YUBA CITY BOAT RAMP SEDIMENT REMOVAL PROJECT

Draft
Environmental Impact Report

State Clearinghouse Number 2020060424

Sutter Butte Flood Control Agency
Post Office Box M
Yuba City, CA 95992

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YUBA CITY BOAT RAMP SEDIMENT REMOVAL PROJECT

DRAFT

ENVIRONMENTAL IMPACT REPORT

December 2020

State Clearinghouse Number 2020060424

Sutter Butte Flood Control Agency
Post Office Box M
Yuba City, CA 95992

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LIST OF ACRONYMS AND ABBREVIATIONS

µg/m^3	micrograms per cubic meter
2018 AQAP	*Northern Sacramento Valley Planning Area 2018 Triennial Air Quality Attainment Plan*
AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
af	Acre-feet
AFY	Acre-feet per year
ALUC	Airport Land Use Commission
ALUP	Airport Comprehensive Land Use Plan
amsl	Above mean sea level
ANS	Aquatic Nuisance Species
ANSI	American National Standards Institute
APN	Assessor Parcel No.
APS	Auxiliary power system
AQAP	Air quality attainment plan
ARD	Aquatic Resources Delineation
ATCM	Airborne toxics control measure
BA	Biological Assessment
BAAQMD	Bay Area Air Quality Management District
Basin Plan	*Water Quality Control Plan for the Sacramento River Basin and San Joaquin River Basin*
BCC	Birds of conservation concern
bgs	Below ground surface
BIOS	Biogeographic Information and Observation System
BMPs	Best Management Practices
BO	Biological Opinion
BP	Before Present
BRA	Biological Resources Assessment
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal EPA	California Environmental Protection Agency
Cal/OSHA	California Division of Occupational Safety and Health
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Control Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	Code of Federal Regulations

CGS	California Geological Survey
CH_4	Methane
CHRIS	California Historical Resources Information System
CNDDB	California Natural Diviersity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbion Dioxide Equivalent
CRHR	California Register of Historical Resources
CRPRs	California Rare Plant Ranks
CSLC	California State Lands Commission
CTR	California Toxics Rule
CVFPB	Central Valley Flood Protection Board
CWA	Clean Water Act
cy	Cubic yards
dB	Decibel
dBA	A-weighted decibels
DOC	Department of Conservation
DOT	U.S. Department of Transportation
DPM	Diesel particulate matter
DPS	Distinct Population Segment
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EMFAC	EMission FACtor model
EO	Executive Order
EPCRA	Emergency Planning and Community Right-to-Know Act of 1986
ER-L	Effects Range - Low
ESL	Environmental Screening Level
ESU	Evolutionarily Significant Unit
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FHSZs	Fire Hazard Severity Zones
FIRM	Flood Insurance Rate Map
FPPA	Farmland Protection Policy Act
FRAQMD	Feather River Air Quality Management District
FRRFMP	Feather River Regional Flood Management Plan
ft/sec	feet per second
FTA	Federal Transit Administration
GHG	Greenhouse gas
GLO	General Land Office
GPS	Global Positioning System
GSA	Groundwater Sustainability Agency
GSAs	Groundwater Sustainability Agencies
GSP	Groundwater Sustainability Plan

GWP	Global warming potential
HCP	Habitat conservation plan
HMMH	Harris Miller, Miller & Hanson Inc.
HSC	Health and Safety Code
HUC	Hydrologic Unit Code
IES	Illuminating Engineering Society
in/sec	Inches per section
IPCC	Intergovernmental Panel on Climate Change
IRWMP	Integrated Regional Water Management Plan
IWMP	Integrated Waste Management Plan
kg	Kilogram
lbs	Pounds
LD	Levee District
L_{dn}	Day/Night Noise Level
LEA	Local Enforcement Agency
L_{eq}	Equivalent Noise Level
LESA	Land Evaluation and Site Assessment
LID	Low Impact Development
LOS	Level of Service
LRAs	Local Responsibility Areas
MBTA	Migratory Bird Treaty Act
MCLs	Maximum contaminant levels
MEP	Maximum extent practicable
mg	Milligrams
mgd	Million gallons per day
MHMP	Multi-Jurisdictional Local Hazard Mitigation Plan
MLD	Most likely descendant
MLRA	Major Land Resource Area
MMRP	Mitigation Monitoring and Reporting Program
MND	Mitigated Negative Declaration
MPO	Metropolitan Planning Organization
MRZ	Mineral Resource Zone
MS4	Municipal Stormwater
MTP	Metropolitan Transportation Plan
N_2O	Nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCIC	North Central Information Center
NEHRP	National Earthquake Hazards Reduction Program
NEIC	Northeast Information Center
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NIOSH	National Institute for Occupational Safety and Health
NIST	National Institute of Standards and Technology
NMFS	National Marine Fisheries Service
NO_2	Nitrogen dioxide
NOI	Notice of Intent
NOP	Notice of Preparation

NO_x	Nitric oxide
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSF	National Science Foundation
NSVAB	Northern Sacramento Valley Air Basin
NTR	National Toxics Rule
NYWD	North Yuba Water District
O_3	Ozone
OES	Office of Emergency Services
OHP	Office of Historic Preservation
OLWM	Ordinary low water mark
OPR	Office of Planning and Research
OS	Open Space
OSHA	Occupational Safety and Health Administration
PCBs	Polychlorinated biphenyls
PERP	Portable Equipment Registration Program
PM	Particulate matter
PM_{10}	Coarse particulate matter
$PM_{2.5}$	Fine particulate matter
ppm	Parts per million
PPV	Peak particle velocity
PRC	Public Resources Code
RCRCA	Resource Conservation and Recovery Act
Risk Reduction Plan	Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles
RMS	Root mean square
ROG	Reactive organic gases
RSL	Regional Screening Levels
RTPs	Regional Transportation Plans
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SACOG	Sacramento Area Council of Governments
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SBFCA	Sutter Butte Flood Control Agency
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SDWA	Safe Drinking Water Act
SFHAs	Special flood hazard areas
SGMA	Sustainable Groundwater Management Act
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMARA	Surface Mining and Reclamation Act
SO_2	Sulfur dioxide

SOI	Sphere of Influence
SO_x	Sulfur oxides
SRA	State Responsibility Area
SRRE	Source Reduction and Recycling Elements
SRWP	Sacramento River Watershed Program
SSC	Species of Special Concern
STC	Sound Transmission Class
Superfund Act	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
SVAQEEP	Sacramento Valley Air Quality Engineering and Enforcement Professionals
SVOCs	Semi-volatile organic compounds
SWP	State Water Project
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic air contaminants
T-BACT	Toxics best available control technology
TCPs	Traditional Cultural Properties
TCRs	Tribal Cultural Resources
TEC	Threshold Effect Concentration
THPO	Tribal Historic Preservation Officer
TMDLs	Total Maximum Daily Loads
TPH	Total petroleum hydrocarbons
UAIC	United Auburn Indian Community of the Auburn Rancheria
UCMP	University of California Museum of Paleontology's
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
VELB	Valley Elderberry Longhorn Beetle
VMT	Vehicle miles traveled
VOCs	Volatile organic compounds
WBWG	Western Bat Working Group
WDR	Waste Discharge Requirements
WEAL	Western Electro-Acoustic Laboratory, Inc.
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant
YCWA	Yuba County Water Agency

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CHAPTER 1 INTRODUCTION

This Draft Environmental Impact Report (EIR) analyzes the potential environmental effects of the Yuba City Boat Ramp Sediment Removal Project (Proposed Project or Project). The Sutter Butte Flood Control Agency (SBFCA) (lead agency) proposes to conduct maintenance dredging of the confluence of the Yuba River and Feather River, including areas adjacent to the Yuba City Boat Ramp.

1.1 Purpose and Use of the EIR

This EIR was prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] §§ 21000-21177) and the Guidelines for the Implementation of CEQA (California Administrative Code §§ 15000 et seq.). SBFCA, as CEQA Lead Agency, has the approval authority and responsibility for considering the environmental effects of the Project.

CEQA requires that the potential environmental impacts of a project be identified and that mitigation measures be recommended that may reduce significant impacts. CEQA requires the Lead Agency to consider the information contained in the EIR prior to taking any discretionary action. This EIR may also be used by other public agencies that must take discretionary actions related to the Project.

This Environmental Impact Report (EIR) is intended to provide information to SBFCA, other public agencies, and the general public regarding the potential significant direct, indirect, and cumulative environmental impacts associated with the Project. The EIR process also requires investigation and development of feasible mitigation measures to reduce significant adverse environmental effects of the Project to levels below significance. CEQA requires a Lead Agency neither approve nor implement a project unless significant environmental impacts have been reduced (CEQA Guidelines §15091), or, if a Lead Agency approves the project even though significant impacts identified in the EIR cannot be fully mitigated, the Lead Agency must state in writing the reasons for its action by adopting Findings and a Statement of Overriding Considerations.

The EIR for the Yuba City Boat Ramp Sediment Removal Project is a Project EIR. A Project EIR examines the environmental effects of a specific development project. According to the State CEQA Guidelines, a Project EIR should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of a project including planning, construction and operation (CEQA Guidelines §15161).

This EIR provides the environmental information and analysis and primary CEQA documentation necessary for SBFCA to adequately consider the effects of the proposed construction and operation of the Project. SBFCA, as lead agency, has the approval authority and responsibility for considering the environmental effects of the Project.

The following additional approvals and regulatory permits listed in Table 1-1 are anticipated to be required for implementation of the Project:

Table 1-1. Required Regulatory Permits and Approvals

Approval or Permit	Organization
Encroachment Permit	Central Valley Flood Protection Board (CVFPB)
Agreement to Utilize the Yuba City Boat Ramp Facility	Sutter County Levee District 1
Agreement to Utilize the wastewater ponds at the Marysville WWTP	City of Marysville
Construction Lease	California State Lands Commission (CSLC)
Combined Section 10/404 Permit	U.S. Army Corps of Engineers (USACE)
Section 401 Water Quality Certification	Central Valley Regional Water Quality Control Board (RWQCB))
1600 Streambed Alteration Agreement	California Department of Fish and Wildlife (CDFW)
Section 7 Consultation/Biological Opinion and Essential Fish Habitat (EFH) Consultation	National Marine Fisheries Service (NMFS) (issued to USACE)
Section 7 Consultation/Biological Opinion	U.S. Fish and Wildlife Service (USFWS, issued to USACE)
California Endangered Species Act (ESA) Incidental Take Permit	CDFW
National Pollution Discharge Elimination System (NPDES) Permit for Storm Water Discharges Associated with Construction Activities	Central Valley RWQCB
Coverage Under the Central Valley RWQCB's General Waste Discharge Requirements (WDR) for Limited Threat Discharges to Surface Water (Order R5-2016-0076-01	Central Valley RWQCB

1.2 Known Trustee and Responsible Agencies

The agencies listed in Table 1-1 would act as Responsible or Trustee Agencies under CEQA to issue a license, permit or other approval for the Project.

1.3 Environmental Impact Report Organization

The EIR is organized as follows:

Chapter 1.0 provides an introduction to the Project, the purpose of the EIR, a description of the organization of the EIR, the intended uses of the EIR, and an overview of the public review process.

Chapter 2.0 provides a summary of the EIR.

Chapter 3.0 provides the project description.

Chapter 4.0 provides the environmental analysis of the Project. This includes a description of the regulatory and environmental setting, the analysis of environmental impacts, and a discussion of mitigation measures to reduce or eliminate any significant environmental impacts, including cumulative impacts.

Chapter 5.0 addresses long-term effects of the Project, including growth-inducing impacts and significant irreversible and/or unavoidable impacts.

Chapter 6.0 provides an analysis of project alternatives.

Chapter 7.0 identifies the references used to prepare the EIR.

Chapter 8.0 provides a list of the EIR preparers.

The Notice of Preparation (NOP) and responses received during the scoping period are presented in Appendices A and B. Technical reports for some resource areas are also provided in Appendices C through G.

1.4 Environmental Review Process

1.4.1 Notice of Preparation

In accordance with the CEQA Guidelines, SBFCA, as Lead Agency, prepared an NOP for an EIR on the Project. A copy of the NOP is provided in Appendix A. The NOP was distributed by SBFCA to responsible agencies, trustee agencies, & interested persons for a 30-day review and comment period from June 19, 2020 to July 20, 2020. Letters/comments received from agencies and the public during the scoping period as well as the distribution list are provided in Appendix B. The scoping comments received described procedural steps for obtaining agency authorizations and conducting consultations for the Project.

As indicated in the NOP, this EIR analyzes in detail the environmental impacts of the Project on the following environmental resource and topic areas:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources

- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

The following topics are also addressed in this EIR:

- Cumulative impacts
- Significant and unavoidable impacts
- Significant irreversible changes in the environment
- Growth inducement
- Alternatives to the Project

1.4.2 Draft EIR

This Draft EIR is being distributed for review and comment to the same public agencies and interested groups and individuals as the NOP, in addition to any others that have requested to be on the project mailing list (Appendix H). The Draft EIR is also available for review at http://sutterbutteflood.org/resources/notices.

1.4.3 Public Notice/Public Review

A period of 45 days has been established for public review of the Draft EIR. Agencies, organizations, and individuals are invited to comment on the information presented in the Draft EIR during this period. Specifically, comments are requested on the scope and adequacy of the environmental analysis presented herein. All comments on the Draft EIR should be sent to the following SBFCA contact:

Michael Bessette, PE, Executive Director
Sutter Butte Flood Control Agency
P.O. Box M
Yuba, City CA 95992
(530) 755-9859
m.bessette@sutterbutteflood.org

1.4.4 Response to Comments/Final EIR Certification

Following the 45-day public review period, SBFCA will prepare responses to all comments and will compile these comments and responses into a Final EIR. SBFCA's Board will consider the information in the Draft and Final EIR during project review and when making a decision to approve or deny the Project. The Final EIR will need to be certified as complete by the Board prior to making a decision to approve or deny the Project.

1.4.5 Mitigation Monitoring and Reporting Program

A Mitigation Monitoring and Reporting Program (MMRP) that identifies required mitigation measures, implementation responsibility, and timing will be prepared and incorporated with the Final EIR.

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CHAPTER 2 SUMMARY

2.1 Introduction

This Environmental Impact Report (EIR) section provides a summary description of the Project, a list of associated environmental issues to be resolved, a summary of significant impacts and mitigation measures, and a summary of alternatives to the Project (pursuant to California Environmental Quality Act [CEQA] Guidelines Section 15123, Summary).

2.2 Project Location and Setting

The Project is located in a portion of un-sectioned Rancho New Helvetia Land grant lands within the "Olivehurst, California" and "Yuba City, California" 7.5-minute quadrangles (U.S. Geological Survey [USGS] 1952a, photo revised 1973 and 1952b, photo revised 1973, respectively). The approximate center of the Yuba City location is 39.13017° latitude, -121.598673° longitude within the Honcut Headwaters-Lower Feather watershed (Hydrologic Unit Code [HUC] #18020159, Natural Resources Conservation Service [NRCS], et al. 2016).

2.3 Description of Proposed Project

The Proposed Project would include the following:

- Maintenance dredging of the boat ramp/boat area and the confluence of the Feather River and the Yuba River;
- Dewatering the dredged material in the existing northernmost wastewater ponds (North Ponds) at the former Marysville Wastewater Treatment Plant (WWTP) proposed by the City of Marysville for decommissioning (see Section 3.1, *Project Background*); and
- Disposal of the dredged material.

The Project includes two phases. Phase 1 involves the planned removal of 65,600 cubic yards (cy) of dredged material within a 14-acre area as part of restoration, protection and development of river parkways in accordance with the California River Parkways Grant Program. Dredging of an additional approximately 250,000 cy within another 14-acre area immediately downstream to further restore fish passage and improve flow conveyance at the confluence of the Yuba and Feather Rivers could potentially be funded by other sources. Therefore, Phase 1 of the Project would involve removal of the originally planned 65,600 cy, and Phase 2 of the Project would involve the additional 250,000 cy if additional funding becomes available, for a total of 315,600 cy.

Dewatering and disposal of the Phase 1 dredged material is proposed within wastewater ponds that are proposed for decommissioning at the Marysville Wastewater Treatment Plant (WWTP) located immediately adjacent to the proposed dredging area. The City of Marysville intends to decommission these ponds at the same time as implementation of the proposed Project. If funding is received in time, Phase 2 dredged material would also be dewatered and disposed of in the wastewater ponds. However,

under a worst-case scenario for the Project, it is assumed that all Phase 2 dredged material would need to be dewatered in tanks located in upland areas and disposed of at Recology's Ostrom Road Landfill.

2.4 Project Alternatives

2.4.1 Alternative 1: No Project Alternative

Under the No Project Alternative, dredging of the boat ramp area or confluence of the Yuba and Feather Rivers would not occur. The sediment in these areas would continue to block safe access to the rivers from the boat ramp and continue to impede fish passage along both the Yuba and Feather Rivers.

2.4.2 Alternative 2: No Use of Marysville WWTP

This alternative would involve dewatering of the dredged material in a series of fractionation tanks or other temporary dewatering basins staged at the Yuba City Boat Ramp facility, rather than dewatering of the material at the Marysville WWTP. Dredged material would be trucked offsite for disposal at the Ostrom Road Landfill or for another beneficial reuse.

Under this alternative, all dredged material would be placed, either via the discharge pipeline or via mechanical equipment, into fractionation tanks (e.g., Rain-for-Rent Filter Boxes; see Exhibit 1, Example Filter Box) or other temporary dewatering basins staged at the Yuba City Boat Ramp facility, where water would be decanted from the dredged material. Dewatering procedures using tanks would be followed as described in Section 3, *Project Description*.

Beneficial reuse of the dewatered dredged material for nearby agriculture, nearby habitat restoration, or as fill for construction or reclamation projects in nearby areas would then be implemented on an opportunistic basis. All other dewatered material that cannot be reused would be disposed of at Recology's Ostrom Road Landfill.

As under the Proposed Project, dewatered dredged material would be hauled offsite in fractionation tanks or dump trucks to the nearest disposal location. Trucks would exit the Yuba City Boat Ramp facility onto Second Street, travel north on Second Street and either travel west on Colusa Avenue to Highway 99 or east on 5th Street to Highway 70 to be transported to the nearest disposal location. To enter and exit the Yuba City Boat Ramp facility, trucks would need to cross over the Feather River West Levee.

Each fractionation tank would be capable of holding approximately 25 cy of sediment. However, California Department of Transportation's (Caltrans') weight limit of 34,000 pounds (lbs) per tandem axle may ultimately limit the amount of material that can be transported on local roadways and highways. For the purposes of this analysis, it is assumed that only 20 cy of material can be transported per truck trip, for a total of 15,780 truck trips to dispose of 315,600 cy of dredged material under this alternative.

Under a worst-case scenario for purposes of the impact analyses in this document, it is assumed that truck trips would only occur during weekday, daytime hours (i.e., or during the hours that the Ostrom Road Landfill are open from Monday through Friday from 6:00 a.m. through 3:30 p.m., for 9.5 hours per day). Assuming a maximum of one truck every 15 minutes to dispose of 315,600 cy of dredged material would involve approximately 38 truck trips per day and a total of 415 days for disposal of dredged material.

