area Plan In-Channel Ordinance).

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires that significant environmental impacts of proposed projects be reduced to a less-than-significant level through adoption of



NORTH

0 50 100 150 200

Feet

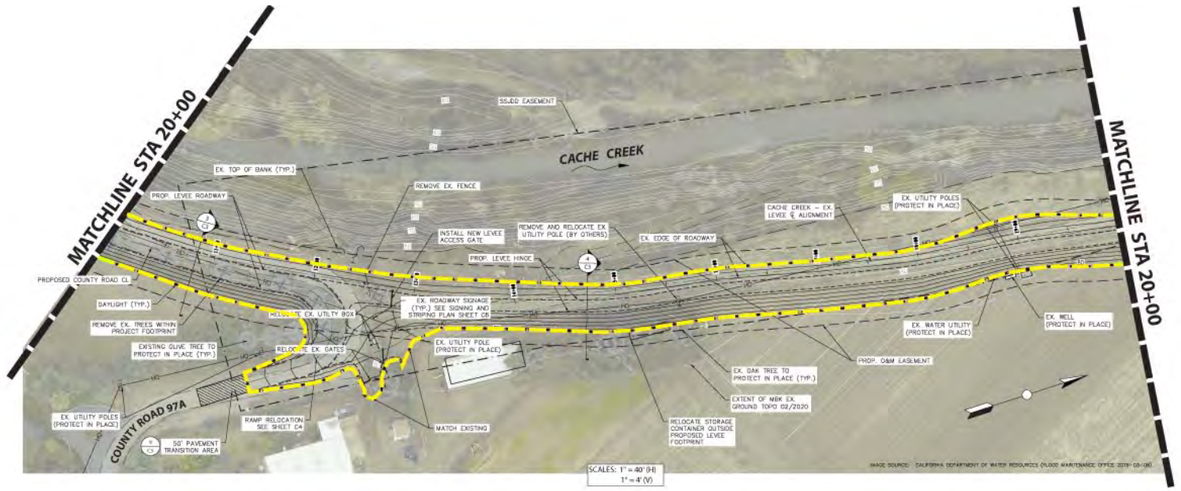
SOURCE: FlowWest Draft 95% Design, 2020.
Base Map: Google 2020.

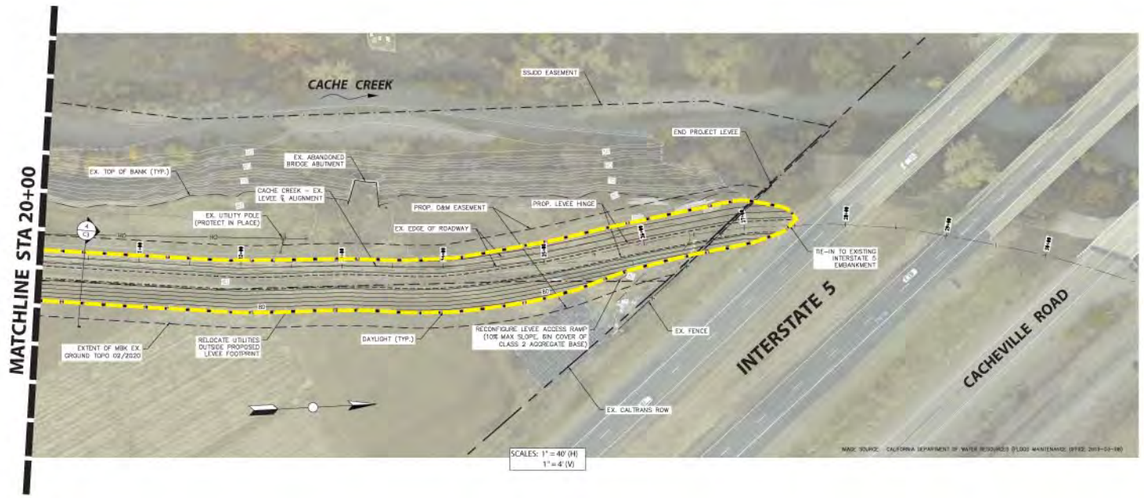
KEY

- Limits of Grading
- Toe of Slope
- Line of Topography

Figure 4a
Huff's Corner In-Channel Stabilization Project, Draft 95% Design (Not for Construction)

11/09/2020





0 100 200 300 400

Feet

SOURCE: MBK Engineers, 2020.
Base Map: Google 2020.

KEY

Limits of Grading

Figure 4b
Huff's Corner Levee Rehabilitation Project
Draft Design

4/06/2021

feasible avoidance, minimization, or mitigation measures unless overriding considerations are identified and documented.

During the CEQA review process, environmental impacts are assessed and a significance determination provided based on pre-established thresholds of significance. Thresholds are established using guidance from CEQA, particularly Appendix G of the State CEQA guidelines and CEQA Section 15065 (Mandatory Findings of Significance). CEQA guidance is then refined or defined based on further direction from the lead agency.
Consistent with Appendix G of the State CEQA guidelines, a biological resource impact is considered significant (before considering offsetting mitigation measures) if the lead agency determines that project implementation would result in one or more of the following:

- Substantial adverse effects, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by California Department of Fish and Wildlife (CDFW) or US Fish and Wildlife Service (USFWS);
    - A substantial adverse effect on a special-status wildlife species is typically defined as one that would:
        - Reduce the known distribution of a species,
        - Reduce the local or regional population of a species,
        - Increase predation of a species leading to population reduction,
        - Reduce habitat availability sufficient to affect potential reproduction, or
        - Reduce habitat availability sufficient to constrain the distribution of a species and not allow for natural changes in distributional patterns over time.
- Substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or interference with the use of native wildlife nursery sites.
    - Substantial interference with resident wildlife movement is typically defined as obstructions that prevent or limit wildlife access to key habitats, such as water sources or foraging habitats, or obstructions that prohibit access through key movement corridors considered important for wildlife to meet needs for food, water, reproduction, and local dispersal.
    - Substantial interference with migratory wildlife movement is typically defined as obstructions that prevent or limit regional wildlife movement through the project area to meet requirements for migration, dispersal, and gene flow that exceed the defined baseline condition.

Consistent with CEQA Section 15065 (Mandatory Findings of Significance), a biological resource impact is considered significant if the project has the potential to:

- substantially degrade the quality of the environment;
- substantially reduce the habitat of a fish or wildlife species;

- cause a fish or wildlife population to drop below self-sustaining levels;
- threaten to eliminate a plant or animal community;
- substantially reduce the number or restrict the range of an endangered, rare or threatened species.

CEQA defines the significance of an impact on a state-listed species based on the following:

- Appendix G of the State CEQA guidelines states that a biological resource impact is considered significant (before considering offsetting mitigation measures) if the lead agency determines that project implementation would result in "substantial adverse effects, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS"; and

- CEQA Section 15065 (Mandatory Findings of Significance), a biological resource impact is considered significant if the project has the potential to "substantially reduce the number or restrict the range of an endangered, rare or threatened species".

Yolo Habitat Conservation Plan/Natural Communities Conservation Plan

The Yolo Habitat Conservation Plan/Natural Communities Conservation Plan (Yolo HCP/NCCP) is a comprehensive, county-wide plan to provide for the conservation of state and federally listed and other sensitive species and the natural communities and agricultural land on which they depend, as well as a streamlined permitting process to address the effects of a range of future anticipated activities on covered species. The Yolo Habitat Conservancy (Conservancy), which consists of Yolo County and the incorporated cities of Davis, West Sacramento, Winters, and Woodland, developed the Yolo HCP/NCCP, which provides the basis for issuance of long-term permits under the Federal Endangered Species Act (FESA) and California Natural Community Conservation Planning Act (NCCPA) that cover an array of public and private activities, including activities that are essential to the ongoing viability of Yolo County's agricultural and urban economies. Specifically, the Yolo HCP/NCCP provides the Permittees (i.e., Yolo County, the four incorporated cities, and the Conservancy) with incidental take permits from both the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) for the 12 sensitive species covered by the plan. This action is pursuant to Section 10(a)(1)(B) of the FESA and Section 2835 of the NCCPA chapter of the California Fish and Game Code (Fish & Game Code). The Yolo HCP/NCCP ensures compliance with the FESA, NCCPA, and the California Endangered Species Act (CESA) for covered activities that may affect the covered species.

California Fish and Game Code 3503.5 (Birds of Prey)

Section 3503.5 of the Fish and Game Code prohibits the take, possession, or destruction of any birds of prey or their nests or eggs. The California Department of Fish and Wildlife may issue permits authorizing take pursuant to CESA.

Lake and Streambed Alteration Agreement (California Fish and Game Code Section 1600-1607)

A Lake and Streambed Alteration Agreement (LSA) must be issued under Sections 1600-1607 of the California Fish and Game Code to obtain authorization from the California Department of Fish and Game (DFG) if a project would divert, obstruct, or change the natural flow of the bed, channel, or bank of any river, stream, or lake. An LSA must also be issued if the project would use material from the streambeds designated by DFG in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit.

Clean Water Act Sections 401, 402, and 404

Section 404 of the Clean Water Act protects Waters of the U.S., including wetlands and drainages, by requiring projects that would discharge dredge or fill material into them to obtain a permit or authorization from the Corps. The permitting program is designed to minimize the fill of Waters of the U.S. and when impacts cannot be avoided, require compensatory mitigation.

Section 401 of the Clean Water Act requires any applicant for a federal license or permit that could result in any discharge into a navigable water (i.e., Corps permit to fill wetlands), to obtain water quality certification from the Regional Water Quality Control Board (RWQCB). Section 402 of the Clean Water Act requires projects that disturb 1 acre or more or are part of a larger project to notify the State Water Resources Control Board (SWRCB) and to prepare a Stormwater Pollution Protection Plan (SWPPP) that will minimize construction and stormwater related impacts to waterways.

Yolo County General Plan

Because the project area is located outside of the city limits in Yolo County, the Yolo County General Plan is also relevant to this assessment. The Yolo County General Plan includes numerous policies regulating and emphasizing the protection of natural resources. Those most relevant to the proposed project include the following:

- Policy CO-2.1. Consider and maintain the ecological function of landscapes, connecting features, watersheds, and wildlife movement corridors.
- Policy CO-2.3. Preserve and enhance those biological communities that contribute to the county's rich biodiversity including blue oak and mixed oak woodlands, native grassland prairies, wetlands, riparian areas, aquatic habitat, agricultural lands, heritage valley oak trees, remnant valley oak groves, and roadside tree rows.
- Policy CO-2.38. Avoid adverse impacts to wildlife movement corridors and nursery sites (e.g., nest sites, dens, spawning areas, breeding ponds).
- Policy CO-2.41. Require that impacts to species listed under the State or federal Endangered Species Acts, or species identified as special-status by the resource agencies, be avoided to the greatest feasible extent. If avoidance is not possible, fully mitigate impacts consistent with applicable local, State, and Federal requirements.

- Policy CO-2.42. Projects that would impact Swainson's hawk foraging habitat shall participate in the Agreement Regarding Mitigation for Impacts to Swainson's Hawk Foraging Habitat in Yolo County entered into by the CDFG and the Yolo County HCP/NCCP Joint Powers Agency, or satisfy other subsequent adopted mitigation requirements consistent with applicable local, State, and federal requirements.

Methods

Pre-Survey Investigation

Prior to conducting the site visit, available information regarding biological resources on or near the project site was gathered and reviewed. Sources included:

- Cache Creek Resources Management Plan (2019);
- Cache Creek Annual Status Reports (1998 – 2019);
- Lower Cache Creek Blue Elderberry Report (Rayburn 2017);
- Lower Cache Creek Invasive Species Mapping and Prioritization Project (Rayburn 2016);
- Lower Cache Creek Biological Resources Study (1995 – 2016) (Tompkins et al. 2017);
- California Natural Diversity Data Base (2020);
- Yolo County General Plan (Yolo County 2009);
- Yolo County HCP/NCCP (www.yolohabitatconservancy.org/);
- eBird (online database of bird observations) (https://ebird.org/home);
- Tricolored blackbird portal (https://tricolor.ice.ucdavis.edu/).
- 2020 Distribution, Abundance, and Habitat Associations of the Swainson's Hawk in Yolo County (Estep 2020);
- Other local research, surveys, and environmental documents

Aerial photographs and land use/vegetation maps of the project site and surrounding area were also reviewed.

Field Survey and Assessment

A survey area was established that included the project area and extended approximately 200-feet around the project boundary. Thus, the project area is hereafter defined as the area of direct impact from project activities as delineated by the limits of grading boundary. The survey area is defined as the project area plus a radius of approximately 200-feet around the project area.

