

Locke Multi-Benefit Flood Risk Reduction Planning Project Initial Study/Proposed Mitigated Negative Declaration

Prepared for:

Reclamation District 369
P.O. Box 987, Walnut Grove, CA 95690

Contact:

Clarence Chu
President
916-813-7037

Prepared by:

GEI Consultants, Inc.
11010 White Rock Road, Suite 200
Rancho Cordova, CA 95670

Contact:

Jeff Twitchell
Project Manager
916-990-2569

December 17, 2024

Project No. 2305524

This page intentionally left blank.

INITIAL STUDY

Project	Locke Multi-Benefit Flood Risk Reduction Planning Project
Lead Agency:	Reclamation District 369

This page intentionally left blank.

Table of Contents

Acronyms and Abbreviations	iii
Chapter 1. Introduction	1-1
1.1 Purpose of the Initial Study	1-1
1.2 Summary of Findings	1-2
1.3 Document Organization	1-3
Chapter 2. Project Description	2-1
2.1 Project Background	2-1
2.2 Project Location	2-2
2.3 Project Objectives	2-2
2.4 Proposed Project	2-8
2.5 Project Implementation	2-12
2.6 Regulatory Requirements, Permits, and Approvals	2-14
Chapter 3. Environmental Checklist	3-1
3.1 Aesthetics	3-3
3.2 Agriculture and Forestry Resources	3-5
3.3 Air Quality	3-8
3.4 Biological Resources	3-12
3.5 Cultural Resources	3-59
3.6 Energy	3-68
3.7 Geology and Soils	3-70
3.8 Greenhouse Gas Emissions	3-75
3.9 Hazards and Hazardous Materials	3-77
3.10 Hydrology and Water Quality	3-81
3.11 Land Use and Planning	3-86
3.12 Mineral Resources	3-88
3.13 Noise	3-89
3.14 Population and Housing	3-93
3.15 Public Services	3-94
3.16 Recreation	3-96
3.17 Transportation	3-99
3.18 Tribal Cultural Resources	3-101
3.19 Utilities and Service Systems	3-105
3.20 Wildfire	3-108
3.21 Mandatory Findings of Significance	3-110
Chapter 4. References	4-1
Chapter 5. Report Preparers	5-1

Tables

Table 2-1.	Ground Disturbance Activity Overview	2-13
Table 3.4-1.	Special-status Plant Species Evaluated for Potential to Occur In and Adjacent to the Project Site	3-19
Table 3.4-2.	Special-status Wildlife Species Evaluated for Potential to Occur In and Adjacent to the Project Site	3-23
Table 3.5-1.	Previous Studies within the Project Area	3-61
Table 3.5-2.	Previously Recorded Cultural Resources within the Project Area	3-62
Table 3.13-1.	Construction Equipment and Typical Equipment Noise Levels	3-91

Figures

Figure 2-1.	Regional Location	2-3
Figure 2-2.	Project Location and Site Features	2-5
Figure 2-4.	Cross Section and Plan View of Proposed Pipeline Replacement	2-9
Figure 3-1.	Habitat Map	3-16
Figure 3-2.	Project Elements Around Valley Elderberry Longhorn Beetle Habitat	3-38

Acronyms and Abbreviations

Acronym/Abbreviation	Term
AB 52	Assembly Bill 52
BLM	Bureau of Land Management
BMPs	Best Management Practices
B.P.	Before Present
BSA	biological study area
Basin Plan	Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin
CAA	Federal Clean Air Act
CAAQS	California ambient air quality standards
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
Cal/OSHA	California Occupational Safety and Health Administration requirements
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resource Board
CCAA	California Clean Air Act
CCR	Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
Central Valley RWQCB	Central Valley Regional Water Quality Control Board
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CHSC	California Health and Safety Code
CNDDB	California Natural Diversity Database

Acronym/Abbreviation	Term
CNPS	California Native Plant Society
CO	carbon monoxide
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CVFPP	Central Valley Flood Protection Plan
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationships
dBA	A-weight decibel
DOC	Department of Conservation
DPR	California Department of Parks and Recreation
DTSC	Department of Toxic Substances Control
DPS	Distinct Population Segment
DWR	Department of Water Resources
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Authority
GHG	greenhouse gas
HCP	Habitat Conservation Plan
HP	horsepower
IS	Initial Study
IS/MND	Initial Study/proposed Mitigated Negative Declaration
L_{eq}	1-hour equivalent sound level
L_{max}	maximum A-weighted sound level
LMA	Local Maintaining Agency
MBTA	Migratory Bird Treaty Act
MHHW	Mean High-High-Water
MLD	Most Likely Decendant
MMRP	Mitigation Monitoring and Reporting Program
MRZ	mineral resource zone
NAAQS	national ambient air quality standards
NAHC	Native American Heritage Commission
NCCP	Natural Communities Conservation Plan

Acronym/Abbreviation	Term
NCIC	North Central Information Center
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NO _x	nitrogen oxides
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Properties
OHP	Office of Historic Preservation
PCBs	polychlorinated biphenyls
PG&E	Pacific Gas and Electric
PM	particulate matter
PM ₁₀	PM equal to or less than 10 micrometers in diameter
PM _{2.5}	PM equal to or less than 2.5 micrometers in diameter
PPV	peak particle velocity
PRC	Public Resources Code
proposed project	Locke Multi-Benefit Flood Risk Reduction Planning Project
RD	Reclamation District
ROG	reactive organic gases
ROE	Right of Entry
RPA	Registered Professional Archaeologist
SB	Senate Bill
SCFRRP	Small Community Flood Risk Reduction Program
SDSS-R	Snodgrass Slough Right Bank Levee
SLF	Sacred Lands File
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO ₂	sulfur dioxide
SPFC	State Plan of Flood Control
SR	State Route
SRA	State Responsibility Area
SSHCP	South Sacramento HCP
SVAB	Sacramento Valley Air Basin
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	California State Water Resources Control Board
TCR	Tribal Cultural Resource
TMSS-L	The Meadows Slough' left bank levee

Acronym/Abbreviation	Term
TMXS-R	The Meadows Slough (right bank cross levee)
USACE	U.S. Army Corps of Engineers
USBR	U.S. Bureau of Reclamation
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Service
VdB	vibration decibels
VMT	vehicle miles traveled
WEAP	worker environmental awareness program
WGBL	Walnut Grove Branch Line (former railroad alignment)
WSEL	water surface elevation

Chapter 1. Introduction

Reclamation District (RD) 369 has prepared this Initial Study (IS) and proposed Mitigated Negative Declaration (MND) in compliance with the California Environmental Quality Act (CEQA) to address the potentially significant and significant environmental impacts of the proposed Locke Multi-Benefit Flood Risk Reduction Planning Project (project, proposed project) in Sacramento County, California. RD 369 is the lead agency under CEQA.

To satisfy CEQA requirements, this document includes:

- a Notice of Intent to adopt a MND for the proposed project
- a proposed MND, and
- an IS

After the required public review of this document is complete, RD 369 will consider adopting the MND, all comments received on the IS/MND, and the entirety of the administrative record for the project, and decide whether to adopt the Proposed MND, adopt and incorporate into the proposed project the mitigation measures identified in the IS, adopt a Mitigation Monitoring and Reporting Program (MMRP), and approve the proposed project. The MMRP will be prepared after public review of the IS/MND is complete.

1.1 Purpose of the Initial Study

This document is an IS/MND prepared in accordance with CEQA (California Public Resources Code, Section 21000 et seq.) and the State CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations [CCR]) (CEQA Guidelines). The purpose of this IS is to: (1) determine whether the proposed project would result in potentially significant or significant impacts on the physical environment; and (2) whether mitigation measures identified in the IS and incorporated into the proposed project would avoid or reduce significant impacts to a less than significant level. An MND is prepared if the IS identifies potentially significant impacts, but: (1) revisions to the proposed project mitigate the impacts to a point where clearly no significant impacts would occur; and (2) there is no substantial evidence, in light of the whole record before the agency, that the proposed project, as revised, may have a significant impact on the physical environment.

An IS presents environmental analysis and substantial evidence in support of its conclusions regarding the significance of environmental impacts. Substantial evidence includes fact, a reasonable assumption based upon fact, or expert opinion supported by facts. An IS is neither intended nor required to include the level of detail required of an environmental impact report (EIR).

CEQA requires that all State and local government agencies consider the potentially significant and significant environmental impacts of projects they propose to carry out or projects over which they have discretionary authority, before implementing or approving those projects. The

public agency that has the principal responsibility for carrying out or approving a proposed project is the lead agency for CEQA compliance (CEQA Guidelines, Section 15367). RD 369 has the principal responsibility for funding, contractual oversight, and implementing the proposed project, and is therefore the lead agency for this IS/MND.

If there is substantial evidence that a proposed project, either individually or cumulatively, may have a significant impact (i.e., a significant or potentially significant effect on the physical environment), the lead agency must prepare an EIR (State CEQA Guidelines, Section 15064[a]). If the IS concludes that any impacts would be potentially significant, but that mitigation measures adopted by RD 369 would clearly reduce impacts to a less than significant level, a MND may be prepared.

RD 369 has prepared this IS to evaluate the potential environmental impacts of the proposed project and has identified mitigation measures to avoid or reduce any potentially significant project-related impacts to a less than significant level. Therefore, an MND has been prepared for the proposed project.

1.2 Summary of Findings

Chapter 3 of this document contains the analysis and discussion of potential environmental impacts of the proposed project based on the issues listed in the State CEQA Guidelines Appendix B Environmental Checklist Form. Based on the evaluation of these issues in Chapter 3, below, it was determined that:

The proposed project would result in no impacts on the following issue areas:

- Agriculture and Forestry
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Service
- Wildfire

The proposed project would result in less-than-significant impacts on the following issue areas:

- Aesthetics
- Air Quality
- Energy
- Greenhouse Gas Emissions
- Noise
- Recreation
- Transportation
- Utilities and Service Systems

The proposed project would result in less-than-significant impacts on the following issue areas with implementation of mitigation identified in the IS/MND:

- Biological Resources
- Cultural Resources
- Geology and Soils

- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Tribal Cultural Resources

1.3 Document Organization

This document is divided into the following three key sections required under CEQA:

Notice of Intent to Adopt a Proposed Mitigated Negative Declaration for the Locke Multi-Benefit Flood Risk Reduction Planning Project. The Notice of Availability and Intent to Consider Adoption of a Proposed MND for the Locke Multi-Benefit Flood Risk Reduction Planning Project provides notice to responsible and trustee agencies and the public the availability of this IS/MND and of RD 369 intent to consider adopting an MND for the proposed project.

Proposed Mitigated Negative Declaration. The MND, which precedes the presentation of the IS analysis in this document, briefly summarizes the proposed project, summarizes the environmental conclusions, and identifies mitigation measures that would be implemented in conjunction with the proposed project.

Initial Study. The Initial Study, referred to as “IS,” constitutes the remaining portion of this document and includes an introduction, project description, environmental checklist, references cited, report preparers, and distribution list, as briefly summarized below:

Chapter 1, “Introduction.” This chapter describes the purpose of the IS/MND, summarizes findings, and describes the organization of this IS/MND.

Chapter 2, “Project Description.” This chapter describes the project location and background, project objectives, project characteristics, project activities (including ground disturbing activities), project operations and maintenance (O&M), and discretionary actions and approvals required to implement the project.

Chapter 3, “Environmental Checklist.” This chapter presents an analysis of environmental issues identified in the CEQA environmental checklist and determines whether project implementation would result in a potentially significant impact, a less-than-significant impact with mitigation incorporated, a less-than-significant impact, or no impact on the physical environment in each topic area. Should any impacts be determined to be potentially significant or significant, an EIR would be required. For this proposed project, however, mitigation measures have been identified and would be adopted and incorporated into the project to reduce all potentially significant and significant impacts to a less than significant level.

Chapter 4, “References Cited.” This chapter lists the references used to prepare this IS/MND.

Chapter 5, “Report Preparers.” This chapter identifies report preparers who contributed to the preparation of this document.

This page intentionally left blank.

Chapter 2. Project Description

This chapter describes the project background, location and setting, project objectives, project elements and characteristics, project implementation, operation and maintenance (O&M), and discretionary actions and approvals that may be required.

2.1 Project Background

Delta Legacy Community of Locke

The community of Locke is one of eight Delta Legacy Communities located along the Lower Sacramento River Corridor in the North Delta participating in the Small Communities Flood Risk Reduction Program (SCFRRP) partially funded by DWR and included in the CVFPP. Most of the levees surrounding the community of Locke were initially constructed prior to 1915 by local interests and were generally built using materials dredged from the adjacent Sacramento River and nearby, adjoining sloughs, including Snodgrass Slough. Components of the RD 369 levee system along Snodgrass Slough were constructed prior to 1937 as part of a railroad embankment, commonly referred to as the Walnut Grove Branch Line (WGBL). Various improvements have been made to the State Plan of Flood Control (SPFC) levees along the Sacramento River over the years, including levee reconstruction and bank protection work at multiple locations. The SPFC levees are Federal and State managed levee segments which reduce the threat of major flooding along within Sacramento and San Joaquin River watersheds (including tributaries and distributaries) in the Central Valley. In 2006, FEMA reached out to the Sacramento County and the levee maintenance districts, including RD 369 and RD 554, to find out if adequate documentation supported certification of the levees, including both SPFC and non-SPFC levees. In 2012, FEMA updated the flood insurance rate maps (FIRMs) and the Libby McNeill tract, inclusive of the community of Locke, was mapped as a Special Flood Hazard Area Zone AE.

The levees protecting the community of Locke do not meet modern levee design standards to provide a 100-year level of flood protection (pursuant to FEMA accreditation standards in the Code of Federal Regulations, Chapter 1, Subchapter B, Part 65, Section 65.10 [44 CFR §65.10]). The levees meet the State Non-Urban Levee Evaluation project (NULE) designation criteria of flood protection for populations for fewer than 10,000 people.

Reclamation District 369

RD 369 is the flood control agency or Local Maintaining Agency (LMA) with primary authority over flood management operations and maintenance in the Delta Legacy Community of Locke, including SPFC and non-SPFC levees in the project area within and adjacent to the Delta Meadows State Park Property. RD 369 is currently responsible for operating and maintaining: (1) a 0.8-mile segment of a SPFC levee along the left bank of the Sacramento River immediately west of Locke along the river frontage boundaries of Locke; and (2) approximately 1.2 miles of non-SPFC levee segments east of Locke adjoining Snodgrass Slough and the westerly

boundaries of the Delta Meadows State Park Property, including 0.6 miles of the former WGBL railroad embankment just east of Locke, and north of the U.S. Bureau of Reclamation (USBR) Delta Cross Channel.

RD 369 was formed and continues to operate as a reclamation district pursuant to Water Code Sections 50000 *et seq.* and has legal authority to enter into funding agreements with the State of California. RD 369, on behalf of the Delta Legacy Community of Locke, has been awarded a Department of Water Resources (DWR) Proposition 68 Floodplain Management, Protection, and Risk Awareness Grant for implementation of flood risk reduction measures to the historical Delta Legacy Community of Locke. The planning project also consists of identifying potential multi-benefit ecosystem restoration and recreation enhancements within and adjoining the Delta Meadows State Park Property and the nearby USBR Delta Cross Channel.

2.2 Project Location

The project site is located approximately 0.70-mile from the historic Delta Legacy Community of Locke, in unincorporated Sacramento County, CA (see **Figure 2-1**). The project area, which includes the project site and vicinity, includes the levee system surrounding the community of Locke; the Sacramento River left bank west (SACR-L), the Meadows Slough left bank levee (TMSS-L), and the Meadows Slough right bank levee (TMXS-R) (see **Figure 2-2**). See **Figure 2-2** for the location of project components, including proposed boring locations, pipeline replacement site, and bathymetric surveys, as well as adjacent landmark features. See **Figure 2-3** for tree removal and trimming locations. Project components are described in more detail in Section 2.4, “Proposed Project.”

2.3 Project Objectives

The main objective of the proposed project is to: (1) characterize the condition of the levee embankment structures and composition within levee segment TMXS-R, inclusive of conducting geotechnical explorations and evaluations; (2) replacing an existing 10-inch sub-standard, temporary drainage pipeline over levee segment TMXS-R with a new permanent 12-inch pipeline within the earthen embankment section of the levee consistent with the latest engineering and safety standards to protect Locke from periodic storm drainage issues; and (3) place an all-weather-road surface on the levee crown of levee segment TMXS-R. The project would collect geotechnical data, including borings and soil samples, to inform the planning effort to compose alternatives for levee improvements and reduce flood risks to the community of Locke. Following the completion of geotechnical borings and pipeline replacement along levee segment TMXS-R RD 369 also intends to install a year-round all-weather gravel road surface along the entire 0.6-mile length of levee segment TMXS-R.



Figure 2-1. Regional Location

This page intentionally left blank

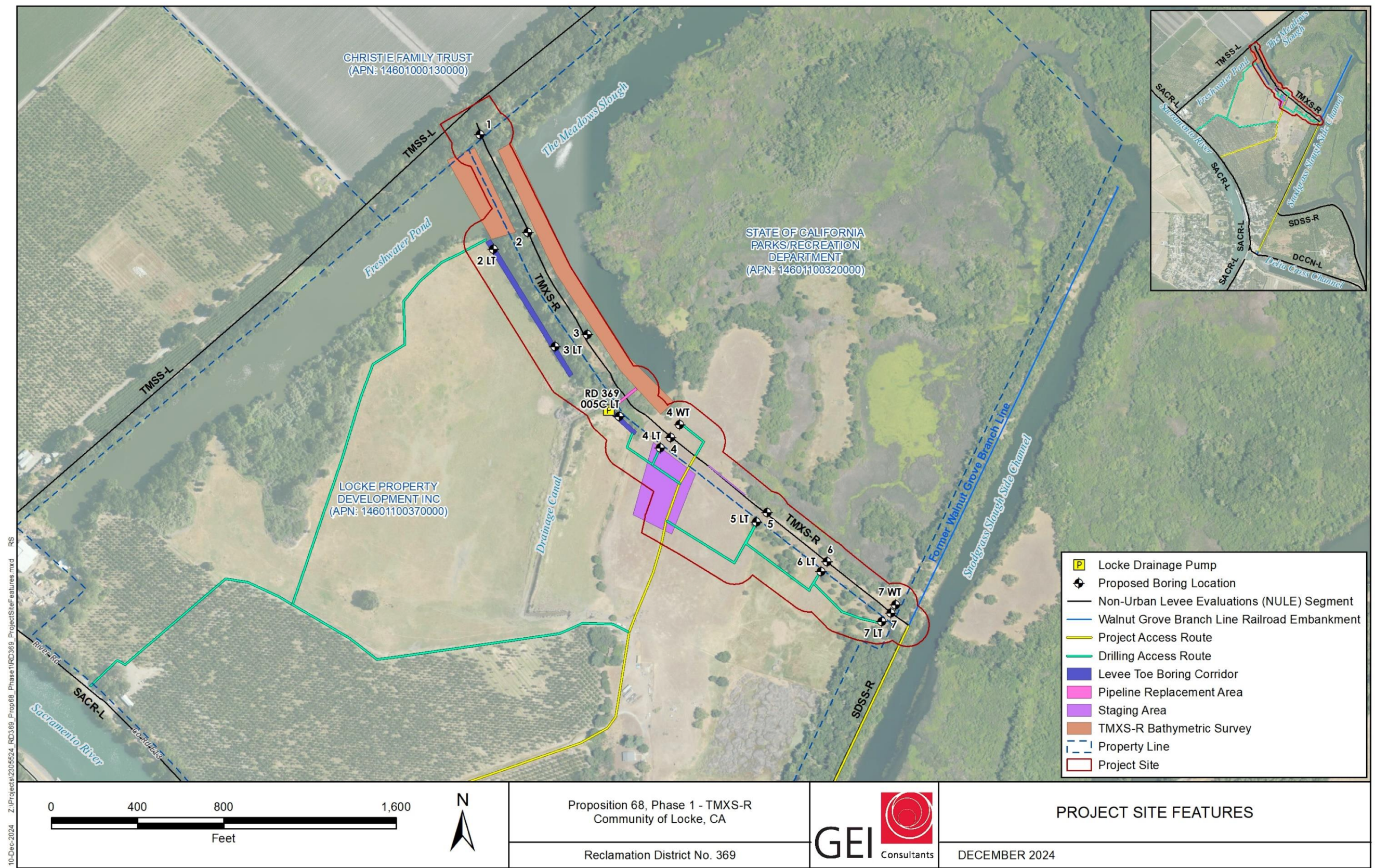


Figure 2-2. Project Location and Site Features

This page intentionally left blank

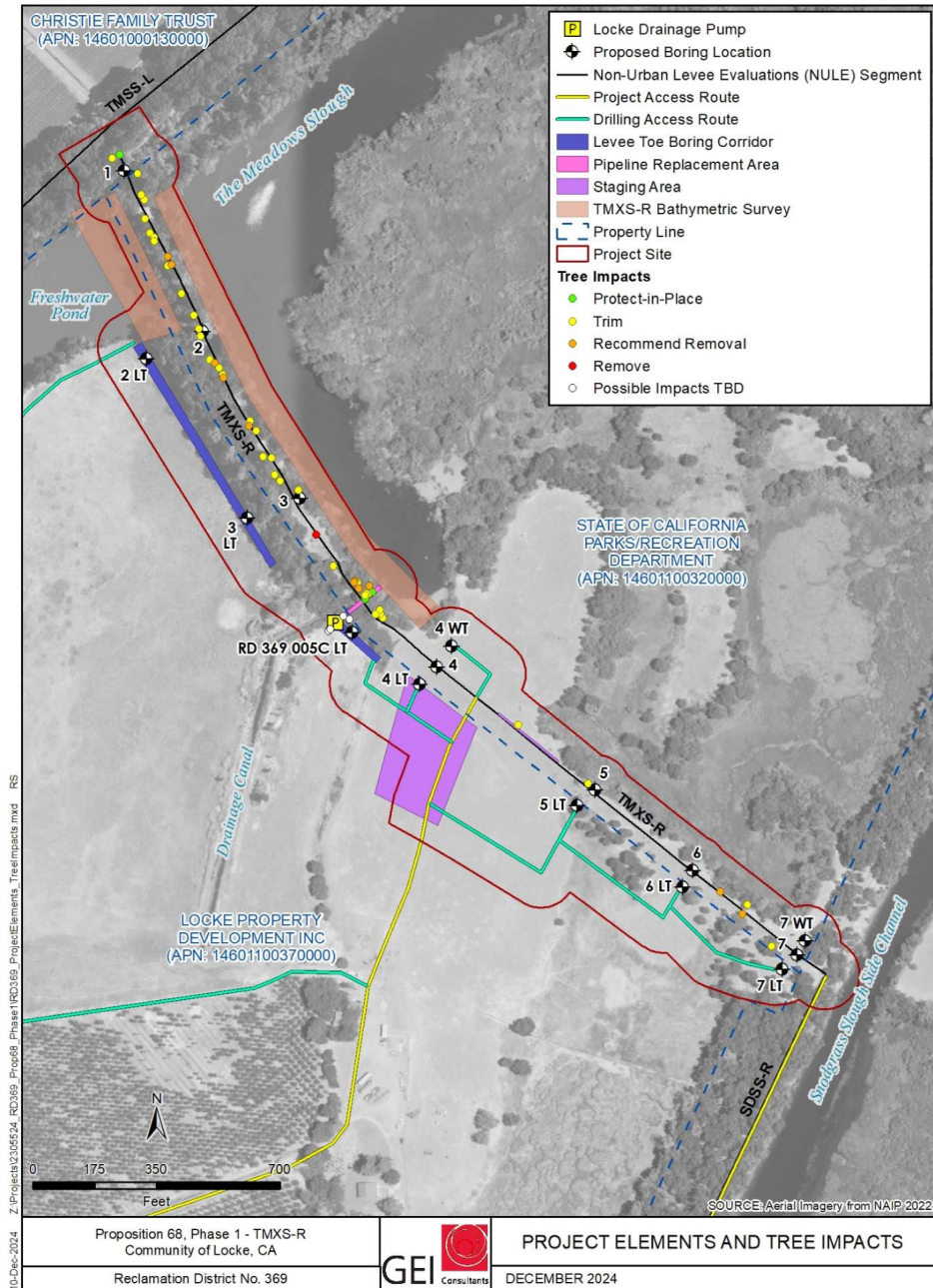


Figure 2-3. Project Elements and Tree Impacts

2.4 Proposed Project

The proposed project includes the following: (1) pipeline removal and replacement within levee segment TMXS-R; (2) removal and replacement of an outdated drainage pump located on adjacent private property; (3) geotechnical exploration borings along the waterside levee toe, levee crest, and landside levee toe of the levee segment TMXS-R; (4) bathymetric surveys along the adjoining waterways; (5) tree trimming and removal as needed to complete project activities; and, (6) placement of aggregate base along the TMXS-R levee top. A detailed description of each project component is provided below.

Pipeline Replacement and Removal

This proposed project includes removal of an existing 10-inch-diameter temporary pipeline located over top of the levee crown currently used for draining a 221-acre area that includes the Delta Legacy Community of Locke. Additionally, two abandoned, buried corroded steel pipelines (one located below the 100-year design water surface elevation (WSEL), and one located above the 100-year design WSEL) within the levee section, as shown on Figure 2-2, would both be removed. Due to the corroded state of these existing pipelines, they pose a risk to the existing RD 369 levee embankment and area protected by the RD 369 levee system, including the community of Locke. Removal of the pipelines from the existing levee embankment would include digging a 20- to 24-foot-wide trench at the top of the levee crown to accommodate removal of the lowest pipeline, located approximately eight to ten feet below the top of the existing levee crown.

The proposed project would install a 12-inch-diameter drainage pipeline buried through the top of the levee above the 100-year design water surface elevation. To minimize excavation and ground disturbance on both the landside and waterside slopes below the 100-year design WSEL, the new 12-inch replacement pipe would either be placed atop the side slopes of the levee embankment or buried with only 12-inches of backfill material. Once the pipeline is backfilled, all disturbed levee embankment areas, except for the levee crown itself, would be reseeded with native grass species to eliminate future erosion along the disturbed levee embankment slopes.

Figure 2-4 depicts a cross section and plan view of the proposed replacement pipeline. Additionally, up to 10 cubic yards of rock slope protection would be placed below the Mean High-High-Water (MHHW) line at the downstream end of the pipeline discharge to minimize any future erosion and/or turbidity during discharges at the outfall.

Pump Removal and Replacement

An existing, non-self-priming 5 horsepower (HP) electric pump, located on adjacent private property shown on Figures 2-2 and 2-4, would be removed and replaced with either a 5 or 7.5 HP self-priming electric pump. The existing pump is exposed above ground on a metal platform that sits above the seasonal water surface elevation at the downstream end of the drainage collection ditch system for RD 369. The pump removal and replacement would occur concurrently with the pipeline removal and replacement described in the previous section and would require use of a large backhoe or small excavator. The metal pump platform may also require minor modifications, including installation of 2 to 4 new support posts that are approximately 6 inches in diameter, each at the same terminus end of the existing RD 369 drainage canal.

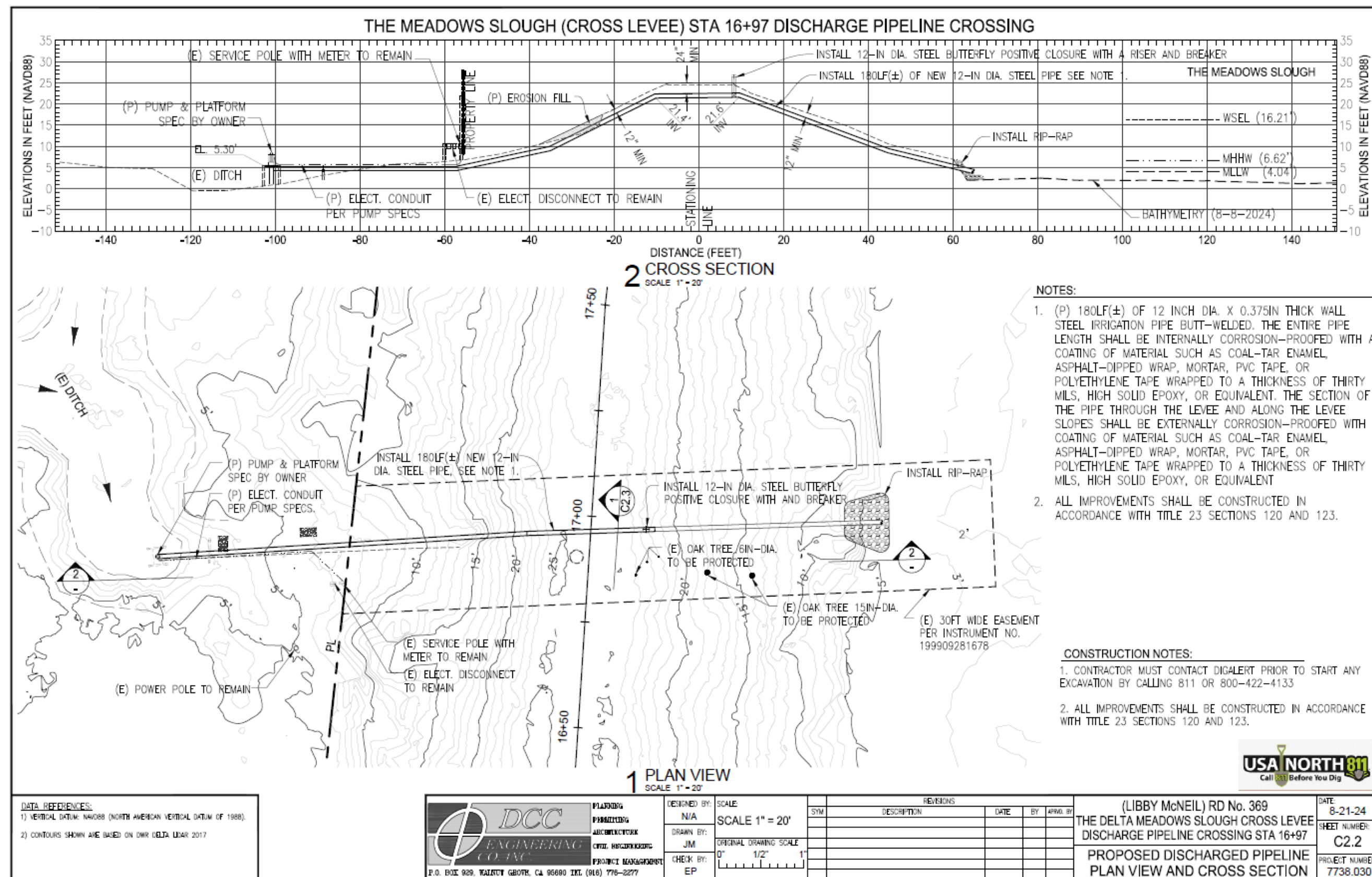


Figure 2-4. Cross Section and Plan View of Proposed Pipeline Replacement

This page intentionally left blank

Geotechnical Exploration Borings

The proposed project would include drilling up to 16 geotechnical exploration borings along the waterside levee toe, levee crest, and landside levee toe of the levee segment TMXS-R. The maximum depth of geotechnical borings below the levee crown would be approximately 130 feet below ground surface (bgs), and a maximum depth of 100 feet bgs at the levee landward and waterward toes. The geotechnical boring drill rig requires a 15-foot-wide and 15-foot-high clearance for access along the levee crown, and levee toes. Additionally, a 30-foot-high clearance is required at each geotechnical boring location to operate the boring equipment. Each boring location shown on Figures 2-2 and 2-3 is approximate and could be shifted up to 30 feet in a longitudinal direction relative to the centerline stationing of the levee based on site limitations and clearances to minimize tree removal and selective tree trimming, as needed.

Bathymetric Surveys

Bathymetric surveys are a type of hydrographic survey that maps the underwater terrain of a body of water and include details such as depth and shape of waterbody. Bathymetric surveys would be conducted along the adjoining waterways 100 feet waterward on either side of levee segment TMXS-R for beyond the waters-edge of the levee slopes (see Figure 2-2) to provide collect information on underwater topographic features. The surveys would be conducted with a two-person portable watercraft that can be launched by foot. Bathymetric survey equipment would be attached to the watercraft that measure the depth and topography of the bottom of the waterways.

Tree Trimming and Removal

A substantial existing forested riparian habitat exists on the TMXS-R and Snodgrass Slough levees. Tree trimming, tree removal, and brush removal would be required on the TMXS-R levee to enable the following project activities: (1) geotechnical exploration borings; (2) removal and replacement of the 10-inch pipeline; and (3) enhanced vehicular access and levee inspection access in the future. Selective vegetation trimming and removal of selected trees would consist of a 15-foot-wide area along the top of the levee crown and adjoining shoulders. Recommended tree removals for long-term O&M of the TMXS-R levee are included in tree removal counts. Trees to be pruned, trimmed, or removed are provided in the table below.

Tree Impacts by Canopy Percentage	Count of Trees
Up to 25%	41
More than 25% (removal)	3
Removal 100% (removal)	14
Total Impacted Trees	58

Trees with more than 25 percent of their canopies being impacted are considered as a full tree removal. A total of 17 trees are anticipated to be removed, with 41 trees slated for selective pruning.

Placement of Aggregate Base

The proposed project component includes placement of aggregate base along the entire TMXS-R 12-foot-wide levee crown roadway after all other activities are complete. This would be similar to the existing conditions at nearby levee segments such as SDSS-R and LKSRR also located within the Delta Meadows State Park. Approximately 650 cubic yards of aggregate material would be hauled to the site via small or large dump trucks.

2.5 Project Implementation

Implementation of the proposed project would consist of selective brush removal, selective tree trimming and removal, ground disturbance activities associated with conducting geotechnical borings, pipeline removal/replacement, placement of aggregate base material on levee segment TMXS-R, and operation and maintenance (O&M) including inspection activities. This section describes the characteristics associated with the ground disturbance and O&M phases of the proposed project.