Dredging operations would occur between June 15 and October 15 as under the Proposed Project (for a total of 122 calendar days; 87 non-holiday weekdays). Therefore, stockpiling of dewatered dredged material and disposal of dredged material past October 15 may be required under this alternative. Time to dewater the dredged material may also be a limiting factor on the construction duration. Although not anticipated, delays may also result if the Ostrom Road Landfill reaches its daily maximum threshold for solid waste disposal (at 3,000 tons per day). Implementation of this alternative, therefore, would not be completed until 2023.

As under the Proposed Project, equipment staging, material storage, temporary trailers for workers, and parking for workers would be located in the Yuba City Boat Ramp facility as well. Under this alternative the need for a large stockpile area for dewatered dredge material in the Yuba City Boat Ramp facility would be required.

2.4.3 Alternative 3: Use of Marysville WWTP for Dewatering Only but not Disposal

Under this alternative, Phase 1 dredged material would be dewatered at the Marysville WWTP evaporation/percolation ponds (or also referred to as wastewater ponds) but dredged material would be trucked offsite and disposed of either at the Ostrom Road Landfill or at another offsite location for beneficial reuse. As under the Proposed Project, Phase 2 dredged material would be dewatered in the Marysville WWTP North Ponds as well, if funding is received in time for use of the Marysville WWTP site (i.e., in 2021). The number of truck trips for this Alternative would be the same as under Alternative 2.

2.4.4 Alternative 4: Reduced Project - Dredge 14-Acre Site Only

Alternative 4, the Reduced Project Alternative, would involve completion of Phase 1 dredging or only dredging the original planned 14-acre area funded by Proposition 68 for 65,600 cy. Under Alternative 4, it is assumed that dewatering and disposal of this material could occur at the Marysville WWTP as described under the Proposed Project. Construction of this alternative is expected to be completed in one season, in 2021, but under a worst-case scenario it is assumed to potentially take two seasons to complete (in 2022).

2.5 Environmental Issues

As required by the CEQA Guidelines, this EIR addresses the following areas of potential environmental impact or controversy known to the Lead Agency (SBFCA), including those issues and concerns identified by other agencies during circulation of the Notice of Preparation (NOP) for this EIR. These environmental concerns relate to the following topics (listed in the order that they are addressed in this EIR):

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources

- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

2.6 Summary of Impacts and Mitigation Measures

For each of the environmental topics listed above, any "significant" project or cumulative impact and associated mitigation measure or measures identified in this EIR are summarized in Table ES-1 below. More detailed impact discussions are contained in Chapter 4 of this EIR. The table consists of four columns: (1) identified impacts; (2) recommended mitigation measures; (3) significance without mitigation; and (4) the level of impact significance after implementation of the mitigation measure(s).

Table ES-1. Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Without Mitigation**	**Mitigation Measure**	**Resulting Level of Significance**
NI = No Impact, LTS = Less than Significant, S = Significant, SU = Significant and Unavoidable, LLC = Less than Cumulatively Considerable, CC = Cumulatively Considerable, NA = Not applicable			
Aesthetics			
Impact 4.1-1 Implementation of the Proposed Project would have a substantial adverse effect on a scenic vista.	LTS	NA	LTS
Impact 4.1-2 Implementation of the Proposed Project would substantially damage scenic resources.	LTS	NA	LTS
Impact 4.1-3 Implementation of the Proposed Project would substantially degrade the existing visual character or quality of public views of the site or its surroundings.	LTS	NA	LTS
Impact 4.1-4 Implementation of the Proposed Project would create a new source of substantial light or glare which would adversely affect day or nighttime views of the area.	S	**AES-1: Lighting**. To the maximum extent feasible, Project lighting shall be directed and shielded to focus illumination on the desired areas only and avoid directing light into adjacent areas. *Timing/Implementation: This measure shall be printed on construction plan sets and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.* **AES-2:** Implement a Community Outreach Program. SBFCA will provide advance public notification to permanent residents located adjacent to the project regarding planned construction activities, including activities that must be performed at night or on weekends. Mail and, where feasible, emails to adjacent residents shall be sent notifying them of unavoidable nighttime or weekend construction activities each year prior to construction. Signage shall be posted at the entrance to the Yuba City Boat Launch facility, visible to the general public, recreational users of the facility, and recreational users of the bike path crossing the access road, with contact information for a Community Outreach Coordinator for receiving construction-related complaints and to assist in addressing them. *Timing/Implementation: This measure shall be implemented at all times during construction.*	LTS

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		Monitoring/Enforcement: SBFCA and Project construction lead.	
Impact 4.1-5 Result in a considerable contribution to cumulative impacts on scenic vistas.	LTS	NA	LTS
Impact 4.1-6 Result in a considerable contribution to cumulative impacts on scenic resources.			
Agriculture and Forestry Resources			
Impact 4.1-7 Result in a considerable contribution to cumulative impacts on the existing visual character or quality of public views of the site or its surroundings.	LTS	NA	LTS
Impact 4.1-8 Result in a considerable contribution to cumulative impacts associated with light or glare which would adversely affect day or nighttime views of the area.	S	Implementation of mitigation measures **AES-1** and **AES-2** would be required.	LTS
Agriculture and Forestry Resources			
Impact 4.2-1: Implementation of the Proposed Project would result in conversion of farmland to non-agricultural use.	NI	NA	NI
Impact 4.2-2: Implementation of the Proposed Project would conflict with existing zoning for agricultural use, or a Williamson Act contract.	NI	NA	NI
Impact 4.2-3: Implementation of the Proposed Project would impact forestry resources.	NI	NA	NI

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Air Quality			
Impact 4.3-1 Implementation of the Proposed Project would conflict with or obstruct implementation of applicable air quality plan.	S	Implementation of mitigation measure **AIR-1** will be required.	LTS
Impact 4.3-2 Implementation of the Proposed Project would result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment under an applicable Federal or State ambient air quality standard.	SU	**AIR-1:** During all Project implementation activities during Phase 2 of the preferred Project OR Alternative 3, all onshore diesel-fueled, off-road dewatering equipment including, but not limited to, rubber-tired dozers, graders, trenchers, cranes, and tractor/loader/backhoes shall be of a certified clean fleet, specifically California Air Resources Board (CARB) Tier 3 Certified or better, as set forth in Section 2423 of Title 13 of the California Code of Regulations (CCR), and Part 89 of Title 40 of the Code of Federal Regulations. *Timing/Implementation: This measure shall be printed on construction plan sets and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.*	SU
Impact 4.3-3 Implementation of the Proposed Project would expose sensitive receptors to substantial pollutant concentrations (i.e., carbon monoxide hot spots or TACs).	LTS	NA	LTS
Impact 4.3-4 Implementation of the Proposed Project would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	NI	NA	NI
Impact 4.3-4 Implementation of the Proposed Project would result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment under an applicable Federal or State ambient air quality standard.	SU	Implementation of mitigation measure **AIR-1** will be required.	SU

Table ES-1. Summary of Impacts and Mitigation Measures			
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Biological Resources			
Impact 4.4-1 Implementation of the Proposed Project would 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 Wildlife or U.S. Fish and Wildlife Service.	S	**BIO-1**: Erosion control measures and Best Management Practices (BMPs) shall be implemented to reduce the potential for sediment or pollutants to enter the Feather or Yuba Rivers at the Project site. Measures may include: • Erosion control measures shall be placed between Waters of the U.S., and the outer edge of the staging and dewatering areas, within an area identified with highly visible markers (e.g., construction fencing, flagging, silt barriers) prior to commencement of construction activities. Such identification and erosion control measures shall be properly maintained until construction is completed and the soils have been stabilized. • Fiber rolls used for erosion control shall be certified by the California Department of Food and Agriculture as weed free. • Seed mixtures applied for erosion control shall not contain California Invasive Plant Council designated invasive species (http://cal-ipc.org/) and shall be composed of native species appropriate for the site. • Trash generated onsite shall be promptly and properly removed from the site. • Any fueling in the upland portion of the Study Area shall use appropriate secondary containment techniques to prevent spills. • A qualified biologist shall conduct a mandatory Worker Environmental Awareness Program for all contractors, work crews, and any onsite personnel on the potential for special status species to occur on the Project site. The training shall provide an overview of habitat and characteristics of the species, the need to avoid certain areas, and the possible penalties for non-compliance. • A qualified biologist/biological monitor shall be onsite during daily construction activities to ensure compliance with the	LTS

Table ES-1. Summary of Impacts and Mitigation Measures

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		anticipated terms and conditions of the Project regulatory permits and CEQA compliance document. If appropriate, the approved biologist shall train an individual to act as the onsite construction monitor for periods when there is a low risk of effect to special status species. *Timing/Implementation: This measure shall be printed on construction plan sets and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.* PLANT-1. Preconstruction floristic surveys shall be conducted for any areas of proposed ground disturbance (i.e., grading or earth work) in the Study Area with the potential to support special status plants. The area of ground disturbance and a 25-foot buffer would be surveyed by a qualified botanist during the appropriate blooming period prior to the start of Project activity. If no special status plants are found during the preconstruction surveys, no further measures are necessary. If surveys identify any special status plants, the Applicant shall identify them with flagging and avoid them with a 25-foot no-disturbance buffer during Project activities. If this avoidance is not feasible, the Applicant shall consult with CDFW to determine whether alternative avoidance measures that are equally protective are possible. *Timing/Implementation: This measure shall be implemented prior to construction. Any avoided areas will be printed on construction plan sets and avoidance implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.* **VELB-1.** To avoid and minimize potential adverse effects to the valley elderberry longhorn beetle (VELB), the following shall be implemented: • Through the Rivers and Harbors Act Section 10 Minor Impact Letter of Permission, request the USACE initiate ESA Section 7 Consultation with USFWS, if necessary, on the project effects to ESA-listed VELB • The area surrounding avoided elderberry shrubs shall be fenced	

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		and/or flagged as close to construction limits as possible. Recognizing that the Project may require staging/and or dewatering activities within 165 feet of some shrubs, the shrubs shall be protected during construction by establishing and maintaining a high-visibility fence as far from the drip line of each elderberry shrub as feasible. • As much as feasible, all activities that could occur within 165 feet of an elderberry shrub shall be conducted outside of the flight season of VELB (March - July). • Herbicides will not be used within the drip line of any elderberry shrubs. Insecticides shall not be used within 100 feet of an elderberry shrub and shall be applied using a backpack sprayer or similar direct application method. • The potential effects of dust on VELB shall be minimized by applying water during construction activities or by presoaking work areas that will occur within 100 feet of any potential elderberry shrub habitat. *Timing/Implementation: Section 7 consultation with USFWS shall be completed prior to construction. This measure shall be printed on construction plan sets and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.* **FISH-1:** To avoid and minimize potential adverse effects to listed and special status fish species, designated critical habitat, and EFH, the following shall be implemented: • Implement dredging operations during a limited work window (likely June 15 through October 15) to avoid the most sensitive life stages of ESA-listed anadromous fish species; • Deploy measures, as practicable, to reduce sediment resuspension such as a turbidity curtain, if feasible, given the flow volume and velocity in the Study Area; • Employ a fish biologist to be onsite as needed to monitor	

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		dredging activities and check the exit end of the suction pipe and spoils (i.e., sediment and vegetation); • If/where mechanical dredging is used, attempt to exclude fish and other aquatic organisms from the area using block nets, to the extent feasible for the Study Area; • Through the Rivers and Harbors Act Section 10 Minor Impact Letter of Permission, request the USACE initiate ESA Section 7 Consultation with NMFS on the project effects to ESA-listed anadromous fish species, designated critical habitat, and EFH; and • Consult with CDFW and if necessary, secure an Incidental Take Permit 2081, pursuant to Section 2080 of the California Fish and Game Code. *Timing/Implementation: Section 7 consultation with NMFS shall be completed prior to construction. This measure shall be printed on construction plan sets and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.* **NPT-1:** Conduct a pre-construction northwestern pond turtle survey in the construction staging and dewatering areas 48 hours prior to construction activities. Any northwestern pond turtle individuals discovered in the Project work area immediately prior to or during Project activities shall be allowed to move out of the work area of their own volition. If this is not feasible, they shall be captured by a qualified wildlife biologist and relocated out of harm's way to the nearest suitable habitat at least 100 feet from the Project work area where they were found. *Timing/Implementation: Surveys shall be conducted within 48 hours prior to construction. This measure shall be printed on construction plan sets and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.* **BIRD-1:** To protect nesting birds, no Project activity shall begin from February 1 through August 31 unless the following surveys are completed	

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		by a qualified wildlife biologist. Separate surveys and avoidance requirements are listed below for all nesting birds, raptors, including bald eagle, burrowing owl, and Swainson's hawk. • All Nesting Birds - Within 14 days prior to construction (or less if recommended by CDFW), survey for nesting activity of birds within each Project work area and a 100-foot radius. If any active nests are observed, these nests shall be designated a sensitive area and protected by an avoidance buffer established in coordination with CDFW until the breeding season has ended or until a qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival. • Raptors (including bald eagle) – Within 14 days prior to construction, survey for nesting activity of birds of prey within each Project work area and a 500-foot radius. If any active nests are observed, these nests shall be designated a sensitive area and protected by an avoidance buffer established in coordination with CDFW until the breeding season has ended or until a qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival. • Burrowing owl – A qualified wildlife biologist shall survey for burrowing owl within the Project work area and a 250-foot radius of the Project work area, within 14 days prior to starting Project activities. Surveys shall be conducted at appropriate times (dawn or dusk) to maximize detection. If any active nests are observed, these nests shall be designated a sensitive area and protected by an avoidance buffer established in coordination with CDFW until the breeding season has ended or until a qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival. • Swainson's hawk – Within 14 days prior to construction, survey	

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		for nesting activity of birds of prey within each Project work area and a 0.25-mile radius. If any active nests are observed, these nests shall be designated a sensitive area and protected by an avoidance buffer established in coordination with CDFW until the breeding season has ended or until a qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival. *Timing/Implementation: Surveys shall be conducted within 14 days prior to construction. This measure shall be printed on construction plan sets and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.* **MAM-1:** Within 14 days of construction, a qualified biologist shall survey all trees proposed for removal to determine their potential to provide suitable ringtail nest sites (e.g., trees with cavities). If potential nest trees are found, an avoidance area would be fenced and/or flagged around the tree as close to construction limits as possible. *Timing/Implementation: Surveys shall be conducted within 14 days prior to construction. This measure shall be printed on construction plan sets and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.* **MAM-2:** Within 14 days of construction, a qualified biologist shall survey for all suitable roosting habitat for bats (e.g., manmade structures, trees) proposed for removal. If suitable roosting habitat is identified, a qualified biologist will conduct an evening bat emergence survey that may include acoustic monitoring to determine whether or not bats are present. If roosting bats are found, consultation with CDFW prior to initiation of construction activities may be required. If bats are not found during the preconstruction surveys, no further measures are necessary. *Timing/Implementation: Surveys shall be conducted within 14 days prior to construction. This measure shall be printed on construction plan sets and implemented at all times during construction.*	

Table ES-1. Summary of Impacts and Mitigation Measures

Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
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		Monitoring/Enforcement: SBFCA and Project construction lead.	
Impact 4.4-2 Implementation of the Proposed Project would 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.	S	**RIP-1:** The river channels shall be accessed via areas where no permanent impacts to riparian vegetation will be required. *Timing/Implementation: This measure shall be printed on construction plan sets and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.* **RIP-2:** A Streambed Alteration Agreement (SAA), pursuant to Section 1602 of the California Fish and Game Code, must be obtained for any activity that will impact the Feather and Yuba Rivers and riparian habitats. Minimization measures shall be developed during consultation with CDFW as part of the SAA agreement process to ensure protections for affected fish and wildlife resources. *Timing/Implementation: The SAA from CDFW shall be obtained prior to construction. This measure shall be printed on construction plan sets and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.* In addition, implementation of mitigation measure **BIO-1** will be required.	LTS
Impact 4.4-3: Implementation of the Proposed Project would 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.	S	**WTR-1:** To avoid or minimize anticipated short-term adverse effects to Waters of the U.S., the following shall be implemented: • If backwater from dewatered dredged spoils has potential to discharge to wetlands or Waters of the U.S. then a Nationwide Permit 16 (Backwater) under Section 404 of the federal CWA must be obtained from USACE. The impacts from such actions are expected to be temporary and solely associated with the dewatering activities. • Authorization to dredge the Feather and Yuba Rivers under Section 10 of the Rivers and Harbor Act must be obtained from the USACE. To facilitate such authorization, an application for a Minor Impact Letter of Permission for the Project shall be	LTS

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		prepared and submitted to USACE. • A Water Quality Certification or waiver pursuant to Section 401 of the CWA, as issued by RWQCB, shall be obtained for the Section 10 and any Section 404 permit actions. • A Waste Discharge Requirement for dredge and fill in Waters of the State under the Porter-Cologne Water Quality Control Act as issued by RWQCB shall be obtained for impacts to Waters of the State. *Timing/Implementation: Permit authorizations from the USACE and RWQCB shall be obtained prior to construction. This measure shall be printed on construction plan sets and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.* In addition, implementation of mitigation measures **BIO-1**, **FISH-1**, and **RIP-2** will be required.	
Impact 4.4-4 Implementation of the Proposed Project would 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.	S	Implementation of mitigation measures **BIO-1**, **FISH-1**, and **RIP-1** will be required.	LTS
Impact 4.4-5 Implementation of the Proposed Project would conflict with any local policies or Ordinances protecting biological resources, such as a tree preservation policy or Ordinance.	LTS	NA	LTS
Impact 4.4-6 Implementation of the Proposed Project would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.	NI	NA	NI

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Impact 4.4-7 Result in a considerable contribution to cumulative impacts on biological resources.	S	Implementation of mitigation measures **BIO-1**, **PLANT-1**, **VELB-1**, **FISH-1**, **NPT-1**, **BIRD-1**, **MAM-1**, **MAM-2**, **RIP-1**, **RIP-2**, and **WTR-1** will be required	LTS
Cultural Resources			
Impact 4.5-1 Implementation of the Proposed Project would cause a substantial adverse change in the significance of a historic resource pursuant to CEQA Guidelines section 15064.5.	S	**CUL-1**: Archaeological Monitoring • All terrestrial ground-disturbing activity associated with Project construction shall be monitored by a qualified professional archaeologist that meets or works under the direct supervision of someone who meets the Secretary of the Interior's Professional Qualifications Standards for Archaeology. • The archaeological monitor shall provide a pre-work orientation session to all construction personnel. This includes instructing the Project superintendent and key members of all major excavation, trenching, and grading operations for Project construction to be alert for the possibility of destruction of buried cultural resource materials. The training shall instruct all personnel to recognize signs of historic and prehistoric use, and to report any such finds (or suspected finds) to the archaeological monitor immediately, so damage to such resources may be prevented. • Archaeological monitoring shall not occur for equipment set-up or tear-down that does not disturb the ground surface more than six inches in depth; hydro seeding; paving; placement of imported fill/gravel/rock; restoration; or backfilling of previously excavated areas. Excavated sediment from the river channel, which was redeposited from upstream by the 2017 Oroville Dam incident, will not be subjected to screening; however, any observed cultural materials will be collected and treated in accordance with mitigation measures **CUL-2** and **CUL-3**. • At the conclusion of monitoring activities, the Principal	LTS