A survey and site assessment were conducted on August 16 and August 22, 2020 from approximately 0800 to 1500 hours each day, and on February 26, 2021 from approximately 1000 to 1300 hours, and on March 29, 2021 from approximately 1000 to 1400 hours. The survey was conducted by walking throughout the entire survey area. Natural communities, vegetation, and wildlife habitats were inspected, mapped, and photographed; slopes were measured; all trees and tree sizes were documented; wildlife species occurrences were recorded using binoculars and spotting scope; and occurrences and potential habitat for each special-status species was documented.

Blue elderberry (*Sambucus nigra* spp. *cerulea*), a common shrub along lower Cache Creek and the host plant for the federally threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), was mapped within the survey area and basal stems were counted and measured according to standard USFWS protocol (USFWS 2017).

Results

General Characteristics

Physiography

Located in the interior agricultural region of Yolo County, the surrounding landscape is generally flat, with elevation in the immediate vicinity ranging from 74 to 86 feet above mean sea level and with an imperceptible elevational decrease eastward toward the Sacramento River. Other than Cache Creek there are no discernable topographic features.

Within the channel reconfiguration portion of the project area, the Cache Creek basin ranges in width from 250 to 450 feet from levee to levee. The creek is deeply incised with steep slopes on the south bank ranging from approximately 50-90% and on the north bank from approximately 15-30%. Current thalweg elevation within the project area ranges from approximately 50 to 60 feet above mean sea level. As sediment has accumulated, an 'island' has formed between the current active channel (primary channel) and an overflow channel to the north and extending for approximately 470 feet (secondary channel) (Plate 1). The levee rehabilitation portion of the project area extends approximately from the top-of-bank southward for approximately 45 feet, including County Road 18, the graveled levee road and ruderal edges east of County Road 18, and developed areas associated with rural residences (Plates 2 and 3). This area is generally flat with elevation ranging from 78 to 85 feet. The climate in the vicinity of the project site is mild with average annual maximum temperature of 74.6 degrees Fahrenheit and average annual minimum temperature of 47.6 degrees Fahrenheit, with winter rains and dry summers, and an average annual rainfall of approximately 20 inches.

Land Use

Land use within the channel reconfiguration portion of the project consists entirely of uncultivated and undeveloped natural communities associated with the Cache Creek basin. The area is used primarily for water conveyance for irrigation. Other uses are mostly recreational including off-road vehicle use, hiking, and wildlife viewing. The levee rehabilitation portion of the project includes paved County Road 18, ruderal or ornamental roadside edges, ruderal vegetation along the existing levee from County Road 18 to Interstate 5, and developed areas associated with three farm residences (Figure 3). Surrounding land use is entirely agricultural, consisting of orchards, annually rotated crops, and hay fields. Other farm residences occur throughout the surrounding area. The small town of Yolo is approximately 0.25 miles north of the project area just across Interstate 5.

Plate 1. Looking east from south bank of the project area. Note the active channel of the creek, the steeper south slope on the right and the broad, gentle north slope on the left. The sediment 'island' is just left of the active channel; the overflow channel on the north side of the sediment 'island' is out of view.

Plate 2. Looking east along the levee road east of County Road 18 toward Interstate 5. The levee rehabilitation project includes the graveled levee road and approximately 20 feet on both sides of the levee road.

Plate 3. Looking east along County Road 18. The levee rehabilitation project extends from the north shoulder of the road (left side of photo) to approximately 40 feet south of the south shoulder.

Biological Communities

The channel reconfiguration portion of the project area is entirely within the levees of the Cache Creek basin and includes streamside riparian vegetation, shrub and herbaceous natural communities on the lower and upper slopes of the basin, and patches of mature woodland primarily on the upper slopes and along the upper bench. The steeper south slope (50-90%), supports more dense riparian scrub vegetation while the less steep north slope (15-30%) supports more open herbaceous vegetation (Figure 3). The levee rehabilitation portion of the project consists of paved road (County Road 18), roadside ruderal or ornamental vegetation, ruderal vegetation along the existing levee from County Road 18 to Interstate 5, and developed areas associated with three rural residences adjacent to the project area. Each natural community is briefly described below.

Valley Foothill Riparian (Cottonwood/Valley Oak Riparian)

Patches of cottonwood/valley oak riparian occur primarily along the mid and upper slopes of the channel reconfiguration area and adjacent land within the Cache Creek basin (Figure 3). Consisting primarily of mature valley oak (*Quercus lobata*), cottonwood (*Populus fremontii*), and walnut trees (*Juglans hindsii*), these patches support a dense understory of poison oak (*Toxicodendron diversilobum*), wild rose (*Rosa californica*), blue elderberry, wild grape (*Vitis californica*), and seedling trees (Plate 4). Two tamarix (*Tamarix* sp.) shrubs, an invasive species along Cache Creek (Rayburn 2016), were also observed. Most of the broader south slope supports individual trees or small groups of mature trees within a more open herbaceous

community. A row of 58 mature valley oak trees with an herbaceous understory extends along the upper southwest slope, most of which is outside of the project boundary (Figure 3) (Plate 5).

Plate 4. Cottonwood-valley oak riparian on the south bank of the project area. Looking south from the north side, the mature valley oaks are on the upper slope of the south bank, mixed willow riparian is in the foreground along the active channel.

Plate 5. Cottonwood/valley oak riparian along the upper slope of the north bank. Most of these trees and the long row of valley oak trees that extends further to the west (left), are outside of the project area.

Valley Foothill Riparian (Mixed Willow Riparian)

Mixed willow riparian is the dominant streamside vegetation occurring along both sides of the main channel in the channel reconfiguration area (Figure 3) (Plates 6 and 7). Two species of willow were documented (*Salix exiqua* and *Salix gooddingii*), although *Salix laevigata* is likely also present. Small cottonwood trees also occur within this zone and in one location a small grove of mature cottonwood trees occurs within the otherwise willow-dominated corridor. A variety of grasses and wetland-associated plants were also observed in the understory along the edge of the creek, including occasional small patches of cattail (*Typha* sp) and sedge (*Carex* sp), along with several invasive species including perennial pepperweed (*Lepidium latifolium*), and Purple loosestrife (*Lythrum salicaria*).

Plate 6. Looking west from the south bank. Note the willow riparian along both sides of the active channel. Note also the large herbaceous patch at this location with scattered coyote bush, and valley oaks further west on the upper slope.

Plate 7. Looking east along the active channel. Note the willow riparian along the edge of the creek with oak/cottonwood riparian woodland on the mid- and upper slopes. The main sediment 'island' is on the left of the photo. The invasive tree tobacco (*Nicotiana glauca*) is in the foreground.

Valley Foothill Riparian (Riparian scrub)

Riparian scrub consists of a variety of shrub species occurring mostly on mid-to upper-slopes in the channel reconfiguration area either in dense patches or as understory of riparian woodland (Figure 3). Dominant species include poison oak, wild rose, blue elderberry, and coyote bush (*Baccharis pilularis*). The steeper south slope is dominated by dense poison oak, primarily on the east end, and by blue elderberry, wild rose, tree tobacco (*Nicotiana glauca*), coyote bush, with an understory of wild grape on the west end (Plates 8 and 9). The north slope includes patches of coyote bush, blue elderberry, tree tobacco, and one large patch of wild rose. The invasive Arundo (*Arundo donax*) was documented in two small patches on the north slope. Perennial pepperweed is also common in the riparian scrub.

Plate 8. Looking south toward riparian scrub vegetation on the south bank. The active channel is in the foreground with willow and cottonwood trees lining the creek. Shrubs on the south bank are primarily blue elderberry with tree tobacco, tamarisk, poison oak, and oak and cottonwood seedlings.

Plate 9. Looking east along County Road 18. The road shoulder is the approximate edge of the levee rehabilitation area. Note the dense shrub layer dominated by blue elderberry and wild grape with overstory of valley oak.

Valley Foothill Riparian (Herbaceous)

The herbaceous natural community consists primarily of a mix of annual grasses and other invasive species in the channel reconfiguration area, particularly yellow star thistle (*Centaurea solstitialis*), cocklebur (*Xanthium strumarium*), and Italian thistle (*Carduus pycnocephalus*), with occurrences of yerba santa (*Eriodictyon californicum*) and scattered tree tobacco. This is the dominant community on the north slope of the creek extending in places from the mixed willow riparian community along the main channel to the top of the levee with patches of mature trees or shrubs interspersed (Figure 3) (Plate 10).

Plate 10. Looking east from the main sediment 'island' along the secondary channel. Note the open herbaceous cover in this area with patches of shrubs and mature trees; the elderberry shrub in right foreground in front of mature cottonwood; and dense shrubs in the background left and mature trees along upper bench.

Lacustrine and Riverine

The lacustrine and riverine natural community includes the open water area along the primary channel in the channel reconfiguration area (Figure 3) (Plate 11). During the winter/spring months, this area is typically inundated; however, during most summer months, there is no flowing water or only incidental or pooled water in the channel.

Plate 11. Looking west along the primary channel. During the survey, water had been released, presumably from the Capay Diverson Dam, and was flowing into the active channel (note the water at the top of the channel). By the end of the survey, the channel was completed inundated.

Barren

In the project area, barren areas – gravel or sand with no vegetation – are limited to the secondary channel and trails extending along the north slope in the channel reconfiguration area (Figure 3) (Plates 12 and 13). There are also several partially vegetated small gravel bars along the edge of the main channel, but because they are along the active channel and because of their small size, these areas become inundated and thus are considered part of the aquatic or lacustrine natural community.

Plate 12. Looking west along the secondary channel. The sediment island is left of the channel. Note the Swainson's hawk nest in the cottonwood tree on the left of the photo (nest is in the upper right of the tree).

Plate 13. Looking east along the secondary channel. The sediment island is right of the channel.

Ruderal

Ruderal natural community is entirely within the levee rehabilitation area and includes roadside edges along County Road 18, and portions of the existing levee extending from County Road 18 to Interstate 5. These narrow strips of sparse vegetation are characterized by compacted soils, gravel, a dirt farm road adjacent to the agricultural field east of County Road 18, and a variety of weedy, non-native species (Plate 14). There are also 2 valley oak trees occurring in ruderal habitats.

Plate 14. Looking west from Interstate 5 along the levee rehabilitation project corridor. Note the ruderal vegetation along the levee slope between the graveled levee road and the adjacent agricultural field. The valley oak tree along the levee road is also within the project footprint.

Agriculture

The levee rehabilitation area includes a narrow strip of cultivated land immediately adjacent to the existing levee from County Road 18 to Interstate 5 (Figure 3) (Plate 14).

Developed (including ornamental vegetation)

Developed areas within the levee rehabilitation area includes County Road 18 and adjacent ornamental vegetation, the graveled levee road extending east from County Road 18, and areas associated with the 3 rural residences. Approximately 30 mature olive trees and 2 mature valley

oak trees border the southern edge of County Road 18 within the project footprint; along with gravel driveways and adjacent barren, ruderal, or hardscaped areas (Figure 3) (Plate 15).

Plate 15. Looking west along County Road 18 with paved road, barren road edge, paved driveway, and row of olive trees.

Fish and Wildlife

The Lower Cache Creek Biological Resources Study (1995-2016), Chapter 3 of the 2017 Technical Studies and 20-Year Retrospective for the Cache Creek Area Plan (Tompkins et al. 2017), provides a thorough summary of biological resources and related issues along Lower Cache Creek, including fish and wildlife resources. The Cache Creek corridor supports a relatively high diversity of wildlife species, and is the primary natural land refuge for wildlife in Yolo County. Extending from the higher elevation Coast Ranges to the interior of the Central Valley, Cache Creek serves as an important corridor for fish and wildlife movement and because of the extent and intensity of surrounding cultivated lands, supports wildlife habitats that are unique in the region.

With a few exceptions including large-scale fish surveys undertaken in 1997 (Moyle and Marcheti 1998) and 2008 (Stillwater Sciences 2009) and Swainson's hawk nest surveys (Estep 2008, 2020; Cahill 2014) systematic wildlife surveys have not been conducted along Lower Cache Creek; however, incidental data collection on wildlife occurrences have been recorded annually since 1995 and are reported in Tompkins et al. (2017) and prior Cache Creek Annual

Status Reports. More detailed data collection on vegetation and habitats has been undertaken since 1995, sufficient to allow for trend analysis over this time period. As suggested in Tompkins et al. (2017), "if suitable habitat exists within the CCAP, the assumption should be that the species could be present unless specific information suggests otherwise".