Selective Brush/Tree Trimming/Removal, Geotechnical Borings, and Pipeline Removal/Replacement Characteristics

Brush Removal and Selective Tree Trimming/Removal

Brush removal, selective tree trimming, and selective tree removal would take place January-February 2025, if feasible, outside of the nesting bird season. Brush removal and selective tree trimming, and removal would typically occur between 6:00 a.m. and 8:00 p.m., Monday through Friday. If work would occur on Saturdays, it would occur between 7:00 a.m. and 8:00 p.m. (Sacramento County Code 2024). Workdays would be limited to 10 hours, 6 days per week. Nighttime work would not be required. It is currently estimated that it would take less than 30 days to remove brush and selectively trim/remove trees along levee segment TMXS-R.

Ground Disturbing Schedule and Sequencing for Geotechnical Borings and Pipeline Removal/Replacement

Ground disturbing activities associated with conducting the geotechnical borings and removal and replacement of the pipeline would take place during one season and is expected to occur in 2025, during the non-flood season and as limited by permits. Project activities would typically occur between 6:00 a.m. and 8:00 p.m., Monday through Friday. If work would occur on Saturdays, it would occur between 7:00 a.m. and 8:00 p.m. Workdays would be limited to 10 hours, 6 days per week. Nighttime work would not be required. It is currently estimated that the geotechnical borings could be executed over a 30-day period, and the pipeline removal/replacement could be completed over a non-coinciding 30-day period, collectively requiring 60 days of ground disturbing activities. Following the completion of ground disturbing activities, all construction-related equipment would be removed, and the project site would be restored to approximate pre-construction conditions. Levee slopes and disturbed areas would be re-seeded with a mixture of native seed mix.

Ground Disturbing Equipment and Personnel

Proposed ground disturbing activities, equipment mix and estimated usage durations, maximum number of workers required, and import and export quantities are summarized below in **Table 2-1**. The equipment mix listed is not indicative of the total amount of equipment that could be operated onsite at any given time; this would vary based on daily project needs. Additionally, the number of site personnel would vary depending on the level of project activities during the seasonal conditions. Site workers would most likely come from the local workforce in the greater Sacramento region, including neighboring counties. All excavated materials would be reused onsite.

Table 2-1. Ground Disturbance Activity Overview

Project Activity	Anticipated Types of Equipment and Number of Pieces	Anticipated Use Duration (days)	No. of Workers Required	Import Quantity	Excavation Quantity
Mobilization	Pickup Trucks (2), Backhoe or small excavator; and brush masticator	1 to 2	2 to 4	-	-
Clearing and Grubbing	Masticator (1), (1), Backhoe or small excavator (1) and hand labor with brush removal hand tools and tree trimming equipment, including chainsaws	1 to 2	4 to 6	-	less than 1 acre
Geotechnical Borings	Large tire-mounted Geotechnical Drilling Rig (15 ft. wide by 15 ft. High; Pickup Trucks (3) for soil sampling and drilling personnel	30	2 to 4	Less than 3 cubic yard (cy) (less than 5.7 cubic feet, per exploration)	Less than 16 cy (less than 1 cy per exploration)
Demolition/removal for pipeline and pump removal/installation	Backhoe or small excavator (1) Pickup Truck (1), (1)	1 to 2	4 to 6	-	100 cy
Excavation and Stockpiling, and pipeline installation & backfill	Backhoe or small Excavator (1),	30	4 to 6	-	100 cy
Rock rip rap at 10-inch Pipeline Discharge	Backhoe or small excavator	2	2 to 4	10 cy	-
Placement of Aggregate Base	Dump trucks, backhoe, and compaction roller	14	4 to 6	650 cy	-

Source: GEI Consultants 2024

Ground Disturbance Staging, Laydown, and Access

RD 369 would establish staging areas for equipment storage and maintenance, equipment, and supplies and materials in compliance with permits obtained for the project, see Section 2.6, “Regulatory Requirements, Permits, and Approvals.” Staging areas would occur on the adjoining levee embankment associated with levee segment TMXS-R located on Delta Meadows State Park Property, and the Locke Ranch Property located on property owned by Locke Property

Development, Inc. (see Figure 2-2). Individual drilling sites would be accessed via private access routes within the Locke Ranch Property, avoiding areas of dense vegetation (see Figure 2-2). Additional access routes would be provided via a temporary Right of Entry (ROE) agreement from California State Parks on levee segments located on Delta Meadows State Park Property; TMXS-R, Snodgrass Slough Right Bank Levee (SDSS-R) and the former Walnut Grove Branch Line railroad embankment identified as the Locke Southeast Railroad Embankment (LKSRR) (see Figure 2-2). A temporary ROE agreement from RD 551 would be acquired for work conducted on the TMSS-L where it intersects with the northerly end of TMXS-R. Lastly, a temporary ROE would also need to be obtained from private owners located at the northwestern edge of the project site.

Contractors would be required to use, store, and dispose of any hazardous materials in accordance with all applicable regulations as set forth by the Department of Toxic Substance Control (DTSC), Environmental Protection Agency (EPA), and California Highway Patrol and California Department of Transportation (Caltrans). No equipment refueling or fuel storage would take place within 100 feet of the Meadows Slough to protect the waterway from accidental spills. Access and staging areas would be cleared or grubbed, as needed. A small amount of tree removal and/or trimming may be required for staging areas. Staging areas and access routes would be regraded, topped, recontoured, and revegetated to pre-project conditions or better after ground disturbing activities are complete, as needed.

Operation and Maintenance

As part of the proposed project, RD 369 would implement improved O&M practices for the existing non-SPFC levees and former railroad embankments to the east and southeast of Locke on Delta Meadows State Park Property adjoining the Snodgrass Slough floodplain east of Locke. O&M activities would include annual vegetation maintenance on 15 feet on either side of the levee crown to allow for year-round all-weather road access on the top of the levee crown, and a 15-foot-wide clearance on either side of the pipeline replacement.

2.6 Regulatory Requirements, Permits, and Approvals

As lead agency under CEQA, RD 369 has the principal responsibility for approving and carrying out the proposed project and for ensuring that CEQA requirements and other applicable regulations are met. See below for a list of permits or approvals anticipated to be required for the project.

- **U.S. Army Corps of Engineers (USACE)** 404 Clean Water Act Nationwide Permit for discharge of material into Waters of the U.S.
- **National Marine Fisheries Service (NMFS)/U.S. Fish and Wildlife Service (USFWS)** Section 7 Consultation for potential effects on federally endangered species and their habitats.
- **State Historic Preservation Officer (SHPO)** Section 106 Consultation for potential effects on historic properties.

- **Central Valley Regional Water Quality Control Board (RWQCB)** 401 Water Quality Certification for discharge of material into Waters of the State.
- **California Department of Fish and Wildlife (CDFW)** 1602 Lake and Streambed Alteration Agreement for alteration of bed and bank and associated riparian vegetation.
- **California Department of Water Resources (DWR).** Approval of grant funding for proposed project.
- **California State Parks.** Right of Entry (ROE) for geotechnical explorations and pipeline removal/replacement allocated on levee segment TMXS-R and largely located on Delta Meadows State Park Property
- **RD 551.** ROE for brush removal, selective tree trimming, and geotechnical exploration that would be conducted within TMSS-L where it intersects with RD 369 levee segment TMXS-R at the very north end of the project area.
- **Private Land Owner.** ROE for brush removal, selective tree trimming, and geotechnical exploration that would be conducted within TMSS-L where it intersects with RD 369 levee segment TMXS-R at the very north end of the project area.
- **Sacramento County.** Geotechnical Exploration Boring Permits.

This page intentionally left blank.

Chapter 3. Environmental Checklist

Project Information

Item	Description
1. Project title:	Locke Multi-Benefit Flood Risk Reduction Planning Project
2. Lead agency name and address:	Reclamation District 369 P.O. Box 987, Walnut Grove, CA 95690
3. Contact person and phone number:	Clarence Chu, President 916-813-7037
4. Project location:	The project site is located approximately 0.70-mile from the historic Delta Legacy Community of Locke, in unincorporated Sacramento County, CA
5. Project sponsor's name and address:	Same as lead agency
6. General plan designation:	natural preserve
7. Zoning:	AG-20 (Agricultural 20 acres), O (Recreation),
8. Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)	<p>The proposed project would remove an existing 10-inch-diameter temporary pipeline located over top of the levee crown currently used for draining a 221-acre drainage area, and two abandoned, buried corroded steel pipelines. The project would remove and replace an existing 5 HP electric pump with a 5-to-7.5 HP pump. Following the removal of all pipelines and pumps, the project would install a 12-inch-diameter pipeline buried through the top of the levee system above the 100-year design surface elevation.</p> <p>The project would also include drilling up to 16 geotechnical exploration borings along the waterside levee toe, levee crest, and landside levee toe of the TMXS-R levee, and conducting bathymetric surveys to collect information on underwater topographic features. The project would require brush removal, and tree trimming and removal within a 15-foot-wide area along the top of the levee crown and adjoining shoulders and where access for geotechnical and O&M equipment is needed.</p> <p>The project would also include the placement of an aggregate base, all-weather road surface on the entire levee crown width and length of RD 369 levee segment TMXS-R.</p>
9. Surrounding land uses and setting: Briefly describe the project's surroundings:	Land uses at the project site and surrounding area include natural preserve, agricultural cropland, recreation, and low density residential.
10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)	USACE, RWQCB, USFWS, NMFS, CDFW, DWR, California State Parks RD 551, and Sacramento County
11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?	No.

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture and Forestry Resources	<input type="checkbox"/> Air Quality
<input checked="" type="checkbox"/> Biological Resources	<input checked="" type="checkbox"/> Cultural Resources	<input checked="" type="checkbox"/> Geology /Soils
<input type="checkbox"/> Greenhouse Gas Emissions	<input checked="" type="checkbox"/> Hazards and Hazardous Materials	<input checked="" type="checkbox"/> Hydrology and Water Quality
<input type="checkbox"/> Land Use and Planning	<input type="checkbox"/> Mineral Resources	<input type="checkbox"/> Noise
<input type="checkbox"/> Population and Housing	<input type="checkbox"/> Public Services	<input type="checkbox"/> Recreation
<input type="checkbox"/> Transportation / Traffic	<input checked="" type="checkbox"/> Tribal Cultural Resources	<input type="checkbox"/> Utilities and Service Systems
<input checked="" type="checkbox"/> Mandatory Findings of Significance		

Determination (To be completed by the Lead Agency)

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 in 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 a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, 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 all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

Print Name

Title

Agency

3.1 Aesthetics

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS – Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) In nonurbanized 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

In general, the dominant visual characteristics of the project area include agricultural land uses and operations, rivers, sloughs, levees, roadways, and trees. Land uses of the project site and surrounding area include natural preserve, agricultural cropland, recreation, and low density residential (Sacramento County 2013). The Sacramento River and its riparian corridor is considered an important scenic waterway corridor in the region (Sacramento County 2010). Due to the relatively flat terrain, views of these resources are available only from roadways throughout the area that are on top of or at elevations above the levees in the area.

Roadways in the vicinity of the project site include State Route (SR) 160, I-5, River Road, and several rural agricultural roads. SR 160 travels along the west bank of the Sacramento River and is considered a state designated scenic highway from the Contra Costa County line to the southern boundary of Sacramento City (Sacramento County 2010; Caltrans 2019). River Road is a county designated scenic highway that meanders through the historic Delta agricultural areas along the east bank of the Sacramento River. Both scenic roadways and the Sacramento River are approximately 0.5 mile west of the project site. River Road would be used as an access route to the project site. Scenic views along this corridor include the Sacramento River, agricultural fields, and orchards, patches of riparian forest, several historic homes, and buildings. Other waterways near the project site include Meadow Slough and Snodgrass Slough, including side channels which border the project site to the north and east and can be accessed by motorized and non-motorized boats.

The built environment primarily consists of the historic Delta Legacy Community of Locke, which is 0.70-mile south of the project site. The rural community of Locke is a national historic district and considered a significant visual resource in the region (Sacramento County 2010).

Levees are present in the project site and surround the community of Locke, making them a dominant visual characteristic of the project area.

3.1.1 Discussion

a), c) Have a substantial adverse effect on a scenic vista, and in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings?

The project would include: the removal and replacement of existing pipelines in a small section of the TMXS-R levee; removal of an old, outdated pump and replacement with a new pump on or near levee TMXS-R; conducting bathymetric surveys of Meadows Slough by small watercraft; brush removal, and tree trimming and selective removal on levees along Snodgrass and Meadows Slough; geotechnical exploration along the existing levee; and placement of aggregate base on levee segment TMXS-R in the project site. Project activities would temporarily alter the visual character of the site due to the presence of heavy-duty trucks and equipment on the levee system. However, following construction activities, all equipment would be removed, and the project site would be restored to approximate pre-construction conditions. Additionally, tree trimming and brush removal could negatively affect the visual character of the riparian corridors of Meadows Slough and Snodgrass Slough, which are within public views from boaters in the waterway and recreationists within the Delta Meadows State Park. However, following construction activities, the overall visual character of the region would remain the same, including a mix of riparian woods, open areas, and disturbed areas from agricultural practices and other levee maintenance activities. Therefore, this impact would be **less than significant**.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway,

Project activities would not occur on scenic highways, and the project site is not visible from any scenic highways. River Road could be used as a haul route to deliver equipment and materials to the project site. Increased heavy trucks on this route could temporarily impact the scenic quality of the roadway and scenic views of the nonurbanized area. However, use of River Road for hauling of material is consistent with typical agricultural operations in the area, and therefore, would not result in a substantial change from current conditions. Therefore, the project would have **no impact**.

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

Nighttime work would not be required; therefore, the project would not create a new source of nighttime light which would adversely affect day or nighttime views in the area. Additionally, all pipeline segments would be buried underground, and the pump replacement would consist of material similar to the current pump on the project site. Therefore, the project would not create a new source of glare. Long-term operation and maintenance of the project would not create a new source of light or glare. Therefore, there would be **no impact**.

3.2 Agriculture and Forestry Resources

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES: 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, as updated) prepared by the California Department 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>		
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.2.1 Environmental Setting

The project site is zoned as AG-20 (Agricultural 20 acres) and O (Recreation) (Sacramento County 2024). The Farmland Mapping and Monitoring Program (FMMP) designates the project site as Other Land and Water Area (Department of Conservation [DOC] 2022). The FMMP designates lands surrounding the project site as Prime Farmland, Farmland of Local Importance, and Urban and Built-Up Land (DOC 2022).

The parcel of land between River Road and the proposed project site is zoned as AG-20, and approximately half of the parcel, the side which is adjacent to River Road, is currently in active agricultural production (pear orchards). However, the eastern side of the parcel, which borders

the project site, is not currently in agricultural production. There are no active Williamson Act contracts on or immediately adjacent to the project site (Sacramento County 2024). The project site includes the riparian corridors of Meadows Slough and Snodgrass Slough which are considered forestland under California Public Resource Code (PRC) Section 12220 (g).

3.2.2 Discussion

a), b) 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, conflict with existing zoning for agricultural use, or a Williamson Act contract.

The project site does not encompass any Prime Farmland, Unique Farmland or Farmland of Statewide Importance. The land adjacent to the project site is designated as Prime Farmland, however, the proposed project would not convert this land to non-agricultural use, or conflict with zoning. Additionally, there are no active Williamson Act contracts within the project vicinity. The project would have **no impact**.

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))

The project site is not zoned for forestland, timberland, or timberland zoned Timberland Production, and therefore, would not result in the rezoning of forestland, timberland, or timberland zoned Timberland Production. There would be **no impact**.

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

The riparian corridor within the project site could be considered forestland under California PRC Section 12220(g). The project would result in the removal of 17 trees, with 41 trees slated for pruning. Selective trimming and removal of trees to enable project activities within the forest land would not result in the loss of forest land or convert forestland to non-forest use. This impact is considered **less than significant**.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland?

The proposed project would result in small areas of brush removal, and tree trimming and selective removal within the riparian corridor adjacent to the TMXS-R levee segment, however, there would be no trimming or removal of any orchard trees. The removal and replacement of structural components such as pipelines and pumps would result in ground disturbing activities that would occur primarily within the existing levee segment and RD 369 and State Parks easements and would not conflict with existing zoning for agricultural use. Access routes that would be used during ground disturbing activities would be established on land zoned for agricultural in areas not currently used for agricultural production. Additionally, to the extent

feasible, access routes would be established on previously disturbed land used for access within the project area. Furthermore, after project completion, the access routes would be returned to pre-project conditions. For these reasons, impacts would be **less than significant**.

3.3 Air Quality

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations. Would the project:				
f) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

The project site is located in Sacramento County, which is part of the Sacramento Valley Air Basin (SVAB). The SVAB includes all of Butte, Colusa, Glenn, Tehama, Shasta, Yolo, Sacramento, Yuba, and Sutter Counties and parts of Placer, El Dorado, and Solano Counties. The SVAB is bounded on the west and north by the Coast Ranges, on the east by the southern portion of the Cascade Range and the northern portion of the Sierra Nevada, and on the south by the San Joaquin Valley Air Basin. Hot, dry summers and mild, rainy winters characterize the climate of the SVAB. Summer high temperatures are typically in the 90s. Winter low temperatures are typically in the 30s, and sometimes below freezing. The regional rainy season occurs mainly from late October to early May, with rainfall amounts that vary substantially from year-to-year and average approximately 20 inches per year. The rainy season is characterized by brief periods of rain interspersed with stagnant and sometimes foggy weather. The prevailing winds are moderate in strength and vary from moist, clean breezes from the south to dry land flows from the north.

The U.S Environmental Protection Agency (EPA) and the California Air Resource Board (CARB) have identified six air pollutants as being of nationwide and Statewide concern: ozone, carbon monoxide (CO), nitrogen dioxide, sulfur dioxide, lead, and PM. PM is subdivided into two classes based on particle size: PM equal to or less than 10 micrometers in diameter (PM₁₀) and equal to or less than 2.5 micrometers in diameter (PM_{2.5}).

Health-based air quality standards have been established for these pollutants by EPA at the national level and by CARB at the State level. These standards are referred to as the national ambient air quality standards (NAAQS) and the California ambient air quality standards (CAAQS), respectively. The NAAQS and CAAQS were established to protect the public with a margin of safety from adverse health impacts caused by exposure to air pollution. Both EPA and

CARB designate areas of the State as attainment, nonattainment, maintenance, or unclassified for the various pollutant standards according to the Federal Clean Air Act (CAA) and the California Clean Air Act (CCAA), respectively. An area is designated transitional to signify that the area is close to attaining the standard for that pollutant. The “unclassified” designation is used in an area that cannot be classified as meeting or not meeting the standards, based on available information. Sacramento County has been designated as a “serious” nonattainment area for the 2015 8-hour ozone federal standard, and nonattainment for the state 24 hour and annual PM10 standards (SMAQMD 2020).

The Sacramento Metropolitan Air Quality Management District (SMAQMD) is the agency responsible for air quality planning and development of the air quality attainment plans in the project area. The air quality attainment plans establish the strategies that will be used to achieve compliance with the CAAQS in all areas within SMAQMD jurisdiction. All projects within SMAQMD’s jurisdiction are subject to adopted SMAQMD rules and regulations in effect at the time of ground disturbing activities and operation.

SMAQMD Screening Criteria

The SMAQMD has developed a screening criterion to assist in determining if NO_x, PM₁₀ or PM_{2.5} emissions from constructing a project in Sacramento County would exceed the SMAQMD construction significance thresholds (SMAQMD 2020). Project activities that does not exceed the screening level and meets all the screening parameters would be considered to have a less-than-significant impact on air quality. However, all construction projects, regardless of the screening level, are required to implement the SMAQMD Basic Construction Emission Control Practices.

Projects that are 35 acres or less in size generally would not exceed the District’s Construction NO_x threshold of significance. This screening criteria was developed using default construction inputs in the California Emissions Estimator Model (CalEEMod). Lead agencies cannot use the screening level to determine if a project’s construction NO_x emissions would have a less-than significant impact on air quality if any of the following parameters are included in the project.

- Include buildings more than 4 stories tall;
- Include demolition activities;
- Include major trenching activities;
- Have a construction schedule that is unusually compact, fast-paced, or involves more than 2 phases (i.e., grading, paving, building construction, and architectural coatings) occurring simultaneously,
- Involve cut-and-fill operations (moving earth with haul trucks and/or flattening or terracing hills); and
- Require import or export of soil materials that will require a considerable amount of haul truck activity.

Discussion

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

Project activities would temporarily generate criteria air pollutant emissions from exhaust associated with on-site equipment operation, material hauling, and worker vehicle trips, as well as fugitive dust from ground-disturbing activities. O&M activities would be similar to current conditions because maintenance trips for the RD 369 levee system already occur.

Implementing the proposed project would require a total of 32 truck trips for import and export of materials to the project site, and 424 worker commute trips. Additionally, the project would be completed within 1 year. Execution of the proposed project meets all SMAQMD screening criteria because the project does not include construction or demolition of any buildings, significant trenching or material hauling, cut and fill, or fast-paced construction; therefore, the project would have a less-than-significant impact for all criteria air pollutants and a detailed assessment is not required. As required by SMAQMD for all construction projects regardless of the screening level, the project would implement the following SMAQMD Basic Construction Emission Control Practices (SMAQMD 2019):

- Control of fugitive dust is required by District Rule 403 and enforced by District staff.
- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph) (all project-related traffic will be further limited to 10 mph to protect sensitive biological resources – See Section 3.4, “Biological Resources”).
- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
- Provide current certificate(s) of compliance for CARB’s In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1]. For

more information contact CARB at 877-593-6677, doors@arb.ca.gov, or www.arb.ca.gov/doors/compliance_cert1.html.

- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.

c) Expose sensitive receptors to substantial pollutant concentrations?

Some members of the population are especially sensitive to emissions of air pollutants and should be given special consideration in the evaluation of the project's air quality impacts. These people include children, older adults, any person with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The nearest sensitive receptor, a residence, is located approximately 0.25-mile from the project site. Given the distance to the closest sensitive receptor, and the fact that the project would only generate a small amount of emissions over a short time period (less than one year), the potential to expose sensitive receptors to substantial pollutant concentrations would be **less than significant**.

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

Human response to odors is subjective, and sensitivity to odors varies greatly. Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, anxiety) to physiological (e.g., circulatory and respiratory reactions, nausea, vomiting, headaches). Sources that may emit odors during ground disturbing activities include exhaust from diesel construction equipment, which some individuals could consider offensive. However, odors from these sources would be localized and generally confined to the immediate area surrounding the project site. Haul trucks would also produce exhaust, but relatively few haul trips are necessary to import materials to the project site, and haul trucks would travel along major routes that are currently used by similar large transport vehicles. Because of the diffusive properties of diesel exhaust, the remote nature of the project area, and existing conditions along anticipated haul routes, this impact would be considered **less than significant**.

3.4 Biological Resources

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES – 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Database searches, site-specific documentation, field work, and other compiled sources on sensitive biological resources in the project area were utilized to prepare this section of the ISMND. The entire project area is in the Courtland, California, U.S. Geological Service (USGS) 7.5-minute quadrangle. Most database searches included this quadrangle and all adjacent quadrangles including: Thornton, Isleton, Rio Vista, Liberty Island, Florin, Bruceville, Clarksburg and Saxon. The following information sources were reviewed to identify regulated species that have the potential to occur in the project area or vicinity:

- GEI’s Memorandum - “Biological Constraints Assessment for the Community of Locke Small Communities Flood Risk Reduction Feasibility Study, Sacramento County, CA” (GEI 2020). Sacramento County Small Communities Flood Risk Reduction Program (SCFRRP) Feasibility Study for Delta Legacy Community of Locke (January 2022) (Appendix B – January 23, 2020). Available at <https://waterresources.saccounty.gov/DeltaSmallCommunities/Pages/Locke-Feasibility-Study.aspx> - Appendix B

- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) QuickView Tool in BIOS 6 (CDFW 2024a) and RareFind 5 (CDFW 2024b)
- Google Earth™ mapping service aerial imagery of the study area (Google Earth 2024)
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory Wetlands Mapper (USFWS 2024a)
- USFWS Information for Planning and Consultation System (IPaC) (USFWS 2024b)
- USFWS Threatened & Endangered Species Active Critical Habitat Report (USFWS 2024c)
- California Native Plant Society (CNPS) Rare Plant Inventory (CNPS 2024)
- National Oceanic and Atmospheric Administration (NOAA) Essential Fish Habitat Mapper (NOAA 2024)

Environmental Setting

The project site is located approximately 0.70-mile north from the historic Delta Legacy Community of Locke, in unincorporated Sacramento County, CA (see Figure 2-1 above). A biological study area (BSA) was identified for biological resources to include the entirety of the project site, which includes the linear 0.6 mile along “The Meadows Slough” right bank cross levee (TMXS-R) and a 100-foot-wide buffer, to account for special-status species that may be in the project vicinity that could be affected by the proposed project activities. A wider 300-foot buffer was utilized to assess for raptors and other wildlife that could be located within the project vicinity, but habitat mapping and other data was not collected in this wider buffer. Access routes are located along the existing levee roads owned by the State of California – The Resource Agency Department of Parks and Recreation (State Parks) or throughout the Locke Property Development Inc., private parcel. Most access routes were not assessed for special-status species unless they were within the BSA

Biological reconnaissance-level surveys, a partial tree inventory, and an aquatic resources assessment were conducted by GEI biologists and arborists on February 14th, May 9th, September 10th, and September 16th, 2024. Surveys focused on identifying any potential constraints to biological resources, wildlife movement corridors, and potentially jurisdictional waters.

Land Cover Types

Land cover mapping was conducted up to 100-feet from the TMXS-R levee and adjacent access routes. **Figure 3-1** shows the 10 land cover types present in the BSA.

Disturbed

Disturbed land cover comprises 2.2-acres within the BSA and includes the existing TMXS-R levee road centerline with a 12-foot buffer on either side and an unofficial road through private property that intersects the TMXS-R levee road. The TMXS-R levee road has not been continually maintained by either RD 369 or State Parks and is grown over with invasive and non-native herbaceous plants, preventing vehicular access on the northern half. This land cover type contains areas that are largely unvegetated, but where vegetation occurs it is dominated by a mix

of non-native forbs and grasses including wild oat (*Avena fatua*), rigpgut brome (*Bromus diandrus*), soft brome (*Bromus hordeaceus*), bermuda grass (*Cynodon dactylon*), redstem filaree (*Erodium cicutarium*), and prickly sow-thistle (*Sonchus asper*). Riparian forest and valley oak woodlands overstory branches do lean over the TMXS-R levee road preventing vehicle access in the northern portion of the BSA.

Ditch

Ditch land cover comprises 0.25-acre within the northern half of the BSA and includes a ditch paralleling the westerly landward toe of the TMXS-R levee which then turns southwest away and perpendicular to the levee. This ditch is connected to the freshwater pond on the northern portion of the BSA. Most of the ditch channel was inundated at the time of surveys. Minimal vegetation grows in the portion of the ditch paralleling the TMXS-R levee, however, there is a dense overstory of valley oak woodland. The edges of the southern portion of the ditch are vegetated with emergent vegetation such bulrush (*Schoenoplectus* sp.) and floating aquatic vegetation such as lesser duckweed (*Lemna minor*).

Freshwater Emergent Wetlands

Freshwater emergent wetlands land cover comprises 1.80-acres and is located in two areas with the BSA. On the northwestern end of the BSA this land cover type is bounded by the ditch to the east, and seasonal wetland to the north, and extends to the west on private property. The other main section of this land cover type is located to the north of the TMXS-R levee road in the southern portion of the project area. This land cover is dominated by cattail (*Typha latifolia*) and bulrush. Other associates on the drier edges of the wetland include lady's thumb (*Persicaria maculosa*), western goldenrod (*Euthamia occidentalis*), annual beardgrass (*Polypogon monspeliensis*), cocklebur (*Xanthium strumarium*), and dense thickets of Himalayan blackberry (*Rubus armeniacus*). There is no overstory to freshwater emergent wetlands land cover type.

Freshwater Pond

Freshwater pond land cover comprises 0.60-acre and is open water located on the north-northwest end of the BSA. It is not hydrologically connected to Meadows Slough but is connected to the Ditch. Overstory of riparian forest and willow riparian overhang the outer edges of this land cover type.

Non-native Annual Grasslands

Non-native annual grasslands is the largest land cover type and comprises 11.10-acres in the BSA. This land cover type is located throughout the BSA, with the largest expanse in the center. This habitat type is actively being grazed by cattle in the private property portion to the west of the TMXS-R levee crown. Dominant species in this land cover type include perennial ryegrass (*Festuca perennis*), wild oat, various bromes, redstem filaree, tall sock-destroyer (*Torilis arvensis*), bindweed (*Convolvulus arvensis*), and telegraph weed (*Heterotheca grandiflora*). Some portions of this cover type are more mesic and dominated by Bermuda grass, bird's-foot trefoil (*Lotus corniculatus*), white sweetclover (*Melilotus albus*), and cocklebur. There is no overstory for this land cover type.

Riparian Forest

Riparian forest land cover comprises 2.00-acres in the BSA and is predominantly located around the edges of aquatic features such as Meadows Slough, the freshwater pond, Snodgrass Slough and freshwater emergent wetlands. This habitat type is dominated by a mixed overstory of valley oak (*Quercus lobata*), Fremont's cottonwood (*Populus fremontii*), and Goodding's black willow (*Salix gooddingii*). A subcanopy of arroyo willow (*Salix lasiolepis*) and narrow-leaf willow (*Salix exigua*) occurs in some areas. Patchy to dense understory and herbaceous cover includes Himalayan blackberry, western poison oak (*Toxicodendron diversilobum*), California grape (*Vitis californica*), poison hemlock (*Conium maculatum*), and California mugwort (*Artemisia douglasiana*).

Slough

Slough land cover comprises 2.00-acres within the BSA and includes the open water of Meadows Slough which is located to the north/northeast, east, and south/southeast of the TMXS-R levee road. The Meadows Slough is connected to Snodgrass Slough, which is a tributary to the Sacramento River through the Delta Cross Channel and is tidally influenced. This land cover is primarily open water with some floating vegetation such as floating primrose (*Ludwigia* sp.). Riparian forest and willow riparian overstory branches lean over this land cover type.

Seasonal Wetlands

Seasonal wetlands land cover type comprises 1.60-acres in the BSA and are located on the western and southwestern side of the TMXS-R levee. This habitat type is actively being grazed by cattle in the private property portion of the BSA. The land cover type is highly disturbed and dominated by herbaceous plants such as Bermuda grass, perennial ryegrass, cocklebur, curly dock (*Rumex crispus*), tall flatsedge (*Cyperus eragrostis*), and node-flowered phyla (*Phyla nodiflora*). There is no overstory for this land cover type.

Valley Oak Woodlands

Valley oak woodlands land cover type comprises 5.00-acres in the BSA and generally is located along either side of the TMXS-R levee road in the northern portion of the BSA and to the western portion of the TMXS-R levee road in the southern portions of the BSA. In many areas, valley oak woodland is an extension of the riparian corridor. The overstory of this land cover type is dominated by mature valley oaks, with a patchy understory of western poison oak, Himalayan blackberry, ripgut grass, Santa Barbara sedge (*Carex barbarae*), and California grape. In other areas the understory is characterized by species typically found in annual grasslands.

Willow Riparian

Willow riparian land cover type comprises 1.24-acres in the BSA and is located in a patch in the northern end of the BSA and along the fresh emergent wetlands in the southern end of the BSA. The overstory of this land cover type includes a mix of willows such as Goodding's black willow, arroyo willow, and Pacific willow (*Salix lasiandra*). Thickets of narrow-leaf willow and Himalayan blackberry occur in the dense understory leaving little room for herbaceous vegetation.

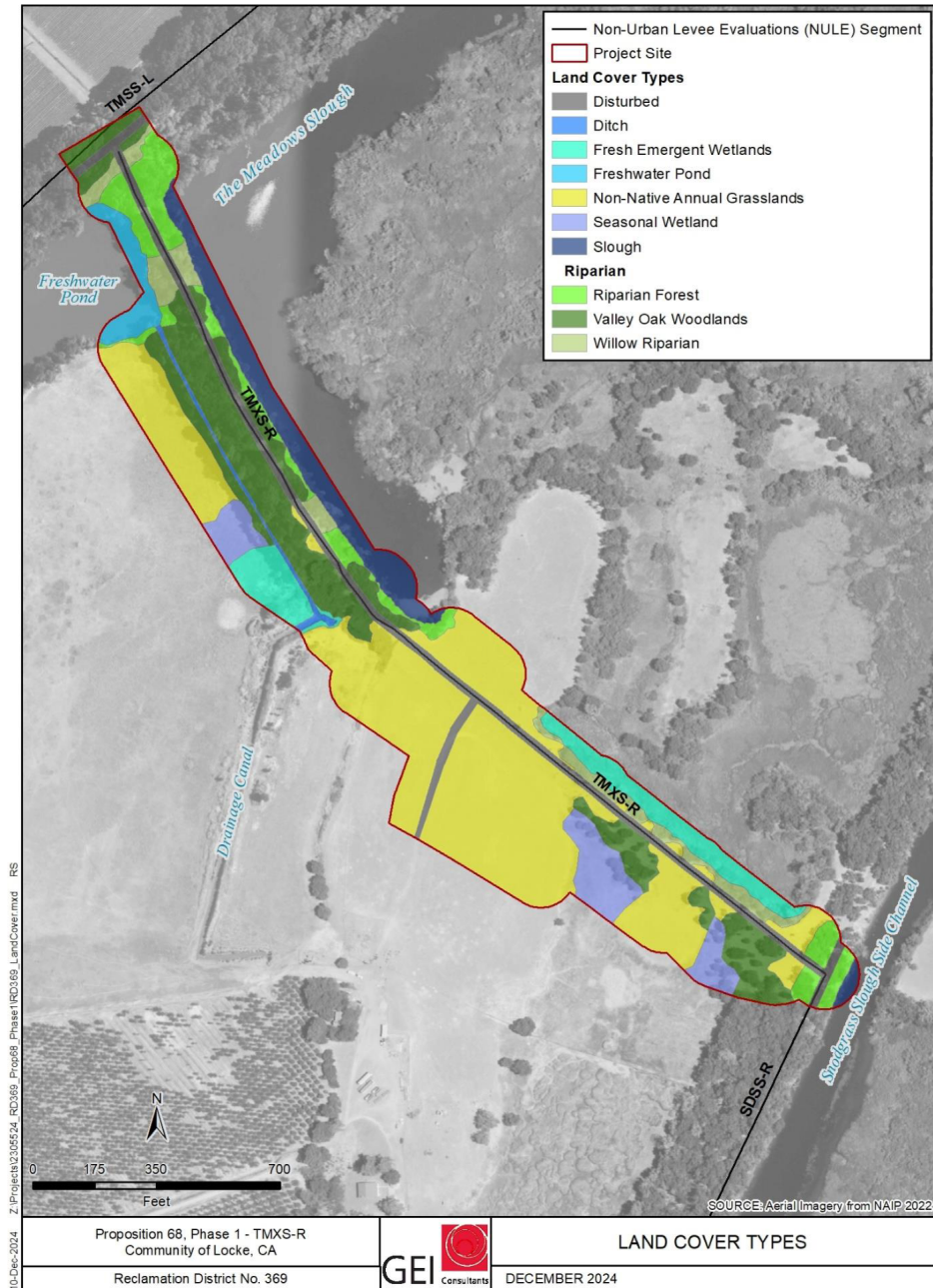


Figure 3-1. Habitat Map

Wildlife

The diversity of native land cover types throughout the project area provides quality suitable foraging, breeding and nesting habitat for numerous native and special-status wildlife species across all taxa. There are limited wildlife movement barriers to prevent species from moving to and from the site. Natural barriers to ground terrestrial species include the freshwater pond, the Meadows Slough, and Snodgrass Slough. Fencing to prevent cattle from entering specific areas surrounding the project area does not present a solid barrier to terrestrial wildlife.