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		Investigator shall submit to the USACE and SBFCA a brief Summary Monitoring Report for the Project, which incorporates all previously unknown discoveries and presents the methods and results of all monitoring activities. The draft report shall be submitted to the USACE and SBFCA within 12 months of the completion of all Project activities. • All site records, reports, photographs, and other documentation generated for this Project using public funding shall be maintained on file with the CHRIS and made available to professionals meeting the standards of the OHP. Information derived from these documents may be further disseminated at professional archaeological conferences or meetings, or to the interested public (with confidentiality maintained). *Timing/Implementation: This measure shall be printed on construction plan sets and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.* **CUL-2**: Post-Review Discoveries. The monitoring archaeologist shall be responsible for taking into account any tribal recommendations when making the following decisions. • If the monitoring archaeologist determines that the find is not a cultural resource (such as water-worn cobbles or accumulations of natural materials), then no additional action is necessary. Should tribal representatives desire to take possession of those materials, they may do so as long as the possession is documented by the archaeological monitor and as long as removal has been approved in writing by the property owner; however, taking possession does not obligate SBFCA or the USACE to provide fiduciary support for storing, processing, or reburying materials that are not cultural resources. Until a determination is made by the monitoring archaeologist about whether or not the find is subject to further consideration under CEQA and Section 106, tribal representatives shall not remove	

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		or take possession of materials or objects observed. • If the find is determined by the monitoring archaeologist to be redeposited material that lacks primary context, is discovered only in the excavated soils, spoil piles, or stockpiles, or is otherwise not in its original context or place of deposition and does not contain human remains, then this discovery is not potentially eligible for the NRHP or CRHR. The archaeological monitor will assign a temporary field number, take a photograph, record its location with a Global Positioning System receiver, and describe the constituents in field notes. If the redeposited find is associated with European or non-Native American culture, the find may be left in place or discarded in order to not interfere with Project activities. If the find is associated with Native American culture, following consultation with the lead agencies, should tribal representatives desire to take possession of those materials or act in any manner consistent with the tribal cultural resources treatment plan, they may do so as long as the possession is documented by the archaeological monitor and as long as permission has been granted in writing by the property owner. However, taking possession does not obligate SBFCA or the USACE to provide fiduciary support for storing, processing, or reburying materials that are not eligible for the NRHP or CRHR. If the find was made in spoil piles and stockpiles, the material may be reused by the Project and returned to the project site and will not be subject to screening; however, tribal representatives may take possession of any items found in spoils as long as doing so does not interfere with the Project activities. • If a tribal representative disagrees with the determination by the monitoring archaeologist that a discovery is either not a cultural resource or represents a redeposit, then no material collection may occur by any party, and the Tribal Historic Preservation Officer (THPO) of the dissenting tribe shall notify the USACE	

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		and SBFCA within 48 hours of discovery. All timelines specified in 36 CFR 800.13(b) shall be applied in the event of an archaeological discovery. The USACE will have 48 hours to review information submitted by the THPO and communicate its decision to the THPO and SHPO, in accordance with 36 CFR 800.13(b). If the contractor denies the request to stop work at that location during the appeal process (see above), and if the USACE determines that the find does represent an historic property, then the USACE and SBFCA will take into consideration the post-discovery impacts to the resource when determining the scope of the effort required to resolve any adverse effect. • If the find is determined by the monitoring archaeologist to be in original context (in original place of deposition) and does not contain human remains, and that it constitutes a resource that could not have been discovered prior to construction, then the USACE and SBFCA shall consult on appropriate treatment, in consultation with tribal representatives, pursuant to 36 CFR §800.13(b) and CEQA, respectively. *Timing/Implementation: This measure shall be printed on construction plan sets and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.* **CUL-3:** Protocols for Discovery of Human Remains. If it is determined that human remains are found, or remains that are potentially human, then the treatment shall conform to the requirements of State law under California Health and Safety Code Section 7050.5 and PRC Section 5097.98 to the greatest extent that they apply to the USACE. The procedures in the human remains treatment plan and contractor specifications shall be followed. For the purposes of this Project, the definitions of remains subject to State law (Section 5097.98) shall apply. This definition states: "(d)(1) Human remains of a Native American may be an inhumation or cremation, and in	

Table ES-1. Summary of Impacts and Mitigation Measures

Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
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		any state of decomposition or skeletal completeness. (2) Any items associated with the human remains that are placed or buried with the Native American human remains are to be treated in the same manner as the remains, but do not by themselves constitute human remains." *Timing/Implementation: This measure shall be printed on construction plan sets and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.*	
Impact 4.5-2 Implementation of the Proposed Project would cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines section 15064.5.	S	Implementation of mitigation measures **CUL-1**, **CUL-2**, and **CUL-3**, will be required.	LTS
Impact 4.5-3 Implementation of the Proposed Project would disturb any human remains, including those interred outsides of formal cemeteries.	S	Implementation of mitigation measure **CUL-3** would be required.	LTS
Impact 4.5-5 Result in a considerable contribution to cumulative impacts on cultural resources.	S	Implementation of mitigation measures **CUL-1**, **CUL-2**, and **CUL-3** will be required.	LTS
Energy			
Impact 4.6-1 Implementation of the Proposed Project would result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. Impact Determination: *less than significant*	LTS	NA	LTS
Impact 4.6-2 Implementation of the Proposed Project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	LTS	NA	LTS
Impact 4.6-3 Result in a considerable contribution to cumulative impacts on energy consumption.	LTS	NA	LTS

Table ES-1. Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Without Mitigation**	**Mitigation Measure**	**Resulting Level of Significance**
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Geology and Soils			
Impact 4.7-1 Implementation of the Proposed Project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides.	NI	NA	NI
Impact 4.7-2 Implementation of the Proposed Project would result in substantial soil erosion or the loss of topsoil.	LTS	NA	LTS
Impact 4.7-3 Implementation of the Proposed Project would 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 landsliding, lateral spreading, subsidence, liquefaction, or collapse.	NI	NA	NI
Impact 4.7-4 Implementation of the Proposed Project would be located on expansive soil, as defined by Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property.	NI	NA	NI
Impact 4.7-5 Implementation of the Proposed Project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.	NI	NA	NI
Impact 4.7-6 Implementation of the Proposed Project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature.	S	**GEO-1**: If paleontological or other geologically sensitive resources are identified during any phase of Project development, the construction manager shall cease operation at the site of the discovery and immediately notify SBFCA. SBFCA shall retain a qualified paleontologist to provide an evaluation of the find and to prescribe mitigation measures to reduce impacts to a less-than-significant level. In considering any suggested mitigation proposed by the consulting paleontologist, the	LTS

Table ES-1. Summary of Impacts and Mitigation Measures

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		SBFCA shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, Project design, costs, land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the Project site while mitigation for paleontological resources is carried out. *Timing/Implementation: During dredging operations.* *Monitoring/Enforcement: SBFCA and the Project construction lead.*	
Impact 4.7-7 Result in a considerable contribution to cumulative impacts on geology and soils.	S	Implementation of mitigation measure **GEO-1** will be required.	LTS
Greenhouse Gas Emissions			
Impact 4.8-1 Implementation of the Proposed Project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	LTS	NA	LTS
Impact 4.8-2 Implementation of the Proposed Project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.	NI	NA	NI
Impact 4.8-3 Result in a considerable contribution to cumulative impacts associated with greenhouse gas emissions.	LTS	NA	LTS
Hazards and Hazardous Materials			
Impact 4.9-1 Implementation of the Proposed Project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	S	**HAZ-1**: Vehicles shall be moved away from the Yuba and Feather Rivers prior to refueling and lubrication, as well as repairs if feasible. Staging and storage areas for equipment, materials, fuels, lubricants and solvents, shall be located well away from the top of bank and riparian areas.	LTS

Table ES-1. Summary of Impacts and Mitigation Measures

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		Stationary equipment such as motors, pumps, generators, compressors and welders, located within or adjacent to Waters of the State shall be positioned over drip-pans. Debris, rubbish, oil, gasoline or diesel fuel, or other petroleum products, or any other substances which could be hazardous to aquatic life resulting from Project activities shall be prevented from contaminating the soil and/or entering Waters of the State. Absorbent materials designated for spill containment shall be used for all activities performed in or within 50 feet of a watercourse that involve use of hazardous materials to be used for spill response and cleanup in the event of an accidental spill. *Timing/Implementation: This measure shall be printed on construction plan sets and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.*	
Impact 4.9-2 Implementation of the Proposed Project would 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.	S	**HAZ-2:** All vessels shall contain sufficient absorbent material onboard for a spill sufficient to contain the maximum fuel capacity and oil of the vessel. *Timing/Implementation: This measure shall be printed on construction plan sets and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead*	LTS
Impact 4.9-3 Implementation of the Proposed Project would 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, create a significant hazard to the public or the environment.	NI	NA	NI
Impact 4.9-4 Implementation of the Proposed Project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	NI	NA	NI

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Impact 4.9-5 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, implementation of the Project would result in a safety hazard or excessive noise for people residing or working in or outside the Planning Area.	LTS	NA	LTS
Impact 4.9-4 Result in a considerable contribution to cumulative impacts associated with hazards and hazardous materials.	LTS	NA	LTS
Hydrology and Water Quality			
Impact 4.10-1 Implementation of the Proposed Project would violate water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality.	S	**HYD-1:** A Water Quality Control Plan shall be prepared by SBFCA and approved by the RWQCB prior to construction that will require continuous water quality monitoring during dredging operations to ensure protection of water quality objectives in the Feather and Yuba Rivers. The Water Quality Monitoring Plan shall also stipulate the sampling, monitoring, and reporting requirements for discharge of decanted water resulting from dewatering dredged materials in tanks or aboveground basins in compliance with the RWQCB's WDR for Limited Threat Discharges to Surface Waters (Order No. R5-2016-0076-01) and the Section 401 Water Quality Certification/WDR issued for the Project. *Timing/Implementation: This measure shall be printed on construction plan sets and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.* **HYD-2**: The contractor shall prepare a Stormwater Pollution Prevention Plan (SWPPP) and shall submit a Notice of Intent (NOI) for coverage under the General NPDES Permit for Stormwater Discharges Associated with Construction Activities. *Timing/Implementation: This measure shall be printed on construction plan sets and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.*	LTS

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Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
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Impact 4.10-2 Implementation of the Proposed Project would substantially alter the existing drainage pattern of the Project area or vicinity, including through the alteration of the course of a stream or river or through the addition of impervious surfaces.	LTS	NA	LTS
Impact 4.10-3 Implementation of the Proposed Project would risk release of pollutants in flood hazard, tsunami, or seiche zones, due to project inundation.	S	Implementation of mitigation measures **HYD-1** and **HYD-2** will be required	LTS
Impact 4.10-4 Result in a considerable contribution to cumulative impacts on hydrology and water quality.	LTS	NA	LTS
Land Use and Planning			
Impact 4.11-1 Implementation of the Proposed Project would physically divide an established community.	NI	NA	NI
Impact 4.11-2 Implementation of the Proposed Project would 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.	S	Implementation of all mitigation measures for other issue areas would be required.	LTS
Impact 4.11-4 Result in a considerable contribution to cumulative impacts on land use and planning.	S	Implementation of all mitigation measures for other issue areas would be required.	LTS
Mineral Resources			
Impact 4.12-1 Implementation of the Proposed Project would 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.	NI	NA	NI

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Impact 4.12-2 Implementation of the Proposed Project would 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.	NI	NA	NI
Noise			
Impact 4.13-1 Implementation of the Proposed Project would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of the standards established in in the local general plan or noise ordinance, or applicable standards of other agencies.	LTS	NA	LTS
Impact 4.13-2 Implementation of the Proposed Project would generate excessive groundborne vibration or groundborne noise levels.	LTS	NA	LTS
Impact 4.13-3 Implementation of the Proposed Project would 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, expose people residing or working in the project area to excessive noise levels.	LTS	NA	LTS
Impact 4.13-4 Result in a considerable contribution to cumulative noise and vibration impacts.	LTS	NA	LTS
Population and Housing			
Impact 4.14-1 Implementation of the Proposed Project would induce substantial unplanned population growth either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure).	LTS	NA	LTS

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Impact 4.14-2 Implementation of the Proposed Project would displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.	NI	NA	NI
Impact 4.14-3 Result in a considerable contribution to cumulative impacts on population and housing.	LTS	NA	LTS
Public Services			
Impact 4.14-1 Implementation of the Proposed Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency medical services.	LTS	NA	LTS
Impact 4.14-2 Implementation of the Proposed Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection.	LTS	NA	LTS
Impact 4.14-3 Implementation of the Proposed Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools.	LTS	NA	LTS

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Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
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Impact 4.14-4 Implementation of the Proposed Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for libraries.	LTS	NA	LTS
Impact 4.15-5 Result in a considerable contribution to cumulative impacts on fire protection and emergency medical services, police protection, schools, or libraries.	LTS	NA	LTS
Recreation			
Impact 4.16-1 Implementation of the Proposed Project would 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.	S	**REC-1:** Notification and Coordination with Recreational Users. Notification and coordination with recreational users of the Yuba City Boat Ramp facility and in-water users of the Yuba and Feather Rivers shall be implemented. Temporary signage, and exclusion fencing or access barriers, where appropriate, shall be installed at the entrance to the Boat Ramp facility to prevent members of the public from entering the construction site. Prior to construction, public outreach would be conducted through mailings, posting signs, and coordination with interested groups to provide information regarding changes to recreation use and access during implementation of the project. In addition, buoys and temporary fencing along the river banks shall be placed to demarcate in-water work areas and a 100-foot safety zone to prevent boaters and recreationists on the banks from entering the dredging area and approaching construction equipment. *Timing/Implementation: This measure shall be implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.*	LTS

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Impact 4.16-2 Implementation of the Proposed Project would include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.	NI	NA	NI
Impact 4.16-3 Result in a considerable contribution to cumulative impacts on recreation.	NI	NA	NI
Transportation			
Impact 4.17-1 Implementation of the Proposed Project would conflict with an applicable program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities.	S	**TRAF-1:** Construction Traffic Management Plan. A Construction Traffic Management Plan shall be prepared and implemented by the construction contractor to manage and plan for any lane closures or detours for roadways or bicycle facilities, and ingress and egress of truck traffic and deliveries of equipment and supplies at the Yuba City Boat Ramp facility and Marysville Wastewater Treatment Plant (WWTP). For the Class I bike paths crossing the access roads into both the Yuba City Boat Ramp facility and the Marysville WWTP facility, alternate routes and detours shall be provided and signage placed around the construction areas to identify the closed areas and alternate routes. Where construction traffic would cross these routes, flaggers shall be used during egress and ingress of delivery trucks and trucks hauling dredged material. The Construction Traffic Management Plan shall include proposed times and days of deliveries and hauling of dredged material to avoid peak hours to the maximum extent feasible. *Timing/Implementation: This measure shall be printed on construction plan sets and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.*	LTS
Impact 4.17-2 Implementation of the Proposed Project would result in a significant increase in vehicle miles traveled (VMT).	LTS	NA	LTS

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Impact 4.17-3 Implementation of the Proposed Project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	S	Implementation of mitigation measure **TRAF-1** will be required.	LTS
Impact 4.17-4 Implementation of the Proposed Project would result in inadequate emergency access.	S	**TRAF-2:** All construction activities and truck traffic on area roadways shall cease during an event requiring emergency evacuations in the City of Yuba City or City of Marysville. *Timing/Implementation: This measure shall be printed on plans and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.*	LTS
Impact 4.17-5 Result in a considerable contribution to cumulative impacts on transportation.	S	Implementation of mitigation measures **TRAF-1** and **TRAF-2** will be required.	LTS
Tribal Cultural Resources			
Impact 4.18-1 Implementation of the Proposed Project would cause a substantial adverse change in the significance of a Tribal Cultural Resource.	S	**TCR-1:** Tribal Monitoring. All terrestrial ground disturbing activity should be monitored by a qualified tribal monitor representing a consulting tribe. The monitor must be given a minimum of 7 days' notice of the opportunity to be present during these activities and to coordinate closely with the archaeological monitor, to observe work activities, and assist in ensuring that sensitive tribal resources are not impacted. The monitor must be given a reasonable opportunity to inspect soil and other material as work proceeds to assist in determining if resources significant to the tribes are present. If potential tribal resources are discovered, a reasonable work pause or redirection of work by the contractor may be requested. If the tribe cannot recommend a monitor or if the tribal monitor does not report at the scheduled time, then all work will continue as long as the specified notice was provided. Tribal monitoring will not occur for equipment set-up or tear-down that does not disturb the ground surface more than six inches in depth; hydroseeding; paving; placement of imported fill/gravel/rock;	LTS

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		restoration; or backfilling of previously excavated areas. Excavated sediment from the river channel, which was redeposited from upstream by the 2017 Oroville Dam incident, will not be subjected to screening. However, any potential TCRs observed in any location will be subject to the decision process in **CUL-2** and subsequent consultation between the monitoring tribe and the lead agencies to evaluate and, if necessary, treat the discovery to the satisfaction of the lead agencies. If the discovery includes human remains, then the procedures in **CUL-3** shall apply. *Timing/Implementation: This measure shall be printed on construction plan sets and implemented at all times during construction.* *Monitoring/Enforcement: SBFCA and Project construction lead.*	
Impact 4.18-2 Result in a considerable contribution to cumulative impacts on TCRs.	S	Implementation of mitigation measure **TCR-1** will be required.	LTS
Utilities and Service Systems			
Impact 4.19-1 Implementation of the Proposed Project would 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 would cause significant environmental effects.	NI	NA	NI
Impact 4.19-2 Implementation of the Proposed Project would not have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.	LTS	NA	LTS
Impact 4.19-3 Implementation of the Proposed Project would result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve	LTS	NA	LTS

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the project's projected demand in addition to the provider's existing commitments.			
Impact 4.19-4 Implementation of the Proposed Project would 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.	LTS	NA	LTS
Impact 4.19-5 Implementation of the Proposed Project would fail to comply with Federal, State, and local management and reduction statutes and regulations related to solid waste.	LTS	NA	LTS
Impact 4.19-6 Implementation of the Proposed Project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	LTS	NA	LTS
Impact 4.19-7 Implementation of the Proposed Project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	LTS	NA	LTS
Impact 4.19-8 Result in a considerable contribution to cumulative impacts on water and wastewater services.	LTS	NA	LTS
Impact 4.19-9 Result in a considerable contribution to cumulative impacts on solid waste generation.	LTS	NA	LTS
Impact 4.19-10 Result in a considerable contribution to cumulative impacts on groundwater supply.	LTS	NA	LTS

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Wildfire			
Impact 4.20-1 Implementation of the Proposed Project would impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.	LTS	NA	LTS
Impact 4.20-2 Implementation of the Proposed Project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	LTS	NA	LTS
Impact 4.20-3 Implementation of the Proposed Project would expose project occupants to pollutant concentrations from a wildfire or exacerbate wildfire risks and the uncontrolled spread of a wildfire due to slope, prevailing winds, and other factors.	LTS	NA	LTS
Impact 4.20-4 Implementation of the Proposed Project would 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.	NI	NA	NI
Impact 4.20-5 Implementation of the Proposed Project would 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.	LTS	NA	LTS
Impact 4.20-6 Result in a considerable contribution to cumulative impacts on wildfire management.	LTS	NA	LTS

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CHAPTER 3 PROJECT DESCRIPTION

This Environmental Impact Report (EIR) analyzes the potential environmental effects of the Yuba City Boat Ramp Sediment Removal Project (Proposed Project or Project). The Sutter Butte Flood Control Agency (SBFCA) (lead agency) proposes to conduct maintenance dredging of the confluence of the Yuba River and Feather River, including the Yuba City Boat Ramp (Figures 3-1 and 3-2). The Proposed Project would include the following:

- Maintenance dredging of the boat ramp/boat area and the confluence of the Feather River and the Yuba River;
- Dewatering the dredged material in the existing northernmost wastewater ponds (North Ponds) at the former Marysville Wastewater Treatment Plant (WWTP) proposed by the City of Marysville for decommissioning (see Section 3.1, *Project Background* below); and
- Disposal of the dredged material.