A list of wildlife species documented during the two-day survey period is provided as Appendix A; however, Tompkins et al. (2017), including Table A2-7, provides a more comprehensive description of species that potentially occur within the project area. Mammals expected to be present include those associated with specific habitat types and those that use the corridor for movement, including coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), black-tailed jackrabbit (*Lepus californicus*), and opossum (*Didelphis virginiana*). A Sacramento Valley red fox (*Vulpes vulpes patwin*) was reportedly observed in or near the project area in 2015, and bobcat (*Lynx rufus*) was observed in 2015 and 2016 (Tomkins et al. 2017). During project surveys, black-tailed deer (*Odocoileus hemionus columbianus*), black-tailed jackrabbit, and sign of coyote and raccoon were observed. Several small mammal species, including California vole (*Microtus californicus*) and pocket gopher (*Thomomys bottae*), are also expected.

Bird species documented during the survey include a variety of raptors and passerines (Appendix A). Red-tailed hawk (*Buteo jamaiscensis*), Swainson's hawk (*Buteo swainsoni*), red-shouldered hawk (*Buteo lineatus*), and American kestrel (*Falco sparverius*) were each observed onsite, including an active Swainson's hawk nest. The most common bird species observed were California scrub jay (*Aphelocoma californica*), Mourning dove (*Zenaida macroura*), Oak titmouse (*Baeolophus inornatus*), and Western kingbird (*Tyrannus verticalis*), all ubiquitous to lower Cache Creek riparian woodlands. Cliff swallow (*Petrochelidon pyrrhonota*) and American crow (*Corvus brachyrhynchos*) were also commonly observed flying above or through the project area. Observed species associated with riparian scrub habitats included California quail (*Callipepla californica*) and California towhee (*Melozone crissalis*). Tompkins et al. (2017) conclude the following regarding the trend in bird populations along lower Cache Creek since 1995: "Numerous native raptors, waterfowl, shorebirds, and songbirds are found across all habitat types throughout the CCAP area, and it is reasonable to assume that lower Cache Creek is suitable, if not exceptional, habitat for many common and special-status bird species". They also add: "The continued recovery of native vegetation across the CCAP area via passive and active restoration should benefit many of the resident and migratory bird species, especially those whose populations have been in gradual decline in California".

There have been few observations of amphibians along Lower Cache Creek, likely due to the lack of water during the summer months. The Cache Creek Nature Preserve, which supports a large pond with permanent water, reports three amphibians, nonnative bullfrog (*Rana catesbeiana*), native Pacific tree frog (*Pseudacris regilla*), and native California toad (*Anaxyrus boreas halophilus*) (Cache Creek Conservancy 2016). Only periodic or incidental occurrences of these species are expected in the project area due to the lack of summer water.

Several reptile species are expected in the project area. Alligator lizard (*Elgaria* sp.), and western fence lizard (*Sceloporus occidentalis*) were both observed during the surveys within the scrub and herbaceous habitats. Other species that have been documented along the Lower Cache Creek and that have potential to occur in the project area include northern Pacific rattlesnake (*Crotalus oreganus oreganus*), western rattlesnake (*Cortalas viridis*), garter snake (*Thamnophis* sp.) gopher snake (*Pituphic metanolearus*), and king snake (*Lampropeltis getulus*) (Cache Creek Conservancy 2016). Western pond turtle (*Actinemys marmorata*) (see below) has also been documented along lower Cache Creek; however, occurrences are limited to deep permanent pools along lower Cache Creek, and the lack of summer water in the project area may preclude its occurrence other than during periods of movement. Tompkins et al. (2017) conclude the following regarding the trend in reptile populations along lower Cache Creek since 1995: "Other native reptiles, including lizards and snakes, are fairly common throughout the CCAP area and are reasonably assumed to have viable populations".

Tompkins et al. (2017) reports invertebrate surveys that have been conducted along Lower Cache Creek, primarily surveys for aquatic invertebrates related to water quality studies. Other incidental occurrences have been documented during the annual creek walk surveys, including various dragonflies (e.g., flame skimmer [*Libellula saturata*]), butterflies (e.g., common buckeye [*Junonia coenia*], California sister [*Adelpha californica*], monarch butterfly [*Danaus plexippus*] and Western tiger swallowtail [*Papilio rutulus*]), native bees and bee mimics, nonnative honey bees, ironclad beetles (*Nosoderma diabolicus*), cicadas, and crayfish (Tompkins et al. 2017). Although beetle occurrences have been documented, the distribution and abundance of the rarely observed valley elderberry longhorn beetle has been assumed primarily on the basis of the distribution of its host plant blue elderberry (*Sambucus nigra* ssp. *caerulea*), recently documented throughout the entire lower Cache Creek (Rayburn 2017). The species list maintained by the Cache Creek Conservancy for the Cache Creek Nature Preserve also includes dozens of insects, arachnids, crustaceans, mollusks, and annelids (Cache Creek Conservancy 2016). Tompkins et al. (2017) conclude the following regarding the trend in invertebrate populations along Lower Cache Creek since 1995: "…it is a reasonable assumption that aquatic and terrestrial habitat within the CCAP area has supported, and continues to support, a wide range of native invertebrate species that have been documented historically as well as in recent years".

Historically, when Cache Creek was more directly connected to the Sacramento River, the creek supported anadromous fish such as Chinook salmon (*Oncorhynchus tshawytscha*), steelhead (*Oncorhynchus mykiss*), and Pacific lamprey (*Entosphenus tridentatus*) (Moyle et al. 1995) as well as numerous native fish including California roach (*Hesperoleucus symmetricus*), hardhead (*Mylopharodon conocephalus*), Sacramento hitch (*Lavinia exilicauda exilicauda*), Sacramento pikeminnow (*Ptychocheilus grandis*), Sacramento sucker (*Catostomus occidentalis*), white catfish (*Ameiurus catus*), speckled dace (*Rhinichthys osculus*), prickly sculpin (*Cottus asper*), and Sacramento blackfish (*Orthodon microlepidotus*). Anadromous fish are since absent from the creek (however, Moyle and Ayers [2000] detected four Chinook salmon in the creek west of Woodland, thought to be a result of passage through the Yolo Bypass and the Cache Creek

Settling Basin during high flows) and many native species are no longer detected. Tompkins et al. (2017) suggest several factors were at least partially responsible for the decline of native fish species, including infrequent high flows, a lack of direct connection to the Sacramento River, and abundant nonnative predatory fish.

Stillwater Sciences (2008) conducted a fish survey along Cache Creek in 2008, including a sampling site at Huff's Corner. Ten species were detected along the creek, three native (Sacramento pikeminnow, speckled dace, and Sacramento sucker) and seven nonnative species. At Huff's Corner, two species were detected, the native Sacramento pikeminnow and the nonnative bluegill (*Lepomis macrochirus*).

Special-status Species

Special-status species are generally defined as species that are assigned a status designation indicating possible risk to the species. These designations are assigned by state and federal resource agencies (e.g., California Department of Fish and Wildlife [CDFW], U.S. Fish and Wildlife Service) or by private research or conservation groups (e.g., National Audubon Society, California Native Plant Society). Assignment to a special-status designation is usually done on the basis of a declining or potentially declining population, either locally, regionally, or nationally. The extent to which a species or population is at risk usually determines the status designation. The factors that determine risk to a species or population generally fall into one of several categories, such as habitat loss or modification affecting the distribution and abundance of a species; environmental contaminants affecting the reproductive potential of a species; or a variety of mortality factors such as hunting or fishing, interference with man-made objects (e.g., collision, electrocution, etc.), invasive species, or toxins.

For purposes of this biological resource assessment, special-status species are defined as follows:

- Species that are listed, proposed, or candidates for listing under the federal Endangered Species Act (50 CFR 17.11 – listed; 61 FR 7591, February 28, 1996 - candidates);
- Species that are listed or proposed for listing under the California Endangered Species Act (Fish and Game Code 1992 Sections 2050 et seq.; 14 CCR Sections 670.1 et seq.);
- Species that are designated as Species of Special Concern by CDFW;
- Species that are designated as Fully Protected by CDFW (Fish and Game Code, Section 3511, 4700, 5050, and 5515;
- Species included on Lists 1B or 2 by the California Native Plant Society (CNPS);
- Species that meet the definition of rare or endangered under CEQA (14 CCR Section 15380).

The presence/absence of special-status species, or their potential for presence, is determined through onsite surveys to detect individuals and evaluate the quality of potential habitats, and through a search of available databases and related source material that documents occurrences of special-status species. Among these is the California Natural Diversity Data Base (CNDDB)

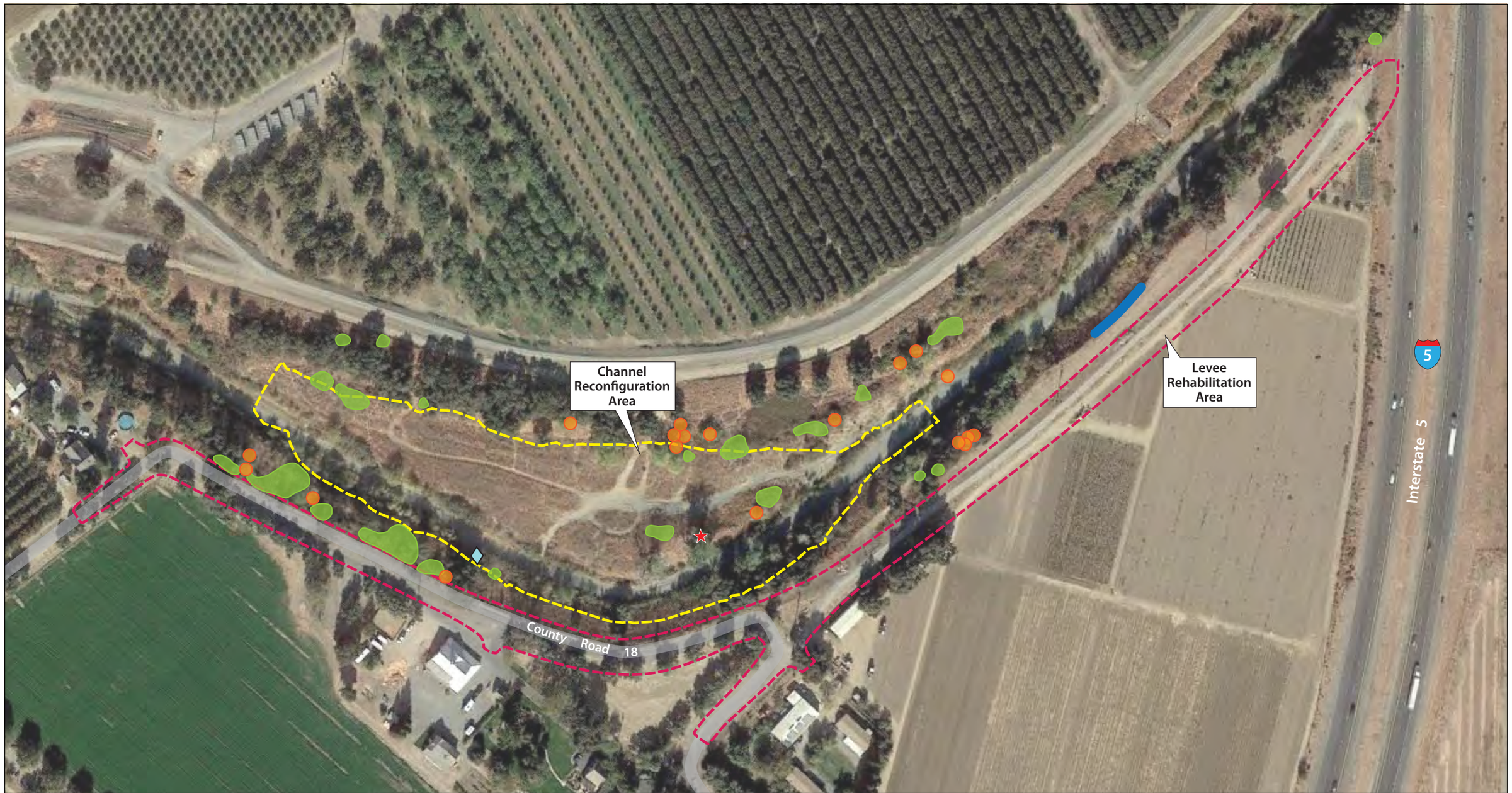
a repository of special-status species occurrence data compiled and managed by CDFW. Other sources of data include eBird, an online repository of avian data compiled by researchers and citizen birders, and the results of surveys conducted by researchers and biologists related to other projects or wildlife research. This information is typically available in environmental impact reports, online data repositories such as the Tricolored Blackbird Portal, survey reports prepared in support of local or regional conservation or management plans, or surveys conducted as part of local research projects.