A variety of birds may utilize habitat in the project area for nesting and/or foraging. Species that were observed or sign of use were observed during the field surveys include: Swainson's hawk (*Buteo swainsoni*), red-tailed hawk (*Buteo jamaicensis*), white-tailed kite (*Elanus leucurus*), great horned owl (*Bubo virginianus*), American crow (*Corvus brachyrhynchos*), northern harrier (*Circus cyaneus*), great blue heron (*Ardea herodias*), barn swallow (*Hirundo rustica*), red-breasted nuthatch (*Sitta canadensis*), ruby crowned kinglet (*Corthylio calendula*), northern flicker (*Colaptes auratus*), turkey vulture (*Cathartes aura*), spotted towhee (*Pipilo maculatus*), California towhee (*Melospiza crissalis*), Anna's hummingbird (*Calypte anna*), great egret (*Ardea alba*), belted kingfisher (*Megascops asio*), killdeer (*Charadrius vociferus*), black phoebe (*Sayornis nigricans*), northern mockingbird (*Mimus polyglottos*), California scrub-jay (*Aphelocoma californica*), California quail (*Callipepla californica*), mourning dove (*Zenaidura macroura*), bushtit (*Psaltirparus minimus*), and California towhee (*Melospiza crissalis*).

Several species of common and special-status reptiles and small- and medium-sized mammals are also likely to occur in the project area. Special status species with determinations of potentially occurring in the project area are detailed in Table 3.4-2. Reptiles and mammals observed or sign of use were observed during field surveys include: jackrabbit (*Lepus californicus*), California ground squirrel (*Spermophilus beecheyii*), western gray squirrel (*Sciurus griseus*), fox squirrel (*Sciurus niger*), and North American river otter (*Lontra canadensis*). Common amphibian and reptile species observed include northwestern pond turtle (*Actinemys marmorata*), red-eared slider (*Trachemys scripta elegans*), and western fence lizard (*Sceloporus occidentalis*). Invertebrates observed in the project area include European honeybee (*Apis mellifera*), Western tiger swallowtail (*Papilio rutulus*), and velvet ant (*Mutillidae* sp.).

Aquatic habitat in Meadows Slough, fresh emergent wetlands, and freshwater pond provides quality habitat for numerous aquatic plants, fish, and reptiles. No special-status species of plants were observed during the field surveys. Special status plant species with the potential to occur in the project area are detailed below in **Table 3.4-1**, while wildlife species are detailed in **Table 3.4-2**.

Sensitive Biological Resources

Sensitive biological resources addressed in this section include those that are afforded consideration or protection under CEQA, California Fish and Game Code, California Endangered Species Act (CESA), Endangered Species Act (ESA), Clean Water Act (CWA), and the Porter-Cologne Water Quality Control Act.

Special-status Species

Special-status species include plants and animals in the following categories:

- Species officially listed by the State or Federal government as endangered, threatened, or rare;
- Candidates for State or Federal listing as endangered or threatened;
- Species identified by CDFW as species of special concern;
- Species listed as Fully Protected under the California Fish and Game Code;
- Species afforded protection under local or regional planning documents; and
- Plant taxa considered by CDFW to be “rare, threatened, or endangered in California” and assigned a California Rare Plant Rank (CRPR).

The CRPR system includes six rarity and endangerment ranks for categorizing plant species of concern. All plants with a CRPR are considered “special plants” by CDFW. The term “special plants” is a broad term used by CDFW to refer to all plant taxa inventoried in the CNDDDB, regardless of their legal or protection status. Plants ranked as CRPR 1A, 1B, 2A, and 2B may qualify as endangered, rare, or threatened species within the definition of State CEQA Guidelines CCR Section 15380, and CDFW recommends that potential impacts to CRPR 1 and 2 species be evaluated in CEQA documents.

The term “California species of special concern” is applied by CDFW to animals not listed under the Federal ESA or CESA, but that are nonetheless declining at a rate that could result in listing, or that historically occurred in low numbers and have known threats to their persistence.

An initial list of special-status species that could potentially occur in or adjacent to the project site, given suitable habitat conditions are present, was developed through review of CNDDDB (CDFW 2024b) and CNPS Rare Plant Inventory (CNPS 2024) records from the project vicinity and a list generated by the USFWS IPaC tool (USFWS 2024b). Additional sources used are listed above.

Table 3.4-1. Special-status Plant Species Evaluated for Potential to Occur In and Adjacent to the Project Site

Scientific Name	Common Name	Federal	State	CRPR	Habitat Characteristics	Impacts Analyzed	Rationale
<i>Astragalus tener</i> <i>var. ferrisiae</i>	Ferris' milk-vetch	None	None	1B.1	Meadows, seeps, and subalkaline grassland. Elevation: 5–245 feet. Blooming period: April–May.	No	Suitable habitat is not present in the project area.
<i>Astragalus tener</i> <i>var. tener</i>	alkali milk-vetch	None	None	1B.2	Alkaline soils in playas, adobe clay grassland, and vernal pools. Elevation: 0–195 feet. Blooming period: March–June.	No	Suitable habitat is not present in the project area.
<i>Brasenia schreberi</i>	watershield	None	None	2B.3	Freshwater marshes and swamps. Elevation: 95–7,220 feet. Blooming period: June–September.	Yes	Suitable habitat is present along the freshwater marshes to the east and west of the TMXS-R levee.
<i>Carex comosa</i>	bristly sedge	None	None	2B.1	Coastal prairie, lake margins of marshes and swamps, and grassland. Elevation: 0–2,050 feet. Blooming period: May–September.	Yes	Suitable habitat is present along the freshwater marshes to the east and west of the TMXS-R levee.
<i>Centromadia parryi</i> ssp. <i>parryi</i>	pappose tarplant	None	None	1B.2	Often in alkaline soils in chaparral, coastal prairie, meadows, seeps, coastal salt marshes and swamps, and vernal mesic grassland. Elevation: 0–1,380 feet. Blooming period: May–November.	No	Suitable habitat is present along the edges of the marshes to the east and west of the TMXS-R levee.
<i>Cicuta maculata</i> <i>var. bolanderi</i>	Bolander's water-hemlock	None	None	2B.1	Marshes and swamps in fresh, coastal, or brackish water. Elevation: 0–656 feet. Blooming period: July–September.	Yes	Suitable habitat present along the marsh habitat to the east and west of the TMXS-R levee.
<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	Peruvian dodder	None	None	2B.2	Marshes and freshwater swamps. Elevation: 49–918 feet. Blooming period: July–October.	No	Suitable habitat present along the marsh habitat.
<i>Downingia pusilla</i>	dwarf downingia	None	None	2B.2	Vernal pools and mesic grassland. Elevation: 0–1,460 feet. Blooming period: March–May.	No	Vernal pools are not present in the project area.

Scientific Name	Common Name	Federal	State	CRPR	Habitat Characteristics	Impacts Analyzed	Rationale
<i>Eryngium jepsonii</i>	Jepson's coyote thistle	None	None	1B.2	Clay soil in vernal pools and grassland. Elevation: 10–985 feet. Blooming period: April–August.	No	Vernal pools are not present in the project area.
<i>Extriplex joaquinana</i>	San Joaquin spearscale	None	None	1B.2	Alkaline soils in chenopod scrub, meadows, seeps, playas, and grassland. Elevation: 0–2,740 feet. Blooming period: April–October (synonym of <i>Atriplex joaquiniana</i>).	No	Suitable habitat types are not present in the project area, except grasslands.
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	woolly rose-mallow	None	None	1B.2	Often in riprap on sides of levees in freshwater marshes and swamps. Elevation: 0–395 feet. Blooming period: June–September.	Yes	Suitable habitat is present along the freshwater marshes to the east and west of the levee road.
<i>Lasthenia chrysantha</i>	alkali-sink goldfields	None	None	1B.1	Annual herb found in vernal pools with alkaline soils. Elevation: 0–655 feet. Blooming period: February–April.	No	Vernal pools are not present in the project area.
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Delta tule pea	None	None	1B.2	Freshwater and brackish marshes and swamps. Elevation: 0–16 feet. Blooming period: May–September.	Yes	Suitable habitat is present along the freshwater marshes to the east and west of the TMXS-R levee.
<i>Legenere limosa</i>	legenere	None	None	1B.1	Vernal pools. Elevation: 0–2,885 feet. Blooming period: April–June.	No	Vernal pool habitat is not present in the project area.
<i>Lepidium latipes</i> var. <i>heckardii</i>	Heckard's pepper-grass	None	None	1B.2	Grassland of alkaline flats. Elevation: 5–655 feet. Blooming period: March–May.	No	There are no alkaline flats present in the project area.
<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	None	SR	1B.1	Brackish or freshwater marshes and swamps, riparian scrub. Elevation: 0–33 feet. Blooming period: April–November.	Yes	Suitable habitat is present along the freshwater marshes to the east and west of the TMXS-R levee.

Scientific Name	Common Name	Federal	State	CRPR	Habitat Characteristics	Impacts Analyzed	Rationale
<i>Limosella australis</i>	Delta mudwort	None	None	2B.1	Usually mud banks in freshwater or brackish marshes and swamps, riparian scrub. Elevation: 0–9 feet. Blooming period: May–August.	Yes	Suitable habitat is present along the freshwater marshes to the east and west of the TMXS-R levee.
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	None	None	1B.1	Mesic soils in meadows, seeps, vernal pools, cismontane woodland, and lower montane coniferous forest. Elevation: 15–5,710 feet. Blooming period: April–July.	No	Vernal pools are not present in the project area.
<i>Neostapfia colusana</i>	Colusa grass	FT	SE	1B.1	Large vernal pools with adobe soils. Elevation: 15–655 feet. Blooming period: May–August.	No	Vernal pools are not present in the project area.
<i>Plagiobothrys hystriculus</i>	bearded popcornflower	None	None	1B.1	Vernal swales and vernal pool margins as well as mesic grassland. Elevation: 0–900 feet. Blooming period: April–May.	No	Vernal pools are not present in the project area.
<i>Puccinellia simplex</i>	California alkali grass	None	None	1B.2	Alkaline and vernal mesic soils in sinks, flats, and lake margins of chenopod scrub, meadows, seeps, grassland, and vernal pools. Elevation: 5–3,050 feet. Blooming period: March–May.	No	Vernal pools and vernal mesic soils are not present in the project area.
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	None	None	1B.2	Fresh water marshes and swamps that are typically shallow. Elevation: 0–2,132 feet. Blooming period: May–October.	Yes	Suitable habitat is present along the freshwater marshes to the east and west of the TMXS-R levee.
<i>Scutellaria galericulata</i>	marsh skullcap	None	None	2B.2	Marshes, swamps, meadows, seeps, and lower montane coniferous forest. Elevation: 0–6,890 feet. Blooming period: June–September.	Yes	Suitable habitat is present along the freshwater marshes to the east and west of the TMXS-R levee.
<i>Scutellaria lateriflora</i>	side-flowering skullcap	None	None	2B.2	Meadows, seeps, marshes, and swamps. Elevation: 0–1,640 feet. Blooming period: July–September.	Yes	Suitable habitat is present along the freshwater marshes to the east and west of the TMXS-R levee.

Scientific Name	Common Name	Federal	State	CRPR	Habitat Characteristics	Impacts Analyzed	Rationale
<i>Sidalcea keckii</i>	Keck's checkerbloom	FE	None	1B.1	Serpentine or clay soils in cismontane woodland and grassland. Elevation: 245–2,135 feet. Blooming period: April–June	No	Serpentine soil is not present in the project area.
<i>Symphotrichum lentum</i>	Suisun Marsh aster	None	None	1B.2	Brackish and freshwater marshes and swamps. Elevation: 0–9 feet. Blooming period: (April)May–November (synonym of <i>Aster chilensis</i> var. <i>lentus</i> and <i>A. lentus</i>).	Yes	Suitable habitat is present along the freshwater marshes to the east and west of the TMXS-R levee.
<i>Trifolium hydrophilum</i>	saline clover	None	None	1B.2	Marshes, swamps, vernal pools, and grassland with mesic or alkaline soils. Elevation: 0–985 feet. Blooming period: April–June.	Yes	Suitable habitat is present along the freshwater marshes to the east and west of the TMXS-R levee.
<i>Tuctoria mucronata</i>	Crampton's tuctoria	FE	SE	1B.1	Vernal pools and mesic grassland. Elevation: 15–35 feet. Blooming period: April–August.	No	Vernal pools are not present in the project area.

Species Status

Federal Status

FE = Listed as Endangered under the Federal Endangered Species Act

FT = Listed as Threatened under the Federal Endangered Species Act

State Status

SC = Candidate for Listing under the California Endangered Species Act

SE = Listing as Endangered under the California Endangered Species Act

SR = Listed as Rare under the California Endangered Species Act

California Rare Plant Ranks (CRPR)

1B = Plants that are rare or endangered in California and elsewhere

2B = Plant species considered Rare or Endangered in California but more common elsewhere.

California Rare Plant Rank Extensions

.1 = Seriously threatened in California.

.2 = Moderately threatened in California

Sources: CNPS 2024 and CDFW 2024b.

Table 3.4-2. Special-status Wildlife Species Evaluated for Potential to Occur In and Adjacent to the Project Site

Scientific Name	Common Name	Federal	State	Habitat Characteristics	Impacts Analyzed	Rationale
Invertebrates						
<i>Bombus crotchii</i>	Crotch bumble bee	None	SC (endangered)	Species requires nesting, foraging, and overwintering habitat. Forages over a variety of different habitats if there are suitable nectar sources, but often nests in open grasslands and scrub habitats. Suitable nest sites are often located in open grasslands and scrub habitats in abandoned rodent nests underground or above ground in tufts of grass, old bird nests, rock piles, cavities in dead trees, hollow logs, or aboveground manmade structures. Food sources include Milkweed (<i>Asclepias</i>), Daisy (<i>Chaenactis</i>), Lupine (<i>Lupinus</i>), Burclover (<i>Medicago</i>), Scorpionweed (<i>Phacelia</i>), and Sage (<i>Salvia</i>) (Williams et al. 2024; CA BBA 2022). Primary land cover types that provide the three habitat requirements are grasslands, chaparral, and scrub; oak woodlands and forest likely provide suitable habitat as well (H.T. Harvey 2024).	Yes	The project area provides primary land cover types that are suitable for nesting, foraging, and overwintering. Suitable nesting habitat and burrows are present in the non-native annual grasslands and the forested habitat of the project area. The project area is located within the extant range for this species.
<i>Branchinecta conservatio</i>	Conservancy fairy shrimp	FE	None	Endemic to California vernal pools, almost entirely in the Central Valley, with the exception of one population along the central coast in Ventura County. Majority of sites inhabited by this species are large and turbid pools which remain inundated much longer than typical vernal pools (USFWS 2012a).	No	Vernal pools were not identified within the project area or in the immediate vicinity to support this species.
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	FT	None	Endemic to the grasslands of the Central Valley and the Central and South Coast Range mountains of California, and the Agate Desert of southern Oregon. Found only in cool water vernal pools and vernal pool-like habitats; does not occur in riverine, marine, or other permanent bodies of water (USFWS 2007a).	No	Vernal pools were not identified within the project area or in the immediate vicinity.

Scientific Name	Common Name	Federal	State	Habitat Characteristics	Impacts Analyzed	Rationale
<i>Danaus plexippus</i> (pop. 1)	monarch (California overwintering population)	FC	None	Overwinters along the coast from Mendocino County south into Baja California in wind-protected groves of gum (<i>Eucalyptus</i> spp.), Monterey pine (<i>Pinus radiata</i>), or Monterey cypress (<i>Hesperocyparis macrocarpa</i>) with nectar and water sources nearby (IELP 2012).	No Overwintering; Yes Foraging	The project area is located outside of the known overwintering range for this species, which is along the coastline. The project area is located within Priority #1 Early Breeding Zone (USFWS 2023a) and does provide suitable foraging habitat with nectar sources and water.
<i>Desmocerus californicus dimorphus</i>	valley elderberry longhorn beetle	FT	None	Dependent on host plant, elderberry (<i>Sambucus</i> spp.), which most commonly grows in riparian woodlands, but also in some upland habitats such as oak savannas and annual grasslands. Current presumed range in Central Valley extends from Shasta County south to Fresno County, including the valley floor and lower foothills up to about 500 feet in elevation (USFWS 2017a).	Yes	Host elderberry plants were identified in the riparian habitat of the project area with observations of old exit holes.
<i>Lepidurus packardii</i>	vernal pool tadpole shrimp	FE	None	Found only in ephemeral freshwater habitats, including alkaline pools, clay flats, vernal lakes, vernal pools, vernal swales, and other seasonal wetlands. Patchily distributed across the Central Valley from Shasta County south to Tulare County with isolated occurrences in the East Bay Area (USFWS 2007b).	No	Vernal pools were not identified within the project area or in the immediate vicinity.
Fish						
<i>Acipenser medirostris</i>	green sturgeon (southern DPS)	FT	SSC	Spawning occurs primarily in the Sacramento River, but those that spawn in the Feather and Yuba Rivers are also part of the southern DPS. Oceanic waters, bays, and estuaries during non-spawning season. Enters San Francisco Bay late winter through early spring, and spawn occurs from April through early July. Spawn in cool sections of river mainstems in deep pools containing small to medium-sized gravel, cobble, or boulder substrate (NMFS 2015).	Yes	The project area is located within range for this species, and Snodgrass Slough is considered Critical habitat for this species.

Scientific Name	Common Name	Federal	State	Habitat Characteristics	Impacts Analyzed	Rationale
<i>Acipenser transmontanus</i>	White sturgeon	None	SC (threatened)	Found in coastal and anadromous waters in California including the Sacramento and San Joaquin river basins and tributaries. Adults migrate from the estuary into the river starting in December, spawn from February to June, and return to the Delta after spawning.	Yes	The project area is located within range for this species.
<i>Hypomesus transpacificus</i>	delta smelt	FT	SE	Endemic to open waters of San Francisco Bay and Sacramento-San Joaquin River Delta. Distribution includes San Pablo Bay up through Suisun Bay, upstream through the delta to the Sacramento River below Isleton, and the San Joaquin River below Mossdale. Spawning has not been observed in the wild but is thought to take place in sloughs and shallow edge-water channels in the upper delta and in Montezuma Slough near Suisun Bay (USFWS 2010).	Yes	The project area is located within critical habitat for this species (USFWS 2023b). The Meadows Slough could provide suitable spawning habitat.
<i>Oncorhynchus mykiss irideus</i> (pop. 11)	steelhead (central valley DPS)	FT	SSC	Includes naturally spawned anadromous steelhead originating below natural and manmade impassable barriers from the Sacramento and San Joaquin Rivers and their tributaries; excludes such fish originating from San Francisco and San Pablo Bays and their tributaries. This DPS does include steelhead from two artificial propagation programs: Coleman National Fish Hatchery Program and Feather River Fish Hatchery Program. Spawning habitat includes gravel-bottomed, fast-flowing, well-oxygenated rivers and streams. Non-spawning habitat includes estuarine and marine waters (NOAA 2014).	Yes	The project area is located within range for this DPS with no stated fish passage issues (USFWS 2024d). The Meadows Slough does not provide suitable spawning habitat but does provide juvenile rearing and migratory habitat.

Scientific Name	Common Name	Federal	State	Habitat Characteristics	Impacts Analyzed	Rationale
<i>Spirinchus thaleichthys</i>	longfin smelt	FE	ST	Considered pelagic and anadromous, though anadromy in this species is poorly understood, and certain populations are not anadromous, completing their life cycle in freshwater lakes and streams (USFWS 2012b). Bay-Delta longfin smelt DPS occupies the San Francisco Bay Estuary and areas of the Pacific Ocean out to the Farallon Islands. This DPS is a pelagic fish that exhibit an anadromous life history with reproduction within low-salinity to freshwater habitats beginning in late fall/early winter and extends into the spring as water temperature and low-salinity conditions allow (USFWS 2022).	Yes	The project area is located 1.7-miles north of the depicted range of this species (USFWS 2015), although it is connected via Snodgrass Slough with no barriers to passage.
<i>Entosphenus tridentatus</i>	Pacific Lamprey	None	SSC	Anadromous species with juvenile life stage residing in freshwater year-round. Adults typically migrate from the ocean into freshwater in winter high flows.	Yes	The project area is located within range for this species.
<i>Lampetra ayresii</i>	Western River Lamprey	None	SSC	Anadromous species with juvenile life stage residing in freshwater year-round. Adults typically migrate from the ocean into freshwater in winter high flows.	Yes	The project area is located within range for this species.
<i>Lavinia exilicauda exilicauda</i>	Sacramento Hitch	None	SSC	Often found in slow warm water, including lakes and quiet stretches of rivers. Hitch are sometimes found in cool and clear, low-gradient streams in sandy runs or pools. Very heat tolerant fish and can withstand water temperatures greater than 30°C under some conditions. Can be found living in brackish water with salinities as high as 9 ppt.	Yes	The project area is located within range for this species.
<i>Pogonichthys macrolepidotus</i>	Sacramento Splittail	None	SSC	Typically found in estuarine environments all throughout the Sacramento-San Joaquin Delta. Can be found in slower moving water, channels, floodplains, sloughs, and slow-moving rivers.	Yes	The project area is located within range for this species.
<i>Mylopharodon conocephalus</i>	Hardhead	None	SSC	Usually found in clear deep streams with a slow but present flow. Less common in brackish waters, generally prefer to stay in freshwater.	No	The project area is located within range for this species, however they are not typically found in brackish waters and prefer to stay higher up in adjacent rivers and streams.

Scientific Name	Common Name	Federal	State	Habitat Characteristics	Impacts Analyzed	Rationale
<i>Oncorhynchus tshawytscha</i>	Central Valley fall / late fall-run ESU chinook salmon	EFH	SSC	Chinook are an anadromous species, they hatch and rear in freshwater, then migrate to the ocean to feed until adulthood before returning to spawn. Juveniles typically move down into the estuary within a few weeks of hatching, where they then can stay and feed for weeks to months before migrating out to the ocean.	No	The project area is located within range for this species, but not within Critical Habitat. The Meadows Slough does not provide suitable spawning habitat but does provide juvenile rearing and migratory habitat during cooler times of year. Salmonids are unlikely to be present during summer months when in-water construction would occur.
<i>Cottus gulosus</i>	Riffle Sculpin	None	SSC	Inhabits sand and gravel riffles of headwaters and creeks. May also be found in sand-gravel runs and backwaters of small to large rivers. Distributed from the lower Columbia River in Washington to Morro Bay in California, including the Sacramento-San Joaquin River drainage (except Pit River) (Moyle et al. 1995).	Yes	The project area is located within range for this species.
<i>Oncorhynchus tshawytscha</i>	Central Valley Spring-run chinook salmon	FT	ST	Chinook are an anadromous species, they hatch and rear in freshwater, then migrate to the ocean to feed until adulthood before returning to spawn. Juveniles typically move down into the estuary within a few weeks of hatching, where they then can stay and feed for weeks to months before migrating out to the ocean. Some juveniles stay in freshwater for 1-2 years before migrating downstream.	No	The project area is located within range for this species, but not within Critical Habitat. The Meadows Slough does not provide suitable spawning habitat but does provide juvenile rearing and migratory habitat during cooler times of year. Salmonids are unlikely to be present during summer months when in-water construction would occur.

Scientific Name	Common Name	Federal	State	Habitat Characteristics	Impacts Analyzed	Rationale
<i>Oncorhynchus tshawytscha</i>	Sacramento River Winter-run chinook salmon	FE	SE	Chinook are an anadromous species, they hatch and rear in freshwater, then migrate to the ocean to feed until adulthood before returning to spawn. Juveniles typically move down into the estuary within a few weeks of hatching, where they then can stay and feed for weeks to months before migrating out to the ocean.	No	The project area is located within range for this species, but not within Critical Habitat. The Meadows Slough does not provide suitable spawning habitat but does provide juvenile rearing and migratory habitat during cooler times of year. Salmonids are unlikely to be present during summer months when in-water construction would occur.
Amphibians						
<i>Ambystoma californiense</i> pop. 1	California tiger salamander - central California DPS	FT	ST	Breeds in fish-free ephemeral ponds which form in winter and dry in summer. Some also breed in slow streams and semi-permanent waters, including cattle ponds. Spends most of the year underground in small mammal burrows, especially those of California ground squirrel (<i>Otospermophilus beecheyi</i>). Typical habitat associations include grassland, oak savanna, edges of mixed woodland, and lower elevation coniferous forest (Naifis 20XX).	No	Suitable overwintering habitat is present in the grasslands with ground squirrel burrows. The project area is located within the known range for this species and is mapped as "high" predicted habitat by California Wildlife Habitat Relationships (CWHR) (CDFW 2016a), although it is located outside of the connectivity to other patches with the closest patch to the west of the Sacramento River Deep Water Ship Channel (CDFW 2014). Project area not included in the USFWS Recovery plan for this species (USFWS 2017b).

Scientific Name	Common Name	Federal	State	Habitat Characteristics	Impacts Analyzed	Rationale
<i>Spea hammondi</i>	western spadefoot	FC (threatened)	SSC	Generally found in grasslands, oak woodlands, coastal sage scrub, and chaparral in washes, floodplains, alluvial fans, playas, and alkali flats. Natural and artificial water bodies are used for breeding. Specifically, vernal pools used by this species have an average ponding duration of 81 days, and successful recruitment occurs in ponds that last on average 21 days longer than larval development time. Pool temperature requirements are from 48 to 90°F. Pools with invasive species, such as crayfish (<i>Pacifastacus</i> spp.), or bullfrogs (<i>Lithobates catesbeianus</i>) often, but not always, exclude this species (Thomson et al. 2016).	No	Suitable grasslands and oak and riparian woodland habitat types are present in the project area. Vernal pools were not identified in the project area or immediate vicinity, although seasonal wetlands and fresh emergent wetlands may provide marginal suitable aquatic habitat.
Reptiles						
<i>Actinemys marmorata</i>	Northwestern pond turtle	FC (threatened)	SSC	Ranges throughout California except for Inyo and Mono Counties. Generally, occurs in various water bodies including permanent and ephemeral systems either natural or artificial. Upland habitat that is at least moderately undisturbed is required for nesting and overwintering, in soils that are loose enough for excavation (Thomson et al. 2016).	Yes	Numerous pond turtles were observed in both bodies of water (The Meadows Slough and freshwater pond) surrounding the project area. Suitable aquatic habitat and uplands habitat is present for nesting and overwintering.
<i>Thamnophis gigas</i>	giant gartersnake	FT	ST	Marshes, sloughs, ponds, small lakes, low gradient streams, irrigation and drainage canals, rice fields and their associated uplands. Upland habitat should have burrows or other soil crevices suitable for snakes to reside during their dormancy period (November- mid March). Formerly ranged in the Central Valley from Butte County to Buena Vista Lake in Kern County, but now thought to be absent south of Fresno and in Stanislaus County (USFWS 2012c).	Yes	Suitable aquatic marsh habitat (the Meadows Slough, fresh emergent marsh, ditch, and freshwater pond) is present in the project area, with suitable adjacent uplands with burrows for their dormancy period.
Birds						

Scientific Name	Common Name	Federal	State	Habitat Characteristics	Impacts Analyzed	Rationale
<i>Agelaius tricolor</i>	tricolored blackbird (nesting colony)	None	ST, SSC	Mostly a year-round resident in California. Common locally throughout Central Valley and in coastal districts from Sonoma County south. Breeds locally in northeastern California. In winter, becomes more widespread along the central coast and San Francisco Bay area, and can be found in portions of the Colorado Desert. Preferred nesting habitat includes cattails (<i>Typha</i> spp.), bulrushes (<i>Schoenoplectus</i> spp.), Himalayan blackberry (<i>Rubus armeniacus</i>), and agricultural silage. Dense vegetation is preferred but heavily lodged cattails not burned in recent years may preclude settlement. Need access to open water. Strips of emergent vegetation along canals are avoided as nest sites unless they are about 30 feet or more wide but in some ponds, especially where associated with Himalayan blackberries and deep water, settlement may be in narrower fetches of cattails (CWHR Program Staff 2008a).	Yes	Suitable nesting substrates are present in dense quantities in the marsh habitat along the Meadows Slough and the freshwater pond.
<i>Ammodramus savannarum</i>	grasshopper sparrow (nesting)	None	SSC	Nests in a variety of grassland habitats throughout much of the Central Valley, Coast Range Mountains, and the Inland Empire region. Prefers short to middle-height, moderately open grasslands with scattered shrubs. Avoids areas with high shrub cover (Shuford and Gardali 2008).	Yes	Suitable grasslands are present in the project area with the correct vegetation height for nesting.
<i>Athene cunicularia</i>	burrowing owl (burrow sites and some wintering sites)	None	SSC	Resident in much of the state in open, dry grasslands and various desert habitats. Requires open areas with mammal burrows; especially those of California ground squirrel. Inhabits rolling hills, grasslands, fallow fields, sparsely vegetated desert scrub, vacant lots and other open human disturbed lands such as airports and golf courses. Absent from northwest coast and elevations above 5,500 feet (CWHR Program Staff 1999a).	Yes	Suitable grasslands with California ground squirrel burrows are present.

Scientific Name	Common Name	Federal	State	Habitat Characteristics	Impacts Analyzed	Rationale
<i>Buteo swainsoni</i>	Swainson's hawk (nesting)	None	ST	Nests in oak savanna and cottonwood riparian areas adjacent to foraging habitat of grasslands, agricultural fields, and pastures where they often follow farm equipment to gather killed and maimed rodents. Increasingly also nests in sparse stands of gum trees (<i>Eucalyptus</i> spp.) and Australian pines (<i>Casuarina equisetifolia</i>) and often forage along roadsides and grassy highway medians. Breeding resident in the Central Valley, Klamath Basin, Northeastern Plateau, and in juniper-sagebrush flats of Lassen County. Limited breeding reported from Lanfair Valley, Owens Valley, Fish Lake Valley, and Antelope Valley. Winters primarily in Argentina, with most birds absent from California October through February, though a few overwinter in the Sacramento-San Joaquin River Delta. Prolific migrant through southern California in spring and fall, with large mixed-age groups of birds frequently observed kettling high overhead on thermals or foraging together on freshly cut agricultural fields (CWHR 2006).	Yes	This species was observed foraging throughout the project area in September. Suitable nesting habitat is present in the oak woodlands, willow riparian, and riparian forest. Additionally, the adjacent agricultural fields and grazed non-native annual grasslands provide suitable foraging habitat.
<i>Charadrius montanus</i>	mountain plover (wintering)	None	SSC	Does not nest in California. Present in the state November through March in open grasslands and plowed fields with no or very short vegetation. Found in flocks mostly on the west side of the Central Valley from Colusa County south to Kern County, Carrizo Plain, Antelope Valley, Imperial Valley, and western Riverside County. Single individuals are rarely found on beaches or offshore islands (CWHR Program Staff 2008b).	No	Although suitable overwintering habitat is present in the open grasslands in the project area, the project area is located 1.2-miles outside of the known wintering range for this species (CDFW 2016b).
<i>Circus hudsonius</i>	northern harrier (nesting)	None	SSC	Nests on the ground in patches of dense, tall vegetation in undisturbed areas. Breed and forage in a variety of open habitats such as marshes, wet meadows, weedy borders of lakes, rivers and streams, grasslands, pastures, croplands, sagebrush flats, and desert sinks (Shuford and Gardali 2008).	Yes Foraging; No Nesting	This species was observed foraging in the project area in September. Open non-native annual grasslands are actively grazed by cattle, making nesting not expected for this species due to disturbance.