The Project involves two phases. Phase 1 involves the planned removal of 65,600 cubic yards (cy) of dredged material within a 14-acre area as part of restoration, protection and development of river parkways in accordance with the California River Parkways Grant Program. Dredging of an additional approximately 250,000 cy within another 14-acre area immediately downstream to further restore fish passage and improve flow conveyance at the confluence of the Yuba and Feather Rivers could potentially be funded by other sources. Therefore, Phase 1 of the Project would involve removal of the originally planned 65,600 cy, and Phase 2 of the Project would involve the additional 250,000 cy if additional funding becomes available, for a total of 315,600 cy. Appendix I of this EIR contains 65 percent design drawings for Phase 1 of the Project.

3.1 Background

Sediment buildup in portions of the Feather River, exacerbated by the Oroville Dam Spillway incident of 2017, has created dangerous conditions for recreational users, made some boat launch facilities nearly unusable, and has hampered public safety as it has affected emergency vessel launching capabilities. The Proposed Project will improve access to the Feather River and Yuba River by removing sediment at and near the Yuba City Boat Ramp facility, and will improve flow conveyance at the confluence of the Feather and Yuba Rivers. The Project has received funding from the California Natural Resource Agency through Proposition 68 to remove sediment for safety purposes, to restore recreation access to the Feather River, and to restore fish passage at the confluence of the Feather and Yuba rivers. Restoring river access and fish passage conditions at the boat ramp will also have regional economic benefits, as guided and private fishing trips (heavily curtailed by river and launch conditions) bring commerce to local restaurants, hotels, and other businesses.

Disposal of the dredged material is proposed within wastewater ponds that are proposed for decommissioning at the Marysville WWTP located immediately adjacent to the proposed dredging area. The City of Marysville intends to decommission these ponds at the same time as implementation of the Proposed Project.

3.2 Project Location and Setting

3.2.1 Project Location

The Project is located in a portion of un-sectioned Rancho New Helvetia Land grant lands within the "Olivehurst, California" and "Yuba City, California" 7.5-minute quadrangles (U.S. Geological Survey [USGS] 1952a, photo revised 1973 and 1952b, photo revised 1973, respectively). The approximate center of the Yuba City location is 39.13017° latitude, -121.598673° longitude within the Honcut Headwaters-Lower Feather watershed (Hydrologic Unit Code [HUC] #18020159, Natural Resources Conservation Service [NRCS], USGS, and U.S. Environmental Protection Agency [USEPA] 2016) (see Figure 3-1).

3.2.2 Environmental Setting

The Project area includes the confluence of the Feather and Yuba rivers and the Yuba City Boat Ramp facility comprising Assessor Parcel No. 52-570-006 and the surrounding lands on the west bank of the Feather River. The Project area includes the northernmost wastewater ponds of the Marysville WWTP owned and operated by the City of Marysville (Figure 3-2). The Yuba City Boat Ramp facility is within the incorporated city of Yuba City but owned by Sutter County Levee District 1 and operated by Sutter County General Services. The developed portions of the boat ramp facility include a paved roadway, parking areas, the boat launch ramp, and the Feather River RV Park. The undeveloped areas around the boat launch facility include a relatively narrow corridor of riparian woodland habitat, ruderal weedy roadside habitats, and unimproved areas of compacted dirt that are used for overflow parking and/or fishing access.

The Marysville WWTP wastewater ponds comprise several basins with berms, dirt access roads between the basins, and narrow corridors of riparian woodland habitat along the banks of the Feather and Yuba Rivers as well as ruderal weedy roadside habitats. Access to the wastewater ponds is via Biz Johnson Drive in the City of Marysville.

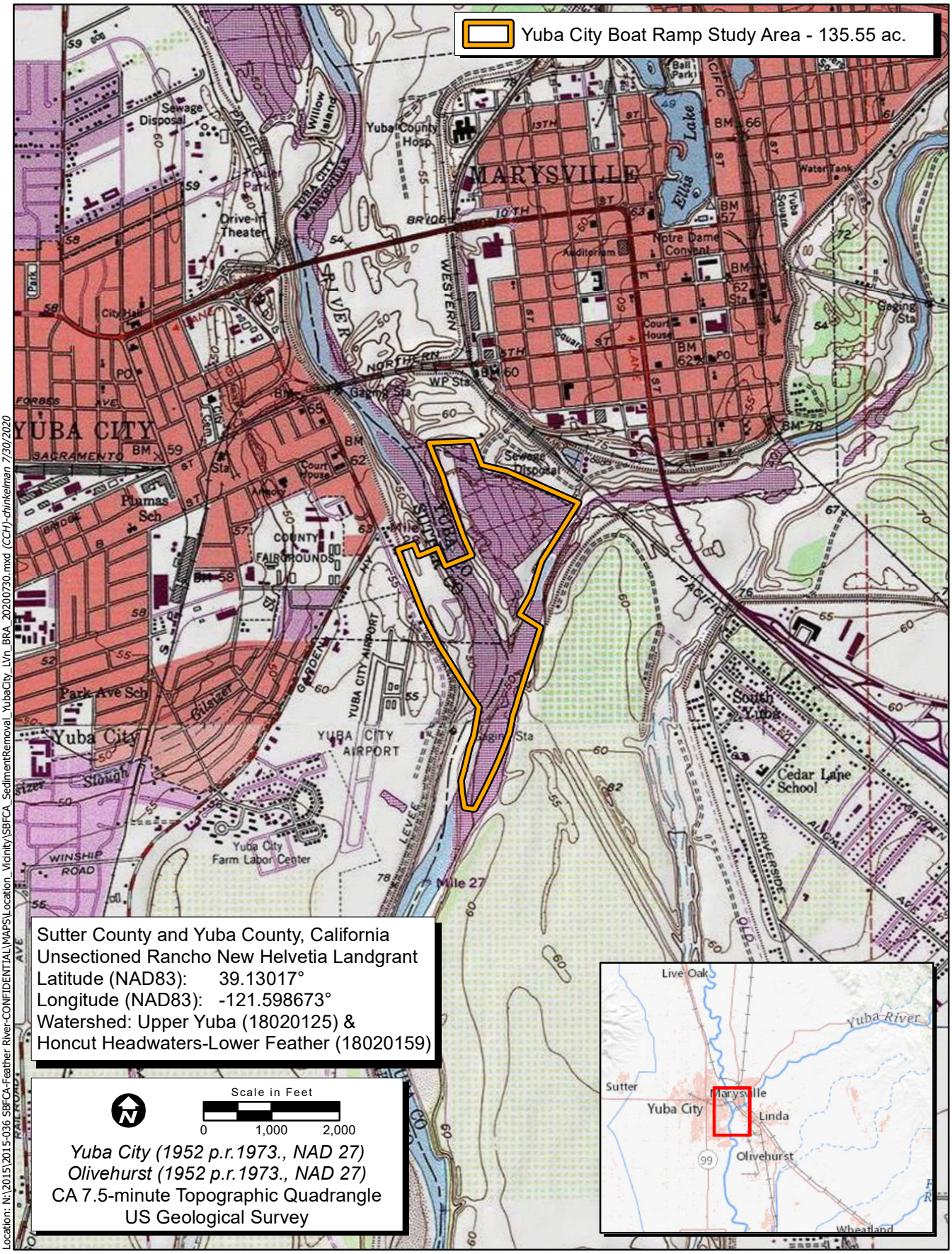
Access to and from the Yuba City Boat Ramp Facility is from one private drive owned by Sutter County Levee District 1 from Second Street. This private drive crosses over the Feather River West Levee.

3.2.3 Surrounding Land Uses

The west side of the Feather River in the project vicinity is within unincorporated areas of Sutter County as well as areas within the incorporated Yuba City. The east side of the Feather River is within the incorporated City of Marysville and unincorporated areas within Yuba County. Surrounding land uses for the Project include the following (also see Figure 3-2):

3.2.3.1 North

Single-family residences (Low Density Residential) (Yuba City)



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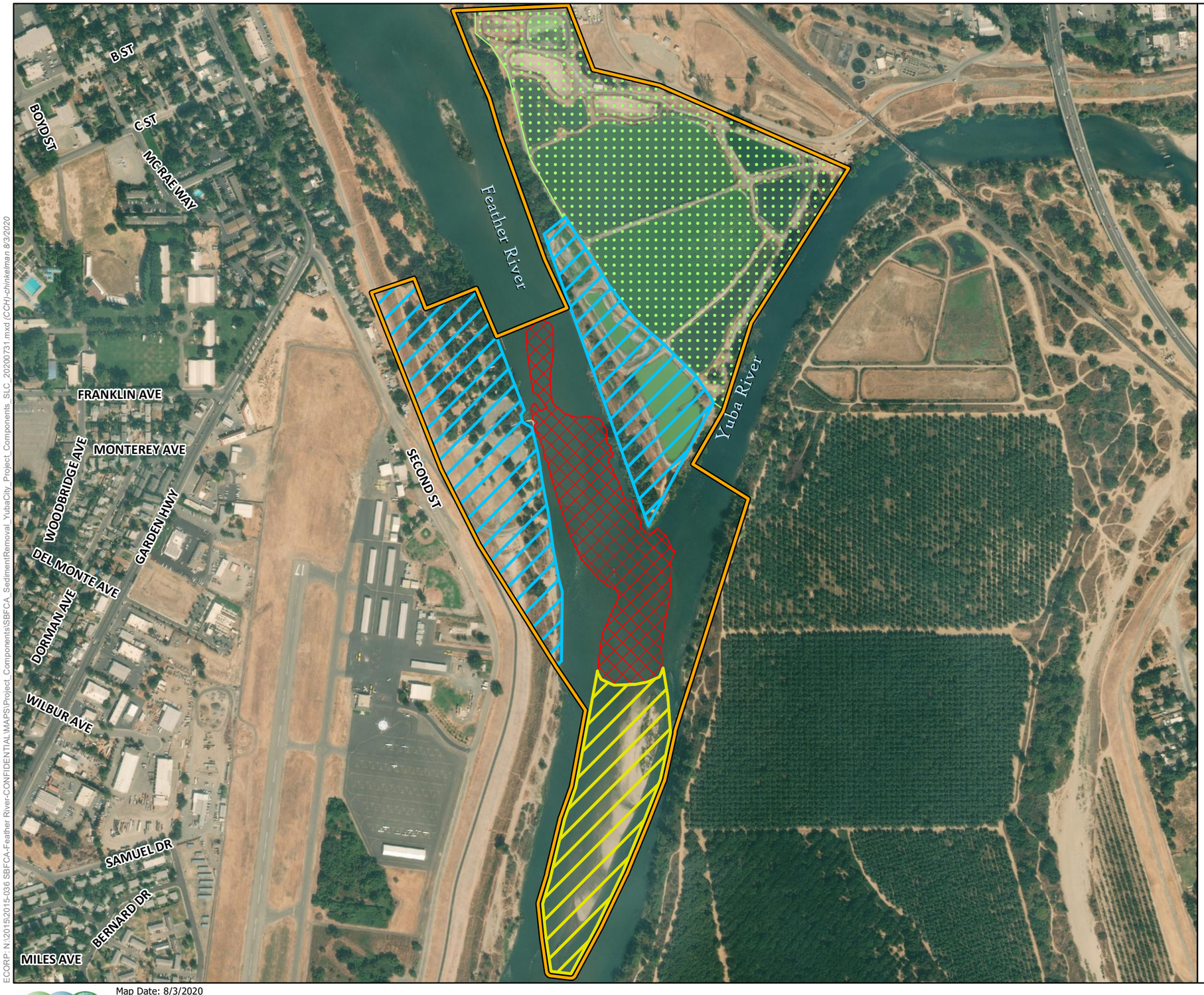
Sources: ESRI, USGS, Peterson Brustad

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Figure 3-1. Project Location and Vicinity

2015-036.10 Yuba City Boat Ramp Sediment Removal Project

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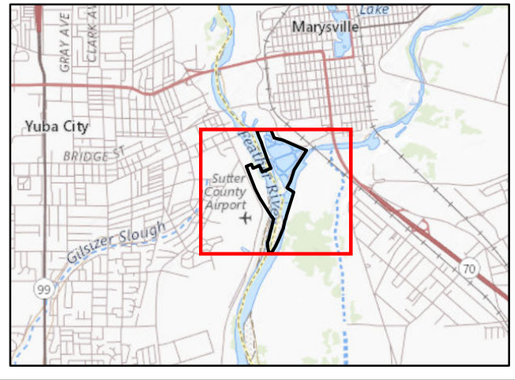
Map Features

- Yuba City Boat Ramp Study Area - 135.55 ac.

Project Components

- Dredging Area (Phase 1)
- Future Dredging Area (Phase 2)
- Potential Disposal Location
- Potential Staging/Access/Dewatering Areas

Sources: ESRI, USGS, Maxar (2018), Peterson Brustad



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Map Date: 8/3/2020

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Scale in Feet
0 560

Figure 3-2. Project Area

2015-036.10 Yuba City Boat Ramp Sediment Removal Project

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3.2.3.2 East

Feather River, the Marysville WWTP wastewater ponds (Public), and the incorporated City of Marysville (on the east side of the Feather River) (City of Marysville)

3.2.3.3 South

Open Space (Public) (Sutter County)

3.2.3.4 West

Sutter County Airport (Public) (Sutter County)

3.3 Project Objectives

The objectives of the Proposed Project include the following:

1. Remove excess sediment buildup in portions of the Feather River that were exacerbated by the Oroville Dam Spillway incident of 2017;
2. Address dangerous conditions at the confluence of the Feather and Yuba Rivers for recreational users and emergency vessels due to sediment buildup;
3. Restore and maintain access to the Feather River from the Yuba City Boat Ramp facility for emergency vessel launching capabilities and recreational users; and
4. Restore and maintain fish passage in both the Feather River and Yuba River at their confluence.

3.4 Project Characteristics

The following details of the Proposed Project are provided below:

- Dredged material characteristics;
- Dredging operations;
- Dewatering operations;
- Dredged material disposal operations;
- Construction schedule; and
- Construction equipment and staging.

3.4.1 Dredged Material Characteristics

3.4.1.1 Sediment Sampling of Dredged Material

Preliminary sediment sampling and analysis of the area proposed for dredging indicate that the dredged material will qualify as inert waste material and would not be considered hazardous pursuant to Title 22 of the California Code of Regulations (CCR) (Blackburn 2020).

In late April 2020, three sediment grab samples at the surface (within the approximate top 12-inches) were collected from the proposed dredge area and analyzed for total petroleum hydrocarbons (TPH) (Method 8015), semi-volatile organic compounds (SVOCs) (Method 8270), organochlorine pesticides (Method 8081), and metals (Method 6010/Mercury with Method 7471). Other physical parameters were also measured. All analytes were non-detects, with the exception of barium (42-60 milligrams [mg]/kilogram [kg] total), chromium (17-22 mg/kg total), cobalt (6.6-7.7 mg/kg total), copper (6.3-7.3 mg/kg), nickel (31-41 mg/kg total), vanadium (19-21 mg/kg total), and zinc (15-18 mg/kg total) (concentrations are reported as total concentrations rather than dissolved concentrations). These metals concentrations, however, are below federal and State (Title 22) criteria for hazardous waste. Results of the analyses are discussed in more detail in Section 4.16, *Hydrology and Water Quality* and Appendix G. Additional sampling will be required to fully characterize the dredged material prior to disposal.

3.4.1.2 Pre-Dredging Surveys

A Hydrographic Survey and Geophysical Survey will be performed prior to dredging to determine the presence of debris and/or larger boulders/rocks that may require the use of mechanical dredging as opposed to hydraulic dredging for their removal.

3.4.2 Dredging Operations

Two potential dredging methods are being evaluated for the Project: hydraulic dredging and mechanical dredging, depending upon the results of the hydrographic and geophysical surveys of the area proposed to be dredged. Hydraulic dredging involves a barge with suction to remove sediment from the river bottom and pumping the material to shore. Mechanical dredging involves a barge with equipment to excavate the sediment from the river bottom, storage of the dredged material on a transport barge, and subsequent transfer of the material from the transport barge to shore.

For the purposes of the impact analysis, a worst-case impact scenario would involve the use of each method at some point during dredging operations. Each method is described in more detail below.

3.4.2.1 Hydraulic Dredging Methods

Hydraulic dredging would be performed likely using a hydraulic pipeline cutterhead dredge (or cutterhead dredge), the most commonly used, versatile and efficient dredging vessel (USACE 2015). A cutterhead dredge is equipped with a rotating cutter apparatus surrounding the intake end of a suction pipe, where it can efficiently dig and pump all types of alluvial materials and compacted deposits (USACE 2015). This dredge also has the capability of pumping dredged material long distances to upland

placement areas as a slurry (USACE 2015). Slurries of 10-20 percent solids (by dry weight) are typical, depending upon the material being dredged, dredging depth, horsepower of dredge pumps, and pumping distance to the placement area (USACE 2015). If no other data are available, a pipeline discharge concentration of 13% by dry weight should be used for preliminary design purposes (USACE 2015). Pipeline discharge velocity, under routine working conditions, ranges from 15 to 20 feet per second (ft/sec) (USACE 2015).

The cutterhead dredge is generally equipped with two stern spuds (i.e., long stakes) used to hold the dredge in working position and to advance the dredge into the cut or excavating area (USACE 2015). During operation, the cutterhead dredge swings from side to side alternately using the port and starboard spuds as a pivot (USACE 2015).

Cables attached to swing anchors on each side of the dredge control lateral movement (USACE 2015). Swing anchors are set out and repositioned by anchor-handling derrick barges or, in areas where water depth precludes derrick barge passage, anchor booms (fastened to the dredge hull) which can be used to set the anchors (USACE 2015). For this project, use of anchor booms is likely.

Dredged material is either transported directly to shore via a discharge pipeline (e.g., a floating or submerged discharge pipeline), or transported to and from a transportation barge if necessary. Conventional cutterhead dredges are not self-propelled and require mobilization using towboats in order to move between dredging locations (USACE 2015), however, others are self-propelled.

The list of proposed vessels and equipment is contained in Table 3-1 below. Use of a submerged high-density polyethylene (HDPE) discharge pipeline is assumed.