The compiling of available data, including CNDDB records search or eBird searches, may encompass a much larger area than the project and do not address the presence/absence of suitable habitat within the project area. Instead, although existing occurrence data are reported as part of the assessment, the data are used primarily as initial guidance to indicate the species that have been observed or have the potential to occur within the general area of the project and to focus the next step in the assessment, habitat availability. Potential for species to occur is then based on the presence/absence of suitable habitat on or in the vicinity of the project. Finally, specific surveys within suitable habitat determines the actual presence/absence of potentially occurring species. The habitat assessment is also used to verify existing occurrence data from CNDDB or other sources.

Table 1 lists the special-status species with potential to occur in the vicinity of the project based existing information on their local and regional distribution, occurrence data provided by CNDDB and other sources, and the onsite surveys and habitat assessment. The table also describes habitat associations; the presence/absence of suitable habitat; and whether or not the species has been reported from the project or observed during the field survey. Figure 5 and 6 illustrate the location of reported special-status species occurrences on or in the vicinity of the project area for each potentially-occurring species. Each species in Table 1 is described in more detail below including habitat associations, the presence/absence of suitable habitat, reported occurrences, and a determination of the potential for occurrence in the vicinity of the project area.

Yolo HCP/NCCP

The Yolo HCP/NCCP covers 12 special-status species, eight of which have potential to occur in the project area and are included in Table 1. The project area lacks suitable habitat for the remaining four species, palmate-bracted bird's beak (*Cordylanthus palmatus*), giant garter snake (*Thamnophis gigas*), California tiger salamander (*Ambystoma californiense*), and yellow-billed cuckoo (*Coccyzus americanus*), and they are therefore not addressed further.



NORTH

0 100 200 300 400 500

Approximate Scale in Feet

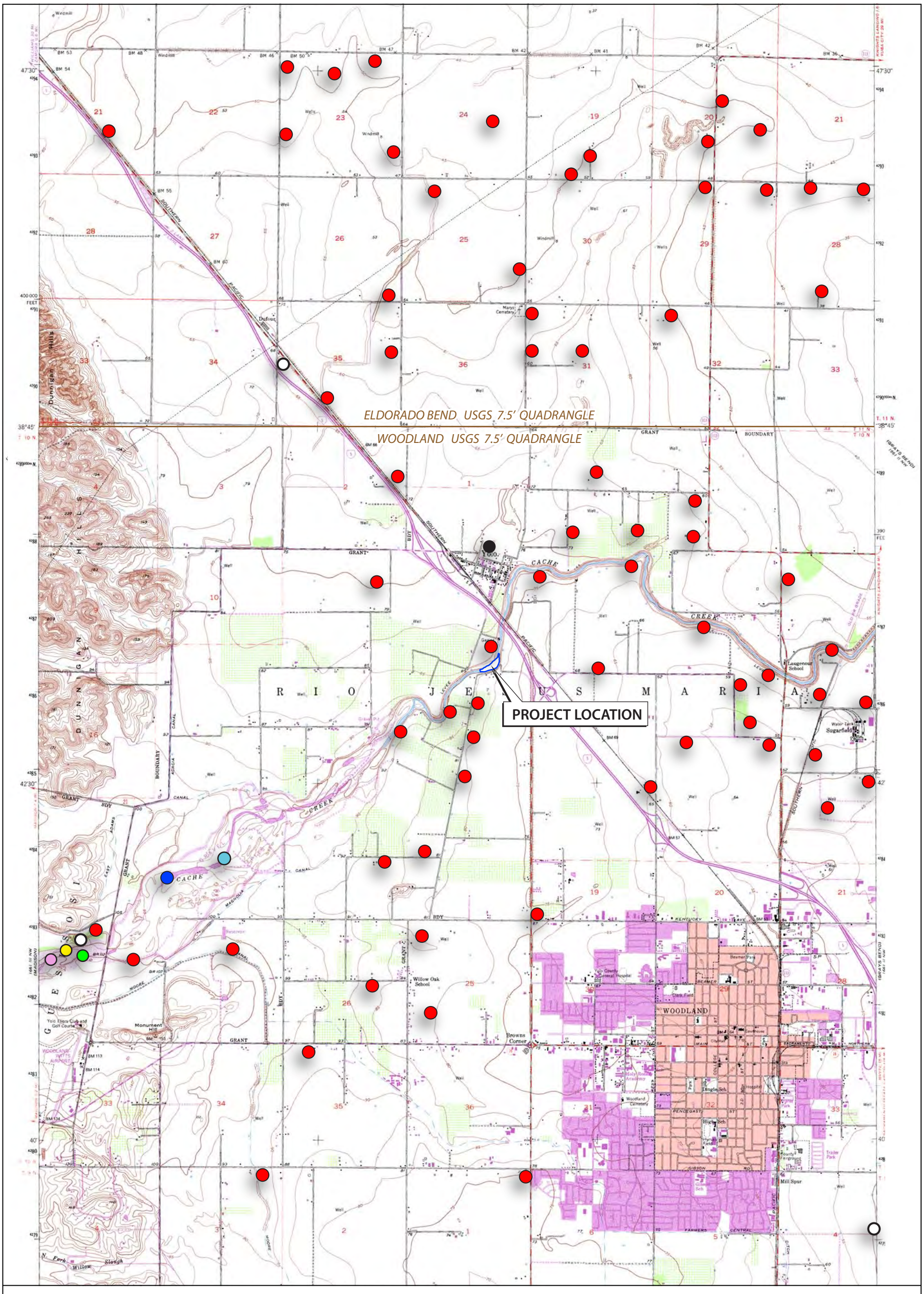
Base Map: Google 2020.

KEY

- Limits of Grading
- Elderberry Shrubs and Shrub Complexes
- Black Walnut Tree
- Loggerhead Shrike Occurrence
- Swainson's Hawk Nest
- Cut Bank Marginal Bank Swallow Habitat

Figure 5
Special-Status Species Occurrences within the Huff's Corner Project Area

4/06/2021



KEY

- Project Area Boundary
- Swainson's Hawk
- White-Tailed Kite
- Burrowing Owl
- Yellow Warbler
- Yellow-Breasted Chat
- Bank Swallow
- Valley Elderberry Longhorn Beetle
- Western Pond Turtle

NORTH

0 2,000 4,000 6,000 8,000

Feet

SOURCES: CNDDB 2020, Estep 2020, eBird, Tompkins 2017.

Figure 6
Special-Status Species Occurrences in the Vicinity of the Huff's Corner Project Area

11/09/20

Table 1. Special-status species with potential to occur in the vicinity of the project area. Green highlighted species are Covered by the Yolo HCP/NCCP.

Species	Status State/ Federal/ CNPS	Habitat Association	Habitat Present in the Project Area	Observed Onsite During Survey	Reported Occurrence in the Project Area
Sacramento hitch *Lavinia exilicauda exilicauda*	CSC/-	Streams, sloughs, lakes, reservoirs	Yes[1]	No	No
Hardhead *Mylopharodon conocephalus*	CSC/-	Streams, sloughs, lakes, reservoirs	Yes[1]	No	No
Chinook salmon *Oncorhynchus tshawytscha*	T,E/T,E	Rivers, streams	Yes[1]	No	No
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	-/T	Elderberry shrubs	Yes	Yes[2]	Yes[2]
Western pond turtle *Actinemys marmorata*	CSC/-	Streams, ponds, canals	Yes	No	No
Northern harrier *Circus cyaneus*	CSC/-	Grasslands, pastures, fields, seasonal wetland	Yes	No	No
White-tailed kite *Elanus leucurus*	FP/-	Nests in trees, hunts in grassland/farmland/wetland	Yes	No	No
Swainson's hawk *Buteo swainsoni*	T/-	Nests in trees, hunts in grassland and farmlands	Yes	Yes	Yes
Burrowing owl *Athene cunicularia*	CSC/-	Grasslands, pasturelands, edges of cultivated fields	Marginal	No	No
Long-eared owl *Asio otus*	CSC/-	Riparian woodlands, with adjacent open land for hunting.	Yes	No	No
Bank swallow *Riparia riparia*	T/-	Vertical cut banks along streams	Marginal	No	No
Least Bell's Vireo (Nesting) *Vireo bellii pusillus*	E/E	Willow-dominated riparian shrub and woodland	Marginal	No	No
Loggerhead shrike *Lanius ludovicianus*	CSC/-	Riparian and other woodlands for nesting, grasslands, cultivated habitats for foraging	Yes	Yes	Yes
Yellow-breasted chat *Icteria virens*	CSC/-	Dense riparian thickets with willow near waterways for nesting.	Marginal	No	No
Yellow warbler *Setophaga petechia brewsteri*	CSC/-	Riparian forests, occasionally montane shrubbery in open conifer forests.	Yes	No	No
Tricolored blackbird *Agelaius tricolor*	T/-	Marsh, blackberry bramble, willow scrub for nesting; grasslands, pastures, cultivated lands for foraging	Marginal	No	No
Palid bat *Antrozous pallidus*	CSC/-	Grasslands, shrub lands, woodlands.	Foraging	No	No
Townsends big-eared bat *Corynorhinus townsendii*	CSC/-	Caves, bridges, buildings	Foraging	No	No
Western red bat *Lasiurus blossevillii*	CSC/-	Riparian woodland, fruit orchards	Yes	No	No
Black walnut *Juglans hindsii*	-/-/1B	Riparian, woodlands	Yes	Yes	Yes

T=threatened; E=Endangered; CSC=California species of species concern; FP=state fully protected; 1B=CNPS rare plant rank

[1]Stream habitat is present onsite; however, lower Cache Creek does not support permanent flows during the summer months in most years and the creek is no longer hydrologically connected to the Sacramento River other than during high flows through the Yolo Bypass and Cache Creek Settling Basin. As a result, habitat is considered seasonally present onsite but these species are not expected to occur.

[2]Presence of VELB is based on the presence of suitable elderberry shrubs. No beetles were observed.

Sacramento Hitch

Sacramento hitch, a state species of special concern, inhabit warm, lowland, waters including clear streams, turbid sloughs, lakes and reservoirs. In low-gradient streams they are generally found in pools or sandy runs among aquatic vegetation, although small individuals will also use riffles. Sacramento hitch prefer shallow (<1 m deep) stream habitats with smaller gravel to mud substrates. Sacramento hitch exist mainly as scattered, small, populations over a fairly broad geographic area and appear to be in long-term decline (Moyle et al. 2015).

Sacramento hitch was detected in Cache Creek upstream from the project area during surveys conducted in 1997 (Moyle and Marchetti 1998); however, none were detected during surveys conducted in 2008 (Stillwater Sciences 2008). Due to the lack of consistent summer flows, the species is not expected to occur in the project area.

Hardhead

Hardhead, a state species of special concern, are typically found in small to large streams in a low to mid-elevation environment. Hardhead may also inhabit lakes or reservoirs. Within a stream hardhead prefer relatively undisturbed habitats and runs with deep, clear water, slow velocities, and sand-gravel-boulder substrates (Moyle et al. 2015).

Hardhead was detected in Cache Creek upstream from the project area during surveys conducted in 1997 (Moyle and Marchetti 1998); however, none were detected during surveys conducted in 2008 (Stillwater Sciences 2008). Due to the lack of consistent summer flows, the species is not expected to occur in the project area.

Chinook Salmon

Four distinct runs of Chinook Salmon spawn in the Sacramento-San Joaquin River system, named for the season when the majority of the run enters freshwater as adults. Spring-run Chinook Salmon, listed as state and federally threatened, winter run Chinook Salmon, listed as state and federally endangered, and fall-run and late-fall-run Chinook Salmon, both designated as state species of special concern.

Cache Creek historically supported Chinook salmon until connection with the Sacramento River was interrupted by the creation of the Yolo Bypass and related hydrologic modifications to lower Cache Creek. Individual Chinook salmon were incidentally detected in Cache Creek by Moyle and Ayers (2000) as a result of high flows through the Yolo Bypass and Cache Creek Settling Basin. The species otherwise no longer occurs in the Cache Creek basin, there have been no other incidental occurrences, and thus the species is not expected to occur in the project area.

Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle (VELB) is a federally-listed medium-sized woodboring beetle, about 0.8 inches long. Endemic to California's Central Valley and watersheds that drain into the Central Valley, this species' presence is entirely dependent on the presence of its host

plant, the elderberry shrub (*Sambucus* spp.). Elderberry grows in upland riparian forests or savannas adjacent to riparian vegetation, but also occurs in oak woodlands and savannas and in disturbed areas. It usually co-occurs with other woody riparian plants, including valley oak, Fremont cottonwood, various willows, and other riparian trees and shrubs (Barr 1991, Collinge et al 2001, U.S. Fish and Wildlife Service 2017).