Scientific Name	Common Name	Federal	State	Habitat Characteristics	Impacts Analyzed	Rationale
<i>Coccyzus americanus occidentalis</i>	western yellow-billed cuckoo (nesting)	FT	SE	Has declined drastically in California due primarily to loss of habitat. Requires riparian woodland with dense cover; primarily old-growth cottonwood (<i>Populus</i> spp.) forests with willow (<i>Salix</i> spp.) understory but will also nest in overgrown orchards adjacent to streams and dense thickets alongside marshes. Persists in small numbers along the Sacramento River between Red Bluff and Colusa, the Feather River between Yuba City and the Bear River, Owens Valley, the Kern River Valley, the Colorado River Valley, the Santa Ana River near Prado Basin, and the San Luis Rey River in northern San Diego County (USFWS 2019).	No breeding habitat; Yes Migratory Stopover	The project area does provide suitable riparian woodlands and willow riparian for nesting, although the project area is located over 50 miles outside of the mapped known breeding range for this species. The project area is likely used by this species as a migratory stopover.
<i>Elanus leucurus</i>	white-tailed kite (nesting)	None	FP	Fairly common resident of the Central Valley, coast, and Coast Range Mountains. Nests in oak savanna, oak and willow riparian, and other open areas with scattered trees near foraging habitat. Forages in open grasslands, meadows, farmlands, and emergent wetlands. Often seen hover foraging over roadsides or grassy highway medians (CWHR Program Staff 2005).	Yes	This species was observed foraging in the project area during the September survey. Suitable nesting habitat is present in the oak woodlands.
<i>Falco peregrinus anatum</i>	American peregrine falcon (nesting)	Delisted	Delisted	Breeds near wetlands, lakes, rivers, or other waters on cliffs, banks, dunes or mounds, mostly in woodland, forest, and coastal habitats. Nest is a scrape on a depression or ledge in an open site. May use man-made structures (such as bridges, skyscrapers, or electrical towers), large snags, or trees for nesting (Polite, Pratt, and Kiff 1990).	No	No cliffs for nesting are located in the project area or immediate vicinity. There are electrical towers present outside the project area, but no observable old nests were detected during field work.
<i>Geothlypis trichas sinuosa</i>	Saltmarsh common yellowthroat	None	SSC	Dwells only in the San Francisco Bay Area. Primarily found in brackish and fresh marshes, but also occupies salt marsh and riparian woodland habitat (Shuford and Gardali 2008).	No	Project area is located outside the San Francisco Bay Area, and outside of the known breeding range for this species.

Scientific Name	Common Name	Federal	State	Habitat Characteristics	Impacts Analyzed	Rationale
<i>Laterallus jamaicensis coturniculus</i>	California black rail	None	ST, FP	Saline, brackish, and fresh emergent wetlands. Scarce, but true abundance difficult to determine due to small size and extremely secretive nature. Known to nest at scattered locations in the San Francisco Bay Area and Delta region, Point Reyes National Seashore, San Luis Obispo and Orange Counties, as well as the Imperial and Lower Colorado River Valleys. Appears intermittently and sparingly at a few locations in the Sacramento Valley (CWHR Program Staff 1999b).	Yes	Suitable marsh habitats are present along The Meadows Slough and the freshwater pond within the project area.
<i>Melospiza melodia mailliardi</i>	song sparrow (Modesto population)	None	SSC	Often found in emergent freshwater marshes dominated by bulrushes (<i>Scirpus</i> spp.), cattails (<i>Typha</i> spp.), and willow (<i>Salix</i> spp.). Also nests in riparian forests of valley oak (<i>Quercus lobata</i>) with a sufficient understory of blackberry (<i>Rubus</i> spp.), along vegetated irrigation canals and levees, and in recently planted valley oak restoration sites. Found throughout the Sacramento Valley, from the delta north to Chico. The highest densities of this subspecies occur in the Butte Sink Area of the northern Sacramento Valley and in the Sacramento-San Joaquin River Delta (Shuford and Gardali 2008).	Yes	Suitable marsh habitats are present along The Meadows Slough and the freshwater pond within the project area. Additionally, the riparian forest and oak woodlands provide nesting habitat.
<i>Xanthocephalus xanthocephalus</i>	yellow-headed blackbird (nesting)	None	SSC	Nests in fresh marshes with tall, emergent vegetation such as bulrushes (<i>Schoenoplectus</i> ssp.) and cattails (<i>Typha</i> ssp.) adjacent to deep water (Shuford and Gardali 2008).	Yes	Suitable marsh habitats are present along The Meadows Slough and the freshwater pond within the project area.
Mammals						
<i>Lasiurus blossevillii</i>	western red bat	None	SSC	Ranges across the Central Valley, as well as the coast and Coast Range mountains from Mendocino County south, and east across the Los Angeles area into the Inland Empire region. Occurs in most habitats except desert and alpine areas. Roosts in trees, sometimes shrubs, and typically at the margins of habitats (Alley, Harris and Duke 1990).	Yes	Suitable forest margin habitat for roosting is present in the project area.

Scientific Name	Common Name	Federal	State	Habitat Characteristics	Impacts Analyzed	Rationale
<i>Sylvilagus bachmani riparius</i>	riparian brush rabbit	FE	SE	Found only at Caswell Memorial State Park and Oxbow Preserve on the Stanislaus River, San Joaquin County, as well as in the South Delta and at the San Joaquin River National Wildlife Refuge ¹ . Occur in relatively small areas of shrub/herbaceous edge, and in early successional stages of many habitats. Prefer dense brush cover of thickets, vines, brambles, or dense riparian habitat (CWHR Program Staff 2000).	No	Project area is located outside of the known range for this species which is located only within San Joaquin County and northern Stanislaus County.
<i>Taxidea taxus</i>	American badger	None	SSC	Ranges across nearly all of California except the northernmost Humboldt and Del Norte Counties. Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils (Ahlborn and White 1990).	Yes	Suitable habitat present with friable soils for denning. Foraging habitat is also present with a population of California ground squirrels. No sizeable dens were observed during field work to support this species.

Species Status

Federal Status

FE = Listed as Endangered under the Federal Endangered Species Act
FT = Listed as Threatened under the Federal Endangered Species Act
FC = Federal Candidate Species under the Federal Endangered Species Act
EFH = Essential Fish Habitat

State Status

SC = Candidate for Listing under the California Endangered Species Act

SE = Endangered under the California Endangered Species Act
ST = Listed as Threatened under the California Endangered Species Act
SR = Listed as Rare under the California Endangered Species Act
SSC = State Candidate Species under the California Endangered Species Act
FP = Fully Protected under California Endangered Species Act

Notes: USFWS: U.S. Fish and Wildlife Service; CDFW: California Department of Fish and Wildlife; DPS: Distinct Population Segment

Source: Ahlborn and White 1990, Alley, Harris and Duke 1990, CA BBA 2022, CDFW 2014, CDFW 2016a, CDFW 2016b, CWHR 2006, CWHR Program Staff 1999a, CWHR Program Staff 1999b, CWHR Program Staff 2000, CWHR Program Staff 2005, CWHR Program Staff 2008a, CWHR Program Staff 2008b, H.T. Harvey 2024, IELP 2012, Naifis 20XX, NMFS 2015, NOAA 2014, Moyle et al. 1995, Polite, Pratt, and Kiff 1990, Shuford and Gardali 2008, Thomson et al. 2016, USFWS 2007a, USFWS 2007b, USFWS 2010, USFWS 2012a, USFWS 2012b, USFWS 2012c, USFWS 2015, USFWS 2016, USFWS 2017, USFWS 2019, USFWS 2022, USFWS 2023a, USFWS 2023b, USFWS 2024d, Williams et al. 2024

¹ USFWS, 2024. Riparian Brush Rabbit. Accessed on October 1, 2024 via: <https://www.fws.gov/species/riparian-brush-rabbit-sylvilagus-bachmani-riparius>

Plants

Twenty-eight special-status plant species were evaluated for their potential to occur in the study area. **Table 3.4-1** summarizes, for each of these species, their regulatory or CNPS listing status, habitat associations, if they are analyzed in this document further, and the rationale for inclusion or exclusion. For most of the species, further investigation of presence within the BSA was determined to be unnecessary due to the lack of suitable habitat requirements (e.g. vernal pools) and/ or clustering of known occurrence records over 20-miles away. Species with habitat requirements within marshes and swamps of either freshwater or brackish water could possibly be found within the BSA and within the project impact areas.

Twelve special-status plant species were determined to have a potential to occur within the BSA and potentially in the project impact area include: watershield (*Brasenia schreberi*), bristly sedge (*Carex comosa*), Bolander's water-hemlock (*Cicuta maculata* var. *bolanderi*), woolly rose-mallow (*Hibiscus lasiocarpus* var. *occidentalis*), Delta tule pea (*Lathyrus jepsonii* var. *Jepsonii*), Mason's lilaeopsis (*Lilaeopsis masonii*), Delta mudwort (*Limosella australis*), Sanford's arrowhead (*Sagittaria sanfordii*), marsh skullcap (*Scutellaria galericulata*), side-flowering skullcap (*Scutellaria lateriflora*), Suisun Marsh aster (*Symphyotrichum lentum*), and saline clover (*Trifolium hydrophilum*). None of these plant species have a federal listing status. All of these species have the potential to occur along the water's edge where project activities will occur. There are no uplands special-status plants that have the potential to occur in project impact areas.

Wildlife

Thirty-two special-status wildlife species were evaluated for their potential to occur in the BSA. Table 3.4-2 summarizes, for each of these species, their regulatory listing status, habitat associations, potential to occur in the BSA, and rationale for inclusion or exclusion. The project area includes a very diverse range of land cover types, presenting a significant amount of suitable habitat for a variety of special-status species. Based on timing of project activities, occurrence for specific species may be eliminated, but these species are included in this document as possible presence. Several species were eliminated based on known limiting ranges or lack of suitable habitat within the project area. Twenty-five (25) special-status species were determined to have a possible potential to occur within the BSA and potentially in the project impact area. Species and potential impacts based on project activities are discussed below by taxa groups.

Invertebrates

Three special-status invertebrate species were determined to have a potential to occur within the BSA and potentially in the project site include: Crotch bumble bee (*Bombus crotchii*), monarch (*Danaus plexippus* (pop. 1)), and valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*).

Valley elderberry longhorn beetle is federally listed as threatened, there is no state listing. The host plant was observed in several locations throughout the project area. In one location, exit holes were observed on numerous old stems possibly indicating the presence of this species. The location of the shrubs is in close proximity to the pipe removal and installation site.

Crotch bumble bee is listed as state-candidate endangered and does not have any federal listing. During state candidacy, species are protected by CESA until a ruling is determined. Primary land cover types present in the project area that are suitable for nesting, foraging, and overwintering include: non-native annual grasslands, valley oak woodlands and riparian forest. The Monarch butterfly is a federal candidate, which does not receive statutory protection under the ESA; however, the USFWS is anticipated to make a determination on listing in 2024. Therefore, any measures to protect this species would be considered guidance and proactive. The project area is located outside of the known overwintering range, which is located along the coastline, and only provides foraging habitat for Monarchs.

Fish

Ten special-status fish species were determined to have a potential to occur within the BSA, of which four are federally listed as threatened or endangered. The following species could be located within Meadows Slough and potentially the freshwater emergent wetlands, as there are no barriers to passage from the Sacramento River: green sturgeon (southern DPS), white sturgeon, delta smelt, steelhead (central valley DPS), longfin smelt, pacific lamprey, river lamprey, Sacramento hitch, Sacramento spittail, and riffle sculpin. The project area is located within critical habitat for green sturgeon and delta smelt. While the project area provides suitable slough spawning habitat for delta smelt, it does not provide suitable spawning habitat for green sturgeon or white sturgeon, which occurs in deep pools along the Sacramento River. Meadows Slough does not provide suitable spawning habitat for salmonids (steelhead and chinook) but does provide juvenile rearing and migratory habitat for Chinook salmon.

Reptiles

Two reptiles were determined to have the potential to occupy the project area. Northwestern pond turtle (*Actinemys marmorata*) was observed in both Meadows Slough and the freshwater pond during field surveys. The project area provides suitable aquatic and uplands nesting habitat for this species. Northwestern pond turtle is a federally threatened candidate and is a state species of special concern.

Additionally, the giant garter snake (*Thamnophis gigas*) was determined to also have suitable aquatic habitat in Meadows Slough, ditch, and fresh emergent marsh land cover types. Marginal suitable aquatic habitat is located in the freshwater pond, and is unlikely to be used compared to the adjacent high-quality habitat of Meadows Slough. Suitable upland habitat with small mammal burrows for overwintering is located in the project area. Giant garter snake is a federally threatened and state threatened species.

Birds

Several special-status birds were determined to have the potential to occur in or adjacent to the project area, for nesting and foraging. The project area provides trees suitable for nesting for Swainson's hawk and white-tailed kite, both of which were observed foraging during the field surveys.

The fresh emergent wetlands at the southern end of the project area to the southeast of the TMXS-R levee in The Meadows Slough provide quality nesting and foraging habitat for tricolored blackbird (*Agelaius tricolor*), as there is a large expanse of bulrush and cattails

suitable for supporting a breeding colony. The emergent vegetation surrounding the freshwater pond would also provide marginal suitable habitat but does not have as extensive freshwater emergent vegetation. While the project area does provide the habitat needed for this species, the majority of known breeding occurrences are located either to the east of Interstate 5 or to the west of the Sacramento River Deep Water Ship Canal. The fresh emergent wetlands also provide suitable nesting habitat for Modesto song sparrow, yellow-headed blackbird, and California black rail.

Burrowing owls (*Athene cunicularia*) could occur and nest in the non-native annual grassland habitat where California ground squirrel complexes were observed. Although, the project area is not mapped within or connected to known breeding patches identified by CDFW, reducing the likelihood of the project area use by this species. The annual grasslands provide suitable nesting habitat for grasshopper sparrow, although the known breeding occurrences are all located to the west of the Sacramento River Deep Water Ship Canal. Northern harrier was observed foraging in the non-native annual grasslands in the project area; however, this species is not expected to nest in the project area due to disturbances from cattle grazing operations and potential pedestrians walking on the TMXS-R levee. Habitat for the federally listed western yellow-billed cuckoo, was identified as the riparian woodlands and willow riparian within the BSA. These areas could provide a suitable expanse of habitat to support breeding, although this species has a very restricted breeding distribution which is located north of Colusa over 50-miles away. A CNDDDB occurrence record that is located within close proximity of the project area was detected during in June, July and August, all of which coincide with periods in which individuals are expected to be migrating north and south. Therefore, any potential disturbances to this species from project related activities would occur to habitat that supports migrant western yellow-billed cuckoo.

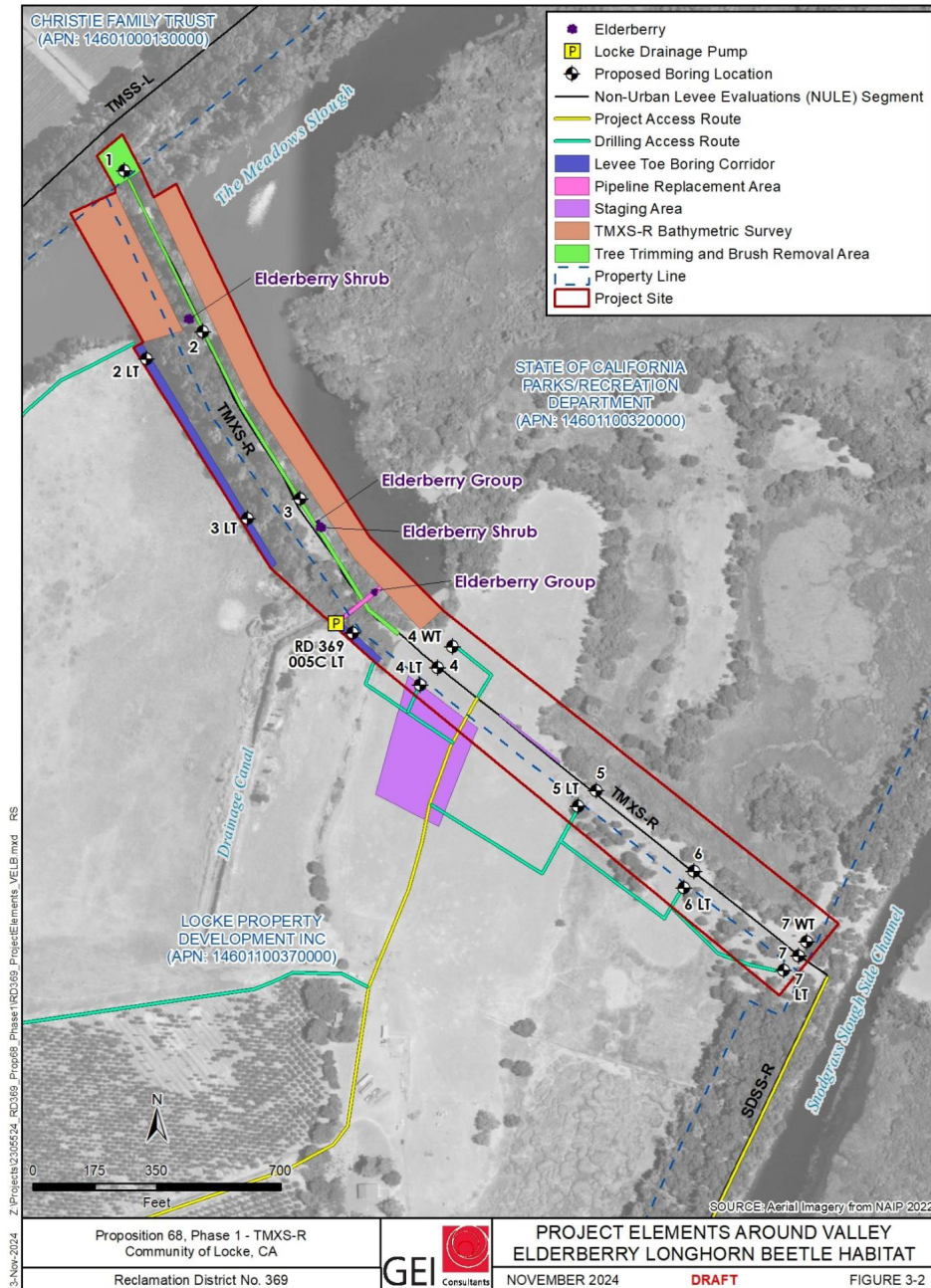


Figure 3-2. Project Elements Around Valley Elderberry Longhorn Beetle Habitat

Critical Habitat

Critical habitat is a geographic area containing features determined by USFWS or NMFS to be essential to the conservation of a species listed as threatened or endangered under the ESA. The Meadows Slough is designated critical habitat for two Federally threatened or endangered fish species, green sturgeon and delta smelt. The Meadows Slough is also considered Essential Fish Habitat for Chinook salmon (*Onchorhynchus tshawytscha*), which includes waters and substrate necessary for spawning, breeding, feeding, or growth to maturity within currently and historically accessible habitat. Meadows Slough does not provide suitable spawning habitat but does provide juvenile rearing and migratory habitat for Chinook salmon. There is no additional designated critical habitat for any special-status plant or wildlife species in the project vicinity.

Sensitive Natural Communities and Aquatic Resources

Sensitive natural communities are defined by CDFW as having limited distribution within the State. CDFW designates sensitive natural communities based on their State rarity and threat ranking using NatureServe's Heritage Methodology. Natural communities with rarity ranks of S1 to S3, where S1 is critically imperiled, S2 is imperiled, and S3 is vulnerable, are considered sensitive natural communities to be addressed in the environmental review processes of CEQA. Sensitive natural communities also include areas regulated under Sections 1600–1603 of the Fish and Game Code and/or Sections 401 and Section 404 of the Clean Water Act. Federal and state regulatory agencies also consider wetlands and riparian habitat as sensitive communities.

The aquatic resources delineation identified several types of aquatic resources in the BSA, including slough, pond, freshwater emergent wetlands, seasonal wetlands, and ditches. The location and extent of these resources match the mapping and descriptions provided in the *Land Cover Types* section above. It is assumed that all of these aquatic resources would be considered waters of the U.S. and State and subject to the Clean Water Act. In addition to the aquatic resource types listed above, riparian forest, willow riparian, and most oak woodland types in the BSA are considered sensitive natural communities subject to CDFW jurisdiction.

Discussion

This impact discussion focuses on biological resources with a reasonable potential to be affected by ground disturbing activities associated with the proposed project and also considers the operation and maintenance of the pump station and TMXS-R levee access. The rationales for eliminating species from additional analysis based on their low potential to occur in the project area can be found in Tables 3.4-1 and 3.4-2. Therefore, only plant and wildlife species that have a likelihood to occur in the BSA are addressed in this discussion. No critical habitat for special-status plants or terrestrial wildlife species were identified within the BSA. Critical habitat was identified for green sturgeon and delta smelt within the Meadows Slough. Additionally, Essential Fish Habitat was identified for Chinook salmon in the Meadows Slough.

- 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 the U.S. Fish and Wildlife Service?**

Special-status Plants

Twelve special-status species were determined to have potential to occur within the marsh and swamp habitats within the BSA and include: watershield, bristly sedge, Bolander's water-hemlock, woolly rose-mallow, Delta tule pea, Mason's lilaeopsis, Delta mudwort, Sanford's arrowhead, marsh skullcap, side-flowering skullcap, Suisun Marsh aster, and saline clover. None of the identified species are federally listed. Project related impacts to these twelve species could occur during the removal of the existing pipes, replacement of the 12-inch pipeline, and pump station removal and replacement. These activities would require vegetation removal along the water's edge in the Meadows Slough, likely vegetation removal in fresh emergent marsh, installation of riprap into the Meadows Slough, and removal of the existing pumpstation in water. The geotechnical boring locations are unlikely to impact special-status plant species, as the anticipated boring locations are outside of the freshwater marsh habitat where these species have the potential to occur. No additional vegetation removal is expected in the marsh habitat beyond the activities mentioned above. These special-status plant species could be directly impacted by vegetation removal during ground disturbing activities, this is considered a **potentially significant** impact. The following mitigation measures have been identified to address this impact.

Mitigation Measure BIO-1: Conduct Rare Plant Survey and Avoid, Transplant, Salvage, Cultivate, or Re-establish Species.

Conduct a Rare Plant Survey Prior to the Start of Ground Disturbing Activities for Special-status Plant Species. A qualified botanist shall be retained to perform focused surveys to determine the presence or absence of special-status plant species that were determined to have the potential to occur in and adjacent to (within 100 feet, where appropriate) the proposed impact area, including new site access routes. These surveys shall be conducted in accordance with CDFW *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (2009) or currently accepted resource agency protocols. These guidelines require that rare plant surveys be conducted at the proper time of year when rare or endangered species are both evident and identifiable. Field surveys shall be scheduled to coincide with known flowering periods, and/or during appropriate developmental periods that are necessary to identify the plant species of concern. If no special-status plant species are identified, no further actions are needed prior to ground disturbing activities to protect plant species.

If any state listed, federally listed, and/or CNPS List 1 or CNPS List 2 plant species are found within 100 feet of proposed impact areas during the surveys, these plant species shall be avoided to the greatest extent possible. If avoidance is not possible, populations shall be mitigation through transplant, salvage, cultivate, or re-establish the species at suitable sites (if feasible), or through the purchase of credits from an approved mitigation bank, if available, at a minimum 1:1 ratio.

Any special-status plant species that are identified adjacent to the project area, but not proposed to be disturbed by the proposed project, they shall be protected by barrier fencing to provide that ground disturbing activities and material stockpiles do not impact

any special-status plant species. These avoidance areas shall be identified on proposed project plans.

Timing: Before and during project activities.

Responsibility: Reclamation District 369

Implementing Mitigation Measures BIO-1 would reduce the potentially significant impact associated with take of any special-status plant species to a **less-than-significant with mitigation** because the project would identify special-status plants on the project site prior to initiating ground disturbance, and either avoid impacts or transplant, salvage, cultivate, or re-establish any individuals that would be affected by project activities.

Special-status Wildlife

General Wildlife Measures

The project area has a high diversity of suitable habitat types for special-status species that could be impacted by project activities and this is considered a **potentially significant** impact. The following mitigation measures have been identified to address this impact.

Mitigation Measure BIO-2: Minimize Effects on Biological Resources.

1. **Conduct a Worker Environmental Awareness Program (WEAP) Trainings to All Staff That Will be On-site During Project Activities.** A qualified biologist shall provide WEAP training to cover species identification, habitat, life history, and conservation measures for all special-status species with potential to occur within the project site. Training may consist of showing a video prepared by a qualified biologist, or an in-person presentation by a qualified biologist. In addition to the video or in-person presentation, training may be supplemented with the distribution of approved brochures and other materials that describe protected resources and methods for avoiding effects. The contractor shall be responsible for ensuring that all new personnel have received the WEAP training and is documented for reporting purposes. For multi-year projects, the WEAP shall be updated on a yearly basis to ensure project applicability and any lessons learned. All personnel are required to re-take the WEAP yearly.
2. **Biological Monitoring.** A designated and qualified biological monitor shall be present for all ground disturbing or vegetation removal activities. Depending on the timing of project activities after initial disturbance, a monitor may be necessary. Species-specific measures below delineate out those timings.
3. **Vehicle Speed.** Project-related vehicles shall observe a 10-mile-per-hour speed limit within project areas and along haul/access routes, except on county roads and State and federal highways.
4. **Site Best Management Practices.** Appropriate site-specific best management practices (e.g., fencing and other erosion controls) shall be implemented to avoid

accidental encroachment of vehicles and personnel and to minimize and control runoff, erosion, and sediment deposition in aquatic habitat.

5. **Spill Protection.** Every reasonable precaution shall be implemented to protect soils and waters from pollution with fuels, oils, and other harmful materials. In the event of a spill in or adjacent to aquatic habitat (including seasonal wetlands), work shall stop, and the spill shall be addressed immediately with appropriate equipment to contain and absorb the spilled material.
6. **Staging Areas.** Any and all heavy equipment, vehicles, and supplies shall be stored at the designated staging areas at the end of each work period. Vehicles and equipment shall be properly maintained to prevent contamination of soil or water from external grease and oil or from leaking hydraulic fluid, fuel, oil, and grease. Vehicles and equipment shall be checked daily for leaks. If leaks are found, the equipment shall be removed from the site and shall not be used until the leaks are repaired. Equipment shall be refueled and serviced at designated refueling and staging sites located where a spill shall not drain directly toward aquatic habitat. Appropriate containment materials shall be installed to collect any discharge, and adequate materials for spill cleanup shall be maintained onsite.
7. **Revegetate All Disturbed Natural Surfaces.** After completion of ground disturbing activities, all disturbed soil surfaces shall be revegetated within the same implementation season that disturbance occurs. These areas shall be recontoured, if appropriate, and revegetated with appropriate native plant species to promote restoration of the area to pre-project conditions or better.
8. **Erect and Maintain High-visibility Fencing during Ground Disturbing Activities to Protect Sensitive Biological Resource Areas.** Before beginning ground disturbance activities for the pipeline removal and replacement, high-visibility fencing shall be erected to protect areas of sensitive biological resources that are located adjacent to project areas that can be avoided. The fencing shall restrict encroachment of personnel and equipment into these areas. The fencing may be removed only when the ground disturbing activities within a given area is completed and shall be maintained by the contractor.
9. **Geotechnical Investigations.** Geotechnical investigations and vegetation removal along the TMXS-R levee access route can proceed prior to installation of wildlife exclusionary fencing under the direct guidance of a qualified wildlife biologist. The wildlife biologist shall use their professional discretion for full-time monitoring or spot checking based on the time of the year, project activities, and the potential for special-status species presence.

Timing: Before, during, and after project activities.

Responsibility: Reclamation District 369

Crotch Bumble Bee

The BSA provides suitable nesting, foraging, and overwintering habitat for Crotch bumble bees. The queen flight season is from February to March, colony active period is from April to August, and the gyne flight season is September to October. The active colony period has the highest probability for detecting this species (CDFW 2023). Individual bumble bees or nests could be disturbed and displaced from occupied habitat by ground disturbing activities during pipeline removal and replacement. Geotechnical investigations and haul route usage are not anticipated to impact bumble bees as the routes are generally located in preexisting roadways. In locations where haul routes are not on existing roadways, Crotch bumble bee nests have the potential to be impacted by vehicles. These haul routes are located within active cattle grazed fields. Due to the depth of nest placement, the existing impacts from cattle, and the temporary nature of vehicles passing over sediment, impacts to potential nests would only include nest entrance blocking. Bumble bees are capable of excavating out blocked nest holes, although since individual bumble bees could be killed, injured, or displaced during ground-disturbing activities, this is considered a **potentially significant** impact. In addition to implementing Mitigation Measure BIO-2, “Minimize Effects on Biological Resources,” the following species-specific mitigation measures have been identified to address this impact.

Mitigation Measure BIO-3: Minimize Effects to Crotch Bumble Bee.

Conduct Pre-ground Disturbing Activities Surveys for Active Nests within the Ground Disturbance Footprint. The footprint of ground disturbance around the pipeline removal and installation shall be surveyed prior to project activities for any active bumble bee colony nests by a qualified biologist. Geotechnical investigation haul routes shall also be surveyed prior to driving over undisturbed land covers to check for active nests. Queen bumble bees choose a new nest location each year and nests are easiest to identify during the Colony Active Period (April to August), surveys shall not be conducted during the overwintering timeframe as North American bumble bee habitat preferences are poorly understood. If a nest is identified as being active and is of a candidate bumble bee species, an appropriate no disturbance buffer zone shall be established around the nest until the gyne flight season and the nest becomes inactive. Buffer zones shall be determined in coordination with CDFW.

Timing: Before project activities

Responsibility: Reclamation District 369

Implementing Mitigation Measures BIO-2 and BIO-3 would reduce the potentially significant impact associated with take of Crotch bumble bee to a **less-than-significant with mitigation** because the project would survey to identify active nest locations, and avoid these locations.

Monarch

The BSA provides suitable foraging habitat for monarch butterflies. Individual butterflies are unlikely to be disturbed and displaced from habitat within the BSA by ground disturbing activities during pipeline removal and replacement, as the species is mobile and would vacate the area. Geotechnical investigations and haul route usage are not anticipated to impact this species.

Ground disturbance activities and vegetation removal do have the potential to remove nectar sources for monarch butterflies, although no milkweed plants were identified during field investigations and the understory where the pipe is located was sparse in nectar sources. This species is a federal candidate for statutory protection under the ESA, and the USFWS is anticipated to make their determination in 2024. Therefore, impacts on monarch butterfly habitat is considered a **potentially significant impact**. In addition to implementing Mitigation Measure BIO-2, “Minimize Effects on Biological Resources,” the following species-specific mitigation measures have been identified to address this impact t.

Mitigation Measure BIO-4: Minimize Effects to Monarch Butterflies.

Timing of Vegetation Management. Vegetation removal and management should be conducted to the greatest extent possible within the Management Timing Zone of November 15th to March 15th as recommended by Xerces for Priority #1 Early Breeding Zone.

Timing: During and after project activities.

Responsibility: Reclamation District 369

Implementing Mitigation Measures BIO-2 and BIO-4 would reduce the potentially significant impact associated with take of monarch to a **less-than-significant with mitigation** because the project would remove and manage vegetation during specific times when nectar sources are not available to the species.

Valley Elderberry Longhorn Beetle

The host plant for valley elderberry longhorn beetle was identified in several locations throughout the BSA. Particularly notable are several shrubs located approximately 10 feet to the south of the current pipeline location in which old exit holes were identified on numerous stems, indicating possible presence of this federally listed species. These host plants could be impacted by direct impacts from pipeline removal, replacement, rip-rap placement, vegetation removal, and geotechnical borings, and indirect impacts such as dust buildup on leaves from these ground disturbing activities. No elderberry shrubs are anticipated to be removed or transplanted. Ground disturbing activities could pose **potentially significant** impacts to the host plant for valley elderberry longhorn beetle. In addition to implementing Mitigation Measure BIO-2, “Minimize Effects on Biological Resources,” the following species-specific mitigation measures have been identified to address this impact. Mitigation measures as defined in a Biological Opinion (BO) from USFWS may be implemented to fulfill the mitigation measure below.

Mitigation Measure BIO-5: Minimize Effects to Valley Elderberry Longhorn Beetle.

The following measures shall be implemented in accordance with the Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (USFWS 2017) to reduce effects on valley elderberry longhorn beetle:

1. **Fencing.** All areas to be avoided during ground disturbing activities shall be fenced and/or flagged as close to ground disturbing limits as feasible.
2. **Avoidance area.** To the extent feasible, activities that may damage or kill an elderberry shrub (e.g., trenching, paving, etc.) shall be avoided within 20 feet from the dripline of the shrub, depending on the type of activity.
3. **Ground Disturbance Monitoring.** A qualified biologist shall monitor the work area at appropriate intervals to assure that all avoidance and minimization measures are implemented.
4. **Timing.** To the extent feasible, activities within 165 feet of an elderberry shrub shall be conducted outside of the valley elderberry longhorn beetle flight season (March to July).
5. **Trimming.** To the extent feasible, elderberry shrub trimming shall occur between November and February and avoid the removal of any branches or stems greater than or equal to 1-inch in diameter.
6. **Chemical Usage.** Herbicides shall not be used within the dripline, and insecticides shall not be used within 100 feet of an elderberry shrub. All chemicals shall be applied using a backpack sprayer or similar direct application method.
7. **Mowing.** Weed removal with machinery within the dripline of elderberry shrubs shall be limited to the season when adults are not active (August to February) and shall avoid damaging the shrub.
8. **Transplanting.** To the extent feasible, elderberry shrubs shall be transplanted when the shrubs are dormant (November through the first 2 weeks in February) and after they have lost their leaves. Exit-hole surveys shall be completed immediately before transplanting. A qualified biologist shall be on-site for the duration of transplanting activities to assure compliance with avoidance and minimization measures and other conservation measures.
9. **Compensation.** Effects on elderberry shrubs shall be compensated at a minimum 1:1 ratio through the purchase of credits from a USFWS-approved mitigation bank, onsite restoration, or in-lieu fee program.

Timing: Before, during and after project activities

Responsibility: Reclamation District 369

Implementing Mitigation Measures BIO-2 and BIO-5 would reduce the potentially significant impact associated with take of valley elderberry longhorn beetle to a **less-than-significant with mitigation** by requiring buffers and fencing to avoid shrubs, and specifying monitoring and additional avoidance measures where activities would take place in proximity to elderberry shrubs.