3.4.2.2 Mechanical Dredging Methods

Should it become necessary, mechanical dredging would be used. There are primarily two types of mechanical bucket dredges: the clamshell (or grab) bucket dredge, commonly called a bucket dredge, and the backhoe dredge (USACE 2015). The bucket dredge is so named because it uses a bucket to excavate the material to be dredged (USACE 2015). Different types of buckets can fulfill various types of dredging requirements. The buckets used include the clamshell, orange-peel, and dragline types and can usually be quickly changed to suit the operational requirements (USACE 2015). The vessel can be positioned and moved within a limited area using anchors and/or spuds. When the spuds are up, the bucket itself can be used to reposition the dredge by "grabbing" the bottom in the direction of desired translation and pulling the dredge that way by taking in wire rope (USACE 2015). The barge is normally equipped with two spuds forward (in the front of the barge) and one spud at the aft end of the barge (USACE 2015). The latter is a kicking spud for advancing the dredge. Alternatively, the barge can be held in place by anchors, which are attached to winches on the dredge hull and can be placed by an attendant towboat or by a crane boom (USACE 2015).

Excavated dredged material is then typically placed on a transportation barge or hopper dredge (vessel with a sediment container, or "hopper") that is then towed to the placement area. Material may be unloaded using a gravity dump method or by hydraulic unloader usually consisting of a barge-mounted submersible pump that pumps the dredged material via a discharge pipe to shore (USACE 2015). This

operation may involve adding additional water to the dredged material in the barge to allow it to be entrained and pumped through the pipeline (USACE 2015).

If mechanical dredging is required, a mechanical dredge vessel would be utilized instead of a hydraulic suction dredge vessel. The remaining vessels and equipment would remain the same.

3.4.3 Dewatering Operations

Under the Proposed Project, two different dewatering procedures may be employed:

- Use of settling basins on land; or
- Use of tanks.

Under the Proposed Project, dredged material from Phase 1 of the Project, would be dewatered in settling basins at the Marysville WWTP site. Dredged material from Phase 2 may either be dewatered at the Marysville WWTP, or in tanks, depending upon timing of funding for Phase 2. Procedures that would be employed with both dewatering methods are described in more detail below.

3.4.3.1 Using Settling Basins

Under the Proposed Project, Phase 1 dredged material would be placed on land within empty wastewater ponds at the Marysville WWTP (the northernmost wastewater ponds also referred to as the North Ponds) via a discharge pipeline or via mechanical equipment. The existing wastewater ponds would serve as existing confined basins within which water would be decanted from the dredged material and evaporative drying of the dredged material would take place. Progressive surface trenching will be used to mechanically manipulate the dredged material to speed evaporative drying. In addition, as dredged material settles, return water may also be discharged back to the Yuba or Feather Rivers pursuant to the requirements of the State Water Resources Control Board's (SWRCB's) General Order for Limited Threat Discharges to Surface Water.

Phase 2 dredged material would be dewatered in the Marysville WWTP North Ponds as well, if funding is received in time for use of the Marysville WWTP site (i.e., in 2021).

3.4.3.2 Using Tanks

If Phase 2 dredged material cannot be dewatered at the Marysville WWTP, dredged material would be placed into fractionation tanks (e.g., Rain-for-Rent Filter Boxes; see Exhibit 1, Example Filter Box) or other temporary dewatering basins staged at the Yuba City Boat Ramp facility, either via a discharge pipeline or mechanical equipment, where water would be decanted from the dredged material. Fractionation tanks would be manifolded together in series and decanted water would be routed to a filtration system, stored, and tested. It is anticipated that filtered water would then be disposed of either to land or disposed of back into the Feather River. It is anticipated that over 20 fractionation tanks would be staged in series as a temporary liquid storage tank farm throughout the duration of the Project. Under a worst-case scenario for the purposes of the environmental impact analysis, it is assumed that all Phase 2 dredged material would need to be dewatered in tanks.



Exhibit 1, Example Filter Box

3.4.4 Dredged Material Disposal Operations

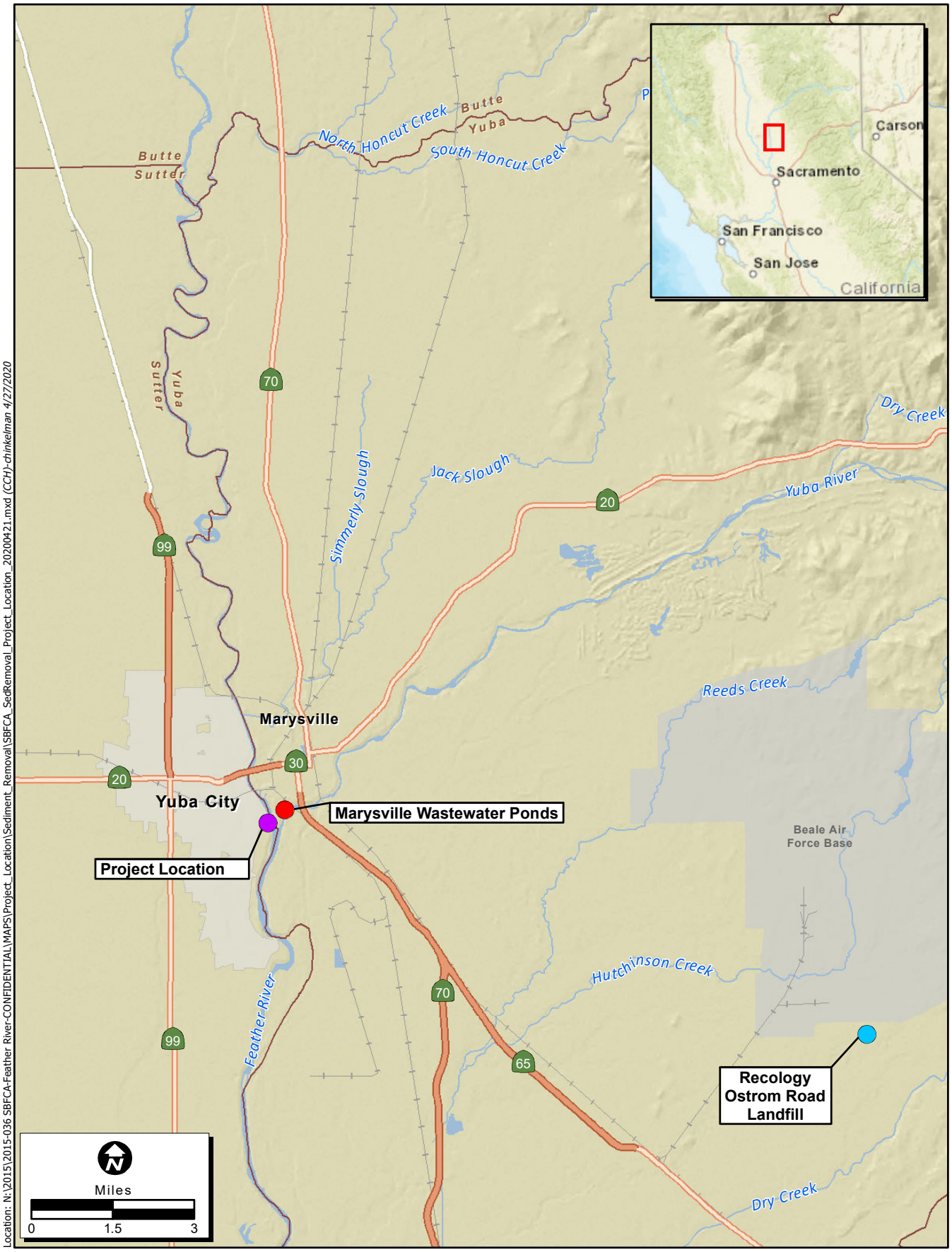
Once dewatered dredged material is determined to meet an acceptable water content as determined by the City of Marysville, it will be stockpiled and provided to the City of Marysville for beneficial reuse.

Dredged material that is dewatered in tanks would be trucked offsite either to the Recology's Ostrom Road Landfill or offsite for some other beneficial reuse (i.e., agricultural use, habitat restoration, or use as construction fill). Under a worst-case construction traffic scenario, it is assumed that all Phase 2 dredged material would need to be trucked offsite.

Trucks would exit the Yuba City Boat Ramp facility onto Second Street. To enter and exit the Yuba City Boat Ramp facility, trucks would need to cross over the Feather River West Levee. Trucks would then travel north on Second Street and either travel west on Colusa Avenue (State Route 20) to State Route 99 or east on 5th Street or State Route 20 across the Feather River to E Street in the City of Marysville and then to State Route 70 to be transported to the nearest disposal location. Disposal of dredged material at the Ostrom Road Landfill would involve travel along State Route 70 from the City of Marysville. Once on State Route 70, trucks would then take State Route 65 south of Olivehurst to South Beale Road and then to the Ostrom Road Landfill. The location of Recology's Ostrom Road Landfill is shown in Figure 3-3 and the proposed haul routes are shown in Figure 3-4. The Ostrom Road Landfill is located approximately 17 miles from the Yuba City Boat Launch Facility.

The next closest bridges across the Feather River, other than along 5th Street or State Route 20 would be in the town of East Gridley, 18 miles north of Yuba City, or the town of Nicolaus, 19 miles south of Yuba City. Therefore, use of State Route 99 to travel to the Ostrom Road Landfill is not anticipated. Use of State Route 99 would only be anticipated for disposal at some other offsite location for agricultural use, habitat restoration, or use as construction fill.

Each fractionation tank would be capable of holding approximately 25 cy of sediment. However, Caltrans' weight limit of 34,000 pounds (lbs) per tandem axle may ultimately limit the amount of material that can be transported on local roadways and highways. For the purposes of this analysis, it is assumed that only 20 cy of material can be transported per truck trip, for a total of 12,500 truck trips to dispose of 250,000 cy of dredged material.



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Map Date: 4/27/2020

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

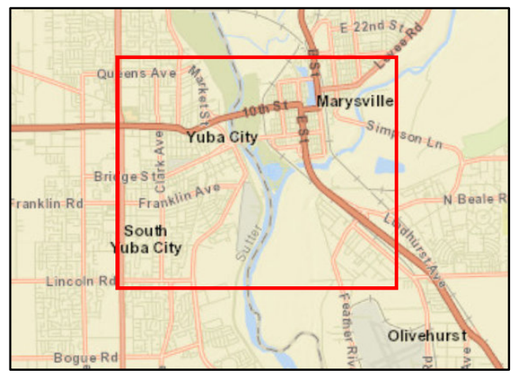
Figure 3-3. Location of Ostrom Road Landfill



Map Features

- Haul Route 1
- Haul Route 2
- Haul Route 3

Sources: ESRI, USGS, Maxar (2018), Peterson Brustad



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Map Date: 11/9/2020

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Scale in Feet
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Figure 3-4. Proposed Haul Routes

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Under a worst-case scenario for purposes of the impact analyses in this document, it is assumed that truck trips would only occur during weekday, daytime hours (i.e., or during the hours that the Ostrom Road Landfill are open from Monday through Friday from 6:00 a.m. through 3:30 p.m., for 9.5 hours per day). Assuming a maximum of one truck every 15 minutes to dispose of 250,000 cy of dredged material, the Project would involve approximately 38 truck trips per day and a total of 329 days for disposal of dredged material. Time to dewater the dredged material may be a limiting factor on the construction duration. Although not anticipated, delays may also result if the Ostrom Road Landfill reaches its daily maximum threshold for solid waste disposal (at 3,000 tons per day).

3.4.4.1 Construction Schedule

Dredging operations and dewatering activities are proposed to be limited to between June 15 and October 15 to align with work windows to avoid impacts to special-status fish species (for a total of 122 calendar days; 87 non-holiday weekdays). The remainder of the construction period would be dedicated to pre-construction surveys, mobilization and demobilization activities, and disposal of dewatered dredged material.

Completion of the entire proposed Project is anticipated to occur from 2021 through 2023. Completion of Phase 1 of the Proposed Project is anticipated to occur in 2021. Completion of Phase 2 of the Proposed Project could start in 2021 but is likely to conclude in 2023 due to the timing of funding for this Phase and the number of truck trips associated with disposal of the dredged material. It is assumed that nighttime operations may be required for the Project.

3.4.5 Construction Equipment and Staging

Onshore equipment and dredging equipment and vessels may vary depending upon site conditions during construction. However, Table 3-1 provides a list of anticipated equipment and vessels for the Project.

Table 3-1. Construction Equipment List
Onshore Equipment
Crane (1) Forklifts (2) Rubber tired rotary trencher (1) Rubber tired dozers (2) Tractors/loaders/backhoes (2) Grader (1) Water trucks (1)
Dredging Vessels and Equipment
Dredge vessel (10” hydraulic suction dredge or equivalent size vessel for mechanical dredging) (87,000 lbs with CAT C7 275 hp engine @ 2200 rpm) Push boat (1) (24’ boat with 200 hp engine)
Support Vessels and Equipment
Swift water rescue boat (18-foot Boston whaler with 150-hp main engine) Support boat for environmental monitoring (18-foot Boston whaler with 150 hp main engine) Light plants (with 11-hp prime and 13-hp backup generators) (10)

Several support trailers would be required at the Yuba City Boat Ramp facility. Designated equipment storage and staging areas would be established at the Yuba City Boat Ramp facility, in addition to the Marysville WWTP near the northernmost wastewater ponds.

It is assumed that all vessels will enter and exit the river via the Yuba City boat ramp.

Several light plants would be required for nighttime operations at the Yuba City Boat Ramp facility and Marysville WWTP, and lighting on dredge barges and support vessels would be required for nighttime operations. Generators required for the light plants and vessels are assumed to qualify under the California Air Resources Control Board (CARB) Portable Equipment Registration Program (PERP).

Approximately 30 construction personnel are anticipated for the Project as well as environmental monitors and safety personnel.

3.5 Regulatory Requirements, Permits, and Approvals

This EIR provides the environmental information and analysis and primary California Environmental Quality Act (CEQA) documentation necessary for SBFCA to adequately consider the effects of the proposed construction and operation of the Project. SBFCA, as lead agency, has the approval authority and responsibility for considering the environmental effects of the Proposed Project.

The following additional approvals and regulatory permits listed in Table 3-2 are anticipated to be required for implementation of the Project:

Table 3-2. Required Regulatory Permits and Approvals

Approval or Permit	Organization
Encroachment Permit	Central Valley Flood Protection Board (CVFPB)
Agreement to Utilize the Yuba City Boat Ramp Facility	Sutter County Levee District 1
Agreement to Utilize the wastewater ponds at the Marysville WWTP	City of Marysville
Construction Lease	California State Lands Commission (CSLC)
Combined Section 10/404 Permit	U.S. Army Corps of Engineers (USACE)
Section 401 Water Quality Certification	Central Valley Regional Water Quality Control Board (RWQCB)
1600 Streambed Alteration Agreement	California Department of Fish and Wildlife (CDFW)
Section 7 Consultation/Biological Opinion and Essential Fish Habitat (EFH) Consultation	National Marine Fisheries Service (NMFS) (issued to USACE)
Section 7 Consultation/Biological Opinion	U.S. Fish and Wildlife Service (issued to USACE)
California Endangered Species Act (CESA) Incidental Take Permit	CDFW
National Pollution Discharge Elimination System (NPDES) Permit for Storm Water Discharges Associated with Construction Activities	Central Valley RWQCB

Table 3-2. Required Regulatory Permits and Approvals

Approval or Permit	Organization
Coverage Under the Central Valley RWQCB's General Waste Discharge Requirements (WDR) for Limited Threat Discharges to Surface Water (Order R5-2016-0076-01	Central Valley RWQCB

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CHAPTER 4 ENVIRONMENTAL ANALYSIS

4.0.1 Introduction

Pursuant to the California Environmental Quality Act (CEQA), this Environmental Impact Report (EIR) evaluates the environmental impacts associated with the Project and identifies mitigation measures to reduce significant impacts to less than significant levels, if feasible.

Sediment buildup in portions of the Feather River, exacerbated by the Oroville Dam Spillway incident of 2017, has created dangerous conditions for recreational users, made some boat launch facilities nearly unusable, and has hampered public safety as it has affected emergency vessel launching capabilities. The proposed Project will improve access to the Feather River and Yuba River by removing sediment at and near the Yuba City Boat Ramp facility. The Project has received funding from the California Natural Resource Agency through Proposition 68 to remove sediment for safety purposes, to restore recreation access to the Feather River, and to restore fish passage at the confluence of the Feather and Yuba rivers.

The Project would comprise two phases: Phase 1 would involve 65,600 cubic yards (cy) of dredging while Phase 2 would involve 250,000 cy of dredging if additional funding becomes available. Disposal of the dredged material for Phase 1 is proposed within wastewater ponds that are proposed for decommissioning at the Marysville Wastewater Treatment Plant (WWTP) located immediately adjacent to the proposed dredging area. The City of Marysville intends to decommission these ponds at the same time as implementation of the proposed Project. Phase 2 dredged material would be disposed of at Recology's Ostrom Road Landfill or for some other beneficial reuse if the opportunity is available.

4.0.2 Analysis Assumptions Generally Used To Evaluate The Impacts Of The Project

4.0.2.1 Baseline Environmental Conditions Assumed in the Draft EIR

CEQA Guidelines Sections 15125(a) and (e) provide that the existing environmental setting (the environmental conditions in the project vicinity at the time the environmental analysis is begun) should constitute the baseline physical conditions by which it is determined whether an impact is significant. Pursuant to this guideline, all impact assessments in this EIR are based upon comparison of the projected future "With Project" conditions with the existing environmental setting rather than with the future "Without Project" condition.

4.0.2.2 Definition of Cumulative Setting

The cumulative impacts analysis was performed based upon a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of SBFCA (Section 15130[b][1][a] of the CEQA Guidelines). The only other known construction projects in the area include proposed dredging by SBFCA to remove sediment that has accumulated in portions of the Feather River near the Live Oak Recreational Park Boat Ramp facility, located several miles upstream of the Project. In addition, the City of Marysville intends to decommission the existing

wastewater treatment ponds at the Marysville WWTP, which will involve removal of any water and sludge from the wastewater ponds and regrading the site. There are no other known past, present, and probable future projects producing related or cumulative impacts in the area.

4.0.2.3 Consideration of Cumulative Impacts

Cumulative impacts are analyzed for each issue area within their respective chapters (Sections 4.1 through 4.20).

4.0.2.4 Consideration of Alternatives

An analysis of impacts associated with each alternative to the Project is included in Chapter 6. Where impacts could be quantified (i.e., criteria pollutant emissions, greenhouse gas emissions, and noise levels), they are quantified in individual sections of Chapter 4 (Sections 4.3, 4.8, and 4.13) and discussed in Chapter 6.

4.1 Aesthetics

This section of the EIR describes the existing conditions in the Project area, the regulatory framework necessary to evaluate potential impacts on aesthetics from the Project, and potential short-term, long-term, and cumulative impacts that could result from the Project. Impacts on scenic resources, public views, the visual character of the area, and lighting and glare are discussed below.

4.1.1 Environmental Setting

4.1.1.1 Scenic Resources

"Scenic resources" are referred to in CEQA as "trees, rock outcroppings, and historic buildings within view from a state scenic highway." A "scenic resource" can also include a state scenic highway; National Scenic Byway; National Scenic Trail; National Scenic Area; state or federal designated natural or wilderness area, such as a Wild and Scenic River, or natural open spaces, topographic formations, and landscapes (Sutter County 2008).