VELB is rarely observed, but suitable elderberry shrubs are common throughout much of Yolo County, occurring in riparian and upland habitats including the edges of agricultural fields. Blue elderberry (*Sambucus nigra* ssp. *caerulea*) is a common shrub throughout the length of Lower Cache Creek. There are documented occurrences of VELB along the creek and numerous shrubs that have been reported to show evidence of occupancy; however, because it's difficult to confirm occupancy, occupancy is assumed based on the presence of suitable elderberry shrubs.

Rayburn (2017) documented elderberry shrubs along the entire lower Cache Creek and found numerous shrubs and shrub clusters throughout the length of the creek, including the Rio Jesus Maria Reach. During project surveys – and generally corresponding with the results of Rayburn (2017), a total of 83 shrubs were identified in 11 clusters (3 or more shrubs) and several individual shrubs (Figure 5) (Plates 9 and 10), 57 of which were within the survey area but outside of the project boundary. The remaining 26 shrubs were within the project boundary and would be subject to removal.

Western Pond Turtle

The western pond turtle is a species of special concern that is found in permanent water bodies, such as lakes, ponds, slow moving streams, and water conveyance channels that include basking habitat (down logs, rocks) and that support sufficient aquatic prey. They also require adjacent or nearby upland habitat that is suitable for building nests, to aestivate, and to overwinter (Jennings and Hayes 1994).

Creek walk records indicate that western pond turtle has not been documented from the Rio Jesus Maria Reach; however, although most occurrences have been in the deeper, broader pools upstream toward the Capay Dam, there have been reports from downstream locations in the Guesisosi, Dunnigan Hills, and Hoppin Reaches within 3 miles of the project area (Moyle and Marcheti 1998, Yolo County 2012 through 2016, Tompkins 2017) (Figure 6). Although the project area supports suitable upland nesting and movement habitat for western pond turtle, the lack of permanent, consistent water may preclude occurrence other than for purposes of movement.

Swainson's Hawk

The Swainson's hawk is a medium-sized raptor associated with generally flat, open landscapes. In the Central Valley it nests in mature native and nonnative trees and forages in grassland and agricultural habitats. Although a state-threatened species, the Swainson's hawk is relatively common in Yolo County during the spring-summer breeding season due to the availability of nest trees and the agricultural crop patterns that are compatible with Swainson's hawk foraging. A countywide census was conducted in 2020 for the Yolo Habitat Conservancy with a total of

382 active nesting territories reported, 67 of which are within 5 miles of the project area, nine are within 1 mile of the project area, and one active nest was documented onsite (Estep 2020) (Figure 5) (Plate 12). Cahill (2014) also documented this nest site during his Swainson's hawk survey of lower Cache Creek. The cottonwood/valley oak riparian in the project area represents suitable nesting habitat for this species. The open, herbaceous areas within the project area are likely too dense and tall to support Swainson's hawk foraging (Estep 2009), however, the surrounding agricultural lands represent suitable foraging habitat for the Swainson's hawk.

White-tailed kite

The white-tailed kite (*Elanus leucurus*), a state fully protected species, is a highly specialized and distinctively-marked raptor associated with open grassland and seasonal wetland landscapes. It typically nests in riparian forests, woodlands, woodlots, and occasionally in isolated trees, primarily willow, valley oak, cottonwood, and walnut) and some nonnative trees. It forages in grassland, seasonal wetland, and agricultural lands, but is more limited in its use of cultivated habitats compared with the Swainson's hawk. As a result, the species occurs throughout most of Yolo County, but in low breeding densities (Dunk 1995, Erichsen 1995, Estep 2020).

No white-tailed kites were detected during the survey and no nests have been reported from the immediate vicinity of the project area. The nearest recently reported nest is approximately 5.5 miles southeast of the project area along Willow Slough (Estep 2020) (Figure 6). Cache Creek Conservancy reports white-tailed kites on the preserve during the breeding season (Cache Creek Preserve 2016) and eBird reports numerous occurrences in the area, including several 2020 occurrences from Cache Creek Preserve, approximately 3 miles upstream from the project area, and others both upstream and downstream along Cache Creek. Although active nests were not documented, the spring/summer occurrences suggest nesting of this species along Cache Creek. Access along Cache Creek from I-5 upstream to County Road 94b is limited, and with substantial suitable nesting habitat within that area, the potential for kite nesting is high. Open herbaceous areas within the project area and the surrounding cultivated lands represent suitable foraging habitat for white-tailed kite.

Northern Harrier

The northern harrier (*Circus cyaneus*) is a state species of special concern that constructs a rudimentary nest on the ground in marsh, grassland, and some agricultural habitats. They forage in seasonal wetland, grassland, and agricultural habitats. The species is frequently observed throughout most of Yolo County; however, there are relatively few reported nest sites, due largely to the difficulty confirming their locations on the ground. The nearest reported nest site in CNDDB (2020) is approximately 8 miles south of the parcel. The Cache Creek Conservancy reports breeding season occurrences of this species on the preserve and eBird reports numerous sightings of the species throughout Yolo County, although relatively few in the vicinity of the project area. The less steep herbaceous areas on the north bank of the channel reconfiguration project area and the open ruderal and cultivated habitats on and adjacent to the eastern portion of the levee rehabilitation project area are suitable for harrier nesting and foraging (Plates 1, 2, 5, 6 and 12); however, the presence of tall riparian trees, roadside trees, and dense shrub cover in close proximity reduces the potential for nesting in the project area due to the increased

predation risk from aerial and ground predators. Otherwise, the surrounding cultivated landscape (excluding the orchards) are considered suitable for foraging and localized nesting.

Burrowing Owl

The western burrowing owl (*Athene cunicularia*) is a state species of special concern occurring in open, dry grasslands, agricultural and range lands, and desert habitats. In the Central Valley, they are associated with remaining grassland habitats, pasturelands, and edges of agricultural fields. They also occur in vacant lots and remnant grassland or ruderal habitats within urbanizing areas. Historically nesting in larger colonies, due to limited nesting habitat availability most of the more recent occurrences are individual nesting pairs or several loosely associated nesting pairs. The western burrowing owl is a subterranean-nesting species, typically occupying the burrows created by California ground squirrels (*Otospermophilus beecheyi*). They also occupy artificial habitats, such as those created by rock piles and occasionally in open pipes and small culverts. They forage for small rodents and insects in grassland and some agricultural habitats with low vegetative height. Key to western burrowing owl occupancy are grassland or ruderal conditions that maintain very short vegetative height around potential nesting sites. They will generally avoid otherwise suitable grassland habitats if vegetation exceeds 12 inches in height (Gervais et al. 2008).

No burrowing owls or their sign was detected during surveys and there are no reported occurrences on or in the vicinity of the project area. ebird reports several incidental sightings within 3 to 5 miles of the project area, but most nesting occurrences are reported from south of Woodland, east of Davis, and in the panhandle. The grass height and density in the herbaceous areas of the project area would generally preclude burrowing owl occurrence (Plates 1, 5, 6, and 12). Potential marginal nesting habitat occurs along the ruderal edges in the eastern portion of the levee rehabilitation area, east of County Road 18. Several ground squirrel burrows were present in this area, but no burrowing owls or burrowing owl sign was detected. Although marginally suitable, this area is unlikely to be occupied by burrowing owls due to the close proximity of the riparian trees, which provide habitat for aerial and ground predators.

Long-eared Owl

Throughout its range, the long-eared owl (*Asio otus*) nests in conifer, oak, riparian, pinyon-juniper, and desert woodlands. In the Central Valley, the relatively few nesting or nesting season records are associated with riparian woodlands. Nesting areas are adjacent to open grasslands, meadows, or shrublands, and in the Central Valley with suitable cultivated habitats (Hunting 2008). Rarely encountered on the valley floor, eBird reports several incidental occurrences, including an occurrence along Cache Creek near Esparto.

No long-eared owls were detected during surveys and none have been reported from or in the vicinity of the project area. The oak and cottonwood-willow riparian in the project area represent suitable nesting and cover habitat; however, foraging habitat is somewhat limited due to the extent of orchard-dominated agriculture.

Loggerhead Shrike

The loggerhead shrike (*Lanius ludovicianus*) occurs in open habitats with scattered trees, shrubs, posts, fences, utility lines, or other perches. It nests in small trees and shrubs and forages for small rodents, reptiles, and insects in pastures and agricultural lands (Humple 2008). An underreported species in CNDDB, no nesting records are available for Yolo County (CNDDB 2020). However, eBird reports numerous incidental records throughout the county. The grassland and oak savannah foothills along the western edge of the valley are thought to be the highest value habitat for this species; but some cultivated landscapes, particularly where riparian corridors occur, may also provide suitable conditions for nesting and foraging.

A loggerhead shrike was observed in the project area during the survey (Figures 5 and 6). The individual was perched in a valley oak tree and was observed hunting in the herbaceous portion of the south slope.

Bank swallow

The bank swallow (*Riparia riparia*) is a state-threatened species that nests in burrows dug into erodible banks of rivers and creeks, and occasionally in other features that mimic natural streamside banks. Usually nesting in colonies, the bank swallow is insectivorous and typically found near water where insects are plentiful. There are no reported occurrences of bank swallows within or in the immediate vicinity of the project area. The nearest reported colony (approximately 50 pairs), reported in the 2012 Annual Creek Walk summary report, is approximately 3 miles upstream in the Hoppin Reach (Figure 6). Reported again in 2013, the colony has since been inactive. The majority of reported colonies are along the creek west of County Road 94b (Tompkins et al. 2017). There are also incidental sightings reported by eBird elsewhere in the county, but these do not represent breeding sites. There is insufficient erodible, vertical, and unvegetated bank within the project footprint to support bank swallow nesting; however, the species could occur incidentally in the project area. There is also one nearby location outside of the project footprint that supports marginal habitat conditions, although there was no evidence of use. The site, approximately 70 feet in horizontal length and 4 to 5 feet in vertical height and partially vegetated, is approximately 300 feet downstream of the channel reconfiguration project footprint at the top of the bank (Figure 5) (Plate 16).

Plate 16. Marginally suitable habitat for bank swallow. Looking west from approximately 300-feet upstream of the channel reconfiguration project footprint and approximately 50 feet north of the levee rehabilitation project footprint. This site would not be disturbed by project activities.

Least Bell's Vireo

The least Bell's vireo (*Vireo bellii pusillus*), a state and federally endangered species, is an obligate riparian breeder that typically inhabits structurally diverse woodlands, including cottonwood-willow woodlands/forests, oak woodlands, and mule fat scrub (USFWS 1998). Two features appear to be essential for breeding habitat: (1) the presence of dense cover within 3 to 6 feet (1 to 2 meters) of the ground, where nests are typically placed; and (2) a dense stratified canopy for foraging (Goldwasser 1981, Gray and Greaves 1984). Although least Bell's vireo typically nests in willow-dominated areas, plant species composition does not seem to be as important a factor as habitat structure. Early successional riparian habitat typically supports the dense shrub cover required for nesting and a diverse canopy for foraging. In mature habitat, understory vegetation consists of species such as California wild rose, poison oak, California blackberry (*Rubus ursinus*), grape, and perennials that can conceal nests.

Although within the historic range of the least Bell's vireo, until recently the species has been extirpated from most of the north state, including Yolo County. In 2010, two apparent breeding pairs were found in willow-dominated riparian scrub in the Putah Creek Sinks. One to three vireos were reported in 2011 through 2013 in the same area, but none have been detected since 2013. Although moderately suitable habitat occurs in the cottonwood-willow riparian along the active Cache Creek channel in the project area (Plates 1, 4, 6, 7, and 9), there are no records of the species along Cache Creek and none were detected during the survey.

Yellow-breasted Chat

Yellow-breasted chat (*Icteria virens*), a state species of special concern, occupies early successional riparian habitats with a well-developed shrub layer and an open canopy. Nesting is usually restricted to the narrow border of streams, creeks, slough, and rivers. Blackberry (*Rubus* spp.), wild grape (*Vitis* spp.), willow, and other plants that form dense thickets and tangles are frequently selected as nesting strata (Comrack 2008). Breeding has not been confirmed along lower Cache Creek; however, there are several eBird records from the late breeding season (early September), both upstream and downstream of the project area – with concentrations at the Cache Creek Preserve, and two early breeding season records from the Yolo Bypass, one from 1999 and the other from 2017 (Figure 6).

Yellow warbler

Yellow warbler (*Setophaga petechia brewsteri*), a state species of special concern, occupies riparian vegetation in close proximity to water along streams and wet meadows. The species is more typically found in mid-elevation forests and woodlands, with few breeding records from the lower elevations of the Central Valley. Throughout its range, nesting habitat is variable, although in northern California, willow and Oregon ash-dominated riparian are typical (Heath 2008). There are few historic breeding records for Yolo County; however, there are several recent eBird occurrences, including breeding season records along Cache Creek upstream and downstream of the project area, with a concentration of records from the Cache Creek preserve (Cache Creek Conservancy 2016, Tompkins et al. 2017) (Figure 6). The species was not observed in the project area during surveys and there are no breeding records on or in the immediate vicinity of the project area. The willow riparian in the project area is considered suitable habitat for yellow warbler.