Fish Species

The project area includes part of Meadows Slough which is connected to Snodgrass Slough and the Sacramento River. As such, the project area provides suitable spawning habitat for delta smelt and suitable juvenile rearing and migratory habitat for salmonoids, sturgeons and numerous other state species of special concern. The bathymetric survey would be conducted with a two-person portable watercraft that can be launched by foot, and would include survey equipment attached to the watercraft that measures the depth and topography of the bottom of the waterways. While the survey activities could temporarily displace fish species, the boat and equipment would be removed from Meadow Slough and Snodgrass Slough following completion of the survey, and no alterations to either waterway would occur. However, the placement of up to 10 cubic yards of riprap within Meadows Slough would be considered a **potentially significant** impact to fish species. In addition to implementing Mitigation Measure BIO-2, “Minimize Effects on Biological Resources,” the following species-specific mitigation measures have been identified to address this impact. Mitigation measures defined by NMFS and/or USFWS after consultation may be implemented to fulfill the mitigation measure below.

Mitigation Measure BIO-6: Avoid and Minimize Impacts to Special-status Fish Species.

1. **In-water Work Limited to July through October.** In water work shall be limited to the months of July through October when listed fish species are least likely to be present within the Delta to minimize chances of fish being present near the project area.
2. **No Machinery Shall be Driven into the Wetted Channel Area.** Machinery being used for project work shall be limited to dry upland areas only and shall not be driven within the wetted channel.
3. **Work Shall Only Occur During Daylight Hours.** In-water rock placement shall only occur during daylight hours, as most listed fish species tend to have increased activity at night. If any listed fish are seen near the work area, work shall cease immediately until fish have left the area.
4. **Installation of a Block Net or Turbidity Curtain.** If feasible, a block net or turbidity curtain shall be installed around the area where rock shall be placed to ensure fish are excluded from the work area.

Timing: During project activities

Responsibility: Reclamation District 369

Implementing Mitigation Measures BIO-2 and BIO-6 would reduce the potentially significant impact associated with adverse impacts to special-status fish species to a **less-than-significant with mitigation** because the project would minimize disturbance during sensitive periods and fish would be excluded from work areas during rock placement.

Northwestern Pond Turtle

Numerous pond turtles were observed within Meadows Slough and the freshwater pond during field surveys, and the project area provides suitable nesting and aquatic habitat. April is the only month when there is a significant reduction in possible impacts to pond turtle, as adults have not started new nests and hatchlings have exited the nest and are headed for aquatic habitat. Individuals could be disturbed and displaced from occupied uplands habitat from pipeline removal and replacement and temporarily displaced from occupied aquatic habitat during riprap placement. Ground-disturbance and vehicle travel off of existing roadways could result in direct injury or mortality of turtles if those areas are used for basking, hibernating, or nesting. Because individuals could be killed, injured, or displaced during project activities, this is considered a **potentially significant** impact. In addition to implementing Mitigation Measure BIO-2, “Minimize Effects on Biological Resources,” the following species-specific mitigation measures have been identified to address this impact.

Mitigation Measure BIO-7: Avoid and Minimize Impacts to Northwestern Pond Turtle and Its’ Habitats.

1. **Initial Ground Disturbance Timing.** Initial ground disturbance (including vegetation removal and geotechnical boring) in suitable upland habitat within 500 feet of aquatic habitat for northwestern pond turtle shall be minimized to greatest extent feasible during the brumation season (December through February), when adult turtles may be in torpor and particularly susceptible to equipment strikes. The target period for riparian vegetation removal in these areas shall be fall (September through November), to the greatest extent practicable, when potential for turtle strikes and direct impacts on other special-status species are lowest.
2. If vegetation removal occurs outside the ideal timing for this species, a designated biological monitor will be present during all ground disturbance activities. Disturbance activities will occur at a speed that allows the designated monitor to scan for turtles in brumation, nest, and avoid direct impacts.
3. **Direct Impact Avoidance.** Measures shall be implemented to minimize potential for heavy equipment to destroy northwestern pond turtle nests and to encounter hatchling turtles. Feasible measures may vary depending on site-specific circumstances and could include, but not be limited to:
 - a. Minimizing heavy equipment operation in upland habitat within 500 feet of aquatic habitat in February and March, when hatchling turtles emerge from nests and travel to aquatic habitat.
 - b. Placing artificial ground cover that prevents female turtles from excavating nests in most likely nesting areas where ground disturbing activities shall occur before the following hatchling turtle emergence period.
 - c. Fencing most likely nesting areas to exclude access by female turtles and/or enclose hatchlings after emergence. If active nests and hatchlings may be present, the fenced area shall be inspected daily by a qualified biologist and hatchling

turtles shall be captured and relocated to suitable habitat at a pre-determined location.

4. **Monitoring.** A qualified biologist shall be present during initial ground disturbance, in-water work, and the hatchling emergence period to search for western pond turtles and minimize encounters with heavy equipment.
5. **Stop Work if a Northwestern Pond Turtle is Observed in Ground Disturbing Area and Allow to Leave the Ground Disturbing Area on Their Own or Have Qualified Biologist Capture and Relocate.** If northwestern pond turtles or nests are observed on land within the project footprint during project activities, the contractor shall stop work within approximately 200 feet of the turtle, and a qualified biologist shall be notified immediately. If possible, the turtle shall be allowed to leave on its own and the qualified biologist shall remain in the area until the biologist deems his or her presence no longer necessary to ensure that the turtle is not harmed. Alternatively, with prior CDFW approval, the qualified biologist may capture and relocate the turtle unharmed to suitable habitat at a pre-determined location.
6. **Unintentional Nests Uncovered.** If a northwestern pond turtle nest is unintentionally uncovered during project activities, work shall stop in the vicinity of the nest and appropriate next steps, depending on the circumstances, shall be determined by a qualified biologist. These may include fencing and buffering the nest and/or rescue, rehabilitation, and relocation of affected turtles.
7. **Daily In-water Work Timing and Disturbance.** Prior to in-water activities, water disturbance shall occur to allow turtles to move out of the area on their own accord. Water disturbance may include the use of an excavator bucket gently disrupting the surface of the water, it shall not include activities that could cause direct harm to aquatic species. Disturbance shall occur around 8 a.m. when turtles are about to begin basking. Wait at least 10 minutes after disturbance before beginning in-water activities to allow turtle movement out of area. If in-water activities stop for more than 45 min, in-water disturbance shall occur again to enable turtles to move out of harm's way.

Timing: Before and during project activities

Responsibility: Reclamation District 369

Implementing Mitigation Measures BIO-2 and BIO-7 would reduce the potentially significant impact associated with adverse impacts to northwestern pond turtle to a **less-than-significant with mitigation** because the project would avoid and minimize disturbance and direct impact to pond turtles and their habitat.

Giant Garter Snake

The project area provides suitable aquatic and uplands habitat for giant garter snake. Aquatic habitat is the Meadows Slough, fresh emergent wetlands and the freshwater pond, while uplands habitat is within 200 feet of aquatic habitat. Ground disturbing activities, including removal and replacement of the existing pipeline and pump, and off-road access to ground disturbance

locations could kill, injure, or displace giant garter snakes, if the snakes are present in adjacent upland habitat or crossing the roads during project activities. The placement of 10 cubic yards of riprap in Meadows Slough and vegetation removal along the water's edge could impact this species aquatic habitat. Geotechnical investigations are expected to have a lower risk than the pipeline and riprap placement, as such specific measures for these activities are listed below. The risk of harm, harassment, injury, and mortality to individuals of this Federally and State-listed species during ground disturbing activities is a **potentially significant** impact. In addition to implementing Mitigation Measure BIO-2, "Minimize Effects on Biological Resources," the following species-specific mitigation measures have been identified to address this impact, such that it is minimized so there is no net loss of habitat for this species. Mitigation measures as defined in a BO from USFWS may be implemented to fulfill the mitigation measure below.

Mitigation Measure BIO-8: Minimize Effects on Giant Garter Snake.

1. **Clearance Surveys 24 Hours Prior to Ground Disturbing Activities.** Suitable upland habitat for giant garter snake within the project footprint around the pipeline removal and replacement shall be surveyed by a qualified biologist within 24 hours before on-site project activities begin. Additional surveys shall be conducted within 24 hours before initial ground disturbance begins. Surveys shall be repeated after any lapse in ground disturbing activity of 2 weeks or longer.
2. **Clearance Surveys and Monitoring for Geotechnical Activities.** Suitable upland habitat for giant garter snake shall be surveyed surrounding the locations of the geotechnical investigations with a 50-foot buffer. Since these project activities are very temporary with a minimal footprint, the qualified biologist shall clear the investigation location immediately prior to drilling activities. Any burrows, holes or cracks that are capable of a giant garter snake accessing or being present within shall be flagged and avoided by all geotechnical activities. A qualified biological monitor shall be present for all geotechnical activities.
3. **Conduct Initial Earth-movement Activities within Suitable Upland Habitat for Giant Garter Snake between May 1 and October 1.** When possible, initial ground-disturbing activities within suitable upland habitat for the giant garter snake shall occur between May 1 and October 1 for pipeline removal and replacement. Work in giant garter snake upland habitat may also occur between October 2 and November 1 or April 1 through April 30, provided that: (1) the project area is fenced off to prevent wildlife from moving into the project area and initial ground disturbance has already occurred; or (2) ambient air temperatures exceed approximately 75°F during work and maximum daily air temperatures have exceeded approximately 75°F for at least 3 consecutive days immediately preceding work. During these periods, giant garter snakes are more likely to be active in aquatic habitats and less likely to be found in upland habitats.
4. **Stop Work if a Giant Garter Snake is Observed in Ground Disturbing Area and Allow Snakes to Leave the Ground Disturbing Area on Their Own or Have Qualified Biologist Capture and Relocate Giant Garter Snake.** If a possible giant garter snake is observed in the project area, all work shall stop until the snake moves

out of the area of ground disturbing activities and notification of the qualified biologist immediately shall occur. If possible, the snake shall be allowed to leave on its own volition, and the qualified biologist shall remain in the area until the biologist deems his or her presence is no longer necessary to ensure that the snake is not harmed. Alternatively, with prior CDFW and USFWS approval, the qualified biologist may capture and relocate the snake to suitable habitat at least 200 feet from the project area. Notification to CDFW and USFWS by telephone or email within 24 hours of a giant garter snake observation during ground disturbing activities shall be reported. If the snake does not voluntarily leave the project area and cannot be captured and relocated unharmed, all project activities within approximately 200 feet of the snake shall stop to prevent harm to the snake, and CDFW and USFWS shall be consulted to identify next steps and the measures recommended by CDFW and USFWS shall be implemented before resuming ground disturbing activities in the area.

5. **Restore All Suitable Giant Garter Snake Habitat Subject to Temporary Ground-disturbance to Pre-project Conditions.** After pipeline removal and replacement activities are complete, all suitable giant garter snake habitat subject to temporary earth-movement, shall be restored to pre-project conditions. These areas shall be recontoured, if appropriate, and revegetated with appropriate native plant species to promote restoration of the area to pre-project conditions or better. Appropriate methods and plant species used to revegetate such areas shall be determined in consultation with USFWS and CDFW.

Timing: Before, during, and after project activities

Responsibility: Reclamation District 369

Implementing Mitigation Measures BIO-2 and BIO-8 would reduce the potentially significant impact associated with take of giant garter snake to a **less-than-significant with mitigation** because the project would require surveys and avoidance of giant garter snake and its habitat.

Special-status Birds

State listed special-status birds that have a potential to forage and nest within the project area are grouped below, as mitigation measures stated would help avoid and minimize impacts to all these species. Avian species that require additional species-specific measures to be implemented, have the guidance documents listed below in Mitigation Measure BIO-9a, “Conduct Focused Surveys for Nesting Special-status Birds and Avoid Impacts.” All measures in these separate documents shall be implemented to reduce project-related impacts. The study area provides suitable foraging habitat and select nesting habitat for eight additional special-status bird species—Swainson’s hawk, white-tailed kite, northern harrier, tricolored blackbird, grasshopper sparrow, Modesto song sparrow, yellow-headed blackbird, and California black rail. Table 3.4-2 lists specific habitat each of these species are likely to use for nesting or foraging within the BSA.

Depending on the timing of when project activities and clearing and grubbing of vegetation commences there is a possibility for temporary noise and visual disturbances to disturb birds

nesting nearby, potentially resulting in nest failure. Disturbance of nesting pairs of sufficient magnitude could result in nest abandonment, a reduction in the level of care provided by adults (e.g., duration of brooding, frequency of feeding), or premature fledging of young. Active ground nests could occur, in which they could be subject to ground disturbance, potentially resulting in direct destruction of an active nest and loss of the eggs or young. Additionally, project activities could result in removal of active nests of common bird species, which would violate the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. The list of protected migratory birds includes many common species not otherwise protected under Federal, State, regional, or local laws. Loss of active nests of such species during project implementation would not substantially reduce their abundance or cause any species to drop below self-sustaining levels and would not constitute a significant impact under CEQA. However, impacts related to nest failure are considered **potentially significant**. In addition to implementing Mitigation Measure BIO-2, “Minimize Effects on Biological Resources,” the following species-specific mitigation measures have been identified to address impacts related to nest failure to ensure there is no direct loss of active nests of common nesting birds protected by MBTA or California Fish and Game Code.

Mitigation Measure BIO-9a: Conduct Focused Surveys for Nesting Special-status Birds and Avoid Impacts.

Nesting bird surveys listed below shall be required prior to all project activities, including geotechnical investigations, that occur within the nesting bird season, from February 1 through August 31.

1. **Conduct Vegetation Removal Outside of Nesting Bird Season.** To the extent feasible, vegetation removal shall be conducted between September 16 and January 31, outside of the nesting bird season.
2. **Conduct Pre-project Activity Surveys for Active Nests of Special-status Birds in Areas of Suitable Habitat.** If project activities that could affect suitable habitat for special-status birds cannot be conducted outside of the respective nesting seasons, pre-project activity surveys for nesting birds shall be conducted. Surveys of all potential nesting habitat in the area shall be conducted by a qualified biologist during the nesting season. Surveys shall be conducted within suitable nesting habitat that could be affected by project activities and shall include a minimum buffer of 300-feet (or larger area if required by established survey protocol) surrounding these areas. Where appropriate, pre-activity surveys shall be conducted according to established survey protocols or guidelines including, but not limited to, the following:
 - a. Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields in 2015 (CDFW 2015)
 - b. Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in California’s Central Valley (SHTAC 2000)
 - c. Staff Report on Burrowing Owl Mitigation (California Burrowing Owl Consortium 1993)

If no established survey protocol exists, the qualified biologist shall complete surveys no more than 1 week prior to the start of the activity, or no more than 2 weeks prior to the restart of the activity after the activity has lapsed. If no nesting birds are detected during pre-activity surveys, no additional mitigation measures are required.

Timing: Before and during project activities

Responsibility: Reclamation District 369

Mitigation Measure BIO-9b: If Avoiding Project-related Effects on Nesting Special-status Birds is Infeasible, Implement Minimization Measures.

If the measures described above in Mitigation Measure BIO-9a have been completed and avoiding effects on nesting special-status birds is infeasible the measures described below shall be implemented to minimize effects of the project on nesting special-status birds, such that there is no direct loss of individuals of these species or project-related nest failure.

1. **Establish, Maintain, and Monitor Buffers Around Active Nest.** If any active nests, or behaviors indicating active nests, are observed, appropriate-sized avoidance buffers shall be established around the nest sites, to avoid nest failure resulting from project activities. The size and shape of the buffer shall depend on the species, nest location, nest stage, and specific project activities to be performed while the nest is active. The buffer shall be expanded if the birds are exhibiting agitated behavior, or the buffers may be adjusted (reduced) if a qualified biologist determines it would not be likely to adversely affect the nest. If required, buffers shall be marked in the field by a qualified biologist using temporary fencing, high-visibility flagging, or other means that are equally effective in clearly delineating the buffer. Standard nest buffer sizes for migratory and common bird species include: 50 to 100 feet for passerine species, and 250 to 300 feet for raptors. Nesting special-status avian species, such as Swainson's hawk, shall have a nest buffer up to a half a mile.
2. **Monitoring Nest Activity.** Nest monitoring shall be conducted by a qualified biologist, either continuously or periodically during work, to confirm that project activity is not resulting in detectable adverse impacts on nesting birds or their young. A determination on monitoring frequency shall be based on environmental conditions such as physical barriers, project activities, and species tolerance to project activities. The qualified biologist shall be empowered to stop all project activities that, in the biologist's opinion, threaten to cause unanticipated and/or unpermitted adverse effects on special-status wildlife (e.g., nest abandonment). If project activities are stopped, the qualified biologist shall consult with CDFW to determine appropriate measures that shall be implemented to avoid adverse effects.
3. **Work Within Established Buffer Zones.** No project activity shall commence within the buffer areas until a qualified biologist has determined that the young have fledged or the nest site is otherwise no longer in use. If work must be conducted within a stated buffer zone a qualified biologist shall provide continuous monitoring to confirm that the project activity is not resulting in detectable adverse impacts.

Timing: Before and during project activities

Responsibility: Reclamation District 369

Implementing Mitigation Measures BIO-2, BIO-9a, and BIO-9b would reduce the potentially significant impact associated with adverse impacts to nesting special-status birds to a **less-than-significant with mitigation** because the project would conduct surveys in accordance with established guidance and monitor and/or stop work to minimize impacts to active nests, such that there is no direct loss of individuals of these species or project-related nest failure.

Western Red Bat

The BSA is located within the yearlong range and provides suitable roosting habitat for western red bats. Bats are known to change roost type and location temporally and seasonally, but this species of bat exclusively utilizes roosts in the foliage of riparian trees. Western red bat maternity roosts generally occur during May 1 through August 31 when pre-flight and nursing young may be present, while winter hibernaculum sites are used November 1 through March 31. Winter hibernaculum sites within the BSA area are not expected to be as common as maternity roosts. The project activities of tree trimming and vegetation removal have the potential to impact individual bats and their habitat as all activities would be located within a riparian corridor. The risk of harm, harassment, injury, and mortality to individuals of this species during vegetation removal is a **potentially significant** impact. In addition to implementing Mitigation Measure BIO-2, “Minimize Effects on Biological Resources,” the following species-specific mitigation measures have been identified to address this impact.

Mitigation Measure BIO-10: Minimize Effects on Western Red Bat.

1. **Vegetation Removal During Seasonal Periods of Bat Activity.** All vegetation shall be immediately inspected for bat occupancy by a qualified biologist prior to the initial step of trimming. If vegetation removal occurs from April 1 through October 31, bat roosting habitat assessment and surveys shall be conducted prior to tree trimming and removal. If vegetation is occupied by bats in hibernaculum, a 300-foot buffer shall in established with no project activities allowed in until the bats have vacated on their own accord.
2. **Two-step Tree Removal Process.** If tree trimming and removal occur during the hibernaculum seasonal period of bat activity, from November 1 through March 31, a two-step tree removal process can occur without additional bat roosting surveys being conducted. Two-step tree removal shall be conducted over two consecutive days. The first day (in the afternoon), under the direct supervision and instruction by a qualified biologist with experience conducting two-step tree removal, limbs and branches shall be removed by a tree cutter using chainsaws only; limbs with cavities, crevices or deep bark fissures shall be avoided. The second day the entire tree shall be removed.
3. **Bat Habitat Mitigation Program.** Bat roosts impacted by project-related effects shall be mitigated at a minimum 1:1 ratio through the purchase of credits at a CDFW approved mitigation bank, in-lieu fee program, installation of bat boxes, and/or onsite

restoration activities. Mitigation as defined in a resource agency issued permit relevant to special-status bats may be used to fulfill this measure.

4. **Roosting Bat Habitat Assessment and Surveys.** If vegetation removal shall occur within the bat maternity activity period, from May 1 through August 31, a habitat assessment shall be conducted a minimum of 30 to 90 days prior to tree removal and shall include a visual inspection of potential roosting features (e.g., cavities, crevices in wood and bark, exfoliating bark, suitable canopy for foliage roosting species) on all trees slated for tree trimming or removal. If suitable habitat is identified on the impacted trees the qualified biologist can either conduct night emergence surveys or complete a visual examination of roost features that establishes absence of roosting bats. If bats are identified, coordination with CDFW on if the two-step tree removal process can proceed shall occur. A temporary 300-foot buffer shall be established with no project activities allowed until the bats have vacated on their own accord and confirmed by a qualified biologist, or an alternative is determined by CDFW.

Timing: Before and during project activities

Responsibility: Reclamation District 369

Implementing Mitigation Measures BIO-2 and BIO-10 would reduce the potentially significant impact associated with adverse impacts to western red bat to a **less-than-significant with mitigation** because the project would survey for and minimize impacts to maternity roosts and hibernaculum sites through mechanisms such as two-stage tree removal, such that there is no direct loss of individuals of these species. Additionally, implementation of the bat habitat mitigation program would replace any loss of habitat on-site.

American Badger

The BSA provides suitable foraging and denning habitat for American badgers in the annual grasslands. While no sizeable dens were located during field surveys, populations of California ground squirrels were observed, which provide a suitable food source. The BSA is located outside of known connectivity to other American badger patches but is located within the species habitat range. This species is most sensitive during breeding season in late July and August, and when they are giving birth in March and April. Individual badgers and their dens have the potential to be impacted by project activities during pipeline removal and replacement. This species is somewhat tolerant of human disturbances but direct impacts to their dens from ground disturbance or vegetation removal would be considered significant. This species also has the possibility to be killed or injured when vehicles are accessing the project site. The risk of harm, harassment, injury, and mortality to individuals of species during project activities is a **potentially significant** impact. In addition to implementing Mitigation Measure BIO-2, "Minimize Effects on Biological Resources," the following species-specific mitigation measures have been identified to address this impact.

Mitigation Measure BIO-11: Minimize Effects on American Badger.

1. **If American Badger Dens Are Located in Clearance Surveys.** If an American badger den is identified during pre-project activity surveys, no less than 14 days and no more than 30 days prior to the start of ground disturbing activities, efforts to determine activity using wildlife camera trapping or evening monitoring shall be implemented. No further actions are required if dens are determined to be inactive.
2. **Den Buffers.** If dens identified in the clearance surveys are determined to be occupied by American badgers, they will be avoided with a buffer of 50 feet for occupied dens and 200 feet for natal dens. Buffers will remain established until it is determined through non-invasive means that individuals occupying the den have dispersed.
3. **Stop Work if an American Badger is Observed in Project Area and Allow Species to Leave on Their Own.** If an American badger is observed in the project area, all work shall stop until the species moves out of the area of ground disturbing activities and notification to the qualified biologist immediately shall occur. The badger shall be allowed to leave on its own volition, and the qualified biologist shall remain in the area until the biologist deems his or her presence no longer necessary to ensure that the species is not harmed.

Timing: Before and during project activities

Responsibility: Reclamation District 369

Implementing Mitigation Measures BIO-2 and BIO-11 would reduce the potentially significant impact associated with adverse impacts to American badgers to a **less-than-significant impact with mitigation incorporated** because the project would require surveys, buffers for occupied dens, and avoidance of individual badgers.

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

Valley oak woodland, riparian forest, and willow riparian are all considered sensitive natural communities. Impacts on riparian habitat would be avoided to the greatest extent practicable; however, tree and shrub clearing in the riparian corridor would be necessary – mostly to allow access for geotechnical boring drill rig, but also during pipe replacement activities. Although permanent vegetation removal would be minimized to the greatest extent possible, loss of riparian vegetation is considered a **potentially significant** impact. The following mitigation measures have been identified to address this impact.

Mitigation Measure BIO-12: No Net Loss of Sensitive Natural Communities and Aquatic Resources.

No Net Loss of Sensitive Natural Communities or Aquatic Resources. No net loss of sensitive natural communities, including aquatic resources, would be achieved through impact avoidance, minimization, and/or compensatory mitigation. Mitigation for permanent impacts on sensitive natural communities shall be provided at a minimum 1:1 ratio. Mitigation can be achieved through on-site restoration, in-lieu fee payment, or purchase of mitigation credits at a USACE-, USFWS-, and/or CDFW-approved mitigation bank. Mitigation, as required in regulatory permits issued through CDFW, USACE, USFWS, and/or the Central Valley RWQCB, may be applied to satisfy this measure.

Timing: Before project activities

Responsibility: Reclamation District 369

Implementing Mitigation Measures BIO-12 would reduce the potentially significant impact on sensitive communities to a **less-than-significant impact with mitigation** because the project would achieve no net loss of riparian or wetland vegetation.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Permanent and temporary impacts on aquatic resources would occur as a result of project implementation. Specifically, approximately 10 cubic yards of riprap would be placed into the Meadows Slough around the new pipe outlet. In addition, discharge resulting from pump replacement could occur, as well as temporary removal of fresh emergent marsh vegetation to allow access for equipment. Finally, one or two borings may be located in seasonal wetlands in the BSA in order to collect sufficient geotechnical data along the TMSX-R levee. These project activities are considered a **potentially significant** impact, even though the overall impacts to aquatic resources are anticipated to total less than 0.1 acre in area. The following mitigation measure has been identified to address this impact.

Mitigation Measure BIO-12: No Net Loss of Sensitive Natural Communities and Aquatic Resources.

Refer to Mitigation Measure BIO-12 above for the full description of this measure.

Timing: Before project activities

Responsibility: Reclamation District 369

Impacts under 0.1 acre would be considered de minimis and typically do not require compensatory mitigation; however, should impacts on aquatic resources exceed 0.1 acre, following mitigation measure BIO-12 will address this impact to a **less-than-significant impact with mitigation** because the project would achieve no net loss of aquatic resources.

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?

A wildlife corridor is generally a topographical or landscape feature or movement area that connects two areas of habitat that otherwise would be entirely fragmented or isolated from one another. The BSA is situated where impacts to the Meadows Slough, which would include the placement of less than 10 cubic yards of riprap, would not interfere with the movement of any native resident or migratory fish or wildlife in the aquatic features, as the slough is very wide at that location, is near the terminal end of the slough, and the impact area is a small section along the water's edge. Additionally, temporary water disturbance would occur as part of activities on the waterside slope of the levee prior to the placement of riprap and this would alert fish and aquatic wildlife leave on their own accord. A turbidity curtain may be used if feasible, which would further reduce potential impacts to aquatic wildlife and fish. The pump replacement is located at the end of the ditch and within fresh emergent wetlands. Activities in this area would not impede any wildlife movement as there is plenty of adjacent habitat for wildlife to take refuge or move out of the vicinity. The activities during pipe replacement would temporarily block access along the TMXS-R levee crown, which would temporarily disrupt movement of terrestrial wildlife from utilizing the TMXS-R levee as an easy movement corridor. However, surrounding this location is open space of annual grasslands and riparian woodlands that would provide an alternative wildlife movement corridor during this temporary timeframe. The temporary project activities and equipment at the geotechnical boring locations throughout the site would not impede any wildlife movement. For all the reasons mentioned above, the project would have a **less-than-significant impact**.

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

Most project activities would be implemented on property owned by State Parks. Since the property was transferred to State Parks, the TMXS-R levee crown has not been maintained for vehicle access, and vegetation and trees have grown in and along the levee crown, limiting mobility predominantly on the northern end of the project site. Implementing project activities would require tree trimming and removal for equipment access and long-term maintenance of the TMXS-R levee crown (see Figure 2-3). Since the BSA is located within the unincorporated area of Sacramento County on Public Land, the County *Tree Preservation Ordinance – Chapter 19.12* and the General Plan *Conservation Element* would likely require an arborist report to identify any native oaks (valley oak, live oak, blue oak), non-oak natives (California sycamore and California black walnut), or landmark trees that are afforded various levels of protection (Sacramento County 2024a). The project has the potential to conflict with local policies and ordinances related to protecting biological resources and, therefore, this impact is considered **potentially significant**. The following mitigation measure has been identified to address the impacts.

Mitigation Measure BIO-13: Minimize Effects on Tree Resources.

1. **All State Parks Pruning Specifications Shall be Followed.** State Parks has their own pruning specifications (DPR 217A) that aligns with the American National Standards Institute *A300-2001 Tree, Shrub and Other Woody Plant Maintenance – Standard Practices (Pruning)* (State Parks 2002). All trees being pruned for project activities shall follow these guidelines for equipment, general cuts, tree felling, and maintenance pruning.
2. **Tree Trimming and Removal Shall be Monitored.** All tree trimming and removal activities shall be monitored by an International Society of Arboriculture certified arborist. Activities that may occur that are not covered under the American National Standards Institute standards shall be directed by the International Society of Arboriculture certified arborist to ensure minimal impacts on trees.
3. **Prepare a Sacramento County Arborist Report Prior to Project Activities.** An arborist report meeting the standards for submittal to the Sacramento County Director of Public Works or Director of Parks and Recreation shall be prepared prior to any project activities including tree trimming and removal. The report shall include a site inventory, assessment and exhibit preparation. Obtaining a Tree Permit shall be required prior to any tree removals of protected species.

Timing: Before and during project activities

Responsibility: Reclamation District 369

Any onsite mitigation or in-lieu fees required by the Sacramento County shall be paid. Thus, implementing Mitigation Measures BIO-13 would reduce the potentially significant impact on tree resources to a **less-than-significant impact with mitigation** because the project would mitigate for any tree removal onsite or pay in-lieu fees, ensuring that there is no net loss of tree resources.

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 activities would not conflict with any provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or State HCP. The project area is located within the South Sacramento HCP (SSHCP) plan area, outside the Urban Development Area, although RD 369 is not a participating entity (Sacramento County 2024b). The project could apply for coverage under the SSHCP and comply with their stated avoidance and minimization measures for biological resources. Currently, the project would have **no impact** with known conservation plans and is not located within any other jurisdictions.

3.5 Cultural Resources

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES – Would the project:				
g) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Cultural Resources

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historic, architectural, archaeological, cultural, or scientific importance. The State CEQA Guidelines Section 15064.5(a)(1) defines a “historical resource” as any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR).

Pre-Contact Setting

Human occupation of the Sacramento Valley spans the past approximately 13,000 years (Moratto 1984). The first substantial evidence for pre-contact occupation of the Central Valley/Delta occurs during the Middle Archaic (7500-2500 calendar years before the present [cal B.P.]). Sites dating to the initial part of this interval are rare in lowland settings where they, along with older sites, are likely deeply buried but are comparatively common in upland areas (Rosenthal et al. 2007). The Upper Archaic interval (2500-850 cal B.P.) in the Central Valley/Delta region is characterized by an increase in the number of sites due to rapidly expanding human populations, but also greater preservation of more recent sites (Fredrickson 1973; Milliken et al. 2007; Moratto 1984; Rosenthal et al. 2007). The Emergent or Late Period/Horizon (850 cal. B.P.-Historic) is characterized by increasing diversity in the archaeological record (Bennyhoff 1977; Fredrickson 1974; Milliken et al. 2007; Rosenthal et al. 2007) and is often divided into two phases based on artifact forms and evidence for increased sociopolitical complexity (Heizer and Fenenga 1939; Lillard et al. 1939; Milliken et al. 2007; Rosenthal et al. 2007). The changes observed in the archaeological record of the Emergent Period are considered to result from the establishment of large, residentially stable populations, resembling those at contact. Less clear is when, how, and why specific traits initially appeared and the establishment of various ethnolinguistic groups that were present across the aboriginal landscape when Europeans arrived in the Central Valley.

Historic Setting

Locke Ranch

George W. Locke and Samuel Lavenson formed Reclamation District (RD) 369 in 1880 drawing its boundaries to conform with those of a ranch on which they developed an orchard (Sacramento Bee 1880a). The ranch encompassing this new district was initially known as the Locke and Lavenson Ranch (Pacific Bee 1895). Locke and Lavenson were heavily involved in agricultural throughout California, especially the Sacramento Valley and Delta region. By the early 20th century, after the death of Lavenson, the ranch became known as Locke Ranch (Oakland Tribune 1916).

As early as the late 1880s, the ranch constructed and maintained various irrigation features such as the Locke Interior Levee to safeguard the profitable agricultural operation of the ranch (Sacramento Union 1892). Although most of the ranch was devoted to orchard, making pears its primary crop, asparagus was also a profitable crop until the Great Depression disrupted the asparagus market during the 1930s (National Park Service 2018). This marked a long period of gradual economic decline of the ranch and its eventual sale to Hong Kong-based land developers in 1977 who sought to redevelop the ranch and adjacent town of Locke as a tourist destination although those plans were never fully realized (Charleton 1990; San Francisco Examiner 2015).

Community of Locke

The present-day site of Locke was originally developed as part of the pear orchard that continues to surround the town today. Development of Locke began as early as 1893 when the owners of Locke Ranch allowed Chinese laborers to establish residences near the ranch. The community later developed into a formal town in 1915 after a fire destroyed the Chinatown in nearby Walnut Grove, and the displaced Chinese inhabitants moved to Locke (Charleton 1990). The development of the town was unusual as the Locke family retained ownership of the land beneath the community rather than subdividing and selling lots. Originally called Lockeport, the town displayed steady economic development in the early 20th century, but it never grew beyond around 600 permanent residents. Most were employed as laborers on nearby ranches in the Delta or levee construction and maintenance projects (National Park Service 2018).

The population of Locke remained largely first-or second-generation Chinese Americans well into the 20th century. Employment from levee and railroad construction became increasingly scarce by the mid-20th century, prompting younger residents to leave Locke for the surrounding metropolitan regions, and economic stagnation in the Delta region failed to increase the population. In recent years preservation efforts have seen Locke increasingly become a recreational destination for tourists (San Francisco Examiner 2015).

Locke Interior Levee

The Locke Interior Levee, which extends perpendicularly between two other levees that mark RD 369's boundaries with RD 551 to the northwest and California State Park's Delta Meadows property to the southeast, was built between 1880 and 1908 on the Locke and Lavenson Ranch as part of the general irrigation improvements made on the property (Sacramento Bee 1880b; USGS 1908). As originally constructed, it was around half of its current length. It was designed to hold back water from the Meadows Slough, reclaiming a low-lying field while a secondary interiors

levee shielded an orchard along the Sacramento River. Between 1916 and 1937, the Locke Interior Levee was extended through the addition of a new segment. (USGS 1916; Laval Company Inc 1937). The levee remains in use.