Sutter County defines visual resources as "an important component to the quality of life and identity of any geographic area. When people experience a place, their primary sensory interaction with that place is visual in nature." Sutter County considers the Sutter Buttes, Feather River, the valley's orchards and agricultural areas, and open space as scenic resources in the County, all of which contribute to the unique character of the County (Sutter County 2008; 2019).

The portions of the Feather River and Yuba River within the Project area are not designated as part of the National Wild and Scenic River System (Yuba County Water Agency [YCWA] 2018). Nevertheless, the Feather River and Yuba River are both considered scenic resources for the area (Sutter County 2008, 2019; City of Marysville 1985).

None of the roadways in or near the Project area are designated Scenic Highways by the State or at the County level (California Department of Transportation [Caltrans] 2020; Sutter County 2008, 2019; Yuba County 2011).

Scenic Vistas

For the purposes of this analysis, a scenic vista is defined as "a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public providing or relating to views of impressive or beautiful natural scenery where a vista is defined as 'a distant view through or along an avenue or opening.'"

"Viewsheds" constitute "the range of vision in which scenic resources may be observed. They are defined by physical features that frame the boundaries or context to one or more scenic resource" (Sutter County 2008).

Sutter County is characterized by relatively flat terrain with generally expansive viewsheds and valley elevations ranging from 35 to 80 feet above measured sea level (Sutter County 2008). The one prominent

topographic feature within the County is the Sutter Buttes, a remnant volcano with a peak elevation approximately 2,000 feet above the surrounding valley floor. "Juxtaposed to the vast open farmland, the Sutter Buttes create a dramatic landmark that is visible throughout the County." (Sutter County 2008).

Due to the height of the Feather River West Levee, the Feather and Yuba Rivers are not readily visible from public roadways located adjacent to the Project in Yuba City. However, the Project area is visible from public viewing locations along State Route 70 and other public roads in Marysville. Adjacent roadways offer views of the Sutter Buttes in the distance to the northwest and views of walnut orchards immediately to the southeast of the Project.

Visual Character

"Memorable characteristics can be positive or negative in their effect. For this reason, the visual quality and character of a place is often referenced in discussions of physical form" (Sutter County 2008).

The Project area is bordered by single family residences to the northwest, the Sutter County Airport to the west, area zoned as Open Space by Sutter County to the southwest, a walnut orchard to the southeast, and Marysville's Riverfront Park to the northeast (City of Yuba City 2004; City of Marysville 1985).

Sutter and Yuba counties are both primarily rural in character, however, the Project bisects the communities of Yuba City and Marysville, known as the Twin Cities. The Feather and Yuba rivers as well as surrounding open space in the southwest portion of the Project area are natural features in the Project area. Walnut orchards and Riverfront Park to the northeast and southeast of the Project give the Project area a semi-rural character as well.

Light and Glare

Sources of light in the area include car headlights, lighting for ball fields, security lighting for public buildings, and street lights.

According to the American National Standards Institute (ANSI)/Illuminating Engineering Society (IES) LS-1-20 *Lighting Science: Nomenclature and Definitions for Illuminating Engineering* (ANSI/IES 2020), glare is defined as "The sensation produced by luminances within the visual field that are sufficiently greater than the luminance to which the eyes are adapted to cause annoyance, discomfort, or loss in visual performance or visibility" where "The magnitude of the sensation of glare depends on such factors as the size, position and luminance of a source; the number of sources; and the luminance to which the eyes are adapted." Sources of glare can include windows in buildings and in cars, or other shiny surfaces on structures such as metal siding. Glare can become exacerbated at higher elevations such as in high-rise or multi-story buildings.

4.1.2 Regulatory Setting

Relevant federal, state, and local laws and regulations pertaining to aesthetics are discussed below.

4.1.2.1 Federal

National Scenic Byways Program

The National Scenic Byways program is part of the U.S. Department of Transportation (DOT) Federal Highway Administration (FHWA). Under the program, the U.S. Secretary of Transportation recognizes certain roads as National Scenic Byways or All-American Roads based on their archaeological, cultural, historic, natural, recreational, and scenic qualities.

National Wild and Scenic Rivers Act

The National Wild and Scenic Rivers Act preserves certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations.

4.1.2.2 State

State Scenic Highway Program

The State Scenic Highway Program was established to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. A local jurisdiction adopts a scenic corridor protection program, applies to Caltrans for scenic highway approval, and receives notification from Caltrans that the highway has been designated as a Scenic Highway. When a City or County nominates an eligible scenic highway for official designation, it defines the scenic corridor, which is land generally adjacent and visible to a motorist on the highway. State Laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263.

4.1.2.3 Local

Sutter County

The following goals and policies of the 2019 Sutter County General Plan (Sutter County 2019) are applicable to the Project:

LU1.1 *Views from Rural Roadways and Highways. Prohibit new projects and activities that would obscure, detract from, or negatively impact the quality of views from the County's rural roadways and highways. Limit off-site advertising along County roadways and highways.*

LU 3.8 *Landmarks and Resources. Preserve and protect local landmarks and significant natural resources within rural communities.*

ER 7.1 *Scenic Resources. Protect views of Sutter County's unique scenic resources including the Sutter Buttes, wildlife and habitat areas, the Sacramento, Feather, and Bear Rivers, and other significant resources.*

ER 7.2 *Scenic Roadways. Enhance the visual character along the County's key transportation corridors, in particular Highways 99 and 20, through application of consistent design and landscape standards.*

ER 7.5 *Lighting. Support practices that reduce light pollution and preserve views of the night sky including the design and sighting of light fixtures to minimize glare and light on adjacent properties.*

Yuba County

The following goals and policies of the Yuba County 2030 General Plan (Yuba County 2011) are applicable to the Project:

Policy CD11.5: The County will support agriculture, agricultural processing, agricultural tourism, ecological tourism, recreational uses, and other natural-resource based economic development projects in areas with land-based natural resources, natural beauty, and cultural attractions.

Policy NR9.2: New plans and projects in western Yuba County should be designed to provide view corridors to the Sutter Buttes, where practical.

Policy NR9.3: Development in Rural Communities should be designed to preserve important scenic resources, landmarks, and icons that positively contribute to the rural character.

City of Yuba City

The following goals and policies of the City of Yuba City General Plan (2004) are applicable to the Project:

8.1-G-2: Enhance the open space features of the Feather River.

8.1-G-3: Preserve and enhance the visual and scenic resources of the Planning Area.

8.1-I-3: Work with public and private entities to implement open space features of the Feather River Parkway Plan. Open space within the parkway will provide visual amenities, as well as habitat protection. The Friends of Yuba City Parks and Recreation Foundation may be able to help the City in funding site acquisition and development of facilities and programs because its status as a charitable organization.

8.1-I-4: Where feasible, encourage restoration of degraded open space areas in the Feather River Parkway planning area to an environmentally valuable and sustainable condition. The Feather River Parkway Plan calls for maintenance and restoration of natural areas within the floodplain areas next to the River.

8.1-I-5: Work with the County to maintain viable agricultural land on the periphery of the urban growth area for purposes of resource and view protection and establish design standards that protect views of these lands, including orchards and other rural areas.

City of Marysville

The following goals and policies of the City of Marysville General Plan (1985) are applicable to the Project:

Goal: *To provide and maintain a safe and efficient system of streets, highways, and public transportation to service residents' needs, promote sound land use, and protect and enhance scenic highways.*

4.1.3 Environmental Impacts and Mitigation Measures

This Section describes potential impacts on aesthetics that could result from the proposed Project. The Section also recommends mitigation measures as needed to reduce significant impacts.

4.1.3.1 Thresholds of Significance

Based on the CEQA Guidelines, Appendix G: Items I (a) through (d), implementation of the proposed Project would have a significant impact related to aesthetics if it would:

(a) Have a substantial adverse effect on a scenic vista;
(b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway;
(c) Substantially degrade the existing visual character or quality of public views of the site or its surroundings (public views are those that are experienced from publicly accessible vantage points); or
(d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

4.1.3.2 Project Impacts and Mitigation Measures

Impact 4.1-1: Implementation of the Proposed Project would have a substantial adverse effect on a scenic vista.
Impact Determination: *less than significant*.

Threshold:	*Have a substantial adverse effect on a scenic vista.*

The Project would involve use of vessels and heavy equipment on the Feather and Yuba Rivers as well as on the adjacent banks which would disrupt views of the natural scenery associated with the rivers and adjacent open space and walnut orchards. However, impacts would be temporary. In addition, equipment is not expected to block public views of other scenic resources in the area such as the Sutter Buttes. Therefore, impacts on scenic vistas would be less than significant.

Mitigation Measures

None required.

Impact 4.1-2: Implementation of the Proposed Project would substantially damage scenic resources.
Impact Determination: *less than significant*.

Threshold:	*Substantially damage scenic resources, including, but not limited to, the Feather and Yuba rivers and adjacent open space and orchards.*

The Project would disrupt the existing visual conditions of the Feather and Yuba rivers and adjacent open space. However, the Project would not damage scenic resources and impacts would be temporary. Therefore, impacts on scenic resources would be less than significant.

Mitigation Measures

None required.

Impact 4.1-3: Implementation of the Proposed Project would substantially degrade the existing visual character or quality of public views of the site or its surroundings.
Impact Determination: *less than significant*.

Threshold:	*Substantially degrade the existing visual character or quality of public views of the site or its surroundings (public views are those that are experienced from publicly accessible vantage points).*

The Project would involve use of vessels and heavy equipment on the Feather and Yuba Rivers as well as on the adjacent banks which would disrupt the rural visual character of the area. However, impacts would be temporary. Therefore, impacts on the visual character would be less than significant.

Mitigation Measures

None required.

Impact 4.1-4: Implementation of the Proposed Project would create a new source of substantial light or glare which would adversely affect day or nighttime views of the area.
Impact Determination: *less than significant with mitigation incorporated*.

Threshold:	*Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.*

The Project would involve use of vessels and heavy equipment on the Feather and Yuba Rivers as well as the majority of the Yuba City Boat Ramp facility and portions of the Marysville WWTP wastewater ponds for project-related activities (staging and storing of equipment, parking for construction workers, and dewatering and stockpiling of sediment). Due to season restrictions for in-water work, and in order to complete the Project within the minimal number of seasons possible, it will be necessary for work to be performed at night, as well as possibly on the weekends. Night lighting will be necessary at the Yuba City Boat Ramp facility, at the Marysville WWTP wastewater ponds, as well as possibly on vessels operating in the Feather and Yuba Rivers in the dredging area. Impacts would be temporary, however, night lighting

has the potential to result in a short-term nuisance for residents located immediately adjacent to the Project. Impacts would be adverse and significant without mitigation.

Mitigation measure **AES-1** would require, to the maximum extent feasible, that only the minimal amount of lighting necessary to perform Project activities would be used, that light fixtures shall be shielded, and that directing light into adjacent areas shall be avoided. In addition, mitigation measure **AES-2** shall require implementation of a Community Outreach Program where residents located adjacent to the Project shall be notified of nighttime and/or weekend work and the contact information for a Community Outreach Coordinator shall be provided for receiving construction-related complaints and for assisting in addressing them. With implementation of these two measures, significant short-term impacts on lighting in the area would be reduced to less than significant levels.

Mitigation Measures

AES-1: **Lighting. To the maximum extent feasible, Project lighting shall be directed and shielded to focus illumination on the desired areas only and avoid directing light into adjacent areas.**

Timing/Implementation: *This measure shall be printed on construction plan sets and implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead.*

AES-2: **Implement a Community Outreach Program. SBFCA will provide advance public notification to permanent residents located adjacent to the project regarding planned construction activities, including activities that must be performed at night or on weekends. Mail and, where feasible, emails to adjacent residents shall be sent notifying them of unavoidable nighttime or weekend construction activities each year prior to construction. Signage shall be posted at the entrance to the Yuba City Boat Launch facility, visible to the general public, recreational users of the facility, and recreational users of the bike path crossing the access road, with contact information for a Community Outreach Coordinator for receiving construction-related complaints and to assist in addressing them.**

Timing/Implementation: *This measure shall be implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead.*

4.1.4 Cumulative Impacts

The only other known construction projects in the area include proposed dredging by SBFCA to remove sediment that has accumulated in portions of the Feather River near the Live Oak Recreational Park Boat Ramp facility, located several miles upstream of the Project. In addition, the City of Marysville intends to decommission the existing wastewater treatment ponds at the Marysville WWTP, which will involve removal of any water and sludge from the wastewater ponds and regrading the site.

There are no other known past, present, and probable future projects producing related or cumulative impacts in the area.

4.1.4.1 Cumulative Impacts and Mitigation Measures

Impact 4.1-5: Result in a considerable contribution to cumulative impacts on scenic vistas. Impact Determination: *less than significant*.

Threshold:	*Have a substantial adverse effect on a scenic vista in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas*

The project in Live Oak would be so far away that it would not result in aesthetic impacts in the same area as the Proposed Project. The decommissioning of the Marysville WWTP would have similar impacts as the Proposed Project on aesthetics due to the use of heavy equipment in the area. Both projects, however, will be implemented over a relatively short timeline. Therefore, neither project would result in a significant impact on scenic vistas. Therefore, the proposed Project would have a less than considerable contribution to significant impacts on aesthetics in the area. Impacts would be less than significant.

Mitigation Measures

None required.

Impact 4.1-6: Result in a considerable contribution to cumulative impacts on scenic resources. Impact Determination: *less than significant*.

Threshold:	*Substantially damage scenic resources in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

The project in Live Oak would be so far away that it would not result in aesthetic impacts in the same area as the proposed Project. The decommissioning of the Marysville WWTP would have similar impacts as the proposed Project on aesthetics due to the use of heavy equipment in the area. Both projects, however, will be implemented over a relatively short timeline and would not result in long term alteration of scenic resources. Therefore, neither project would result in a significant impact on scenic resources (i.e., Feather and Yuba rivers and adjacent open space and orchards). Therefore, the Proposed Project would have a less than considerable contribution to significant impacts on aesthetics in the area. Impacts would be less than significant.

Mitigation Measures

None required.

Impact 4.1-7: Result in a considerable contribution to cumulative impacts on the existing visual character or quality of public views of the site or its surroundings.
Impact Determination: *less than significant*.

Threshold:	*Substantially degrade the existing visual character or quality of public views of the site or its surroundings in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

The project in Live Oak would be so far away that it would not result in aesthetic impacts in the same area as the proposed Project. The decommissioning of the Marysville WWTP would have similar impacts as the Proposed Project on aesthetics due to the use of heavy equipment in the area. Both projects, however, will be implemented over a relatively short timeline and would not result in long term impacts on visual character of the area. Neither project would result in a significant impact on the visual character of the area. Therefore, the Proposed Project would have a less than considerable contribution on significant impacts on aesthetics in the area. Impacts would be less than significant.

Mitigation Measures

None required.

Impact 4.1-8: Result in a considerable contribution to cumulative impacts associated with light or glare, which would adversely affect day or nighttime views of the area.
Impact Determination: *less than significant with mitigation incorporated*.

Threshold:	*Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

The project in Live Oak is over nine miles north the Project site and would not result in aesthetic impacts in the same area as the Proposed Project. The decommissioning of the Marysville WWTP would have similar impacts as the Proposed Project on aesthetics due to the use of heavy equipment at the wastewater ponds and possible use lighting due to work at night. Although both projects would be implemented over a relatively short timeline, cumulative impacts associated with the use of night lighting would be adverse and significant on adjacent residents. However, implementation of mitigation measures **AES-1** and **AES-2** would minimize the nuisance of night lighting in the area during implementation of the Project. Therefore, the proposed Project would have a less than considerable contribution on significant night lighting impacts in the area and impacts would be less than significant.

Mitigation Measures

Implementation of mitigation measures **AES-1** and **AES-2** would be required.

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4.2 Agriculture and Forestry Resources

This section of the EIR describes the existing conditions in the Project area, the regulatory framework necessary to evaluate potential impacts on agriculture and forestry resources from the Project, and potential short-term, long-term, and cumulative impacts that could result from the Project. Impacts associated with conversion of farmland, conflicts with existing agricultural uses, and conversion of forestry resources are discussed below.

4.2.1 Environmental Setting

There are no forestry resources in or near the Project area.

Both Sutter County and Yuba County are dominated by extensive agriculture (Sutter County 2008, 2019; Yuba County 2011). However, there are no State mapped designated Farmlands by the California Department of Conservation (DOC) in the areas potentially directly impacted by the Project (i.e., Project area) including Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (DOC 2020).

Parcels in the southeast portion of the Project area, on the east bank of the Feather River and south bank of the Yuba River, are zoned for Agricultural/Residential District 20 Acres (AR-20) by Yuba County and designated as locally important prime farmland (Yuba County 2011). Walnut orchards are located within these parcels, but the orchards themselves occur on the east bank of the Feather River immediately adjacent to proposed dredging areas but outside of the Project area (DWR 2020, Yuba County 2011).

No other agricultural uses occur on or adjacent to the Project Study area (Sutter County 2008, 2019; Yuba County 2011). There are no lands within the Project site that are held under Williamson Act contracts (Sutter County 2019; Yuba County 2011, 2020).

According to DWR's 2014 data, Columbia fine sandy loam soils at the wastewater ponds at the Marysville WWTP are mapped as Prime Agricultural Land if irrigated, by the USDA NRCS (NRCS-UC Davis 2020) but not by DOC. In addition, a small amount of Holillipah loamy sand occurs at the Marysville WWTP wastewater ponds and is also considered Prime Farmland if irrigated and either protected from flooding or not frequently flooded during the growing season by NRCS (NRCS-UC Davis 2020). However, the Marysville WWTP wastewater ponds are not mapped as Farmland by DOC (DOC 2020).

Soils at the Yuba City Boat Ramp facility consist of Columbia fine sandy loam, channeled, 0 to 2 percent slopes (soil series number 118), and is not mapped as Prime Farmland by NRCS or DOC (NRCS-UC Davis 2020; DOC 2020).

4.2.2 Regulatory Framework

Relevant federal, state, and local laws and regulations pertaining to agriculture and forestry resources are discussed below.

4.2.2.1 Federal

Farmland Protection Policy Act (7 United States Code [USC] Section 4201)

The purpose of the Farmland Protection Policy Act (FPPA) is to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses. Projects are subject to FPPA requirements if they irreversibly convert farmland (directly or indirectly) to non-agricultural use and are completed by a Federal agency or rely on assistance from a Federal Agency (USDA 2020).

4.2.2.2 State

California Department of Conservation, Division of Land Resource Protection

The California DOC applies the NRCS soil classifications to designate agricultural lands as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. Agricultural lands with these designations are referred to as "farmland."

Williamson Act

The California Land Conservation Act, better known as the Williamson Act, is a non-mandated State policy providing for protection of agricultural and open space lands that meet local size and land use criteria. Land under a Williamson Act contract is restricted to agricultural uses for a term of no less than 10 years.

Farmland Mapping and Monitoring Program (FMMP)

The Important Farmland Inventory System initiated in 1975 by the U.S. Department of Agriculture (USDA) NRCS classifies land based on 10 soil and climatic characteristics. The DOC started a similar system of mapping and monitoring for California in 1980, known as the FMMP.