Tricolored Blackbird

The tricolored blackbird (*Agelaius tricolor*) is a state-listed threatened species that nests in colonies from several dozen to several thousand breeding pairs. They have three basic requirements for selecting their breeding colony sites: open accessible water; a protected nesting substrate, including either flooded or thorny or spiny vegetation; and a suitable foraging space providing adequate insect prey within a few miles of the nesting colony (Beedy and Hamilton 1999). Nesting colonies are found in freshwater emergent marshes, in willows, blackberry bramble, thistles, or nettles, and in silage and grain fields (Beedy and Hamilton 1999). Recently reported tricolored blackbird colonies in Yolo County include a site on the Conaway Ranch in eastern Yolo County 7.5 miles southeast of the parcel, at a pond in the Dunnigan Hills 6.5 miles northwest of the project area, and at locations in the Yolo Bypass and along the western edge of the valley (CNDDB 2020, Tricolored Blackbird Portal). There are no recently reported breeding colonies in the vicinity of the project area; however, eBird reports numerous incidental non-breeding or foraging occurrences throughout the interior of the county. The Tricolored Blackbird Portal also reports an ephemeral colony at the intersection of County Road 102 and Kentucky Avenue, about 5 miles southeast of the project area in 2010.

No tricolored blackbirds were detected during the survey and there are no records of colonies or individual sightings from the project area and immediate vicinity. The project area supports marginal nesting habitat for tricolored blackbirds in the willow-dominated riparian, and patches of dense wild rose and thistle-dominated herbaceous habitats. Foraging habitat is limited in and surrounding the project area due to the extent of orchard agriculture.

Special-status Bats

Three special status bats potentially occur in the vicinity of the project site, including pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii townsendii*), and western red bat (*Lasiurus blossevillii*), all state species of special concern. Pallid bat occurs primarily in shrublands, woodlands, and forested habitats, but also can forage in grasslands and agricultural areas. Townsends's big-eared bat occurs in a variety of woodland and open habitats, including agricultural areas. Western red bat occurs in wooded habitats, including riparian and fruit orchards, and grasslands. Pallid bat and Townsend's big-eared bat roost colonially in mines, caves, rocky crevices, large hollow trees, and occasionally in large open buildings that are usually abandoned or infrequently inhabited. Western red bat usually roosts solitarily in large trees, but does not rely on hollow trees (Pierson and Rainey 1998, Pierson 1998, Fellers and Pierson 2002, Pierson et al. 2006).

None of these species have been reported from the vicinity of the project area, although they are inconspicuous and few surveys have been conducted. Most reported occurrences are from the foothills and high elevation areas of western Yolo County (CNDDB 2020). The project area supports mature valley oak and cottonwood trees, but sufficiently large hollow trees are lacking. The riparian and aquatic habitats in the project area support insect populations that provide high value foraging areas for these bat species.

Black Walnut

Black walnut, a CNPS List 1B species, occurs in the project area. Twenty trees were documented within the survey area, only two of which are within the project area (Figure 5). Although a CNPS List 1B species, there is considerable debate about the status of native black walnut and the extent of hybridization and naturalization of trees that closely resemble the native species (Potter et al. 2018). There are only three or four verified locations where the species is known to have occurred prior to European settlement, none of which is in Yolo County. As a result, most occurrences in the Central Valley are thought to be hybridized and therefore their status is considered questionable. However, because this issue remains unresolved, black walnut trees in the project area are considered non-hybridized *Juglans hindsii* with CNPS List 1B status.

Impacts of the Project

Biological Communities

It is assumed that all vegetation occurring within the project boundary (limits of grading) would be removed by project activities. Following removal of accumulated sediment and recontouring and stabilizing the creek banks, the channel reconfiguration area will be partially revegetated to

reestablish the valley foothill riparian natural community. Table 2 shows the impact acreages for each natural community. Figure 7 illustrates the distribution of each natural community within the project area. Impacts to each natural community are briefly described below.

Table 2. Acres of impacted natural communities.

Project Component	Natural Community	Impacted Acres
Channel Reconfiguration	Valley Foothill Riparian (Cottonwood/Valley Oak Riparian)	0.46
	Valley Foothill Riparian (Mixed Willow Riparian)	0.90
	Valley Foothill Riparian (Riparian Scrub)	0.36
	Valley Foothill Riparian (Herbaceous)	2.70
	Lacustrine/riverine	0.86
	Barren	0.47
	Subtotal	5.75
Levee Rehabilitation	Ruderal	1.34
	Agriculture	0.13
	Developed	2.01
	Subtotal	3.48
	Project Total	9.23

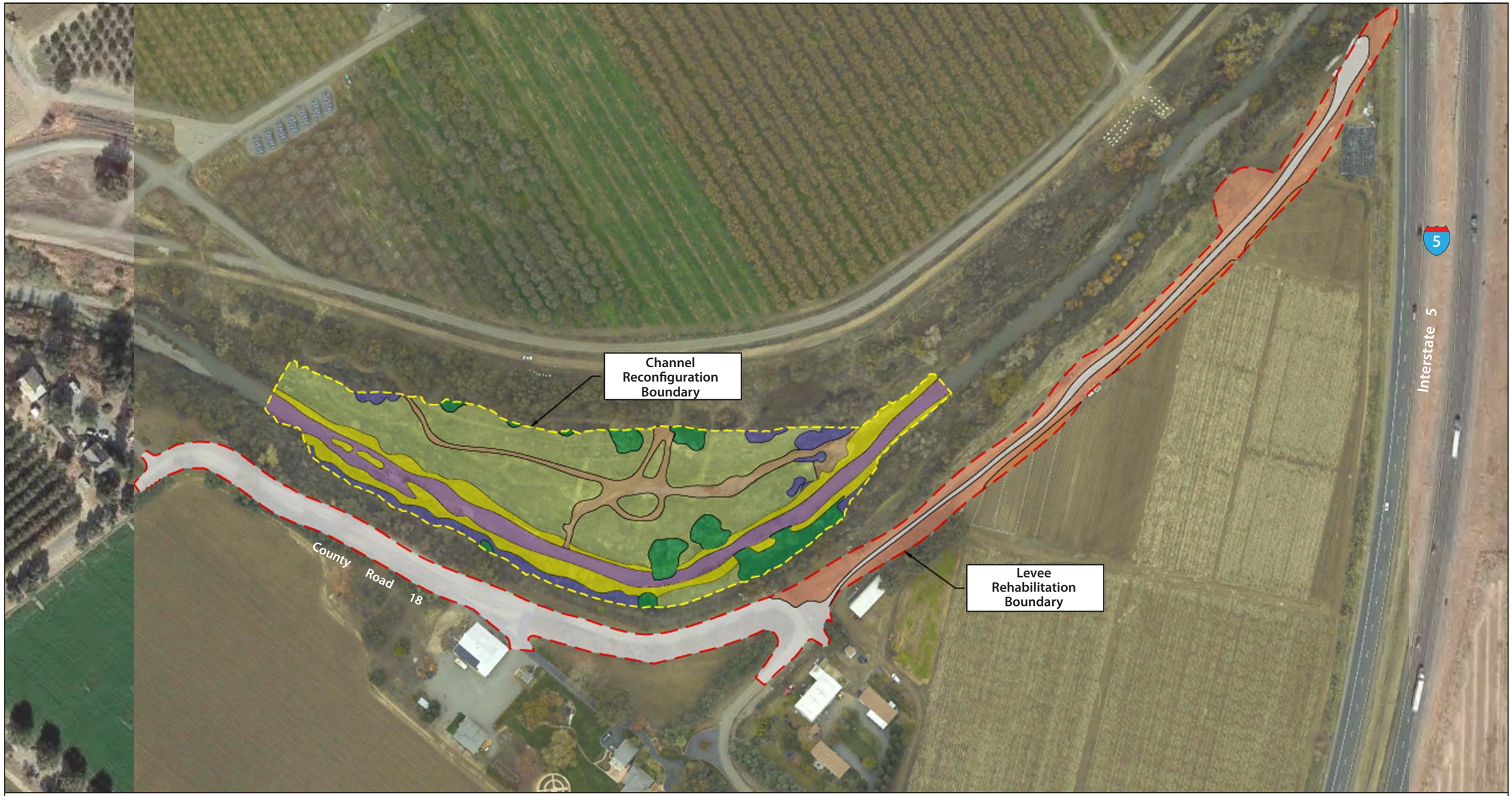
Valley Foothill Riparian (Cottonwood/Valley Oak Riparian)

Figure 7 illustrates the distribution of cottonwood/valley oak riparian within and adjacent to the project area. An estimated 0.46 acres of this natural community occurs within the project boundary and would be removed by the project. Table 3 shows the number of mature native trees within the cottonwood/valley oak riparian that would be removed. Numerous small (<12" dbh), seedling, and sapling trees would also be removed along with the riparian scrub understory. Although restoration of this natural community is expected to restore habitat values over time, removal of 0.46 acres of cottonwood/valley oak riparian will locally displace associated wildlife, including covered species during and following project activities.

Table 3. Mature trees (>12" dbh) within cottonwood/valley oak riparian removed by the project

Tree Species	Estimated Number removed
Valley Oak	14
Cottonwood	9

The project will be implemented in accordance with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP), including its incorporation of the CCRMP per Section 6.5.8.1.1. Through provisions of the HCP/NCCP, including natural resource benefits provided under the CCRMP, the project will contribute to the HCP/NCCP's conservation strategy, thereby benefiting cottonwood/valley oak riparian natural community and associated species. Therefore, this project's individual impacts and its contribution to cumulative impacts to cottonwood/valley oak riparian natural community are less than significant.



NORTH

0 100 200 300 400 500

Approximate Scale in Feet

SOURCE: MBK Engineers 2021. *Base Map:* Google 2020.

KEY

- Cottonwood/Valley Oak Riparian
- Mixed Willow Riparian
- Riparian Scrub
- Herbaceous
- Lacustrine/Riverine
- Barren
- Developed
- Ruderal
- Agricultural

Figure 7
Distribution of Natural Communities within the Project Area

4/06/2021

Valley Foothill Riparian (Mixed Willow Riparian)

Figure 7 illustrates the distribution of mixed willow riparian within and adjacent to the project area. An estimated 0.9 acres of this natural community occurs within the project boundary and would be removed by the project. In addition to removal of numerous willow and cottonwood trees, removal of this natural community will also include the removal of several very small patches of marsh vegetation – mainly small areas of cattail marsh along the edge of the active channel. Although restoration of this natural community is expected to restore habitat values over time, removal of 0.9 acres of mixed willow riparian will locally displace associated wildlife, including covered species during and following project activities.

The project will be implemented in accordance with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) including its incorporation of the CCRMP per Section 6.5.8.1.1. Through provisions of the HCP/NCCP, including natural resource benefits provided under the CCRMP, the project will contribute to the HCP/NCCP's conservation strategy, thereby benefiting mixed willow riparian natural community and associated species. Therefore, this project's individual impacts and its contribution to cumulative impacts to mixed willow riparian natural community are less than significant.

Valley Foothill Riparian (Riparian Scrub)

Figure 7 illustrates the distribution of riparian scrub within and adjacent to the project area. An estimated 0.36 acre of this natural community occurs within the project boundary and would be removed by the project. Removal of this natural community will include the removal of elderberry shrubs, the host plant for VELB, which is described in detail below under Special-Status Species. Although restoration of this natural community is expected to restore habitat values over time, removal of 0.36 acre of riparian scrub will locally displace associated wildlife, including covered species during and following project activities.

The project will be implemented in accordance with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) including its incorporation of the CCRMP per Section 6.5.8.1.1. Through provisions of the HCP/NCCP, including natural resource benefits provided under the CCRMP, the project will contribute to the HCP/NCCP's conservation strategy, thereby benefiting riparian scrub natural community and associated species. Therefore, this project's individual impacts and its contribution to cumulative impacts to riparian scrub natural community are less than significant.

Valley Foothill Riparian (Herbaceous)

Figure 7 illustrates the distribution of open, herbaceous vegetation within and adjacent to the project area. An estimated 2.7 acres of this natural community, considered a component of valley-foothill riparian, occurs within the project boundary and would be removed by the project. Although restoration of this natural community is expected to restore habitat values over time, removal of 2.7 acres of herbaceous riparian will locally displace associated wildlife, including covered species during and following project activities.