Methods of Analysis

GEI conducted a cultural resources investigation of the project area. The investigation included a records search conducted by the North Central Information Center (NCIC), a search of the Native American Heritage Commission's (NAHC) Sacred Lands File, and an intensive pedestrian survey of the project area. Additionally, Native American consultation was conducted by California State Parks (State Parks).

Record Search

GEI archaeologist Amy Wolpert, M.A., requested a records search at the NCIC of the project area, located on the Courtland USGS 7.5' quadrangle, and a surrounding 0.25-mile radius. The NCIC responded on May 8, 2024 (NCIC File No.: SAC-24-74).

The NCIC record search results contains reported resources and previous investigations organized by base USGS 7.5-minute quadrangle maps.

The records searches included the following sources:

- NRHP-listed properties and updates
- Built Environment Resources Directory
- Archaeological Resources Directory
- California Inventory of Historic Resources
- California Points of Historical Interest
- Historic maps
- Directory of Properties in the Historic Resources Inventory
- Historic Spots in California
- Caltrans Bridge Survey

The NCIC identified four previous investigations reported within the project area. These reports are summarized in **Table 3.5-1**. Previous investigations cover approximately 50 percent of the project area.

Table 3.5-1. Previous Studies within the Project Area

Report No.	Year	Author(s)	Title	Affiliation(s)
000089	1977	Greenway, Gregory and William E. Soule	Sacramento-San Joaquin Delta Investigations: Cultural Resources Reconnaissance	Archaeological Study Center, Department of Anthropology, California State University, Sacramento
000127	1972	Johnson, Jerald J.	Present Status of Archeological Resources in Sacramento County. Overview.	Sacramento State College, Department of Anthropology
006836	1991	Sacramento County Department of Environmental Review & Assessment and D.L. True	EIR for the Proposed Asian City (Locke Ranch Estates) General Plan (and supplements), Volumes 1-5	Sacramento County Department of Environmental Review & Assessment; University of California, Davis

Report No.	Year	Author(s)	Title	Affiliation(s)
013022	1927	Enjamin Welcome Hathaway	Excavation Work done on 23 Indian Mounds in the State of California	-

Source: NCIC File No.: SAC-24-74.

Three previously recorded cultural resources were identified in the project area; these are summarized in **Table 3.5-2**.

Table 3.5-2. Previously Recorded Cultural Resources within the Project Area

Primary No.	Trinomial (CA-SAC)	Age	Type	Name	Resource Attribute Code
P-34-000074	CA-SAC-000047	Precontact	No information, midden	Locke No. 3	No resource code
P-34-000102	CA-SAC-000075	Precontact/ Historic era	Habitation Mound	Locke Ranch	AP02 (lithic scatter); AP03 (ceramic scatter); AP09 (burials); AP15 (habitation debris)
P-34-005225	-	Precontact/ Historic era	District	Sacramento River Tribal Cultural Landscape	AP16 (other)-Tribal Cultural Landscape

Source: NCIC File No.: SAC-24-74.

Native American Consultation

GEI archaeologist Amy Wolpert requested the NAHC conduct a search of their Sacred Lands Files (SLF) on April 5, 2024. The SLF searches are not confined to a project area, but instead include the entire USGS Section(s) (one square mile) that a project may be situated on. The NAHC responded on June 4, 2024. In their response letter the NAHC stated that the SLF search returned negative results. RD 369 has received no notification from culturally affiliated Tribes in their service area regarding consultation with California Native American Tribes per Assembly Bill 52 (AB 52). Therefore, RD 369 did not send AB 52 consultation letters regarding the project.

The State Parks archaeologist Zachary Moskowitz also sent a request to the NAHC requesting an SLF search regarding the project because it is partially located on land administered by State Parks. Mr. Moskowitz contacted several Tribes affiliated with the area, none expressed concern.

Pedestrian Survey

GEI archeologist Jesse Martinez, MA, Registered Professional Archaeologist (RPA), conducted an intensive pedestrian survey, with transects spaced no more than 15 meters apart or closer, of the project area on May 5, 2024. Ground visibility was generally poor due to thick vegetation and graveled areas. There were cleared areas, including dirt roads and areas that had recently been mown, with excellent visibility that generally only represented approximately 15 percent of the project area. The surface of much of the project area appears to undergo frequent disturbance from cattle grazing. Particular attention was taken in clear areas where previously identified cultural resources were plotted by the NCIC. GEI architectural historian Andrew Young, MA conducted an inventory of built environment resources as part of the survey.

Findings

The records search identified four previous investigations which have covered approximately one-quarter of the project area, primarily the eastern end. The records search identified three previously reported cultural resources within the project area. These include:

P-34-000074 (CA-SAC-000047): this resource was first reported by Fenenga, year unknown but possibly in the 1930s. Little information is available other than it is a large precontact archaeological site and apparently no additional investigation has been conducted at the site since first reported. No evidence of the site was identified within the clear, dirt roads that bisect its plotted location. The site may have been connected to P-34-000102.

P-34-000102 (CA-SAC-0000475): first reported in 1950 by Bennyoff and Pilling. First described as a large, precontact mound and potentially very important in understanding the history of the Plains Miwok. It was last investigated in 1988 by True and 1989 by Slaymaker. Given the descriptions of the site, letters in site records provided by the NCIC, and observations during the pedestrian survey, it is apparent the site has undergone extensive damage over the years without archaeological or Tribal study/monitoring, and the landscape itself has changed. Once a large, important mound site there is no longer evidence for the resource on the surface.

P-34-005225: this resource, or the Sacramento River Tribal Cultural Landscape, was first reported by Tremaine in 2018. The resource encompasses approximately 1350 square kilometers along the Sacramento River between Rio Vista and Knights Landing. Its primary characteristics include waterways, fisheries, Tule habitat, and other wildlife.

As a result of the survey, GEI architectural historians identified and recorded one historic-era resource (more than 45 years old) in the project area; the Locke Interior Levee. The earthen levee has been modified and extended to double in size over the years.

Discussion

a, b) Cause a substantial adverse change in the significance of a historical resource or a unique archaeological resource pursuant to Section 15064.5?

Under CEQA, public agencies must consider the effects of their actions on “historical resources.” CEQA defines an “historical resource” as any resource listed in or determined to be eligible for listing in the CRHR. The CRHR includes resources listed in or formally determined eligible for listing in the National Register of Historic Places (NRHP), as well as some California Historical Landmarks and Points of Historical Interest. 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 significant resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (California PRC Section 5024.1, 14 CCR Section 4850). The eligibility criteria for listing in the CRHR are similar to those for NRHP listing but focus on importance of the resources to California history and heritage.

A cultural resource may be eligible for listing on the CRHR if it:

1. is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. is associated with the lives of persons important in our past;
3. 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
4. has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one or more of the above criteria, resources eligible for listing in the CRHR must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association (OHP 1999).

As used in California PRC Section 21083.2, the term "unique archaeological resource" refers to 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, or
- is directly associated with a scientifically recognized important prehistoric or historic event or person.

The Locke Interior Levee appears significant for its association with the development of the nearby community of Locke which is eligible for the NRHP (and outside the project area). The levee, however, lacks sufficient integrity to convey its significance. Consequently, it does not meet CRHR eligibility requirements and is not considered a historical resource for the purposes of CEQA. There would be no impact.

Three cultural resources have been previously reported within the project area:

P-34-005225 encompasses the entire project site but has not been formally evaluated. For the purpose of this document, it is considered eligible for the CRHR. However, P-34-005225 is very large in extent and there are no project components that could cause an adverse change to the resource.

P-34-000074 (CA-SAC-000047) is located within the project area. No evidence of the site was identified during the pedestrian survey. Access roads and staging areas are the only project components which intersect with the resource. The access roads that would be used for the project have excellent visibility, and the staging area has patches of good to fair visibility. It is likely that this portion of the site no longer exists and if a subsurface component exists in the area, it is very unlikely that use of the access road and staging area would adversely affect the resource.

P-34-000102 (CA-SAC-0000475) is located within the project area. However, it is likely that this resource has been destroyed as the landscape that this resource is situated in has significantly changed from when it was originally listed. Additionally, there is no longer any mound present, and no artifacts or features were found during the pedestrian survey. However, it is possible that there may be subsurface remnants. No ground disturbing components associated with the project would occur within the plotted location of this resource, however, ground disturbing activities would occur within 30 to 50 feet of the plotted resource location.

It is unlikely that project activities would impact any historical or unique archaeological resources. However, there is potential for encountering such resources with subsurface components during ground-disturbing activities and this is considered a **potentially significant impact**. The following mitigation measures have been identified to address this impact.

Mitigation Measure CUL-1: Worker Environmental Awareness Program Training for Cultural and Tribal Resources.

Cultural resources awareness training, as part of an overall Workers Environmental Awareness Program (WEAP), shall be conducted for all workers. The WEAP shall be prepared by a cultural resources specialist who meets the Secretary of the Interior's Professional Qualifications Standards (36 CFR Part 61; 48 Federal Register 44716) and participating Native American Tribes, if they choose to do so. The training shall be conducted before any stage of physical project implementation and ground disturbing activities. Native American representatives from interested Native American Tribes may participate in the training if they choose.

The WEAP training shall include information on the potential kinds of pre-contact Native American and historic-era cultural materials that could be encountered, how to identify buried faunal and human remains, and how to identify anthropogenic soils (e.g., midden soils). The WEAP training should also include a summary of the relevant laws concerning cultural resources and human remains, along with a summary of the protocols to follow if workers encounter cultural resources or human remains.

Timing: Before and during project ground disturbance activities

Responsibility: Reclamation District 369

Mitigation Measure CUL-2: Archeological and Tribal Monitoring at Select Locations.

During ground disturbing activities, specifically excavation and borings within the project site, an archaeological monitor shall examine soils excavated or exposed. Archaeological monitors shall meet the Secretary of the Interior's Professional Qualifications Standards (36 CFR Part 61; 48 Federal Register 44716) or be supervised by such qualified archaeologists. Monitoring shall be conducted in order to identify any cultural or cultural resources that may be present as well as any human remains.

Any discovery of historical or archeological resources, Tribal Cultural Resources and/or human remains during monitoring shall be addressed according to the procedures in Mitigation Measure CUL-3 or CUL-4 (below), as appropriate.

Timing: During project ground disturbance activities

Responsibility: Reclamation District 369

Mitigation Measure CUL-3: Avoid Potential Effects on Undiscovered Historical Resources and Unique Archaeological Resources.

To minimize the potential for significant impacts to undiscovered historical resources and unique archaeological resources, as well as any encountered subsurface remnants or components of known cultural resources during project-related ground-disturbing activities, RD 369 and its contractor(s) shall implement the following measures:

- If cultural resources are discovered during project-related ground-disturbing activities, then all ground disturbing activities that may damage the discovery shall stop within 100 feet of the discovery and RD 369 shall be immediately notified. RD 369 shall hire a qualified archaeologist to determine if the discovery is an historical resource or unique archaeological resource per CEQA. If necessary, the qualified archaeologist shall develop a testing plan to determine if the discovery meets significance criteria for a historical resource or unique archaeological resource; any testing plan shall not be implemented until review by RD 369.
- If the discovery is determined not to be either an historical resource or unique archaeological resource, then ground disturbing activities in the area of the discovery may continue.
- If the discovery is determined to meet significance criteria, then the qualified archaeologist shall develop and implement a treatment plan in consultation with RD 369 to mitigate any significant impacts to the discovery; preservation in place is the preferred mitigation measure. Work in the area of the discovery shall not continue until treatment is completed.

Timing: Before and during project ground disturbance activities

Responsibility: Reclamation District 369

Implementing Mitigation Measures CUL-1, CUL-2, and CUL-3 would reduce significant impacts on any previously undiscovered historical resources or remnant subsurface components of known cultural resources by requiring WEAP training for all workers, incorporating archaeological monitoring during ground disturbing activities, and stopping work within 100 feet of discovery if cultural resources are encountered, while these resources are assessed and treated in accordance with appropriate professional standards. Therefore, this impact is **less-than-significant with mitigation incorporated**.

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

While no human remains were identified during the current investigation, numerous human remains have been found at both archaeological resources plotted within the project area; therefore, while unlikely, it is possible human remains may be encountered. In the event that human remains, including those interred outside of formal cemeteries and including associated items and materials, are discovered during subsurface activities, the human remains, and associated items and materials, could be inadvertently damaged. Therefore, this impact would be potentially significant. The following mitigation measure has been identified to address this impact.

Mitigation Measure CUL-4: Avoid Potential Effects on Undiscovered Burials.

To minimize the potential for destruction of or damage to undiscovered burials during project-related earthmoving activities, RD 369 and its contractor(s) shall implement the following measures:

In accordance with the California Health and Safety Code (CHSC), if human remains are uncovered during ground-disturbing activities, all ground-disturbing work in the area of the burial and a 100-foot radius shall halt and the Sacramento County Coroner shall be notified immediately. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (CHSC 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (CHSC Section 7050[c]). The NAHC shall designate a Most Likely Descendant (MLD) for the human remains. After the coroner's findings have been made, an archaeologist meeting the Secretary of the Interior's Professional Standards for Archaeologists and the NAHC-designated MLD shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities of Sacramento County for acting upon notification of a discovery of Native American human remains are identified in PRC Section 5097.9.

Native American human remains, associated grave goods, and items associated with Native American human remains that are subject to California PRC Section 5097.98 shall not be subjected to scientific analysis, handling, testing, or field or laboratory analysis without written consent from the MLD. If human remains are present, treatment shall conform to the requirements of State law under CHSC Section 7050.5 and PRC Section 5097.87, unless the discovery occurs on Federal land. RD 369 agrees to comply with other related State laws, including PRC Section 5097.9.

Timing: Before and during project ground disturbance activities

Responsibility: Reclamation District 369

Implementing Mitigation Measure CUL-4 would reduce significant impacts related to potential disturbance of human remains by implementing all appropriate steps required by the CHSC and California PRC sections identified above, in the event that human remains are discovered. Therefore, this impact is **less-than-significant with mitigation incorporated**.

3.6 Energy

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. ENERGY – Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project ground disturbing or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Sacramento Municipal Utilities District supplies Sacramento County with electricity and Pacific Gas and Electric (PG&E) supplies Sacramento County with natural gas. In 2021, energy consumption in Sacramento County was 11,410 million kilowatt hours (kWh) (CEC 2022).

Discussion

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

The project would involve the use of gas- and diesel-fueled vehicles and equipment during ground disturbing activities and from the import of materials to and from the project site. Additionally, the project would include replacing an existing non-priming 5 HP electric pump, with an upgraded 5 or 7.5 HP electric pump. The project's use of energy resources during project activities would be non-recoverable but temporary and would not include unnecessary, inefficient, or wasteful energy use. Additionally, it is anticipated that fuel would only be used to the extent it is needed to complete project activities and would not be consumed in a wasteful manner. The selected contractor(s) would use the best available engineering techniques, and ground disturbing practices and equipment operating procedures.

During project operations, a small increase in energy use could occur from the electric pump if it is upgraded to a 7.5 HP electric pump, however, this increase would not result in a significant increase in electrical use. A larger pump would likely result in shorter run times with a higher flow capacity compared to the existing outdated pump that is less efficient and has a longer operating running cycle. A small number of vehicle trips would be generated for O&M, because maintenance trips for the RD 369 levee system already occur. Additionally, as part of the proposed project, O&M activities at the project site would be improved (e.g., annual vegetation maintenance, etc.). However, the project's energy consumption for project activities and operations would not be considered wasteful, inefficient, or unnecessary, and this impact would be **less than significant**.

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

Sacramento County has not adopted a local plan for renewable energy or energy efficiency; however, California's Climate Commitment is to reduce reliance on non-renewable energy sources by one-half by 2030 (State of California 2022).

Project activities would use fuel-efficient vehicles and equipment consistent with Federal and State regulations, including: fuel efficiency regulations in CARB's Pavley Phase II standards for light duty vehicles such as worker commute; Title 13 CCR section 2485 anti-idling regulation; and Title 17 CCR section 93115 (concerning the Airborne Toxic Control Measures) fuel requirements for stationary equipment. In accordance with Title 13 CCR sections 2485 and 2449, idling by commercial vehicles heavier than 10,000 pounds and off-road equipment greater than 25 hp would be limited to a maximum of five minutes. The intent of these regulations is to reduce construction emissions; however, compliance with the anti-idling and emissions reduction regulations would also result in fuel savings from the more efficient use of equipment. The project would result in a negligible increase in energy demand during operations. The project would not conflict or obstruct Federal or State regulations regarding renewable energy or energy efficiency. Therefore, the project would have **no impact**.

3.7 Geology and Soils

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS – Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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 Geological Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

The Sacramento Valley has not historically experienced high levels of seismic activity, respectively to other areas of California (Sacramento County 2017). The project site is not located within an Alquist-Priolo Earthquake Fault Zone and there are no known active faults within or adjacent to the project site (CGS 2015). The nearest active fault is the Midland fault line located approximately 9.9 miles southwest of the project site (CGS 2015). The project site is not located within fault, liquefaction or landslide zones, as mapped by the California Geology Survey (CGS) Information Warehouse (CGS 2021). However, soils located within the Historic Delta are prone to liquefaction if a large seismic event were to occur because of two key characteristics: 1) shallow groundwater and, 2) loosely deposited sandy and silty alluvium from various current and historic stream channels. Additionally, moderate earthquakes of longer duration can trigger liquefaction under these circumstances (DCA 2023).

The project site is located within the Delta area of California's Central Valley. Around 10,000 years ago, the Delta was first formed as the last glacial period ended and sea levels rose. Geology at the project site is characterized as Basin deposits, formed during the Holocene age (Dawson 2009).

The Natural Resource Conservation Service maps the soils at the project site as follows (NRCS 2024a):

- Egbert clay, partially drained, 0 to 2 percent slopes
- Gazwell mucky clay, partially drained, 0 to 2 percent slopes
- Scribner clay loam, partially drained, 0 to 2 percent slopes
- Tinnin loamy sand
- Valpac loam, partially drained, 0 to 2 percent slopes

Discussion

- a) **Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**
- i, ii, iv) 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 California Geological Survey Special Publication 42.) Strong seismic ground shaking Landslides?**

As stated previously, the project site is not located within an Alquist-Priolo Earthquake Fault Zone and there are no known active faults within or adjacent to the project site (CGS, 2015). The nearest active fault is the Midland fault line located approximately 9.9 miles southwest of the project site. The project would not include construction of any buildings and would not expose people or structures to potential substantial adverse effects from strong seismic ground shaking. The project site is not located within a landslide zone. Additionally, RD 369 and its contractors would be required to adhere to all California Occupational Safety and Health Administration requirements (Cal/OSHA) requirements for working within active construction sites that would ensure the safety of workers onsite. Therefore, the project would have no effect on surface fault rupture, seismic ground shaking or ground failure, or landslides and there would be **no impact**.

iii) Seismic-related ground failure, including liquefaction?

The project site does include soils susceptible to liquefaction. However, project activities including removal and replacement of existing pipelines in a small section of the TMXS-R levee; removal of an old, outdated pump and replacement with a new pump on or near levee TMXS-R; conducting bathymetric surveys of Meadows Slough by small watercraft; brush removal, and tree trimming and selective removal on levees along Snodgrass and Meadows Slough; geotechnical exploration along the existing levee; and placement of aggregate base on levee segment TMXS-R in the project site, would not be affected by the potential for liquefaction in the project area. Additionally, the proposed project design would comply with the California Uniform Building Code, which regulates the design of projects to reduce potential hazards, including liquefaction or collapse. Therefore, this impact would be **less than significant**.

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

Project activities would result in short-term soil disturbance and could expose disturbed areas to water erosion if a storm event occurs during ground disturbing activities. Rainfall of sufficient intensity could dislodge soil from the exposed ground surface areas. If soil is dislodged and the storm is large enough to generate runoff, substantial localized erosion could occur. In addition, soil disturbance could result in substantial loss of topsoil from wind erosion in areas of exposed ground surfaces. Therefore, this impact is considered **potentially significant**. The following mitigation measure has been identified to address this impact.

Mitigation Measure GEO-1: Prepare and Implement a Storm Water Pollution Prevention Plan .

RD 369 shall prepare a Notice of Intent and implement the appropriate Stormwater Pollution Prevention Plan (SWPPP) to meet the State Water Board's Construction General Permit requirements in Order 2009-0009-DWR (as amended by 2010-0014-DWQ and 2012-0006-DWQ)) to prevent and control pollution and to minimize and control runoff and erosion during ground disturbing activities associated with the proposed project. The SWPPP shall identify the activities that may cause pollutant discharge (including sediment) during storms or strong wind events and the BMPs that shall be employed to control pollutant discharge. Ground disturbing techniques that shall be identified and implemented to reduce the potential for runoff may include minimizing site disturbance, controlling water flow over the project site, stabilizing bare soil, and ensuring proper site cleanup. In addition, the SWPPP shall include an erosion control plan and BMPs that specify the erosion and sedimentation control measures to be implemented, which may include silt fences, staked straw bales/wattles, silt/sediment basins and traps, geofabric, trench plugs, terraces, water bars, soil stabilizers and re-seeding and mulching to revegetate disturbed areas. The SWPPP shall also include dust control practices to prevent wind erosion, sediment tracking, and dust generation by construction equipment. No ground disturbing-related disturbance of surfaces shall occur between October 15 and April 15 without appropriate erosion control measures in place.

The SWPPP shall also include a spill prevention, control, and countermeasure plan, and applicable hazardous materials business plans, and shall identify the types of materials used for equipment operation (including fuel and hydraulic fluids), and measures to prevent and materials available to clean up hazardous material and waste spills. The SWPPP shall also identify emergency procedures for responding to spills.

The BMPs presented in either document shall be clearly identified and maintained in good working condition throughout the ground disturbing process. The contractor shall retain a copy of the approved SWPPP on the project site and modify it as necessary to suit specific site conditions through amendments approved by the Central Valley RWQCB, if necessary

Timing: Before and during project activities

Responsibility: Reclamation District 369

Implementing Mitigation Measure GEO-1 would reduce the potentially significant impact from ground disturbing-related erosion to a less than significant level by requiring the preparation and implementation of a SWPPP consistent with permit requirements and BMPs that would prevent and control pollution and minimize and control runoff and erosion. Additionally, RD 369 is required to comply with Sacramento Metropolitan Air Quality Management District (SMAQMD) Basic Construction Emission Control Practices regarding dust emissions. Therefore, this impact would be **less-than-significant with mitigation incorporated**.

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 on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Refer to Question (a) above. During ground disturbing activities, unstable soils could expose persons working in the project area to hazards while operating heavy equipment. RD 369 and its contractors would be required to adhere to all Cal/OSHA requirements for working within active ground disturbing sites that would ensure the safety of workers onsite.

The proposed project design would comply with the California Uniform Building Code, which regulates the design of projects to reduce potential hazards, including landslides, lateral spreading, subsidence, liquefaction or collapse. Therefore, relative to existing conditions, the proposed project would not expose people or structures to new potential substantial adverse effects related to unstable soils. Impacts would be **less than significant**.

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

Expansive soils increase in volume when wet and shrink in volume when dry. The degree of expansiveness, or shrink-swell potential, depends on the type and amount of clay content in the soil. Expansiveness can be characterized by measuring a soil's linear extensibility percentage, which is the change in length of an unconfined soil clod as moisture content is decreased from a moist to a dry state, reported as a percentage (NRCS 2024b). The shrink-swell potential is considered to be low if the soil has a linear extensibility percentage of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots (NRCS 2024b). The soils on the project site have a linear extensibility percentage ranging from 1.5 to 6.8, or a low to high shrink-swell potential. However, as discussed above, the proposed project design would comply with the California Uniform Building Code, which regulates the design of projects to reduce potential impacts, including building upon expansive soils. Additionally, the proposed project does not include any habitable buildings that could pose a risk to life. For these reasons, this impact would be **less than significant**.

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

The proposed project would not require the use of septic tanks or alternative wastewater disposal systems. During project implementation, RD 369 or the contractor may have portable toilet facilities available onsite temporarily for use by workers. Once project-related activities are concluded, such portable facilities would be removed, and the wastewater properly handled and disposed in accordance with all applicable laws and regulations. There would be **no impact** associated with wastewater disposal.

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

Geology at the project site is characterized by basin deposits formed during the Holocene age (Dawson 2009). To be considered a unique paleontological resource, a fossil must be more than 11,700 years old. Holocene deposits contain only the remains of extant, modern taxa (if any resources are present), which are not considered “unique” paleontological resources. Therefore, the Holocene deposits are considered to be of low paleontological sensitivity, and ground disturbing activities associated with the project is unlikely to encounter unique paleontological resources. This impact would be **less than significant**.

3.8 Greenhouse Gas Emissions

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS– Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Greenhouse gas (GHG) emissions are defined as emissions of carbon dioxide, Methane, Nitrous Oxide, Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride. Senate Bill 32 (Health & Safety Code § 38566) set a Statewide emission reduction mandate of 40 percent below 1990 levels by 2030. CARB was appointed to develop policies to achieve this goal. Additionally, the California Climate Commitment set a target 85 percent reduction of GHG emissions by 2045 (State of California 2022). In 2022, CARB published an updated Climate Change Scoping Plan, the 2022 Scoping Plan for Achieving Carbon Neutrality (CARB 2022).

GHGs are present in the atmosphere naturally, released by natural and human-caused sources, and formed from secondary reactions taking place in the atmosphere. Human sources include emissions associated with the transportation, industrial and manufacturing, utility, residential, commercial, and agricultural sectors. Evidence has shown that GHG emissions from locations around the world contribute to global climate change, which could have drastic impacts related to flooding and other natural disasters, agriculture, habitats, water supply, and the economy.

The Sacramento County Climate Action Plan (CAP) details specific measures that will be implemented in Sacramento County by 2030 to reduce GHG emissions from communitywide activities and government operations. It also includes an adaptation plan that recommends actions to reduce the community's vulnerability to the anticipated impacts of climate change. The CAP has been developed in response to mitigation measures contained in the Sacramento County's General Plan EIR, the County's adoption of a Climate Emergency Resolution in December 2020, and State legislation including Assembly Bill (AB) 32, Senate Bill (SB) 32, and SB 743 as well as Executive Orders S-3-05 and B55-18. The strategies and measures contained in the CAP complement a wide range of policies, plans, and programs that have been adopted by Sacramento County, State, and regional agencies to protect communities from hazards and activities contributing to GHG emissions (Sacramento County 2022).

Discussion

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

Implementing the proposed project would generate temporary GHG emissions from use of heavy-duty equipment, haul trips, and worker trips. Ground disturbing activities would be temporary and short-term and is expected to last approximately 1 year. GHG emissions from operation and maintenance of the project would be consistent with existing conditions. Given the small scale of the project, i.e. use of a small amount of equipment and short project period, project activities would not generate substantial GHG emissions. Furthermore, measures to reduce GHG emissions, such as reducing heavy equipment and truck idling time, using properly sized equipment, and maintaining equipment conditions according to manufacturer's specifications, have been incorporated into the project and would be implemented prior to and during project activities. Therefore, this impact would be **less than significant**.

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

The proposed project would not conflict with any outlined measures that would be undertaken by Sacramento County, as outlined in the CAP, to reduce GHG emissions from communitywide activities and government operations. The proposed project would generate temporary GHG emissions during construction activities, however, the proposed project's incremental contribution to the cumulative impact of increasing atmospheric levels of GHGs would be less than cumulatively considerable. Therefore, this impact would be **less than significant**.

3.9 Hazards and Hazardous Materials

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS– Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>		

Environmental Setting

Hazardous Materials Sites

The database search for this analysis included all data sources included in the Cortese List (listed in PRC Section 65962.5). These sources include the GeoTracker database, a groundwater information management system that is maintained by the State Water Board; the Hazardous Waste and Substances Site List (i.e., the EnviroStor database) maintained by the California Department of Toxic Substances Control (DTSC); and EPA's Superfund Site database (DTSC 2024a and 2024b, State Water Board 2024a and 2024b, CalEPA 2024, EPA 2024). There are no hazardous sites or historical record of hazardous materials within the project site.

Schools

There are no schools located within 0.25 miles of the project site. Walnut Grove Elementary School is part of the River Delta Unified School District, located approximately 1.61 miles south of the project site.

Airports

There are no airports located within 2 miles of the project site. The nearest private airport is Walnut Grove Airport at a distance of approximately 4 miles from the project site. The Walnut Grove Airport does not have an adopted airport land use plan.

Wildfire

The project site is not located in a very high fire hazard severity zone or State Responsibility Area (SRA) (CALFIRE 2024).

Discussion

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

Project-related activities would entail the use and storage of small amounts of hazardous substances necessary for the operation of equipment, such as fuels, lubricants, and oils. The transport and use of hazardous materials are strictly regulated by local, State, and Federal agencies to minimize adverse hazards from accidental release. Project workers handling hazardous materials are required to adhere to Cal/OSHA health and safety requirements. Since compliance with existing hazardous materials regulations and programs are mandatory, project activities are not expected to create a potentially significant hazard to workers, the public, or the environment. In the event of a spill that releases hazardous materials within the project area, a coordinated response would occur at the Federal, State, and local level, depending on the location.

The proposed project would not involve long-term use, transport, or disposal of hazardous materials. After project activities, the operation of the project components would not require new acutely hazardous materials at the project site. However, the potential for accidental spills or release of hazardous materials during project activities is considered a **potentially significant impact**. The following mitigation measure has been identified to address this impact.

Implement Mitigation Measure GEO-1: Prepare and Implement a Storm Water Pollution Prevention Plan and Associated Best Management Practices.

Refer to Mitigation Measure GEO-1 in Section 3.7 “Geology and Soils” for the full description of this measure.

Timing: Before and during project activities

Responsibility:

Reclamation District 369

Implementing Mitigation Measure GEO-1 would reduce significant impacts from accidental spill of or exposure to hazardous materials during routine use, transport, or disposal to the maximum extent possible by preparing and implementing a SWPPP and all associated BMPs. The SWPPP would include a spill prevention, control, and countermeasure plan, and would identify the types of materials used for equipment operation (including fuel and hydraulic fluids), along with measures to prevent and materials available to clean up hazardous material and waste spills. The SWPPP would also identify emergency procedures for responding to spills. Therefore, impacts from the proposed project would be **less-than-significant with mitigation incorporated**.

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

There are no existing or proposed schools within 0.25-mile of the project site and there would be **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?

There are no listed hazardous materials sites within the project site or immediate vicinity. There would be **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 or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The project site is not located within an airport land use plan or within two miles of a public or private use airport. The nearest airport, the Walnut Grove Airport, is approximately 4 miles south of the project site and is therefore a sufficient distance away from the project site to not pose as a safety hazard. There would be **no impact**.

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

The project would be implemented in a rural portion of unincorporated Sacramento County away from public roadways that would be used as evacuation routes. There would not be a sufficient increase in the number of users at the site to impair emergency response or evacuation. The proposed project would require hauling of materials and worker commute traffic, which may include entering the project site along the I-5 or River Road periodically, and potential use of local roadways for hauling and commute. Slow-moving trucks entering and exiting the site could pose a temporary hazard to vehicles on roads immediately adjacent to the project site. However, project activities would be short-term and temporary, and traffic conditions would return to pre-project conditions following ground disturbing activities; and these effects would not be

substantially different from effects of existing agricultural vehicles on these roadways, and would not impair or physically interfere with emergency response or evacuation plans. O&M activities would be similar to current conditions because maintenance trips for the RD 369 levee system already occur. Therefore, this impact would be **less than significant**.

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

The project site is not located in a high fire hazard severity zone or SRA (CALFIRE 2024). The proposed project would not substantially change operations and maintenance of the project site, and project activities would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. Therefore, the project would have **no impact**.

3.10 Hydrology and Water Quality

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) result in a substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Flood Control

The project site is frequently inundated due to its location in a 100-year flood zone or Federal Emergency Management Agency (FEMA) Flood Zone AE, and its proximity to numerous surface water bodies. Meadow Slough and Snodgrass Slough travel along the boundary of the project site and connect to the nearby Sacramento River. The proposed project is located within the RD 369 jurisdiction. The RD 369 levee system protects the historic Delta Legacy Community of Locke. The project is not located in a coastal area and is outside of a tsunami hazard zone (CGS 2024).

Groundwater

The project is located in the South American Subbasin (Basin Number 5-21.65), which is part of the Sacramento Valley Groundwater Basin, and is designated by DWR's Bulletin 118 as "High Priority" (DWR 2018). The South American Subbasin is located in the central portion of the Sacramento Valley Basin within Sacramento County. It is bounded on the east by the Sierra Nevada range, on the west by the Sacramento River, on the north by the American River, and on the south by the Cosumnes and Mokelumne Rivers (DWR 2018). The project site is located in the southern tip of the South American subbasin which is managed by the South American Subbasin Groundwater Sustainability Plan (Larry Walker Associates, et al. 2021). Groundwater levels in the western portion of the South American Subbasin average depths of 30 to 100 feet below ground surface (bgs) (Larry Walker Associates, et al. 2021). Groundwater measurements approximately 2 miles from the project area report groundwater between 4.8 and 6.3 feet bgs (DWR 2024).

Recharge to the groundwater basin is derived from three major components: precipitation, applied water, and streamflow. However, only a relatively small portion of the land area of Sacramento County is underlain by infiltration-capable material to provide groundwater recharge. Active stream channels contain sand and gravel with sufficient area and depth for adequate surface water infiltration to recharge groundwater. Most of the stream channel deposits in Sacramento County occur along the courses of the Cosumnes and American Rivers (Sacramento County 2017). However, in the vicinity of the project site, the Sacramento River provides the most groundwater recharge. Meadows Slough and Snodgrass Slough provide minimal groundwater recharge (Sacramento County 2017).

Water Quality

Water quality in the project area is regulated through the *Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin* (Basin Plan) (Central Valley RWQCB 2019). The Basin Plan sets regulatory limits on specific water quality parameters in the region and provides guidance for particular land uses and their input to surface water quality, such as industrial discharge, wastewater treatment plants, agriculture, and recreation. Section 303(d) of the Clean Water Act (CWA) requires that the states make a list of waters that are not attaining water quality standards. Meadows Slough is listed on the 303(d) list for mercury; Delta Waterways (eastern portion), which includes Snodgrass Slough and portions of Meadows Slough, are listed on the 303(d) list for pesticides, invasive species, mercury, and aquatic toxicity (SWRCB 2022). The Delta Waterways (northern portion), which includes the portion of the Sacramento River adjacent to the project site, is listed on the 303(d) list for pesticides, invasive species, mercury, polychlorinated biphenyls (PCBs), and aquatic toxicity (SWRCB 2022).