California Agriculture Land Evaluation and Site Assessment (LESA) Model

The California Agriculture LESA model was developed in 1997 based on the federal LESA system. It can be used to rank the relative importance of farmland and the potential significance of its conversion on a site-by-site basis. The California LESA model considers the following factors: land capability, Storie Index, water availability (drought and non-drought conditions), land uses within 0.25 mile, and protected resource lands (e.g., Williamson Act lands) surrounding the property. A score can be derived and used to determine if the conversion of a property would be significant. Under CEQA, lead agencies may refer to the LESA model in their environmental analysis but are not required to do so.

4.2.2.3 Local

Sutter County

The following goals and policies of the 2019 Sutter County General Plan (Sutter County 2019) are applicable to the Project:

LU 2.1: Long-Term Conservation. Promote the long-term conservation of agricultural and open space lands in accordance with the goals and policies of the Agricultural Resources and Environmental Resources elements.

AG 1.1: Agricultural Land Preservation. Preserve and maintain agriculturally designated lands for agricultural use and direct urban/suburban and other nonagricultural related development to the cities, unincorporated rural communities, and other clearly defined and comprehensively planned development areas.

Yuba County

The following goals and policies of the Yuba County 2030 General Plan (Yuba County 2011) are applicable to the Project:

Policy CD11.5: The County will support agriculture, agricultural processing, agricultural tourism, ecological tourism, recreational uses, and other natural-resource based economic development projects in areas with land-based natural resources, natural beauty, and cultural attractions.

City of Yuba City

The following goals and policies of the City of Yuba City General Plan (2004) are applicable to the Project:

8.2-G-1: Promote preservation of agriculture outside of the urban growth area.

4.2.3 Environmental Impacts and Mitigation Measures

This Section describes potential impacts on agricultural and forestry resources that could result from Project implementation. The Section also recommends mitigation measures as needed to reduce significant impacts.

4.2.3.1 Thresholds of Significance

Based on the CEQA Guidelines, Appendix G: Items II (a) through (e), implementation of the Project would have a significant impact related to agricultural and forestry resources if it would:

(a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
(b) Conflict with existing zoning for agricultural use, or a Williamson Act contract;
(c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104[g]);
(d) Result in loss of forest land or conversion of forest land to non-forest use; or

(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.

4.2.3.2 Methods of Analysis

Information related to Important Farmlands was obtained from the following map (DOC 2020) referenced below:

https://maps.conservation.ca.gov/dlrp/ciff/

In addition, data from the Sutter County, Yuba County, City of Yuba City, and City of Marysville general plans (Sutter County 2019, Yuba County 2011, Yuba City 2004, City of Marysville 1985) were used to complete this section.

4.2.3.3 Project Impacts and Mitigation Measures

Impact 4.2-1: Implementation of the Proposed Project would result in conversion of farmland to non-agricultural use.
Impact Determination: *no impact*.

Threshold:	*Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Natural Resources Agency, to non-agricultural use, or involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to a non-agricultural use.*

There is no State designated Farmland in the Project area. Walnut orchards and land zoned Agricultural/Residential District 20 Acres by Yuba County occur on the east bank of the Feather River and south bank of the Yuba River; however, these banks and adjacent upland areas would not be directly impacted by Project activities. Therefore, there would be no conversion of farmland to a non-agricultural use.

Mitigation Measures

None required.

Impact 4.2-2: Implementation of the Proposed Project would conflict with existing zoning for agricultural use, or a Williamson Act contract.
Impact Determination: *no impact*.

Threshold:	*Conflict with existing zoning for agricultural use, or a Williamson Act contract.*

There are no Williamson Act contracts in effect on parcels within the Project area (Sutter County 2019, Yuba County 2011). The southeast portion of the Project area, including the east bank of the Feather River and south bank of the Yuba River, are zoned Agricultural/Residential District 20 Acres by Yuba County and

designated as locally important prime farmland in the Yuba County General Plan (Yuba County 2011). However, these banks and adjacent upland areas would not be directly impacted by Project activities. Therefore, there would be no conflict with the existing zoning or use of these areas. Therefore, there would be no impact.

Mitigation Measures

None required.

Impact 4.2-3: Implementation of the Proposed Project would impact forestry resources. Impact Determination: *no impact*.

Threshold:	*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]) or result in loss of forest land or conversion of forest land to non-forest use.*

There are no forestry resources in or adjacent to the Project area. Therefore, the Project would have no impact on forestry resources.

Mitigation Measures

None required.

4.2.4 Cumulative Impacts

Because the Project would have no impact on agricultural resources or forestry resources, the Project would have no contribution to cumulative impacts on agriculture and forestry resources in the area as well.

Mitigation Measures

None required.

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4.3 Air Quality

This section of the EIR describes the existing conditions in the Project area, the regulatory framework necessary to evaluate potential impacts on air quality from the Project, and potential short-term, long-term, and cumulative impacts that could result from the Project. Impacts associated with criteria pollutants, toxic air contaminants (TACs), and odor are discussed below.

4.3.1 Environmental Setting

4.3.1.1 Air Basin Characteristics

The Project site is located at the confluence of the Yuba River and Feather River, flanked by unincorporated areas of Sutter County as well as areas within the incorporated Yuba City to the west, and unincorporated areas within Yuba County and areas within incorporated Marysville to the east. This area is encompassed within the Northern Sacramento Valley Air Basin (NSVAB). The NSVAB also comprises all of Sutter, Yuba, Colusa, Butte, Glenn, Tehama, and Shasta counties.

Ambient air quality is commonly characterized by climate conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. CARB divides the state into air basins that share similar climatological, meteorological and topographical features. The air basin is subject to a combination of topographical and climatic factors that influence the potential for high levels of regional and local air pollutants. The air basin is relatively flat, bounded on the north and west by the Coastal Mountain Range and on the east by the southern end of the Cascade Mountain Range and the northern end of the Sierra Nevada. These mountain ranges reach heights in excess of 6,000 feet above mean sea level, with individual peaks rising much higher. Air flows into the NSVAB through the Carquinez Strait, moving across the Sacramento Delta, and bringing pollutants from the heavily populated San Francisco Bay and Sacramento metropolitan areas. The mountains form a substantial physical barrier to this transported pollution as well as locally created pollution (Sacramento Valley Air Quality Engineering and Enforcement Professionals [SVAQEEP] 2015).

The climate is characterized by hot, dry summers and cool, rainy winters. Characteristics of NSVAB winter weather are periods of dense and persistent low-level fog, which are most prevalent between storm systems. From May to October, the region's intense heat and sunlight lead to high ozone pollutant concentrations. Summer inversions are strong and frequent but are less troublesome than those that occur in the fall. Autumn inversions, formed by warm air subsiding in a region of high pressure, have accompanying light winds that do not provide adequate dispersion of air pollutants.

4.3.1.2 Criteria Air Pollutants

Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health with a determined margin of safety. Ozone (O_3), coarse particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur

dioxide (SO_2) are considered to be local pollutants because they tend to accumulate in the air locally. Particulate matter (PM) is also considered a local pollutant. Health effects commonly associated with criteria pollutants are summarized in Table 4.3-1.

Table 4.3-1 Criteria Air Pollutants Summary of Common Sources and Effects

Pollutant	Major Man-Made Sources	Human Health Effects
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO_2)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone. Contributes to global warming and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Ozone (O_3)	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrous oxides (NOx) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints, and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
Particulate Matter (PM_{10} & $PM_{2.5}$)	Produced by power plants, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; asthma; chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility.
Sulfur Dioxide (SO_2)	A colorless gas formed when fuel containing sulfur is burned and when gasoline is extracted from oil. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Lead	Metallic element emitted from metal refineries, smelters, battery manufacturers, iron and steel producers, use of leaded fuels by racing and aircraft industries.	Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems.

Source: California Air Pollution Control Officers Association (CAPCOA) 2013

Carbon Monoxide (CO)

CO, in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. CO combines with hemoglobin in the bloodstream and reduces the amount of oxygen that can be circulated through the body. High CO concentrations can cause headaches, aggravate cardiovascular disease and impair central nervous system functions. CO concentrations can vary greatly over comparatively short distances. Relatively high concentrations of CO are typically found near crowded intersections and along heavy roadways with slow moving traffic. Even under the most sever meteorological and traffic conditions, high concentrations of CO are limited to locations within relatively short distances (i.e., up to 600 feet or 185 meters) of the source. Overall CO emissions are decreasing as a result of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission

levels for vehicles manufactured since 1973. CO levels in the NSVAB are in compliance with the state and federal one- and eight-hour standards.

Nitrogen Oxides

Nitrogen gas comprises about 80 percent of the air and is naturally occurring. At high temperatures and under certain conditions, nitrogen can combine with oxygen to form several different gaseous compounds collectively called nitric oxides (NO_x). Motor vehicle emissions are the main source of NO_x in urban areas. NO_x is very toxic to animals and humans because of its ability to form nitric acid with water in the eyes, lungs, mucus membrane, and skin. In animals, long-term exposure to NO_x increases susceptibility to respiratory infections, and lowering resistance to such diseases as pneumonia and influenza. Laboratory studies show that susceptible humans, such as asthmatics, who are exposed to high concentrations can suffer from lung irritation or possible lung damage. Precursors of NO_x, such as NO and NO_2, attribute to the formation of O_3 and $PM_{2.5}$. Epidemiological studies have also shown associations between NO_2 concentrations and daily mortality from respiratory and cardiovascular causes and with hospital admissions for respiratory conditions.

Ozone

Ozone (O_3) is a secondary pollutant, meaning it is not directly emitted. It is formed when volatile organic compounds (VOCs) or ROG and NO_x undergo photochemical reactions that occur only in the presence of sunlight. The primary source of ROG emissions is unburned hydrocarbons in motor vehicle and other internal combustion engine exhaust. NO_x forms as a result of the combustion process, most notably due to the operation of motor vehicles. Sunlight and hot weather cause ground-level O_3 to form. Ground-level O_3 is the primary constituent of smog. Because O_3 formation occurs over extended periods of time, both O_3 and its precursors are transported by wind and high O_3 concentrations can occur in areas well away from sources of its constituent pollutants.

People with lung disease, children, older adults, and people who are active can be affected when O_3 levels exceed ambient air quality standards. Numerous scientific studies have linked ground-level O_3 exposure to a variety of problems including lung irritation, difficult breathing, permanent lung damage to those with repeated exposure, and respiratory illnesses.

Particulate Matter

Particulate matter includes both aerosols and solid particulates of a wide range of sizes and composition. Of concern are those particles smaller than or equal to 10 microns in diameter size (PM_{10}) and small than or equal to 2.5 microns in diameter ($PM_{2.5}$). Smaller particulates are of greater concern because they can penetrate deeper into the lungs than larger particles. PM_{10} is generally emitted directly as a result of mechanical processes that crush or grind larger particles or form the resuspension of dust, typically through construction activities and vehicular travel. PM_{10} generally settles out of the atmosphere rapidly and is not readily transported over large distances. $PM_{2.5}$ is directly emitted in combustion exhaust and is formed in atmospheric reactions between various gaseous pollutants, including NO_x, sulfur oxides (SO_x) and VOCs. $PM_{2.5}$ can remain suspended in the atmosphere for days and/or weeks and can be transported long distances.

The principal health effects of airborne PM are on the respiratory system. Short-term exposure of high $PM_{2.5}$ and PM_{10} levels are associated with premature mortality and increased hospital admissions and emergency room visits. Long-term exposure is associated with premature mortality and chronic respiratory disease. According to the U.S. Environmental Protection Agency (USEPA), some people are much more sensitive than others to breathing PM_{10} and $PM_{2.5}$. People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worse illnesses; people with bronchitis can expect aggravated symptoms; and children may experience decline in lung function due to breathing in PM_{10} and $PM_{2.5}$. Other groups considered sensitive include smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive because many breathe through their mouths.

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, TACs are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Additionally, diesel engines emit a complex mixture of air pollutants composed of gaseous and solid material. The solid emissions in diesel exhaust are known as diesel particulate matter (DPM). In 1998, California identified DPM as a TAC based on its potential to cause cancer, premature death, and other health problems (e.g., asthma attacks and other respiratory symptoms). Those most vulnerable are children (whose lungs are still developing) and the elderly (who may have other serious health problems). Overall, diesel engine emissions are responsible for the majority of California's known cancer risk from outdoor air pollutants. Diesel engines also contribute to California's $PM_{2.5}$ air quality problems. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death.

Diesel Exhaust

Most recently, CARB identified DPM as a TAC. DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Diesel exhaust is a complex mixture of particles and gases produced when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. DPM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of DPM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of the engine (USEPA 2002). Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. DPM poses the greatest health risk among the TACs;

due to their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

Ambient Air Quality

Ambient air quality at the Project site can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. CARB maintains more than 60 monitoring stations throughout California. The Yuba City – Almond Street (773 Almond Street, Yuba City) air quality monitoring station, located approximately one mile northwest of the Project site, is the closest monitoring station to the site. The Yuba City – Almond Street monitoring station monitors ambient concentrations of O_3, $PM_{2.5}$ and PM_{10}. Ambient emission concentrations will vary due to localized variations in emission sources and climate and should be considered "generally" representative of ambient concentrations in the Project area.

Table 4.3-2 summarizes the published data concerning O_3, $PM_{2.5}$ and PM_{10} between 2017 and 2019 from the Yuba City – Almond Street monitoring station. O_3, PM_{10} and $PM_{2.5}$ are the pollutant species most potently affecting the Project region.

Table 4.3-2. Summary of Ambient Air Quality Data

Pollutant Standards	2017	2018	2019
O_3			
Max 1-hour concentration (ppm)	0.085	0.086	0.077
Max 8-hour concentration (ppm) (state/federal)	0.074 / 0.073	0.072 / 0.071	0.070 / 0.069
Number of days above 1-hour standard (state/federal)	0 / 0	0 / 0	0 / 0
Number of days above 8-hour standard (state/federal)	2 / 1	1 / 1	0 / 0
PM_{10}			
Max 24-hour concentration (µg/m^3) (state/federal)	145.0 / 145.0	339.6 / 318.6	81.9 / 80.5
Number of days above 24-hour standard (state/federal)	19.3 / 0	* / 8.0	27.0 / 0.0
$PM_{2.5}$			
Max 24-hour concentration (µg/m^3) (state/federal)	47.2 / 45.0	285.0 / 52.8	39.3 / 39.3
Number of days above federal 24-hour standard	2.4	8.4	2.0

Source: CARB 2020
µg/m^3 = micrograms per cubic meter; ppm = parts per million
* = Insufficient data available from CARB to determine the value

The USEPA and CARB designate air basins or portions of air basins and counties as being in "attainment" or "nonattainment" for each of the criteria pollutants. Areas that do not meet the standards are classified as nonattainment areas. The National Ambient Air Quality Standards (NAAQS) (other than O_3, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. The NAAQS for O_3, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over one- to three-year periods, depending on the pollutant. The California Ambient Air Quality Standards (CAAQS) are not to be exceeded during a three-year period. The attainment status for the NSVAB is included in Table 4.3-3.

Table 4.3-3. Federal & State Ambient Air Quality Attainment Status for the Project Region (Yuba & Sutter County Portions of the NVAB)

Pollutant	Federal	State
Ozone (O_3)	Unclassified/Attainment	Nonattainment
Coarse Particulate Matter (PM_{10})	Unclassified	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Unclassified/Attainment	Attainment
Carbon Monoxide (CO)	Unclassified/Attainment	Attainment/Unclassified
Nitrogen Dioxide (NO_2)	Unclassified/Attainment	Attainment
Sulfur Dioxide (SO_2)	Unclassified/Attainment	Attainment

Source: CARB 2018

The determination of whether an area meets the state and federal standards is based on air quality monitoring data. Some areas are unclassified, which means there is insufficient monitoring data for determining attainment or nonattainment. Unclassified areas are typically treated as being in attainment. Because the attainment/nonattainment designation is pollutant-specific, an area may be classified as nonattainment for one pollutant and attainment for another. Similarly, because the state and federal standards differ, an area could be classified as attainment for the federal standards of a pollutant and as nonattainment for the state standards of the same pollutant. The region is designated as a nonattainment area for the state standards for O_3 and PM_{10} (CARB 2018).

Sensitive Receptors

Sensitive receptors are defined as facilities or land uses that include members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

The nearest sensitive receptors to the Project site are single family homes to the west and northwest of the Yuba City Boat Ramp facility in Yuba City. Specifically, the nearest residences to the Project boundary are approximately 150 feet distant. It is also noted that haul trucks are proposed to exit the Yuba City Boat Ramp facility from the Yuba City Boat Ramp facility onto Second Street, travel north on Second Street through the residential neighborhood and either travel west on Colusa Avenue to Highway 99 or east on 5th Street to Highway 70 to be transported to the nearest disposal location.

Trucks exiting the Marysville WWTP (under Alternative 3), would exit onto Biz Johnson drive and then take Biz Johnson Drive east to F Street and then to State Route 70. Return trips to the Marysville WWTP would take State Route 70 to Second Street (in Marysville) and then to F Street and Biz Johnson Drive. There are no sensitive receptors along the haul route to and from the Marysville WWTP, or adjacent to the Marysville WWTP.

4.3.2 Regulatory Setting

Relevant federal, state, and local laws and regulations pertaining to air quality are discussed below.

4.3.2.1 Federal

Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the USEPA to establish the NAAQS, with states retaining the option to adopt more stringent standards or to include other specific pollutants. On April 2, 2007, the Supreme Court found that carbon dioxide (CO_2) is an air pollutant covered by the CAA; however, no NAAQS have been established for CO_2.

These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those "sensitive receptors" most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The USEPA has classified air basins (or portions thereof) as being in attainment, nonattainment, or unclassified for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation. Table 4.3-3 lists the federal attainment status of the NSVAB for the criteria pollutants.

4.3.2.2 State

California Clean Air Act

The California Clean Air Act (CCAA) allows the state to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the CAAQS. CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB also has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

California State Implementation Plan

The federal CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The CAA amendments dictate that states containing areas violating the NAAQS

revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the USEPA for approval and publication in the Federal Register.

The Feather River Air Quality Management District (FRAQMD) is the agency primarily responsible for ensuring that NAAQS and CAAQS are not exceeded and that air quality conditions are maintained in the Yuba County and Sutter County portion of the NSVAB. In an attempt to achieve NAAQS and CAAQS and maintain air quality, the air district has participated in the preparation of several air quality attainment plans and reports, which together constitute the SIP for the NSVAB. Specifically, all of the air districts in the NSVAB including the FRAQMD, prepared an air quality attainment plan for O_3 in 1994. Updated every three years since adoption, the current *Northern Sacramento Valley Planning Area 2018 Triennial Air Quality Attainment Plan* (2018 AQAP) includes forecast ROG and NO_x emissions (ozone precursors) for the entire NSVAB through the year 2020. The 2018 AQAP provides local guidance for air basins to achieve attainment of the California ambient air quality O_3 standard.

Tanner Air Toxics Act & Air Toxics "Hot Spots" Information and Assessment Act

CARB's statewide comprehensive air toxics program was established in 1983 with AB 1807 the Toxic Air Contaminant Identification and Control Act (Tanner Air Toxics Act of 1983). AB 1807 created California's program to reduce exposure to air toxics and sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an airborne toxics control measure (ATCM) for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology (T-BACT) to minimize emissions.