The project will be implemented in accordance with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) including its incorporation of the CCRMP per Section 6.5.8.1.1. Through provisions of the HCP/NCCP, including natural resource benefits provided under the CCRMP, the project will contribute to the HCP/NCCP's conservation strategy, thereby benefiting herbaceous riparian natural community and associated species. Therefore, this project's individual impacts and its contribution to cumulative impacts to herbaceous riparian natural community are less than significant.

Lacustrine and Riverine

Figure 7 illustrates that distribution of the lacustrine and riverine natural community within and adjacent to the project area. An estimated 0.86 acres of this natural community will be temporarily disturbed during sediment removal and recontouring/restoration efforts. Although restoration of this natural community is expected to restore habitat values over time, temporary disturbance of 0.86 acres of lacustrine and riverine natural community will locally displace associated wildlife, including covered species during and following project activities. The lacustrine and riverine natural community is also a wetland feature under the jurisdiction of state and federal regulatory agencies and the project therefore must comply with requirements under Section 404 of the Clean Water Act, State Water Resources Control Board (State Board), Regional Board, and Fish and Game Code Section 1602 regulations.

The project will be implemented in accordance with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) including its incorporation of the CCRMP per Section 6.5.8.1.1. Through provisions of the HCP/NCCP, including natural resource benefits provided under the CCRMP, the project will contribute to the HCP/NCCP's conservation strategy, thereby benefiting lacustrine and riverine natural community and associated species. Therefore, this project's individual impacts and its contribution to cumulative impacts to lacustrine and riverine natural community are less than significant.

Barren

Figure 7 illustrates the distribution of the barren land cover within and adjacent to the project area. This area is represented by the sand and gravel within the secondary channel and trails extending from the secondary channel. A total of 0.47 acres of barren land cover would be disturbed by the project. Permanent or temporary disturbance to these unvegetated areas, is not considered a significant impact pursuant to CEQA.

The project will be implemented in accordance with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). Under the HCP/NCCP, barren is not a fee-paying cover type unless it supports habitat for covered species (i.e., bank swallow). The small amount of barren land cover in the project area is restricted to the narrow secondary channel or a narrow trail through the herbaceous natural community and does not support habitat for covered species. Therefore, the project's individual impacts and its contribution to cumulative impacts to barren land cover are less-than-significant.

Ruderal

Figure 7 illustrates the distribution of ruderal habitats within the levee rehabilitation area. A total of 1.34 acres of this land cover would be disturbed by the project. These small patches of land adjacent to County Road 18 and on the existing levee east of County Road 18 are highly disturbed and support sparse, weedy vegetation.

The project will be implemented in accordance with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). Under the HCP/NCCP, ruderal is not a fee-paying cover type unless it supports habitat for covered species. Within the project area, this habitat is insufficient in size or composition to support habitat for covered species. Therefore, permanent or temporary disturbance to these areas is not considered a significant impact pursuant to CEQA.

Agriculture

Figure 7 illustrates the distribution of agricultural habitats within the levee rehabilitation area. A total of 0.13 acres of this land cover would be disturbed by the project. The south side of the reconfigured levee will remove a narrow strip from the existing agricultural field.

Although not considered a significant impact pursuant to CEQA, the project will be implemented in accordance with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). Through payment of HCP/NCCP fees or equivalent mitigation, the Project will contribute to the HCP/NCCP's conservation strategy, thereby mitigating for the loss of agricultural habitats and benefiting associated species, including covered species. Therefore, with incorporation of HCP/NCCP fees or equivalent mitigation and adherence to other HCP/NCCP avoidance and minimization measures, this project's individual impacts and its contribution to cumulative impacts to agricultural natural community are less than significant.

Developed

Figure 7 illustrates the location and distribution of developed land cover within the levee rehabilitation area. A total of 2.01 acres of this land cover would be disturbed by the project. Impacted developed areas include the paved roadway (County Road 18) and the ornamental and native trees lining the road shoulder, and the driveways, gravel areas, and other hardscape or semi-hardscape areas associated with the three rural residences. Permanent or temporary disturbance to these areas is not considered a significant impact pursuant to CEQA.

The project will be implemented in accordance with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). Under the HCP/NCCP, developed land cover is not a fee-paying cover type unless it supports habitat for covered species. The developed land cover does not support habitat for covered species and therefore, the project's individual impacts and its contribution to cumulative impacts to developed land cover are less-than-significant and no fee or other mitigation is required.

Wildlife Movement Corridor

Cache Creek is an important movement corridor for birds, mammals, and reptiles in Yolo County. Lower Cache Creek occurs within an extensive agricultural landscape and provides one of the few natural corridors through the region. Over the course of several weeks, the project will remove most of the vegetation along an approximately 1,300-foot linear section of the creek, use heavy equipment to remove thousands of yards of accumulated sediment, and then recontour and restore the basin. The creek is expected to be dry during most this work and so aquatic organisms should not be substantially affected. Birds that use the creek as a flight corridor may be temporarily disturbed, but also not substantially affected. Movement of mammals and reptiles, however, could be substantially disrupted during the construction and rehabilitation period. Although the movement corridor will be restored upon completion of the project, the temporary blockage caused by the project would constitute a significant impact pursuant to CEQA.

The project will be implemented in accordance with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). Implementation of AMMs 3, 4, 5, 6, 7 and 8 will minimize this impact to a level of less-than-significant.

Special-Status Species

Sacramento Hitch, Hardhead, Chinook Salmon

Due to the lack of connectivity with the Sacramento River system and lack of consistent summer season water in lower Cache Creek, and lack of recent occurrences of these species in or near the project area, these species are not expected to occur. Potential impacts to these species therefore considered less than significant pursuant to CEQA.

Valley Elderberry Longhorn Beetle

There are an estimated 83 elderberry shrubs within the survey area capable of supporting VELB, a Covered Species under the Yolo HCP/NCCP, 26 of which are within the project boundary and would be subject to removal. These shrubs are in 7 locations within the project boundary, four of which are in shrub complexes (greater than 3 shrubs), so differentiating individual shrubs is difficult and therefore estimated. To account for this and following the 1999 USFWS guidance on VELB compensation, data were also gathered on the number of basal stems above 1 inch to characterize the total loss of VELB habitat. Table 4 provides the number of basal stems greater than 1 inch within 3 size classes by shrub or shrub complex within the project area.

Table 4. Blue elderberry shrubs and number of basal stems within the project area boundary.

Shrub or shrub complex	Estimated # of shrubs	#Stems 1-3 inches	#Stems 3-5 inches	#Stems >5 inches
1	5	13	3	3
2	9	19	21	11
3	1	2	2	1
4	5	19	2	0
5	1	0	3	3
6	3	2	3	4
7	2	12	1	1
Totals	**26**	**67**	**35**	**23**

An estimated 57 shrubs occur outside but within 100-feet of the project area boundary in 7 shrub complexes and 7 individual shrubs. These shrubs would potentially be indirectly impacted by project activities according to USFWS guidance (USFWS 1999). Table 5 provides the number of basal stems greater than 1 inch within 3 size classes by shrub or shrub complex within 100 feet of the project area.

Table 5. Blue elderberry shrubs and number of basal stems within 100 feet of the project boundary.

Shrub or shrub complex	Estimated # of shrubs	#Stems 1-3 inches	#Stems 3-5 inches	#Stems >5 inches
1x	1	0	0	3
2x	4	2	8	1
3x	1	0	3	0
4x	1	3	0	0
5x	1	0	2	0
6x	3	5	0	1
7x	9	3	3	5
8x	1	0	1	0
9x	14	7	18	20
10x	6	3	9	4
11x	8	9	27	3
12x	6	4	5	2
13x	1	1	2	0
14x	1	1	0	0
Totals	**57**	**38**	**78**	**39**

The project will be implemented in accordance with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) including its incorporation of the CCRMP per Section 6.5.8.1.1. Through provisions of the HCP/NCCP, including natural resource benefits provided under the CCRMP, and adherence to relevant avoidance and minimization measures, the project will contribute to the HCP/NCCP's conservation strategy, thereby benefiting VELB.

Therefore, this project's individual impacts and its contribution to cumulative impacts to VELB are less than significant. No mitigation is required.

Western Pond Turtle

Western pond turtle, a Covered Species under the Yolo HCP/NCCP, is considered unlikely to occur along the downstream portion of lower Cache Creek due to inconsistent flows, lack of ponding, and lack of summer season flows. There are no records of the species in or within 3 miles of the project area and no residual pool habitat that could support pond turtles during periods of low water flows. Although suitable upland nesting habitat occurs in the project area, it is too distant from a permanent water source to be considered viable nesting habitat for turtles. Also, because project activities would occur during a period when flows are absent, there are no expected impacts to this species during periods of movement. Restoration activities are expected to improve flow conditions at this location, potentially enhancing habitat conditions for this species.

The project will be implemented in accordance with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) including its incorporation of the CCRMP per Section 6.5.8.1.1. Through provisions of the HCP/NCCP, including natural resource benefits provided under the CCRMP, the project will contribute to the HCP/NCCP's conservation strategy, thereby benefiting the western pond turtle. Therefore, this Project's individual impacts and its contribution to cumulative impacts to western pond turtle are less than significant. No mitigation is required.

Northern Harrier

The open herbaceous land cover on the north slope of the project area supports habitat for northern harrier nesting; however, nesting is considered unlikely because potential habitat is surrounded by trees that enhance predation risk by providing cover and perches for potential aerial and ground predators in close proximity to potential nesting habitat. Still, impacts to suitable habitat for northern harrier nesting and foraging will occur through removal of herbaceous land cover in the project area. The relatively small amount removed, and the potential removal of a single northern harrier nest would not be considered a significant impact pursuant to CEQA, however, to avoid violating Fish and Game Code 3503.5, which protects active raptor nests, and because potential for nesting exists, a preconstruction survey is warranted to determine the presence or absence of active northern harrier nests in the project area. This preconstruction survey would be conducted concurrently with other preconstruction surveys per HCP/NCCP AMMs.

White-tailed Kite

No white-tailed kites, a Covered Species under the Yolo HCP/NCCP, were observed during the survey and there are no records of white-tailed kite nesting in the project area. However, the

project area supports suitable habitat for kite nesting and foraging. Impacts to nesting and foraging habitat will occur through removal of riparian trees and herbaceous land cover.

The project will be implemented in accordance with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) including its incorporation of the CCRMP per Section 6.5.8.1.1. Through provisions of the HCP/NCCP, including natural resource benefits provided under the CCRMP and implementation of AMM16, the project will contribute to the HCP/NCCP's conservation strategy, thereby benefiting the white-tailed kite. Therefore, this Project's individual impacts and its contribution to cumulative impacts to white-tailed kite are less than significant.

Swainson's Hawk

During the August 16, 2020 survey, several adult and juvenile Swainson's hawks, a Covered Species under the Yolo HCP/NCCP, were observed in the project area, and an active Swainson's hawk nest was found in the project area. This nest tree, a mature cottonwood tree (Figure 5) (Plate 12), would be removed by project activities. In addition, other suitable nesting habitat would be impacted through removal of other mature cottonwood, valley oak, black walnut, and willow trees in the project area. During the March 29, 2021 survey, red-tailed hawks were occupying this nest. The Swainson's hawk pair was observed and will likely establish a new nest elsewhere in the vicinity.

The project will be implemented in accordance with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) including its incorporation of the CCRMP per Section 6.5.8.1.1. Through provisions of the HCP/NCCP, including natural resource benefits provided under the CCRMP and implementation of AMM16, the project will contribute to the HCP/NCCP's conservation strategy, thereby benefiting the Swainson's hawk. Therefore, this Project's individual impacts and its contribution to cumulative impacts to Swainson's hawk are less than significant.

Burrowing Owl

No burrowing owls or suitable burrowing owl habitat was detected during the survey and the potential for burrowing owl occurrence immediately adjacent to the project area is considered very low. Potential, but marginal habitat is restricted to the edges of the levees and roadsides along the north and south sides of the creek, particularly east of County Road 18; however, surveys did not reveal any burrowing occurrences or sign. As a result, this Yolo HCP/NCCP covered species is considered absent from the project area, applicable AMMs are not required, and impacts to marginal habitat is considered less-than-significant pursuant to CEQA. No mitigation is required.

Long-eared Owl

The valley-foothill riparian communities in the project area are considered suitable habitat for long-eared owls. Potential impacts to this species would occur through removal of these riparian habitats. However, the long-eared owl has not been reported from the project area or vicinity and is rarely encountered on the valley floor. Potential for occurrence of this species in the project area is considered remote. Also, the project includes restoration of riparian vegetation. As a result, the removal of suitable habitat for this species does not constitute a significant impact pursuant to CEQA. No mitigation is required.