Discussion

a) Violate any water quality standards or waste discharge requirements?

Ground disturbing activities for geotechnical explorations and pipeline replacement could produce sediment-laden runoff or contamination that could affect water quality in Meadows Slough, Snodgrass Slough, Sacramento River, or could be discharged onto the ground where they could be carried into receiving waters. There would be no equipment refueling or fuel

storage within 100 feet of Meadows Slough to protect the waterway from accidental spills. However, there would still be some potential for accidental spills of equipment-related substances to contaminate other nearby surface waters or seep into the groundwater. The extent of potential impacts on water quality would depend on several factors: the tendency toward erosion of soil types encountered, soil chemistry, types of ground disturbing practices, extent of the disturbed area, duration of ground disturbing activities, proximity to receiving water bodies, and sensitivity of those water bodies to equipment-related contaminants. Waterbodies within and near the project site including Meadows Slough, Snodgrass Slough, and Sacramento River, are all listed on the CWA Section 303(d) impaired waterbodies list. Due to the potential for runoff at the site to impact nearby waterbodies, this impact is considered **potentially significant**. The following mitigation measure has been identified to address this impact:

Mitigation Measure GEO-1: Prepare and Implement a Storm Water Pollution Prevention Plan or a Storm Water Management Plan and Associated Best Management Practices.

Refer to Mitigation Measure GEO-1 in Section 3.7 “Geology and Soils” for the full description of this measure.

Timing: Before and during project activities.

Responsibility: Reclamation District 369.

Implementing Mitigation Measure GEO-1 would reduce the potentially significant impact related to violation of water quality standards or waste discharge requirements during ground disturbing activities and operation to a less than significant level because a SWPPP would be prepared and implemented consistent with permit requirements that would prevent and control pollution and minimize and control runoff and erosion. Therefore, this impact would be **less-than-significant with mitigation incorporated**.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

The project would not use groundwater during project activities or O&M activities. The proposed geotechnical explorations at the levee toes would be a maximum depth of 100 feet bgs, which could come in contact with groundwater based on average groundwater depths of between 4.8 and 6.3 feet bgs. Geotechnical explorations and other ground disturbing activities, including pipeline replacement, would occur during non-flood season when groundwater levels are lowest, reducing the potential for interaction with groundwater. Removal of the pipelines from the existing levee embankment would include digging a 20- to 24-foot-wide and 10-foot-deep trench at the top of the levee crown to accommodate the removal of the lowest pipeline. Because the levee is approximately 17.5 feet above the surrounding ground surface at the crown, excavation to eight to 10-feet below the crown height would result in the work area at approximately 7.5 feet above surrounding ground surface, and therefore, it is unlikely that pipeline removal would

encounter groundwater. The borings would be temporary, and no significant groundwater extraction is anticipated. Small amounts of groundwater may be extracted, but the volume expected would be negligible compared to the overall basin size and volume of groundwater in the neighboring area. Further, given the limited scale and temporary nature of the borings, the project would not result in a substantial decrease in groundwater supplies. The Sacramento River is an area of potential recharge, but this area does not overlap with the project site. Because the proposed project would not create new impervious surfaces and geotechnical explorations would not occur in areas where recharge occurs, the project would not interfere with groundwater recharge processes. The proposed project would have a **less-than-significant** 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: result in substantial on- or off-site erosion or siltation; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows?**

The project site is in a 100-year floodplain that frequently collects and stores excess water during floods, thereby protecting the community of Locke. The main purpose of the project is to collect data to inform the preparation of a plan for multi-benefit flood risk reduction, ecosystem restoration and recreation enhancements within and adjoining the Delta Meadows State Park Property and the nearby Delta Cross Channel. The project includes the following components: removal of existing pipelines and replacement with new pipelines in a small section of the TMXS-R levee; removal of an old pump and replacement with a new pump on or near levee TMXS-R; conducting bathymetric surveys of Meadows Slough by small watercraft; brush removal, and tree trimming and selective removal on levees along Snodgrass and Meadows Slough; geotechnical exploration along the existing levee; and placement of aggregate base on levee segment TMXS-R in the project site.

The long-term effect on drainage patterns would be beneficial from the pipeline and pump replacement and there would be no effect from geotechnical borings, tree trimming, bathymetric surveys, and placement of aggregate base. The pipeline and pump replacement would not alter the drainage pattern but would allow for more effective drainage by increasing stormwater conveyance capacity. The project would not include the alteration of any stream or river. The project would include placement of aggregate base. However, water would still be able to penetrate through spaces between rocks allowing for continued infiltration. Therefore, the project would not create impervious surface and would not substantially increase the rate or amount of surface runoff.

Ground disturbing activities associated with geotechnical explorations, pipeline and pump replacement, and placement of aggregate base, would occur during the non-flood season, which would reduce the likelihood of sediment movement into nearby waterways during ground disturbing activities. Tree trimming and removal would take place between November and February, if feasible. The project would include rock slope protection at the downstream end of

the pipeline discharge to minimize future erosion or turbidity during pipeline operations. There could be some sediment movement into nearby waterways from the use of heavy construction vehicles around and along the levee system. Ground disturbing activities would occur over approximately 60 days in 2025; therefore, any impact would be temporary and short-term. Additionally, the project would not create or contribute runoff water which would exceed the capacity of existing stormwater drainage systems because the project would not generate or redirect any stormwater flows, and would replace an existing pump and drainage pipeline.

Therefore, because the drainage pattern would be improved by upgrades drainage facilities, and the proposed project would not alter the course of a stream or river in a manner that would result in substantial erosion or siltation, on- or off-site, or create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, this impact would be **less than significant**.

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

The project is not located in a coastal area and is outside of a tsunami hazard zone (CGS 2024). Additionally, there are no large bodies of standing water in the vicinity of the project site, therefore, the project is not located in a seiche zone. The potential for a seiche at the project site is negligible. Although the project is in a flood zone, work involving the use of hazardous materials would occur primarily outside the flood season, and the potential release of pollutants from a flood zone is addressed above under (a), which found a less-than-significant impact with mitigation incorporated. The project would result in no impact related to release of pollutants from inundation by a tsunami or seiche.

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

Please refer to the discussion above under (a), (b), and (c). The project would not result in other effects that would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. This impact would be **less than significant**.

3.11 Land Use and Planning

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. LAND USE AND PLANNING – Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The project site is zoned as AG-20 (Agricultural 20 acres), and O (Recreation) (Sacramento County 2024). The General Plan Land Use Diagram designates the project site as natural preserve (Sacramento County 2013). The project site is partially located on the Delta Meadows State Park Property owned and managed by California State Parks, and partially located on private property owned by Locke Property Development, Inc. California State Parks recently announced the development of a comprehensive general plan for the Delta Meadows State Park Property (California State Parks 2024). This process will determine the park's future uses and create a plan for its management, development, and operation. Additionally, the project site is located within the primary zone of the legal jurisdiction of the Delta, which is regulated by the Delta Plan (Delta Stewardship Council 2019).

Much of the land in the project vicinity is in agricultural production, primarily orchards and row crops. However, land use of the surrounding area also includes nature preserves, recreation, and low density residential.

Discussion

a) Physically divide an established community?

The project site is located in a rural agricultural area and floodplain in unincorporated Sacramento County, approximately 0.70-mile outside the historic Delta Legacy Community of Locke. Additionally, the project would be constructed within the footprint of the existing levee system and would improve flood protection for the Community of Locke. Therefore, the proposed project would not physically divide an established community, and there would be **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?

There would be no change in land use associated with implementing the project. The project would include: the removal and replacement of existing pipelines in a small section of the TMXS-R levee; removal of an old, outdated pump and replacement with a new pump on or near

levee TMXS-R; conducting bathymetric surveys of Meadows Slough by small watercraft; brush removal, and tree trimming and selective removal on levees along Snodgrass and Meadows Slough; geotechnical exploration along the existing levee; and placement of aggregate base on levee segment TMXS-R in the project site. The project would inform the planning effort to compose alternatives for multi-benefit flood risk reduction, ecosystem restoration and recreation enhancements within and adjoining the Delta Meadows State Park Property and the nearby Delta Cross Channel under future projects. The proposed project does not qualify as a Covered Action under the Delta Plan because it would not have a significant impact on the achievement of one or both coequal goals or the implementation of a government-sponsored flood control program to reduce risks to people, property, and State interests in the Delta. The coequal goals, as defined in the Delta Plan, are to provide a more reliable water supply to California, improve flood and to protect, restore, and enhance the Delta ecosystem in a manner that preserves the values of the Delta as a place. Therefore, the project would not conflict with land use plans or policies adopted for the purpose of avoiding or mitigating an environmental effect. There would be **no impact**.

3.12 Mineral Resources

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES – 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The project site is located within the Surface Mining and Reclamation Act of 1975 study area in the greater Sacramento area production-consumption region. The project site is designated as mineral resource zone [MRZ]-1, which is applied to areas where available geologic information indicates that little likelihood exists for the presence of significant concrete aggregate resources (O’Neal and Gius 2018). The project site is located within the Thornton W. Walnut Grove gas field; however, all gas wells located within the project vicinity have been plugged, and are no longer in operation (CalGEM 2024).

Discussion

a, b) 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? 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?

Ground disturbing activities would not impact current or future availability of natural gas as there are no active or idle gas wells located in the project vicinity and the project would not preclude development of oil and gas facilities in the future. Furthermore, according to the Sacramento County General Plan, conservation of natural gas resources is not significant in this area (Sacramento County 2017). The project site is designated MRZ-1 and there are no other mineral resources known to occur in the area: there would be **no impact**.

3.13 Noise

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. NOISE – Would the project:				
a) Generate 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generate excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a project located 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Sacramento County Code section 6.68.090(e) provides that noise sources associated with construction repair, remodeling, demolition, paving or grading of any real property are exempt from maximum noise level requirements, provided these activities do not take place between the hours of 8 p.m. and 6 a.m. on weekdays, or between 8 p.m. and 7 a.m. on Saturday and Sundays (Sacramento County 2024). However, when an unforeseen or unavoidable condition occurs during a construction project and the nature of the project necessitates that work in process be continued until a specific phase is completed, the contractor or owner shall be allowed to continue work after 8 p.m. and to operate machinery and equipment necessary until completion of the specific work in progress can be brought to conclusion under conditions which will not jeopardize inspection acceptance or create undue financial hardships for the contractor or owner.

Noise and Vibration

Noise is defined as sound that is unwanted (loud, unexpected, or annoying). Excessive exposure to noise can result in adverse physical and psychological responses (e.g., hearing loss and other health effects, anger, and frustration); interfere with sleep, speech, and concentration; or diminish the quality of life. The perceived loudness of sounds depends on many factors, including sound pressure level and frequency content. However, within the usual range of environmental sound levels, perception of loudness is relatively predictable, and can be approximated through frequency filtering using the standardized A-weighting network. There is a strong correlation between A-weighted sound levels (decibels expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard descriptor for environmental noise assessment. All noise levels reported in this section are in terms of A-weighting.

Groundborne vibration is energy transmitted in waves through the ground. Vibration attenuates at a rate of approximately 50 percent for each doubling of distance from the source. The Federal

Transit Authority (FTA) has established maximum-acceptable vibration thresholds for different land uses. These guidelines recommend 72 vibration decibels (VdB) for residential uses and buildings where people normally sleep when the source of vibrations is frequent in nature (FTA 2018).

Noise-Sensitive Receptors

The project site is located in Sacramento County, as are the local access haul routes. Materials for project implementation may come from within 50 miles of the project site. The origin locations of these haul trips are not known at this time; however, it is expected that vehicles would travel on highways (primarily I-5, River Road, Twin Cities Road, Thornton-Walnut Grove Road, and Hood-Franklin Road) to access the project site.

Land uses at and adjacent to the project site are agricultural with scattered rural residences. Additionally, the historic Delta Legacy Community of Locke is located approximately 0.70-mile south of the project site. Land uses as defined by Federal, State, and local regulations as noise-sensitive vary slightly, but typically include schools, hospitals, rest homes, places of worship, long-term care facilities, mental care facilities, residences, convalescent (nursing) homes, hotels, certain parks, and other similar land uses. The closest noise-sensitive land use is a rural residential property located approximately 0.25-mile south of the project boundary. Residential uses along local haul routes are also noise-sensitive uses potentially affected by the project.

The primary existing noise sources at the project site and vicinity are on- and off-road road mobile sources (construction and agricultural equipment, automobile and truck traffic), and agricultural activities. Agricultural activities can generate sound levels similar to construction equipment but are typically dispersed and intermittent in nature.

Existing Vibration Environment

The existing vibration environment on the project site is dominated by local agricultural operations and transportation-related vibration from roads and highways. These sources would generate low amounts of vibration, with infrequent noticeable vibration.

Discussion

- a) **Generate 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?**

The proposed project would generate temporary and short-term noise during ground disturbing activities from equipment operating on the project site, and from the transport of equipment, materials, and workers to and from the site. Noise levels from ground disturbing activities would be audible but would not increase substantially over existing ambient noise levels. The list of construction equipment that may be used during ground disturbing activities is shown in **Table 3.13-1** with typical noise levels generated at 50 feet from the equipment (reference levels). Because the closest sensitive noise receptor is located approximately 0.25-mile south of the

project site and distance attenuation is 6 decibels (dB)² per doubling of distance (FTA 2018), the noise levels at sensitive receptors would be approximately 68 dB, without considering other attenuation such as from ground absorption. Therefore, noise levels generated at the sensitive noise receptor during ground disturbing activities would be slightly lower when factoring in ground absorption, and due to the presence of existing noise from nearby agricultural production, may not be perceptible. Additionally, ground disturbing activities completed during the designated hours outlined in the Environmental Setting are exempt from the maximum noise level requirements. Therefore, this impact is considered **less than significant**.

Table 3.13-1. Construction Equipment and Typical Equipment Noise Levels.

Type of Equipment	Typical Noise Levels (dB) L _{max} at 50 Feet
Backhoe	80
Drill Rig*	83
Excavator	81
Masticator	Unknown
Pick-up Truck	75

Notes:

dB = decibels; L_{max} = maximum instantaneous sound level

Leq = 1-hour equivalent sound level (the sound energy averaged over a continuous 1-hour period)

Source: Construction equipment list based on FTA 2018, with the exception of Drill Rig which is based on CalEEMod Version 2022.1

b) Generate excessive groundborne vibration or groundborne noise levels?

The proposed project would generate vibration from equipment operating on the project site during ground disturbing activities, and from the transport of equipment, materials, and workers to and from the site. These activities would produce a maximum vibration level of approximately 87 VdB³ (0.089 in/sec peak particle velocity [PPV]) at a distance of 25 feet (which is the reference vibration level for operation of a caisson drill [FTA 2018; Caltrans 2020]). The distance between proposed ground disturbing activities and the closest acoustically sensitive uses would be approximately 0.25-mile. Given the distance between the project site and closest sensitive receptor, it is anticipated that vibration levels would be below the 72 VdB threshold and would not be perceptible. Therefore, no vibration impact is expected.

The proposed project would result in additional vehicle trips on the local roadway network as workers commute, and equipment and materials are transported to the project site. Heavy truck traffic can generate groundborne vibration, which varies considerably depending on vehicle type, weight, and pavement conditions. However, groundborne vibration levels generated from vehicular traffic are not typically perceptible outside of the road right-of-way for rubber-tired vehicles. Therefore, this impact would be **less than significant**.

c) For a project located 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

² A decibel is a unit used to measure the intensity of sound.

³ A vibration decibel is a unit of measurement that describes the level of vibration in the ground and how much it moves.

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 project site is not located within 2 miles of a public airport nor is it located within an area designated within an airport land use plan. The nearest private airport is Walnut Grove Airport at a distance of approximately 4 miles south of the project site. The Walnut Grove Airport does not have an adopted airport land use plan. The project does not propose the addition of any noise-sensitive receivers. Project workers would be exposed to typical noise levels from heavy construction equipment during their daily activities. It is expected that workers would use hearing protection while working around heavy equipment to meet CAL/OSHA requirements, which would also reduce their exposure to aircraft operations noise. Therefore, the impact would be **less than significant**.

3.14 Population and Housing

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING – Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The project site is located approximately 0.70 miles north of the historic Delta Legacy Community of Locke, in unincorporated Sacramento County (Figure 2-1). The population of the Sacramento County is estimated to be 1,584,288 as of July 1, 2023 (U.S. Census Bureau 2024).

Discussion

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

The proposed project does not include the construction of new homes or businesses that could directly or indirectly affect the population. It is anticipated that workers would come from the existing labor pool within Sacramento County. As such, the proposed project would not require construction of housing to accommodate workers, since they would commute to the site. Therefore, the project would not result in an increase in population and the project would have **no impact**.

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

The project site is located in an unincorporated area of Sacramento County with no housing on or adjacent to the project site. No residences would be condemned or displaced by the proposed project., and therefore, the project would not require the construction of replacement housing elsewhere. There would be **no impact**.

3.15 Public Services

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES – Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Unincorporated areas of Sacramento County receive law enforcement services from the Sacramento County Sheriff's Department. Fire protection, emergency medical rescue and emergency services are provided through multiple cities and independent fire districts. The project site is located within the Walnut Grove Fire District (LAFCo Open Data 2024). The nearest school is Walnut Grove Elementary School, located within the River Delta School District. The project area overlaps with California State Parks land jurisdiction (Sacramento County 2019).

Discussion

- a) **Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could 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, or other public facilities?**

The project would not result in the need for new or physically altered government facilities in order to maintain acceptable service ratios, response times, or other performance objectives because it would not increase population in the area. Access to the site would be maintained in accordance with Sacramento County fire policies and regulations. The proposed project would not provide any new housing or employment opportunities, and

no other public facilities would be affected by ground disturbing activities or operation of the proposed project. The project would have **no impact**.

3.16 Recreation

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. RECREATION – Would the project:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The majority of the project site is located on the Delta Meadows Park Property, which is owned by California State Parks. The Delta Meadows Park Property does not currently have any facilities available, as there are no restrooms, and all trash must be packed out (State Parks 2024a). The property encompasses 500 acres including portions of Snodgrass Slough and the historic Locke Boarding House. It is open for walking along levees, and fishing and boating in the adjacent sloughs (State Parks 2024b).

Recreational services in the vicinity of the project site are provided by the Sacramento County Service Area (Sacramento County 2010). Recreational facilities in the vicinity of the project includes a community park and community service center in Walnut Grove, the Chuck Tison Memorial Park, the Cosumnes River Preserve, Hogback Island fishing access and boat launch, and Stone Lakes National Wildlife Refuge (Sacramento County 2024).

The Jean Harvie Community Center and Dr. Paul Barnes Community Park are both managed by Sacramento Regional Parks and are located in Walnut Grove, approximately 1.7 miles and 1.4 miles south of the project site, respectively. The Jean Harvie Center offers opportunities for holding large and small events with classrooms, an auditorium and a kitchen available (Regional Parks 2024b). The Dr. Paul Barnes Community Park is located in the center of Walnut Grove offering residents and visitors a space to relax in the shade, a playground for children, and a picnic area for holding gatherings (Paul Barnes Park 2024).

The Chuck Tison Memorial Park is 0.95-mile south of the project site, where the Delta Cross Channel of Snodgrass Slough meets the Sacramento River. Reviews and photos of Chuck Tison Memorial show visitors using the space for recreational fishing and dog walking (Google Maps 2024).

The Cosumnes River Preserve, managed by Sacramento Regional Parks is located 2.32 miles east of the project site and encompasses over 50,000 acres of wildlife habitat and agricultural lands owned by seven land-owning partners and managed by the Sacramento Regional Parks. The Preserve is centered along the Cosumnes River and its floodplains and riparian habitat

providing habitat for a variety of wildlife, including diverse variety of birds migrating through the Pacific Flyway (Cosumnes River Preserve 2024). The Preserve supports recreational activities including hiking, bird-watching year-round, canoeing on sloughs in the area, photography, and limited hunting and fishing (Regional Parks 2024a).

Stone Lakes National Wildlife Refuge, managed by U.S. Fish and Wildlife Service is located 4.25 miles north of the project site and encompasses 6,550 acres of protected land with grasslands, vernal pools, and diverse wildlife. Stone Lakes Refuge offers self-guided paths at Blue Heron Trails, fall and winter docent-guided walks, spring and fall paddle tours, and winter waterfowl hunting (Regional Parks 2024c).

Hogback Island is approximately 6.5 miles southwest of the project site, located along the Sacramento River Delta, and is managed by Sacramento Regional Parks. This Delta Park offers a picnic area, a lagoon with a dock and two-lane boat launch. Fishing and boating are popular activities at Hogback (Regional Parks 2024c).

Discussion

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 proposed project would not construct new housing that would generate additional residents, and therefore it would not increase demand on existing neighborhood or regional recreational facilities. Access to Delta Meadows Park Property may be temporarily limited or closed to the public during ground disturbing activities. If the park remains open during these activities, the presence of heavy equipment and noise generated by ground disturbing activities may temporarily deter some recreational users from visiting the property. However, the region offers numerous alternative recreational opportunities at nearby facilities, including Cosumnes River Preserve, Hogback Island, Stone Lake National Wildlife Refuge, Chuck Tison Memorial Park, and community facilities in Walnut Grove.

The ground-disturbing activities associated with conducting the geotechnical borings and removal and replacement of the 10-12-inch pipeline project are expected to be short-term, occurring over 60 days in 2025. Tree trimming and removal would take place between November and February and is anticipated to take less than 30 days. These temporary disruptions are unlikely to cause any long-term impacts to recreational use. Although the placement of aggregate rock may cause short-term disturbances, such as noise from haul trucks along levees, recreational uses of the area—primarily walking and nature-viewing—would return to their previous condition once work is complete.

In the long term, the project is expected to have a neutral or beneficial impact on recreational facilities by improving site drainage, which could reduce negative impacts to the condition of trails along the levees, providing a long-term benefit to park users and resulting in less maintenance in the future. The pipeline and pump replacements are intended for flood protection and would not alter the existing recreational infrastructure within the Delta Meadows Park Property. Routine operations and maintenance, including annual vegetation management, would have no adverse effects on recreational activities.

Given the short-term, temporary nature of the project activities, the return of recreational areas to their existing condition after ground disturbing activities are complete, the numerous other recreational facilities in the project vicinity, and the potential long-term improvements to drainage and reduced impact to trail conditions, the proposed project would not cause substantial physical deterioration of any recreational facilities, nor would it accelerate deterioration. Therefore, this impact is considered **less than significant**.

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 is located on the Delta Meadows Park Property, which includes areas occasionally used by visitors for walking and nature viewing on the TMXS-R levee. During ground disturbing activities, access to the levee may be temporarily restricted. However, as previously noted, the levee would be restored to existing condition once ground disturbing activities are complete. It is important to note that the primary function of the TMXS-R levee is flood protection for the Community of Locke, with recreational uses, such as walking and nature viewing, considered a secondary benefit. Delta Meadows Park Property is relatively undeveloped and does not contain any designated recreational amenities. The project does not propose or require the construction or expansion of any new recreational facilities. Given the temporary nature of any access restrictions and the absence of new recreational facilities in the project scope, there would be no adverse physical effect on the environment. Therefore, the project would result in **no impact**.

3.17 Transportation

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION – Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

The proposed project is located in a rural portion of Sacramento County north of the community of Locke. Regional access to the project area would be provided from I-5, and local roadways to the project site would be provided by River Road and Levee Road. Additionally, access and drill routes would be established on private property owned by the Locke Property Development, Inc

There are no transit or on-street bicycle or pedestrian facilities in the immediate vicinity of the project site. (Sacramento County 2017). The former Walnut Grove Branch Line railroad embankment is located near the eastern terminus of the project site. However, this railroad embankment is no longer in service.

Discussion

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

The proposed project would require hauling of equipment and materials to the project site, and worker commute trips to and from the project area along local roads and major highways. Operations following project completion would involve periodic worker commute trips to and from the project site to conduct vegetation maintenance, however, O&M activities would be similar to current conditions because maintenance trips for the RD 369 levee system already occur.

Since project activities would generate a minor increase of traffic due to temporary truck trips and operations-related truck trips would be the same compared to current conditions, the proposed project would not result in any long-term degradation in performance of any of the roadways in the vicinity of the proposed project. Additionally, there are no bicycle or pedestrian

facilities located in the project vicinity that could be impacted by the proposed project. Therefore, the proposed project would not conflict with adopted applicable programs, plans, or ordinances, or policies related to the performance of the circulation system and impacts would be **less than significant**.

b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?

In response to Senate Bill 743, the CEQA Guidelines were updated in 2018 stating that agencies analyzing the transportation impacts of new projects must use vehicle miles traveled (VMT) as a transportation impact metric. VMT measures how much actual vehicle travel (additional miles driven) a proposed project would create on California roads. However, Senate Bill 743 was focused on reducing long-term VMT to help achieve the state's GHG reduction targets, this type of VMT analysis is not focused on evaluating temporary construction-related trips.

The proposed project would generate vehicle miles traveled (VMT) for transport of material to the project site, as well as up to 6 daily worker commutes. The temporary increase in VMT would not result in any perceivable increase in VMT that would impact the circulation system. Operations-related VMT associated with the proposed project would remain the same as current conditions since maintenance activities already occur along the levee system. Therefore, project ground disturbing activities and operation would not conflict with or be inconsistent with CEQA Guidelines 15064.3 subdivision (b). This impact would be **less than significant**.

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

The proposed project would use access routes on adjacent private property, which would be used by construction equipment operators to access various part of the project site. These access routes would be selected in a manner to allow for easy access and maneuverability by large construction equipment. Following project activities, access routes would be returned to pre-project or better conditions. Therefore, the proposed project would not adversely alter the physical configuration of the existing roadway network serving the project vicinity and would not introduce unsafe design features associated with large equipment transport. The proposed project would not introduce uses (types of vehicles) that are incompatible with existing uses already served by the project area road system. Therefore, there would be **no impact**.

d) Result in inadequate emergency access?

The proposed project would temporarily add vehicles to the local roadway and circulation system. Slow-moving trucks entering and exiting the site along River Road could delay the movement of emergency vehicles or slow emergency access to or from locations in the Community of Locke or Walnut Grove. However, emergency access would remain available during implementation of the project as no lanes or road closure would be required. O&M activities for the proposed project would be substantially similar to current conditions respective to emergency response and evacuation. Therefore, impacts would be **less than significant**.

3.18 Tribal Cultural Resources

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES – Would the project				
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 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:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) 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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) 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 Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

The project site is situated in the ethnographic territory of the Eastern Miwok. The Eastern Miwok are one of two major subgroups of the Utian language family. Eastern Miwok peoples themselves are comprised of five distinctive linguistic and cultural groups. Eastern Miwok groups lived in the inner valleys of the Coast ranges, the Delta region between Sacramento and Stockton, the foothills of the Sierra Nevada Mountain Range, and the Sierra Nevada Mountain Range. Like most California tribes, they were organized into a tribelet system, with individuals identifying with tribelets (Levy 1978). Today there are many active Eastern Miwok with vibrant cultural and language programs including the Federated Indians of the Graton Rancheria, Shingle Springs Rancheria, the United Auburn Indian Community, and the Wilton Rancheria. Shingle Springs Rancheria has language programs to revitalize the Miwok and Nisenan languages, have an exhibit and collections center, and maintains a Traditional Ecological Knowledge program that seek to learn about uses of plants and animals (Shingle Springs Band of Miwok Indians 2024).

Methods of Analysis

GEI archaeologist Amy Wolpert, MA, contacted NAHC requesting a SLF search encompassing the project area. The NAHC responded on June 4, 2024 and stated that the SLF search returned negative results. RD 369 has not received any requests for AB 52 consultation from any

California Native American Tribes and therefore did not send out any letters inviting Tribes to consult on the project.

Discussion

- a) **Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 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:**
- i. **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)?**
 - ii. **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 Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of 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 either (1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either on or eligible for inclusion in the CRHR or a local historic register; or (2) a resource that the lead agency, at its discretion and supported by substantial evidence, chooses to treat as a TCR. Additionally, a cultural landscape may also qualify as a TCR if it meets the criteria to be eligible for inclusion in the CRHR and is geographically defined in terms of the size and scope of the landscape. Other historical resources (as described in PRC 21084.1), a unique archaeological resource (as defined in PRC 21083.2[g]), or non-unique archaeological resources (as described in PRC 21083.2[h]), may also be TCRs if they conform to the criteria to be eligible for inclusion in the CRHR.

No previously identified tribal cultural resources were identified by the NAHC SLF search. Additionally, no Tribes have disclosed any concerns regarding resources in the project area. However, as stated in Section 3.5, “Cultural Resources,” three cultural resources were identified in the project area:

- 1) P-34-000074 (CA-SAC-000047), though no surface evidence of the resource was found during the pedestrian survey and it is plotted in an area that would only undergo surface impacts as access roads and a staging area; if subsurface components of the resource exists within the project it is very unlikely that the resource would be impacted by the project;
- 2) P-34-000102 (CA-SAC-0000475) was also identified within the project area but appears to have been destroyed since last recorded; and,

- 3) P-34-005225, the Sacramento River Tribal Cultural Landscape, was also identified as extending into the project area. This resource is very large and any impact due to project activities would not be significant enough to result in ineligibility for listing in the CRHR.

It is unlikely but still possible that unknown TCRs would be discovered during the project implementation or that subsurface components of previously identified resources could be encountered. Therefore, this impact is considered **potentially significant**. The following mitigation measures have been identified to address this impact.

Mitigation Measure CUL-1: Worker Environmental Awareness Program (WEAP) Training for Cultural and Tribal Resources.

Refer to Mitigation Measure CUL-1 in Section 3.5 “Cultural Resources” for the full description of this measure.

Timing: Before and during ground disturbing activities.

Responsibility: Reclamation District 369

Mitigation Measure CUL-2: Archeological and Tribal Monitoring at Select Locations.

Refer to Mitigation Measure CUL-2 in Section 3.5 “Cultural Resources” for the full description of this measure.

Timing: Before and during ground disturbing activities.

Responsibility: Reclamation District 369

Mitigation Measure CUL-3: Avoid Potential Effects on Undiscovered Historical Resources and Unique Archaeological Resources.

Refer to Mitigation Measure CUL-3 in Section 3.5 “Cultural Resources” for the full description of this measure.

Timing: Before and During ground disturbing activities.

Responsibility: Reclamation District 369.

Mitigation Measure CUL-4: Avoid Potential Effects on Undiscovered Burials.

Refer to Mitigation Measure CUL-4 in Section 3.5 “Cultural Resources” for the full description of this measure.

Timing: Before and During ground disturbing activities.

Responsibility: Reclamation District 369

Implementing Mitigation Measures CUL-1, CUL-2, and CUL-3 would reduce the significant impact on any previously undiscovered historical resources or remnant subsurface components of known cultural resources and Tribal Cultural Resources by avoiding and preserving in place or assessing and treating in accordance with appropriate professional standards. Additionally, Mitigation Measure CUL-4 would reduce potentially significant impacts related to potential disturbance of human remains, and therefore potentially to any such remains associated with Tribal Cultural Resources by implementing all appropriate steps required by the CHSC and California PRC sections identified above, the event that human remains were discovered. Therefore, this impact would be **less-than-significant with mitigation incorporated**.

3.19 Utilities and Service Systems

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Require or result in the relocation or construction of new 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a determination by the wastewater treatment provider, which 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Water Supply

Potable water supplies in the project area is primarily provided by the Sacramento County Water Agency from a mix of groundwater, surface water, recycled water, and remediated water (Sacramento County 2010). The project site is located within the South American Subbasin of the Sacramento Valley Groundwater Basin.

Wastewater

There are no wastewater facilities at the project site, and aside from Walnut Grove, the surrounding project area is served by private septic systems (Sacramento County 2019).

Stormwater Drainage

Stormwater drainage and flood control in the project area is provided by the RD 369. Drainage facilities in the project area include levees, and drainage pump stations (Sacramento County 2017). Drainage facilities at the project site include a 10-inch drainage pipe that would be replaced by the proposed project and the levees in the project site, which provide flood protection for the Community of Locke.

Solid Waste

The Sacramento County Department of Waste Management and Recycling provides solid waste services to the unincorporated portions of Sacramento County (Sacramento County 2010). Kiefer Landfill is the primary solid waste disposal facility in Sacramento County, located about 23 miles northeast of the project site at Kiefer Boulevard and Grant Line Road. Keifer Landfill has 660 acres of disposal acreage, a remaining capacity of 102,300,000 cubic yards and an expected cease date of January 2080 (CalRecycle 2019a). The nearest landfill to the project site is Recology Hay Road Landfill, a Class II and III landfill in Solano County, located approximately 19 miles to the west of the project site. It has a disposal area of 256 acres, remaining capacity of 30,433,000 cubic yards and an anticipated closure date of January 2077 (CalRecycle 2019b). Recology Hay Road primarily serves San Francisco and Solano County but provides services to both municipal and commercial customers in the Sacramento Valley (Recology 2024).

Discussion

- a) **Require or result in the relocation or construction of new 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?**

The proposed project involves the replacement of an existing stormwater pipeline and pump system to improve drainage at the project site, along with data collection activities such as geotechnical borings and bathymetric surveys to evaluate and propose alternatives for levee infrastructure improvements. These measures aim to reduce flood risks for the community of Locke.

Further, the project would not construct new or expanded stormwater drainage systems beyond the existing capacity. Additionally, the proposed project would not require use of water, wastewater treatment, electrical power, natural gas, or telecommunication facilities, and would not result in the relocation or expansion of any of these facilities.

The purpose of the pipeline and pump replacement is to maintain and improve current drainage conditions without expanding the service area or altering the type of service provided. Additionally, due to the short-term and temporary nature of project activities, there would be **less-than-significant** impact.

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

The proposed project would not require the use of water supplies for project ground disturbing activities or O&M, and therefore, the project would result in **no impact**.

- c) **Result in a determination by the wastewater treatment provider, which 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?

The project site is not serviced by any wastewater treatment facilities, and the surrounding area is served by private septic systems. The proposed project would not increase demand for wastewater services; therefore, the project would have **no impact**.

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

The proposed project would cause a temporary increase in the generation of solid waste from tree trimming and brush removal activities, and pipeline and pump replacement. Solid waste would be disposed of at a nearby landfill, such as the Keifer Landfill or Hay Road Landfill, which both have capacity that would be more than adequate to serve the short-term disposal needs of the proposed project. Solid waste from operation and maintenance activities on the project site would be the same as current conditions. The project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste. This impact would be **less than significant**.

3.20 Wildfire

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. WILDFIRE – 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The project site is located in rural unincorporated Sacramento County surrounded primarily by agricultural uses. The project site is not located in a very high fire hazard severity zone or SRA (CALFIRE 2024).

Discussion

a, b, c, d) Substantially impair an adopted emergency response plan or emergency evacuation plan, 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, 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, or 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 a very high fire severity zone or SRA. The project would not result in an increase in the number of users at the project site or in the vicinity that could impair emergency response or evacuation compared to existing conditions. Additionally, the short-term, temporary nature of project and the intermittent nature of material off hauling and drop-off via large trucks at the project site would not pose a risk to emergency response or evacuation during

an emergency. The project would not require any infrastructure that would exacerbate fire risk or the risk of flooding, slope instability, or drainage changes after a fire. Therefore, the project would have **no impact**.

3.21 Mandatory Findings of Significance

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE – Would the project:				
a) Does the project have 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, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

- a) Does the project have 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, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?**

The analysis conducted in this IS concludes that the proposed project with mitigation would not have a significant effect on the physical environment, reduce habitat of fish or wildlife species, cause fish or wildlife populations to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory.

As evaluated in Section 3.4, "Biological Resources," the proposed project could have potential adverse effects during ground disturbing activities on special-status plants and wildlife, nesting birds, and sensitive habitats. However, with implementation of Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, BIO-7, BIO-8, BIO-9a, BIO-9b, BIO-10, BIO-11, BIO-12, and BIO-13, these impacts would be reduced to **less than significant level with mitigation**.

As evaluated in Section 3.5, "Cultural Resources," the proposed project could have potential adverse effects during ground-disturbing ground disturbing activities on presently unknown

subsurface historical and archaeological resources and human remains. However, with implementation of Mitigation Measures CUL-1, CUL-2, CUL-3, and CUL-4 included in Section 3.5, these potential impacts, if they occur, would be reduced to **less-than-significant level with mitigation**.

As evaluated in Sections 3.7, “Geology and Soils,” 3.9 “Hazards and Hazardous Materials,” and 3.10, “Hydrology and Water Quality,” the proposed project could result in adverse effects to groundwater quality and/or surface water quality during ground disturbing activities. However, with implementation of Mitigation Measure GEO-1 included in Sections 3.6, 3.9 and 3.10, these impacts would be reduced to **less-than-significant level with mitigation**.

As evaluated in Section 3.18, “Tribal Cultural Resources,” the proposed project could adversely affect Tribal Cultural Resources if any are discovered during project-related ground disturbing activities. However, with implementation of Mitigation Measure CUL-1, CUL-2, CUL-3, and CUL-4 included in Section 3.18, this impact would be reduced to **less-than-significant level with mitigation**.

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.)

Implementing ground disturbing activities associated with the proposed project would result in temporary and short-term impacts that would be primarily limited to the project site and immediate vicinity. As discussed in this IS, the proposed project would result in less-than-significant impacts or no impacts on the following resource areas: agriculture and forestry, air quality, energy, greenhouse gas emissions, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation, utilities and service systems, and wildfire. Furthermore, mitigation measures have been identified in this IS that would reduce impacts to a less than significant level in the following areas: biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, and tribal cultural resources. Therefore, all impacts would be less than significant or would be reduced to a less than significant level through implementation of required mitigation measures, and the proposed project would not make a cumulatively considerable incremental contribution to significant cumulative adverse impacts on those resource areas. The incremental effects of the proposed project would not be cumulatively considerable when viewed together with the effects of past, present, and reasonably foreseeable future projects. Therefore, cumulative impacts would be **less than significant**.

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

As discussed throughout this IS, ground disturbing activities and operation of the proposed project would not cause substantial adverse effects on human beings, either directly or indirectly. Furthermore, mitigation measures are identified to reduce the proposed project’s potentially significant effects on biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, and tribal cultural resources to less than

significant levels. Thus, ground disturbing activities and operation of the proposed project would not cause substantial adverse effects on human beings, either directly or indirectly. Therefore, impacts on human beings would be **less than significant**.

Chapter 4. References

MITIGATED NEGATIVE DECLARATION

No references cited.

INITIAL STUDY

No references cited.

1 Introduction

No references cited.

2 Project Description

Sacramento County Small Communities Flood Risk Reduction Program (SCFRRP) Feasibility Study for Delta Legacy Community of Locke (January 2022). Available at <https://waterresources.saccounty.gov/DeltaSmallCommunities/Pages/Locke-Feasibility-Study.aspx> (Final Study)

Sacramento County. 2024. *Sacramento County Code, Chapter 6.68 "Noise Control."* Available: <https://ecode360.com/44029074?highlight=noise.noises&searchId=5444483918206490#44029085> Accessed August 26, 2024.

3 Environmental Checklist

No references cited.

3.1 Aesthetics

California Department of Transportation (Caltrans). 2019. Eligible and Officially Designated State Scenic Highways. Available at https://dot.ca.gov/-/media/dot-media/programs/design/documents/design-and-eligible-aug2019_all1y.xlsx. Accessed September 2024.

Sacramento County. 2013. General Plan Land Use Map. Available at https://planning.saccounty.gov/Documents/Maps/GPLU_2030_UPDATED_FINAL_120613_sm.pdf. Accessed September 2024.

Sacramento County. 2010. General Plan Update 2030 Final Environmental Impact Report Vol. II. Available at [https://planning.saccounty.gov/PlansandProjectsIn-Progress/Documents/General%20Plan%20FEIR%20\(2030\)/General%20Plan%20Update%202030%20FEIR%20Vol%20II.pdf](https://planning.saccounty.gov/PlansandProjectsIn-Progress/Documents/General%20Plan%20FEIR%20(2030)/General%20Plan%20Update%202030%20FEIR%20Vol%20II.pdf). Accessed September 2024.

3.2 Agricultural and Forestry Resources

California Department of Conservation (DOC). 2022. California Important Farmland Finder. Available at <https://maps.conservation.ca.gov/DLRP/CIFF/>. Accessed September 2024.

Sacramento County. 2024. General Plan Map Viewer Online Map. Available at https://generalmap.gis.sacounty.gov/JSViewer/county_portal.html#. Accessed September 2024.

3.3 Air Quality

Sacramento Metropolitan Air Quality Management District. 2019. *Basic Construction Emission Control Practices (Best Management Practices)*. Available: <https://www.airquality.org/LandUseTransportation/Documents/Ch3BasicEmissionControlPracticesBMPSFinal7-2019.pdf> Accessed: September 10, 2024.

_____. 2020. *Guide to Air Quality Assessment in Sacramento County*. Available: <https://www.airquality.org/LandUseTransportation/Documents/Ch3Construction4-30-2020.pdf> Accessed: September 10, 2024.

1.4 Biological Resources

Ahlborn, G., White, M. 1990. "American Badger," California Wildlife Habitat Relationships System Life History Accounts and Range Maps. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2597&inline=1>

Alley, D., Harris, J., Duke, R. 1990. "Western Red Bat," California Wildlife Habitat Relationships System Life History Accounts and Range Maps. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2339&inline=1>

California Bumble Bee Atlas (CA BBA). 2022. Results. Highlights--Cali Bumble Bee Atlas - California Bumble Bee Atlas. Accessed in October, 2024 via cabumblebeeatlas.org

California Burrowing Owl Consortium. 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. chrome-extension://efaidnbmninnibpcapjpcglclefindmkaj/<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83842&inline>

Swainson's Hawk Technical Advisory Committee (SHTAC). 2000. Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. Accessed in October, 2024 via: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83990>

CDFG. 1994. Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California. Accessed February, 2022 <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83992&inline>

- California Department of Fish and Wildlife (CDFW). 2024a. California Natural Diversity Database QuickView Tool in Bios 6. Accessed in October 2024 via:
<https://wildlife.ca.gov/Data/CNDDDB/Maps-and-Data#43018410-cnddb-quickview-tool>
- _____. 2024b. RareFind. Accessed in October 2024 via:
<https://wildlife.ca.gov/Data/CNDDDB/Maps-and-Data#43018407-rarefind-5>
- _____. 2023. Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species. Accessed in October, 2024 via: chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=213150&inline>
- _____. 2016a. California Tiger Salamander Predicted Habitat CWHR A001 [ds1968]. Accessed on October 1, 2024 via BIOS.
- _____. 2016b. Mountain Plover Range – CWHR B159 [ds1463]. Accessed on October 1, 2024 via BIOS.
- _____. 2015. Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields. Accessed in October, 2024 via:
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=99310>
- _____. 2014. California Tiger Salamander Connectivity Modeling for the California Bay Area Linkage Network [ds885]. Accessed on October 1, 2024 via BIOS.
- California Native Plant Society (CNPS). 2024. Inventory of Rare and Endangered Plants (online edition). California Native Plant Society, Sacramento, California. Accessed in October, 2024 via: <https://rareplants.cnps.org/Home/>
- California Wildlife Habitat Relations (CWHR) Program Staff. 2008a. "Tricolored blackbird", California Wildlife Habitat Relationships System Life History Accounts and Range Maps. Available online: <https://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range>. CDFW Biogeographic Data Branch; Sacramento, CA
- _____. 2008b. "Mountain Plover," California Wildlife Habitat Relationships System Life History Accounts and Range Maps.
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1733&inline=1>
- _____. 2006. "Swainson's Hawk," California Wildlife Habitat Relationships System Life History Accounts and Range Maps. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1673&inline=1>
- _____. 2005. "White-tailed Kite," California Wildlife Habitat Relationships System Life History Accounts and Range Maps.
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1659&inline=1>

- _____. 2000. "Brush Rabbit," California Wildlife Habitat Relationships System Life History Accounts and Range Maps.
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2363&inline=1>
- _____. 1999a. "Burrowing Owl," California Wildlife Habitat Relationships System Life History Accounts and Range Maps.
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1871&inline=1>
- _____. 1999b. "Black Rail," California Wildlife Habitat Relationships System Life History Accounts and Range Maps.
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1711&inline=1>
- GEI Consultants, Inc., 2020. Biological Constraints Assessment for the Community of Locke Small Communities Flood Risk Reduction Feasibility Study, Sacramento, CA. Developed for RD 369. <https://waterresources.sacounty.gov/DeltaSmallCommunities/Pages/Locke-Feasibility-Study.aspx> (Appendix B)
- Google Earth, 2024. Aerial Imagery Dates 1985-2024. Accessed via desktop application.
- H.T. Harvey & Associates. 2024. FERC Order Compliance Project – Crotch’s Bumble Bee Avoidance Plan. Prepared for Santa Clara Valley Water District.
- International Environmental Law Project (IELP). 2012. The Legal Status of Monarch Butterflies in California. International Environmental Law Project; Portland, OR.
- Moyle, Peter; Yoshiyama, Ronald; William, Jack; Wikramanayake, Eric. 1995. Fish Species of Special Concern in California. Second Edition. Department of Wildlife & Fisheries Biology. University of California, Davis
- Nafis, Gary. 20XX. California Herps: A Guide to Reptiles and Amphibians of California. Available online: <http://www.californiaherps.com/>
- National Marine Fisheries Service (NMFS). 2015. Southern Distinct Population Segment of the North American Green Sturgeon (*Acipenser medirostris*) 5-Year Review: Summary and Evaluation. NMFS; Long Beach, CA.
- National Oceanic and Atmospheric Administration (NOAA). 2024. Essential Fish Habitat Mapper. Accessed in October, 2024 via:
<https://www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper>
- _____. 2014. Final Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter-Run Chinook Salmon and Central Valley Spring-Run Chinook Salmon and the Distinct Population Segment of California Central Valley Steelhead. West Coast Region, pp. 428.
- Polite, C., Pratt, J., Kiff, L. 1990. "Peregrine Falcon," California Wildlife Habitat Relationships System Life History Accounts and Range Maps.
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1687&inline=1>

- Sacramento County. 2024a. Planning and Environmental Review – Project Site with Trees. Accessed in October, 2024 via: <https://planning.sacounty.gov/applicants/Pages/ProjectSitesWithTrees.aspx>
- _____. 2024b. Planning and Environmental Review – South Sacramento Habitat Conservation Plan. Accessed in October, 2024 via: <https://planning.sacounty.gov/PlansandProjectsInProgress/Pages/SSHCPPlan.aspx>
- Shuford, W.D., and Gardali, T., editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Wildlife, Sacramento, CA.
- State of California – The Resources Agency Department of Parks and Recreation (State Parks). 2002. Pruning Specifications – Exhibit A. DPR 217A.
- Thomson, Robert C., Wright, Amber N., and Shaffer H. Bradley. 2016. California Amphibian and Reptile Species of Special Concern. University of California Press Berkeley, CA.
- U.S. Fish and Wildlife Service. 2024a. National Wetlands Inventory – Wetlands Mapper. Accessed in October, 2024 via: <https://www.fws.gov/wetlands/data/mapper.html>.
- _____. 2024b. Information for Planning and Consultation (iPAC). Species list generator. Accessed October, 2024 via: <https://ecos.fws.gov/ipac/>.
- _____. 2024c. Threatened & Endangered Species Active Critical Habitat Report. Accessed in October, 2024 via: <https://ecos.fws.gov/ecp/report/critical-habitat>
- _____. 2024d. California Fish Passage Assessment Database [ds69]. Accessed via BIOS on October 7, 2024.
- _____. 2024e. Endangered and Threatened Wildlife Plants; Endangered Species Status for the San Francisco Bay-Delta Distinct Population Segment of the Longfin Smelt.
- _____. 2023. Western Monarch Butterfly Conservation Recommendations. USFWS and Xerces Society.
- _____. 2023b. Delta Smelt – Final Critical Habitat – USFWS [ds249]. Accessed via BIOS on October 7, 2024.
- _____. 2019. ECOS Environmental Conservation Online System - Species Profile for Yellow-billed Cuckoo. Available online: <https://ecos.fws.gov/ecp0/profile/speciesProfile?scode=B06R>
<https://ecos.fws.gov/ecp/species/3911>
- _____. 2017a. Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*). USFWS; Sacramento, CA.

- _____. 2017b. Recovery Plan for the Central California Distinct Population Segment of the California Tiger Salamander (*Ambystoma californiense*). Region 8, Sacramento, CA.
 - _____. 2015. Longfin Smelt Range [ds1324]. Accessed on BIOS on October 7, 2024.
 - _____. 2012a. Conservancy Fairy Shrimp (*Branchinecta conservatio*) 5-Year Review: Summary and Evaluation. USFWS; Sacramento, CA.
 - _____. 2012b. Endangered and Threatened Wildlife and Plants; 12-month Finding on a Petition to List the San Francisco Bay-Delta Population of the Longfin Smelt as Endangered or Threatened
 - _____. 2012c. Giant Garter Snake (*Thamnophis gigas*) 5-Year Review: Summary and Evaluation. USFWS; Sacramento, CA.
 - _____. 2010. Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition to Reclassify the Delta Smelt from Threatened to Endangered throughout its Range. USFWS; Sacramento CA.
 - _____. 2007a. Vernal Pool Fairy Shrimp (*Branchinecta lynchi*) 5-Year Review: Summary and Evaluation. USFWS; Sacramento, CA.
 - _____. 2007b. Vernal Pool Tadpole Shrimp (*Lepidurus packardii*) 5-Year Review: Summary and Evaluation. USFWS; Sacramento, CA.
- Williams, P. H., R. W. Thorp, L. L. Richardson, and S. R. Colla (Williams et al.). 2014. The Bumble Bees of North America: An Identification guide. Princeton University Press, Princeton, New Jersey, USA.

3.5 Cultural Resources

- Bennyhoff, J. A. 1977. Ethnography of the Plains Miwok. Center for Archaeological Research at Davis Publication No. 5. University of California, Davis, Davis, CA.
- Charleton, James H. 1990. "Locke Historic District." National Register of Historic Places Registration Form. June 21, 1990.
- Fredrickson, D. A. 1973. *Early Cultures of the North Coast Ranges, California*. Unpublished Ph.D. dissertation, Department of Anthropology, University of California, Davis.
- _____. 1974. Cultural Diversity in Early Central California: A View from the North Coast Ranges. *Journal of California Anthropology* 1:41-54.
- GEI Consultants, Inc., February 2020. Cultural Resources Records Search Results for Locke California available at:
<https://waterresources.saccounty.gov/DeltaSmallCommunities/Pages/Locke-Feasibility-Study.aspx> (Appendix C)

- Heizer, R. F., and F. Fenenga. 1939. Archaeological Horizons in Central California. *American Anthropologist* 41:378–399.
- Laval Company Inc. 1937. Flight ABC-1937. Frame 49-3. August 18, 1937. FrameFinder, University of California, Santa Barbara.
- Lillard, J. B., R. F. Heizer, and F. Fenenga. 1939. *An Introduction to the Archaeology of Central California*. Bulletin 2. Department of Anthropology, Sacramento Junior College, Sacramento, CA.
- Milliken, R., R. T. Fitzgerald, M. G. Hylkema, R. G. Groza, T. Origer, D. G. Bieling, A. Leventhal, R. S. Wiberg, A. Gottsfield, D. Gillette, V. Bellifemine, E. Strother, R. Cartier, and D. Fredrickson. 2007. Punctuated Culture Change in the San Francisco Bay Area. In *California Prehistory*, edited by T. L. Jones and K. A. Klar, pp. 99-123. Altamira Press, Lanham, MD.
- Moratto, M. J. 1984 (2004). *California Archaeology*. Coyote Press, Salinas, CA.
- National Park Service (NPS). 1996. *National Register of Historic Places*. List of properties available at the Northwest Information Center, Sonoma State University, Rohnert Park, CA.
- _____. 2018. “Locke Historic-District, CA.” Available at: <https://www.nps.gov/places/locke-historic-district.htm>. Accessed May 2024.
- Oakland Tribune. 1916. “Children Left Locke Estate.” November 27, 1916.
- Office of Historic Preservation (OHP). 1999. California State Law and Historic Preservation.
- Pacific Bee. 1895. “Some Ranches Submerged from the Backwater.” January 23, 1895.
- Rosenthal, J. S., G. G. White, and M. Q. Sutton. 2007. The Central Valley: A View from the Catbird’s Seat. Pages 147–163 in T. L. Jones and K. A. Klar (eds.), *California Prehistory: Colonization, Culture, and Complexity*, AltaMira Press, Lanham, MD.
- Sacramento Bee. 1880a. “To The Honorable, The Board of Supervisors of the county of Sacramento.” June 12, 1880.
- _____. 1880b. “Board of Supervisors.” June 24, 1880.
- Sacramento Union. 1892. “The Encroaching River.” October 4, 1892.
- San Francisco Examiner. 2015. “Defining its place in history: Locke in Delta country once teemed with Chinese residents but is now something of a ghost town.” April 19, 2015.
- US Geological Survey. 1908. 1916. Courtland.

3.6 Energy

California Energy Commission (CEC). 2022. *Electricity Consumption by County*. Accessed: September 25, 2024.

State of California. 2022. *California Climate Commitment*. Available: <https://www.gov.ca.gov/wp-content/uploads/2022/09/Fact-Sheet-California-Climate-Commitment.pdf> Accessed: August 26, 2024.

3.7 Geology and Soils

California Geological Survey (CGS). 2021. Regulatory Maps Available: <https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatory> maps. Accessed: August 29, 2024.

California Geological Survey (CGS). 2015. *Fault Activity Map of California*. Available: <http://maps.conservation.ca.gov/cgs/fam/>. Accessed August 29, 2024.

Dawson, T.E., 2009, Preliminary geologic map of the Lodi 30' X 60' quadrangle. U.S. Geological Survey, Preliminary Geologic Maps PGM-09-04.

Delta Conveyance Design and Construction Authority (DCA). 2023. *A Closer Look: Delta Conveyance and Seismic Resilience*. Available: <https://www.mwdh2o.com/media/eqdf4g25/dca-seismic-resilience-fact-sheet.pdf> Accessed: November 20, 2024.

USBR. 2016. Bay Delta Conservation Plan/California Waterfix Final Environmental Impact Report/ Environmental Impact Statement. Available: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/exhibits/exhibit102/docs/vol1/Introduction_to_Final_EIR-EIS.pdf

U.S. Natural Resources Conservation Service (NRCS). 2024a. Web Soil Survey. Available: <https://websoilsurvey.nrcs.usda.gov/app/>. Accessed: November 20, 2024.

_____. 2024b. *National Soil Survey Handbook*. Available: <https://directives.nrcs.usda.gov/sites/default/files2/1725389663/National%20Soil%20Survey%20Handbook%20%28entire%20handbook%29.pdf> Accessed : November 20, 2024.

3.8 Greenhouse Gas Emissions

California Air Resource Board (CARB). 2022. *2022 Scoping Plan for Achieving Carbon Neutrality*. Available: <https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf> Accessed: September 25, 2024.

Sacramento County. 2022. *Climate Action Plan*. Available: <https://planning.saccounty.gov/PlansandProjectsIn-Progress/Documents/Climate%20Action%20Plan/Final%20Climate%20Action%20Plan.pdf> Accessed: September 10, 2024.

State of California. 2022. *California Climate Commitment*. Available:
<https://www.gov.ca.gov/wp-content/uploads/2022/09/Fact-Sheet-California-Climate-Commitment.pdf> Accessed: September 25, 2024.

3.9 Hazards and Hazardous Materials

California Department of Toxic Substances Control (DTSC). 2024a. *Envirostor Hazardous Waste and Substances Site List (Cortese)*. Available:
[https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM,COLUR&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+\(CORTESE\)](https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM,COLUR&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+(CORTESE)).
Accessed: September 25, 2024.

_____. 2024b. *Cortese List: Section 65962.5(a)*. Available:
<https://calepa.ca.gov/sitecleanup/corteselist/section-65962-5a/>. Accessed: September 25, 2024.

California Environmental Protection Agency (CalEPA). 2024. *Sites Identified with Waste Constituents Above Hazardous Waste Levels Outside the Waste Management Unit*. Available: <https://calepa.ca.gov/wp-content/uploads/sites/6/2016/10/SiteCleanup-CorteseList-CurrentList.pdf>. Accessed: September 25, 2024.

California Department of Forestry and Fire Protection. 2024. *State Responsibility Area Fire Hazard Severity Zones*. Available: <https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones/fire-hazard-severity-zones-maps-2022> Accessed: August 28, 2024.

California State Water Resources Control Board (SWRCB). 2024a. *GeoTracker Database*. Available: https://geotracker.waterboards.ca.gov/map/?global_id=T0601700073.
Accessed: September 25, 2024.

_____. 2024b. *CDO-CAO List*. Available: <https://calepa.ca.gov/wp-content/uploads/sites/6/2016/10/SiteCleanup-CorteseList-CDOCAOList.xlsx>. Accessed: September 25, 2024.

Environmental Protection Agency (EPA). 2024. *Superfund Enterprise Management System Database*. Available: <https://www.epa.gov/enviro/sems-search>. Accessed: September 25, 2024.

3.10 Hydrology and Water Quality

California Department of Water Resources (DWR). 2018. *SGMA Data Viewer Groundwater Bulletin 118 Groundwater Basins*. Available at
<https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#boundaries>. Accessed September 2024.

_____. 2024. *California's Groundwater Live: Groundwater Levels*. Available:
<https://sgma.water.ca.gov/CalGWLIVE/#groundwater>. Accessed November 2024.

California Geological Survey (CGS). 2024. Tsunami Hazard Area Map. Available at https://maps.conservation.ca.gov/cgs/informationwarehouse/ts_evacuation/. Accessed September 2024.

California State Water Resources Control Board (SWRCB). 2022. California 2020-2022 Integrated Report Map. Available at <https://gispublic.waterboards.ca.gov/portal/apps/webappviewer/index.html?id=6cca2a3a1815465599201266373cbb7b>. Accessed September 2024.

Central Valley Regional Water Quality Control Board (Central Valley RWQCB). 2019. The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Board, Central Valley Region, Fifth Edition. Available at https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201902.pdf. Accessed September 2024.

Sacramento County. 2017. Sacramento County General Plan of 2005-2030, Conservation Element. Available at <https://planning.saccounty.gov/LandUseRegulationDocuments/Documents/General-Plan/Conservation%20Element%20Background.pdf>. Accessed September 2024.

Larry Walker Associates, Woodard & Curran, Kennedy Jenks Consultants, Inc., Stockholm Environment Institute, and HDR. 2021. South American Subbasin Groundwater Sustainability Plan. Available at <https://sasbgroundwater.org/groundwater-plan>. Accessed September 2024.

3.11 Land Use and Planning

California State Parks. 2024. Delta Meadows Classification and General Plan website. Available: <https://plandeltameadows.com/>. Accessed: October 25, 2024.

Sacramento County. 2024. General Plan Map Viewer Online Map. Available at https://generalmap.gis.saccounty.gov/JSViewer/county_portal.html#. Accessed September 2024.

_____. 2013. General Plan Land Use Diagram. Available at <https://dgs.saccounty.gov/realestate/Documents/Surplus%20Sale%20-%20Norma/8%20-%20Zoning%20Map%20-%20Full.pdf>. Accessed September 2024.

3.12 Mineral Resources

CalGEM. 2024. Well Finder. Available: <https://maps.conservation.ca.gov/doggr/wellfinder/>. Accessed: September 25, 2024.

O'Neal, M. and Gius F. W. 2018. Mineral Land Classification Map of Concrete Aggregate in the Greater Sacramento Area Production-Consumption Region. Available: https://www.conservation.ca.gov/cgs/Documents/Publications/Special-Reports/SR_245-MLC-SacramentoPCR-2018-Plate01-a11y.pdf

Sacramento County. 2017. General Plan Conservation Element. Available online: <https://planning.sacounty.gov/LandUseRegulationDocuments/Documents/General-Plan/Conservation%20Element%20-%20Amended%2009-26-17.pdf>. Accessed August 27, 2024.

3.13 Noise

Federal Transit Administration (FTA). 2018. *Transit Noise and Vibration Impact Assessment Manual*. Federal Transit Administration. U.S. Department of Transportation.

Sacramento County. 2024. *Sacramento County Code, Chapter 6.68 "Noise Control."* Available: <https://ecode360.com/44029074?highlight=noise,noises&searchId=5444483918206490#44029085> Accessed August 26, 2024.

3.14 Population and Housing

U.S. Census Bureau, 2024. Quick Facts Sacramento County, California. Available online at: <https://www.census.gov/quickfacts/fact/table/sacramentocountycalifornia/PST045223>, accessed August 28, 2024

3.15 Public Services

LAFCo Open Data. 2024. Walnut Grove Fire District. Available online: <https://lafco-sacramentocounty.opendata.arcgis.com/datasets/sacramentocounty::walnut-grove-fire-protection-district/explore?location=38.216217%2C-121.475641%2C11.43>. Accessed August 27, 2024.

Sacramento County. 2019. General Plan Public Facilities Element. Available online: <https://planning.sacounty.gov/PlansandProjectsInProgress/Documents/General%20Plan%20Amendments/Public%20Facilities%20Element%20-%20Amended%2012-17-19.pdf>. Accessed August 27, 2024

3.16 Recreation

Cosumnes River Preserve. 2024. About the Preserve. Available at <https://www.cosumnes.org/>. Accessed September 2024.

Google Maps. 2024. Chuck Tison Memorial Park Reviews. Available at https://www.google.com/maps/place/Chuck+Tison+Memorial/@38.2536308,-121.5061205,3541m/data=!3m1!1e3!4m1!1m9!3m8!1s0x809ab1bff73002f5:0x2ecfd6f124a9edbf!2sChuck+Tison+Memorial!8m2!3d38.2473765!4d-121.5096779!9m1!1b1!16s%2Fg%2F11qnv7x_dv!3m5!1s0x809ab1bff73002f5:0x2ecfd6f124a9edbf!8m2!3d38.2473765!4d-121.5096779!16s%2Fg%2F11qnv7x_dv?entry=ttu&g_ep=EgoyMDI0MDkxMC4wIKXMDSoASAFQAw%3D%3D. Accessed September 2024.

Paul Barnes Park. 2024. Home: Dr. Paul Barnes Community Park. Available at <https://paulbarnespark.wordpress.com/>. Accessed September 2024.

- Regional Parks. 2024a. Cosumnes River Preserve. Available at <https://regionalparks.saccounty.gov/Parks/OpenSpaces/Pages/CosumnesRiverPreserve.aspx>. Accessed September 2024.
- _____. 2024b. Indoor Facilities. Available at <https://regionalparks.saccounty.gov/SpecialEventsReservations/Pages/IndoorFacilities.aspx>. Accessed September 2024.
- _____. 2024c. Hogback Island Access. Available at <https://regionalparks.saccounty.gov/Parks/SacramentoRiverandDelta/Pages/HogbackIsland.aspx>. Accessed September 2024.
- Sacramento County. 2010. Sacramento County General Plan Final Environmental Impact Report (EIR) Volume I. Available at [https://planning.saccounty.gov/PlansandProjectsIn-Progress/Documents/General%20Plan%20FEIR%20\(2030\)/General%20Plan%20Update%202030%20FEIR%20Vol%20I.pdf](https://planning.saccounty.gov/PlansandProjectsIn-Progress/Documents/General%20Plan%20FEIR%20(2030)/General%20Plan%20Update%202030%20FEIR%20Vol%20I.pdf). Accessed September 2024.
- _____. 2024. Your Sacramento Area Parks – Walking Trails Query Results. Available at <https://sacramentocounty.maps.arcgis.com/apps/webappviewer/index.html?id=473d8a66b49243e1aa3732a4bdbd6936>. Accessed September 2024.
- State Parks. 2024a. Delta Meadows Park Property. Available at https://www.parks.ca.gov/?page_id=492. Accessed September 2024.
- State Parks. 2024b. Delta Meadows Plan. Available at <https://plandeltameadows.com/>. Accessed September 2024.

3.17 Transportation / Traffic

- Sacramento County. 2017. General Plan Conservation Element. Available online: <https://planning.saccounty.gov/LandUseRegulationDocuments/Documents/General-Plan/Conservation%20Element%20-%20Amended%2009-26-17.pdf>

3.18 Tribal Cultural Resources

- Levy, Richard. 1978. Eastern Miwok. In *Handbook of North American Indians*, Vol. 8, 398-413. Edited by Robert F. Heizer. Smithsonian Institution, Washington D.C.
- Springs Band of Miwok Indians 2024. Available: <https://www.shinglespringsrancheria.com/departments>. Accessed : October 9, 2024.

3.19 Utilities and Service Systems

- California Department of Resources Recycling and Recovery (CalRecycle). 2019a. SWIS Facility Site Activity Details – Kieffer Landfill (34-AA-0001). Available at <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2070?siteID=2507>. Accessed September 2024.

- _____. 2019b. SWIS Facility Site Activity Details – Recology Hay Road (48-AA-0002). Available at <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1184?siteID=3582>. Accessed September 2024.
- Recology. 2024. Hay Road Landfill. Available at <https://www.recology.com/recology-vacaville-solano/hay-road-landfill/>. Accessed September 2024.
- Sacramento County. 2010. Sacramento County General Plan Final Environmental Impact Report (EIR) Volume I. Available at [https://planning.saccounty.gov/PlansandProjectsIn-Progress/Documents/General%20Plan%20FEIR%20\(2030\)/General%20Plan%20Update%202030%20FEIR%20Vol%20I.pdf](https://planning.saccounty.gov/PlansandProjectsIn-Progress/Documents/General%20Plan%20FEIR%20(2030)/General%20Plan%20Update%202030%20FEIR%20Vol%20I.pdf). Accessed September 2024.
- _____. 2017. Sacramento County General Plan of 2005-2030, Safety Element. Available at <https://planning.saccounty.gov/LandUseRegulationDocuments/Documents/General-Plan/Safety%20Element%20Amended%2009-26-2017.pdf>. Accessed September 2024.
- _____. 2019. Sacramento County General Plan of 2005-2030, Public Facilities Element. Available at <https://planning.saccounty.gov/PlansandProjectsIn-Progress/Documents/General%20Plan%20Amendments/Public%20Facilities%20Element%20-%20Amended%2012-17-19.pdf>. Accessed September 2024.

3.20 Wildfire

California Department of Forestry and Fire Protection. 2024. *State Responsibility Area Fire Hazard Severity Zones*. Available: <https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones/fire-hazard-severity-zones-maps-2022> Accessed: August 28, 2024.

3.21 Mandatory Findings of Significance

No references cited.

This page intentionally left blank.

Chapter 5. Report Preparers

GEI Consultants, Inc.

Jeffrey Twitchell	Project Manager, Document Review
Erick Cooke	Document Review
Chrissy Burns.....	Introduction, Project Description, Air Quality, Energy, Greenhouse Gas, Noise, and Mandatory Findings of Significance
Becky Dorff	Aesthetics, Agriculture and Forestry, Hydrology and Water Quality, Land Use and Planning, Recreation, and Utilities and Service Systems
Amanda Ibara.....	Geology and Soils, Hazards and Hazardous Materials, Minerals, Population and Housing, Transportation, and Wildfire
Julie De Barros.....	Biological Resources
Devin Barry.....	Biological Resources
Jesse Martinez, RPA	Cultural and Tribal Resources (Archaeological Resources)
Madeline Bowen, RH.....	Cultural Resources (Historical Resources)
Ryan Snyder.....	Geographic Information Systems
Marguerite Myers.....	Document Production