Loggerhead Shrike

The valley-foothill riparian communities in the project area are considered suitable nesting habitat for loggerhead shrike and the open herbaceous areas are considered suitable foraging habitat. A shrike was observed onsite during surveys, so use of the area has been documented. Although a nest was not found, there is reasonable likelihood that shrikes are nesting onsite, or that there is potential to nest onsite. Potential impacts to this species would occur through removal of riparian habitats. Due to the extent of suitable riparian nesting habitat along Cache Creek, the loss of potential shrike nest trees from project activities is not expected to substantially affect the distribution or abundance of the species and would therefore not be considered a significant impact pursuant to CEQA. No mitigation is required.

Bank Swallow

Although bank swallow, a Covered Species under the Yolo HCP/NCCP, is known to occur along Cache Creek, the project site does not support suitable vertical, unvegetated banks that would provide nesting habitat. Marginal potential habitat was present at one site approximately 300 feet of the channel reconfiguration area and 50 feet of the levee rehabilitation area, but no activity was detected and there are no records of occurrence from this location. Incidental foraging occurrences of bank swallows are possible, but there are no records from the project area and no bank swallows were observed during surveys. No active or potential nesting habitat for this species would be removed and no disturbance to nesting colonies would occur. Suitable habitat could develop over time, however, as scouring occurs along the creek and vertical banks are created. As a result, this Yolo HCP/NCCP covered species is considered absent from the project area, applicable AMMs are not required, and project activities are considered less-than-significant pursuant to CEQA. No mitigation is required.

Least Bell's Vireo

Least Bell's vireo, a Covered Species under the Yolo HCP/NCCP, is not known to occur along Cache Creek, or with the exception of one occurrence in Putah Creek Sinks reported between 2010 and 2013, elsewhere in Yolo County. The mixed willow riparian in the project area is considered marginally suitable for this species, but the lack of records from the area, including historic records, strongly suggests this species does not occur in or near the project area. As a result, the removal of 0.3 acres of mixed willow riparian is not considered a significant impact to the species pursuant to CEQA. No mitigation is required.

Yellow-breasted Chat

There are no confirmed breeding records for the yellow-breasted chat along lower Cache Creek and none were detected during surveys. Most incidental records appear to be post-breeding season, although there have been several breeding-season records along the creek, including at the Cache Creek Preserve, indicating the potential for breeding along lower Cache Creek. Marginal quality breeding habitat occurs in the project area and thus the site is not expected to be occupied by breeding birds. Removal of this habitat during project activities is not expected to substantially affect the distribution and abundance of this species and therefore would not constitute a significant impact pursuant to CEQA. No mitigation is required.

Yellow Warbler

The mixed willow riparian in the project area is considered moderately suitable for yellow warbler. Although the species was not detected during the survey and there are no records from the project area or immediate vicinity, there have been incidental breeding season reports elsewhere along lower Cache Creek. Still, based on survey results and the lack of any nearby records, the species is not expected to nest in the project area. Removal of 0.3 acres of mixed willow riparian during project activities is not expected to substantially affect the distribution and abundance of this species and therefore would not constitute a significant impact on this species pursuant to CEQA. No mitigation is required.

Tricolored Blackbird

The tricolored blackbird, a covered species under the Yolo HCP/NCCP, was not observed during surveys and there are no records of breeding colonies on or in the vicinity of the project area. Marginal quality nesting habitat occurs in the mixed willow riparian and the thistle and wild rose-dominated portions of the herbaceous land cover. Although structurally suitable, these areas are unlikely to be occupied due to the presence of surrounding riparian and lack of visibility, which increases the potential for predation and preclude occupancy by tricolored blackbirds. Therefore, removal of potential habitat for this species would not constitute a significant impact pursuant to CEQA. No mitigation is required.

Bats

Although all three potentially occurring special-status bats may be found incidentally hunting above and within the project area, western red bat also has potential to roost in the large riparian trees in the project area. The pallid bat and Townsend's big-eared bat are colonial roosters and the trees in the project area, although mature, are not sufficiently large to support a colonial bat roost. The western red bat, however, is a solitary rooster and often roosts in riparian trees by wrapping themselves around tree limbs. They typically roost in low densities (1 per acre) (Harris 1990), which suggests very few red bats would potentially be displaced from project activities, and which would not constitute a significant impact pursuant to CEQA. No mitigation is required.

Black Walnut

Of the 20 black walnut trees in the survey area, only two are within the project area and are subject to removal. Both are located inside the channel reconfiguration area (Figure 5). One is just above sapling-sized with an approximately 6- to 8-inch dbh. The other is approximately 35 feet tall with 16-inch dbh. Removal of these black walnut tree is not expected to have a substantial effect on the distribution or abundance of black walnut trees along Cache Creek, and is therefore considered less-than-significant pursuant to CEQA. No mitigation is required.

Mitigation Measures

Biological Communities

Impacts to valley foothill riparian natural communities (cottonwood/valley oak riparian, mixed willow riparian, riparian scrub, herbaceous) and wetland natural communities (lacustrine and riverine) will be mitigated through participation in the Yolo HCP/NCCP. Through compliance with provisions of the HCP/NCCP including its incorporation of the CCRMP per Section 6.5.8.1.1. and adherence to relevant avoidance and minimization measures, the project will contribute to the HCP/NCCP's conservation strategy, thereby fully mitigating for the loss valley-foothill riparian and wetlands and benefiting associated species, including covered species.

Impacts to Cache Creek wetland and waters (lacustrine and riverine) will also be mitigated through implementation of AMM10 of the Yolo HCP/NCCP as follows.

AMM10, Avoid and Minimize Effects on Wetlands and Waters.

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

Wildlife Movement Corridor

Minimizing the effects of disrupting wildlife movement along Cache Creek requires implementation of construction-related measures to allow for movement to the extent possible and avoid potential mortality of wildlife from operations. Although the approximately 1,300 linear foot area will be substantially disturbed, an undisturbed corridor will be retained along the northern edge of the project area from the levee and extending downslope from 150 to 250-feet. This area consists of relatively dense cover of valley oak woodland and riparian scrub habitats.

A narrower, undisturbed edge will also be retained along the south side of the project from the levee and extending downslope between approximately 20 and 100 feet throughout most of the length of the project. Although the interior of the project area will be cleared of all vegetation, these narrower corridors could continue function as movement corridors as long as other construction-related precautions are implemented.

The following avoidance and minimization measures, which are typical construction-related best management practices, are taken from the Yolo HCP/NCCP and designed to avoid and minimize effects on natural communities and covered species. They are also applicable to minimizing the disturbance within the retained undisturbed, vegetated corridors on the north and south sides of the project area and allowing for some movement of wildlife throughout the project area. Implementation of these AMMs, described below, will reduce the impact of the project on wildlife movement corridors to a less-than-significant level.

AMM3, Confine and Delineate Work Area

Where natural communities and covered species habitat are present, workers will confine land clearing to the minimum area necessary to facilitate construction activities. Workers will restrict movement of heavy equipment to and from the project site to established roadways to minimize natural community and covered species habitat disturbance. The project proponent will clearly identify boundaries of work areas using temporary fencing or equivalent and will identify areas designated as environmentally sensitive. All construction vehicles, other equipment, and personnel will avoid these designated areas.

AMM4, Cover Trenches and Holes during Construction and Maintenance

To prevent injury and mortality of giant garter snake, western pond turtle, and California tiger salamander, workers will cover open trenches and holes associated with implementation of covered activities that affect habitat for these species or design the trenches and holes with escape ramps that can be used during non-working hours. The construction contractor will inspect open trenches and holes prior to filling and contact a qualified biologist to remove or release any trapped wildlife found in the trenches or holes.

AMM5, Control Fugitive Dust

Workers will minimize the spread of dust from work sites to natural communities or covered species habitats on adjacent lands.

AMM6, Conduct Worker Training

All construction personnel will participate in a worker environmental training program approved/authorized by the Conservancy and administered by a qualified biologist. The training will provide education regarding sensitive natural communities and covered species and their habitats, the need to avoid adverse effects, state and federal protection, and the legal implications of violating the ESA and Natural Community Conservation Planning Act permits. A pre-

recorded video presentation by a qualified biologist shown to construction personnel may fulfill the training requirement.

AMM7, Control Nighttime Lighting of Project Construction Sites

Workers will direct all lights for nighttime lighting of project construction sites into the project construction area and minimize the lighting of natural habitat areas adjacent to the project construction area.

AMM8, Avoid and Minimize Effects of Construction Staging Areas and Temporary Work Areas

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

- Serpentine, valley oak woodland, alkali prairie, vernal pool complex, valley foothill riparian, and fresh emergent wetland land cover types.
- Occupied western burrowing owl burrows
- Nest sites for covered bird species and all raptors, including noncovered raptors, during the breeding season.

Project proponents will follow specific AMMs for sensitive natural communities and covered species in temporary staging and work areas. For establishment of temporary work areas outside of the project footprint, project proponents will conduct surveys to determine if any of the biological resources listed above are present.

Within 1 year following removal of land cover, project proponents will restore temporary work and staging areas to a condition equal to or greater than the covered species habitat function of the affected habitat. Restoration of vegetation in temporary work and staging areas will use clean, native seed mixes approved by the Conservancy that are free of noxious plant species seeds.

Special-status Species

Impacts to special-status species will be mitigated through adherence to relevant provisions of the HCP/NCCP and implementation of AMM16.

AMM16, Minimize Take and Adverse Effects on Habitat of Swainson's Hawk and White-Tailed Kite

The project proponent will retain a qualified biologist to conduct planning-level surveys and identify any nesting habitat present within 1,320 feet of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.

If a construction project cannot avoid potential nest trees (as determined by the qualified biologist) by 1,320 feet, the project proponent will retain a qualified biologist to conduct preconstruction surveys for active nests consistent, with guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000), between March 15 and August 30, within 15 days prior to the beginning of the construction activity. The results of the survey will be submitted to the Conservancy and CDFW. If active nests are found during pre-construction surveys, a 1,320-foot initial temporary nest resource protection buffer shall be established. If project related activities within the temporary nest resource protection buffer are determined to be necessary during the nesting season, then the qualified biologist will monitor the nest and will, along with the project proponent, consult with CDFW to determine the best course of action necessary to Chapter 5 Avoidance and Minimization Measures Implementation Handbook Permitting Guide 65 January 2020 avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest resource protection buffer if Swainson's hawk or white-tailed kite are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the 1,320-foot resource protection buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior. Up to 20 Swainson's hawk nest trees (documented nesting within the last 5 years) may be removed during the permit term, but they must be removed when not occupied by Swainson's hawks.

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

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Appendix A. List of Wildlife Species Detected During Surveys

Common Name	Scientific Name
Reptiles	
Alligator lizard	*Elgaria* spp.
Western fence lizard	*Sceloporus occidentalis*
Birds	
Canada goose	*Branta canadensis*
Great-blue heron	*Ardea herodias*
Great egret	*Ardea alba*
Canada goose	*Branta canadensis*
Turkey vulture	*Cathartes aura*
Swainson's hawk	*Buteo swainsoni*
Red-tailed hawk	*Buteo jamaicensis*
Red-shouldered hawk	*Buteo lineatus*
American kestrel	*Falco sparverius*
California quail	*Callipepla californica*
Mourning dove	*Zenaida macroura*
Anna's hummingbird	*Calypte anna*
Nuttall's woodpecker	*Picoides nuttallii*
Northern flicker	*Colaptes auratus*
Black phoebe	*Sayornis nigricans*
Western kingbird	*Tyrannus verticalis*
Loggerhead shrike	*Lanius ludovicianus*
California scrub jay	*Aphelocoma californica*
Yellow-billed magpie	*Pica nuttalli*
American crow	*Corvus brachyrhynchos*
Common raven	*Corvus corax*
Cliff swallow	*Petrochelidon pyrrhonota*
Tree swallow	*Tachycineta bicolor*
Oak titmouse	*Baeolophus inornatus*
Northern mockingbird	*Mimus polyglottos*
European starling	*Sturnus vulgaris*
California towhee	*Melozone crissalis*
Song sparrow	*Melospiza melodia*
Red-winged blackbird	*Agelaius phoeniceus*
Mammals	
Black-tailed deer	*Odocoileus hemionus columbianus*
Coyote (sign)	*Canis latrans*
Raccoon (sign)	*Procyon lotor*
Black-tailed jackrabbit	*Lepus californicus*
Audubon's cottontail	*Sylvilagus audubonii*
Striped skunk (sign)	*Mephitis mephitis*
California ground squirrel	*Spermophilis becheyi*
Pocket gopher (sign)	*Thomomys bottae*

APPENDIX D

CULTURAL RESOURCES INVENTORY

CONFIDENTIAL INFORMATION
ACTUAL REPORT NOT INCLUDED