CARB also administers the state's mobile source emissions control program and oversees air quality programs established by state statute, such as AB 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, required to communicate the results to the public in the form of notices and public meetings. In September 1992, the "Hot Spots" Act was amended by Senate Bill (SB) 1731 which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

Mobile Source Strategy

In 2016 CARB released the updated to the Mobile Source Strategy. This demonstrates how the State will meet air quality standards, decrease health risks from transportation emissions, and reduce petroleum consumption over the next 15 years. This includes engine technology that is effectively 90 percent cleaner than today's current standards, with clean, renewable fuels comprising half the fuels burned.

The strategy also relies on the increased use of renewable fuels to ensure that air pollutant reductions are achieved while meeting the ongoing demand for liquid and gaseous fuels in applications where combustion technologies remain, including in heavy-duty trucks and equipment and light-duty hybrid vehicles. The estimated benefits of the Mobile Source Strategy in reducing emissions from mobile sources includes a 50 percent reduction in the consumption of petroleum-based fuels statewide.

Diesel Risk Reduction Plan

The identification of DPM as a TAC in 1998 led CARB to adopt the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (Risk Reduction Plan) in October 2000. The Risk Reduction Plan's goals include an 85 percent reduction in DPM by 2020 from the 2000 baseline (CARB 2000). The Risk Reduction Plan includes regulations to establish cleaner new diesel engines, cleaner in-use diesel engines (retrofits), and cleaner diesel fuel.

Heavy-Duty Vehicle Idling Emission Reduction Program

The purpose of CARB's ATCM to Limit Diesel-Fueled Commercial Motor Vehicle Idling is to reduce public exposure to DPM and criteria pollutants by limiting the idling of diesel-fueled commercial vehicles. The driver of any vehicle subject to this ATCM is prohibited from idling the vehicle's primary diesel engine for greater than five minutes at any location and is prohibited from idling a diesel-fueled auxiliary power system (APS) for more than five minutes to power a heater, air conditioner, or any ancillary equipment on the vehicle if it has a sleeper berth and the truck is located within 100 feet of a restricted area (homes and schools).

Beginning in 2008, CARB's Final Regulation Order, Requirements to Reduce Idling Emissions from New and In-Use Trucks, requires that new 2008 and subsequent model-year heavy-duty diesel engines be equipped with an engine shutdown system that automatically shuts down the engine after 300 seconds of continuous idling operation once the vehicle is stopped, the transmission is set to "neutral" or "park", and the parking brake is engaged.

4.3.2.3 Regional

The FRAQMD is designated by law to adopt and enforce regulations to achieve and maintain ambient air quality standards. The FRAQMD, along with other air districts in the NSVAB, has committed to jointly prepare and implement the *NSVAB Air Quality Attainment Plan* for the purpose of achieving and maintaining healthful air quality throughout the air basin. In addition, the FRAQMD adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs, and it regulates agricultural burning. For instance, FRAQMD Regulation IV, *Stationary Emission Sources Permit System and Registration*, requires that most projects using of equipment capable of releasing emissions to the atmosphere obtain permit(s) from FRAQMD prior to equipment operation. Specifically, portable construction equipment (e.g. generators, compressors, pile drivers, lighting equipment, etc.) with an internal combustion engine over 50 horsepower are required to have a FRAQMD permit or a CARB portable equipment registration.

FRAQMD Rule 3.16, *Fugitive Dust*, states that developers or contractors are required to control dust emissions from earth moving or any other construction-related activities to prevent airborne dust from leaving a project site. Developers and/or contractors must take every reasonable precaution not to cause or allow the emissions of fugitive dust from being airborne beyond the property line from which the emission originates, from any construction, handling or storage activity, or any wrecking, excavation, grading, clearing of land or solid waste disposal operation. Rule 3.16 is enforced through the requirement of preparation of a Fugitive Dust Control Plan, which identifies the dust suppression measures to be employed. Reasonable precautions shall include, but are not limited to:

- use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, construction of roadways, or the clearing of land;
- application of asphalt, oil, water, or suitable chemical on dirt roads, material stockpiles, and other surfaces which can give rise to airborne dusts;
- other means approved by the FRAQMD.

Other responsibilities of the FRAQMD include monitoring air quality, preparing clean air plans, and responding to citizen complaints concerning air quality.

4.3.2.4 Local

Sutter County

The following goals and policies of the 2019 Sutter County General Plan (Sutter County 2019) are applicable to the Project:

ER 9.1: *Ambient Air Quality Standards. Work with the California Air Resources Board and the Feather River Air Quality Management District (FRAQMD) to meet state and federal ambient air quality standards.*

ER 9.2: *FRAQMD - Support FRAQMD in its establishment of appropriate standards to address the air quality impacts of new development.*

City of Yuba City

The following goals and policies of the City of Yuba City General Plan (2004) are applicable to the Project:

8.6-I-6: *Require applicants whose development would result in construction-related fugitive dust emissions to control such emissions as follows:*

- *During clearing, grading, earth-moving, or excavation operations, fugitive dust emissions shall be controlled by regular watering, paving of construction roads, or other dust-preventive measures.*

- *All material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust. Watering, with complete coverage, shall occur at least twice daily, preferably in the late morning and after work is done for the day.*
- *All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 20 mph averaged over 1 hour.*
- *All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.*
- *The area disturbed by demolition, clearing, grading, earth-moving, or excavation operations shall be minimized at all times.*
- *Portions of the construction site to remain inactive longer than a period of 3 months shall be seeded and watered until grass cover is grown.*
- *All on-site roads shall be paved as soon as feasible or watered periodically or chemically stabilized.*

Particulate emissions are often the result of construction activities. These provisions should also be implemented outside and adjacent to the urban growth area through a Memorandum of Understanding with the County.

8.6-I-7: *Require applicants whose development would result in construction-related exhaust emissions to minimize such emissions by maintaining equipment engines in good condition and in proper tune according to manufacturer's specifications and during smog season (May through October) by not allowing construction equipment to be left idling for long periods.*

4.3.3 Environmental Impacts and Mitigation Measures

This section describes potential impacts on air quality that could result from the Project. The section also recommends mitigation measures as needed to reduce significant impacts

4.3.3.1 Thresholds of Significance

Based on the CEQA Guidelines, Appendix G: Items III (a) through (d), implementation of the Project would have a significant impact related to air quality if it would:

(a) conflict with or obstruct implementation of applicable air quality plan;
(b) result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable Federal or State ambient air quality standard;
(c) expose sensitive receptors to substantial pollutant concentrations (i.e., carbon monoxide hot spots or TACs); or

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

FRAQMD Thresholds

The significance criteria established by the applicable air quality management or air pollution control district (FRAQMD) may be relied upon to make the above determinations. According to the FRAQMD, an air quality impact is considered significant if the Proposed Project would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The FRAQMD has established thresholds of significance for air quality for construction type activities. Specifically, the FRAQMD distinguishes between two types of projects, Type 1 and Type 2 projects. Type 1 projects are land use projects in which an operational phase exists. Type 2 have no operational land use component, as with the Proposed Project. A Type 2 project is considered to be less than significant if the *average project life emissions* do not exceed 25 pounds per day of NOx or 25 pounds per day of ROG. For instance, if a project takes six months to construct, then the maximum allowed emissions of NOx and ROG are 4,500 pounds for each pollutant [6 months = 180 days. 180 x 25 = 4,500]. Per the FRAQMD, for Type 2 projects that occur over multiple years, such as the Proposed Project, the maximum allowed emissions of NOx or ROG are 4.5 tons annually. The FRAQMD has also established a significance threshold for PM_{10}. Type 2 projects must generate less than 80 pounds of PM_{10} daily in order to be considered less than significant.

Table 4.3-4 presents the FRAQMD significance thresholds for Type 2 projects occurring over multiple years.

Table 4.3-4. FRAQMD Thresholds of Significance for Type 2 Project Occurring for Multiple Years

Emission	Type 2 Project Significance Thresholds
NO_x	4.5 tons/year
ROG	4.5 tons/year
PM_{10}	80 pounds/day
$PM_{2.5}$	N/A

Notes: NOx and ROG construction emissions may be averaged over the life of a project but may not exceed 4.5 tons per year.

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

4.3.3.2 Methods of Analysis

Air quality impacts of the preferred Project and all Project alternatives were assessed in accordance with methodologies recommended by the FRAQMD. Where criteria air pollutant quantification was required, emissions from off-road equipment and ground disturbance were modeled using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. Emissions from worker commute trips were also calculated

with CalEEMod. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Emissions generated from haul truck trips are estimated with the use of the 2017 version of the EMission FACtor model (EMFAC). EMFAC 2017 is a mathematical model that was developed to calculate emission rates from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by CARB to project changes in future emissions from on-road mobile sources including cars, trucks, and buses in California. EMFAC 2017 includes the latest data on California's truck fleets and travel activity. Emissions generated by marine vessels are estimated using the CARB Mobile Source Emissions Inventory online database –OFFROAD 2017 version 1.0.1 (CARB 2017). OFFROAD 2017 is a software package used to generate emissions inventory data for off-road mobile sources.

Project and Project alternative air pollutant emissions were calculated using a combination of model defaults for Sutter and Yuba counties and Project details contained in Chapter 3.0, *Project Description*, of this EIR, including the Construction Equipment List contained in Table 3-1 of Chapter 3.0. The Project is expected to begin construction in the Summer of 2021. Dredging operations and dewatering activities are proposed to be limited to between June 15 and October 15 (for a total of 122 calendar days; 87 non-holiday weekdays). Additionally, this analysis assumes the maximum 250,000 cy of dredged material would be hauled offsite during Phase 2 of the preferred Project to the Ostrom Landfill located approximately 16 road miles from the Project site (the analysis of Alternatives 2 and 3 assumes 315,600 cy of dredge material would be hauled to the Ostrom Landfill while the analysis of Alternatives 1 and 4 assumes no dredged material would be hauled).

4.3.3.3 Project Impacts and Mitigation Measures

Impact 4.3-1: Implementation of the Proposed Project would conflict with or obstruct implementation of applicable air quality plan.
Impact Determination: *significant and unavoidable.*

Threshold:	*Conflict with or obstruct implementation of applicable air quality plan.*

As part of its enforcement responsibilities, the USEPA requires each state with nonattainment areas to prepare and submit a SIP that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the CCAA requires an air quality attainment plan (AQAP) to be prepared for areas designated as nonattainment with regard to the federal and/or state ambient air quality standards. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date. As previously stated, the Yuba and Sutter counties portion of the NSVAB is classified nonattainment for the state O_3 and PM_{10} standards.

The 2018 AQAP is the most recent air quality planning document covering Yuba and Sutter counties. Air quality attainment plans are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls describing how the state will attain ambient air quality standards. State law makes CARB the lead agency for all

purposes related to the 2018 AQAP. Local air districts prepare air quality attainment plans and submit them to CARB for review and approval. The 2018 AQAP includes forecast ROG and NO_X emissions (O_3 precursors) for the entire NSVAB through the year 2020. The plan also includes control strategies necessary to attain the California O_3 standard at the earliest practicable date, as well as developed emissions inventories and associated emissions projections for the region showing a downtrend for both ROG and NO_X.

Implementation of the Project and Project alternatives would result in dredging activities spanning over the course of a maximum of three years. Once the necessary amount of material is dredged from the Project area (the confluence of the Yuba and Feather rivers), the Project would cease. Thus, the Project is temporary and would not result in long-term emissions from area and mobile emission sources. The consistency of the Project with the 2018 AQAP is determined by a project-induced development's consistency with air pollutant emission projections in the plan. The 2018 AQAP relies on control measures promulgated by all participating counties, including Yuba and Sutter counties, to meet emission reduction targets.

As described previously, implementation of the Project would be subject to applicable FRAQMD rules and regulations in effect at the time of construction. A description of Rule 3.16, applicable to the activities necessary for implementation of the Project, are described above. However, as shown in Tables 4.3-6 and 4.3-7 below, preferred Project implementation would surpass the FRAQMD NO_x emission threshold during Phase 2. Implementation of Alternative 3 would also surpass the FRAQMD NO_x emission threshold. As such, the preferred Project and Alternative 3 would potentially conflict with the achievement of ROG and NOx (ozone precursor) emission reduction goals. The determination of AQMP consistency is primarily concerned with the long-term influence of a project on air quality. Nonetheless, Project implementation emissions would exceed short-term construction NO_x-related significance thresholds potentially hindering the region's ability to meet state and federal air quality standards, thereby potentially conflicting with the 2018 AQAP. The CEQA thresholds of significance established by the FRAQMD are designed to meet the objectives of regional air quality planning efforts and in doing so achieve attainment and/or maintain status with state and federal standards. As noted, the preferred Project and Alternative 3 would increase the emission of NO_x pollutants and exceed the thresholds of significance established by the FRAQMD for purposes of reducing air pollution and its deleterious health effects.

Impacts associated with the preferred Project and Alternative 3 are significant and unavoidable despite the imposition of mitigation requiring the cleanest, most efficient construction equipment engine types available. Alternatives 1, 2, and 4 would be less than significant as emissions generated under these alternatives would not surpass FRAQMD thresholds (see Tables 4.3-5, 4.3-6, and 4.3-7).

Mitigation Measures

See mitigation measure **AIR-1** below.

Impact 4.3-2: Implementation of the Proposed Project would result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment under an applicable federal or state ambient air quality standard.
Impact Determination: *significant and unavoidable.*

Threshold:	*Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment under an applicable Federal or State ambient air quality standard.*

Implementation of the Proposed Project and each Project alternative, with the exception of Alternative 1, the No Project Alternative, would generate short-term emissions of criteria air pollutants. The significance criteria established by the FRAQMD for Type 2 projects spanning multiple years is relied upon to make the determination whether the Project would result in a cumulatively considerable impact.

The criteria pollutants of primary concern within the Project area include O_3-precursor pollutants (i.e., ROG and NO_X) and PM_{10}. Emissions generated during Project implementation would be short term and of temporary duration, lasting only as long as dredging and hauling activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceed the thresholds of significance. Two basic sources of short-term emissions will be generated: operation of the offshore and onshore equipment (i.e., dredging vessels, tractors, haul trucks) and the creation of fugitive dust during dewatering activities.

Emissions generated from onshore, off-road equipment, ground disturbance, and worker commute trips are calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. Emissions generated from Project haul truck trips are estimated with the use of the EMFAC 2017 model. As previously described, EMFAC 2017 is a mathematical model that was developed to calculate emission rates from motor vehicles that operate on highways, freeways, and local roads in California. Emissions generated by Project marine vessels are estimated using OFFROAD 2017. OFFROAD 2017 is a software package used to generate emissions inventory data for off-road mobile sources. See Appendix C for more information regarding Project equipment and duration used in this analysis.

Predicted maximum daily generated emissions for the Proposed Project and all Project alternatives are summarized in Table 4.3-5. Emissions are short-term and of temporary duration, lasting only as long as Project implementation occurs, but PM_{10} emissions would be considered a potentially significant air quality impact if the volume of such pollutants generated exceeds the FRAQMD's PM_{10} threshold of significance of 80 pounds per day.

Table 4.3-5. Daily Implementation Emissions (pounds per day) - Unmitigated				
Alternative	**Pollutant (pounds per day)**			
	ROG	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Preferred Project				
Phase 1 Dredging Activities (2021)[1]	4.44	40.38	1.57	2.31
Phase 1 Dewatering Activities (2021)[2]	4.24	50.17	7.33	4.61
Phase 1 Combined	**7.59**	**81.01**	**8.39**	**6.41**
Phase 2 Dredging Activities (2022 – 2023)[1]	4.44	40.38	1.57	2.31
Phase 2 Dewatering Activities (2022 – 2023)[3]	4.03	64.71	7.20	4.34
Phase 2 Hauling Activities (2022 – 2023)[4]	0.21	12.11	0.34	0.17
Phase 2 Combined	**8.68**	**117.2**	**9.11**	**6.82**
Alternative 1 (No Project)				
Alternative 1 Activities[5]	0.00	0.00	0.00	0.00
Alternative 2 (No Use of Marysville Wastewater Treatment Plant)				
Alternative 2 Dredging[6]	4.44	40.38	1.57	2.31
Alternative 2 Material Handling[7]	1.49	14.80	3.25	2.02
Alternative 2 Hauling[8]	0.21	12.11	0.34	0.17
Alternative 2 Combined	**6.14**	**67.29**	**5.16**	**4.50**
Alternative 3 (Use of Marysville WWTP for Dewatering Only but Not Disposal)				
Alterative 3 Dredging[9]	4.44	40.38	1.57	2.31
Alternative 3 Dewatering[10]	4.16	72.26	7.28	4.36
Alternative 3 Hauling[11]	0.21	12.11	0.34	0.17
Alternative 3 Combined	**8.81**	**124.75**	**9.19**	**6.84**
Alternative 4 (Reduced Project – Dredge of Only Northern 14-Acres (Phase 1 Only))				
Alternative 4 Dredging[12]	4.44	40.38	1.57	2.31
Alternative 4 Dewatering[12]	4.24	50.17	7.33	4.61
Alternative 4 Combined	**7.59**	**81.01**	**8.39**	**6.41**

Source: Dredging emissions calculated with OFFROAD 2017; Dewatering emissions calculated with CalEEMod version 2016.3.2; hauling emissions calculated with EMFAC 2017. Refer to Appendix C for Model Data Outputs.

Notes:

[1] Preferred Project Phases 1 and 2 dredging emissions account for the use of 1 dredge boat, 1 barge, 1 push boat, 1 swift water rescue boat, and 1 support boat operating all day as well as 2 generators and 1 pump operating 8 hours each day.

[2] Preferred Project Phase 1 dewatering emissions account for the material movement of 65,600 cubic yards of dredged material and other dewatering activity involving 1 crane, 2 forklifts, 1 trencher, 2 dozers, 2 tractor/loader/backhoes, 1 grader, and 1 water truck.

[3] Preferred Project Phase 2 dewatering emissions account for the material movement of 250,000 cubic yards of dredged material and other dewatering activity involving 1 crane, 2 forklifts, 1 trencher, 2 dozers, 2 tractor/loader/backhoes, 1 grader, and 1 water truck.

[4] Preferred Project Phase 2 hauling emissions account for haul trucks traveling the distance from the Project to the Recology Ostrom Landfill (16 miles). 76 one-way haul truck trips are anticipated in order to remove 250,000 cubic yards of dredge material and return to the site. The Project is expected to generate 76 one-way trips (38 round trip truck trips) daily for approximately 329 days (assumed to span years

Table 4.3-5. Daily Implementation Emissions (pounds per day) - Unmitigated				
Alternative	Pollutant (pounds per day)			
	ROG	NO_X	PM_{10}	$PM_{2.5}$

2022 & 2023). 16 miles x 76 one-way haul trips = 1,216 miles traveled daily. Hauling emissions also account for moments of haul truck idling. Calculations assume 15 minutes of idling per daily haul truck trip. 76 one-way trips x 15 = 1,140 minutes idling daily.

[5] Alternative 1 would involve no dredging and existing conditions in the Yuba and Feather rivers would remain the same.

[6] Alternative 2 dredging emissions account for the use of 1 dredge boat, 1 barge, 1 push boat, 1 swift water rescue boat, and 1 support boat operating all day as well as 2 generators and 1 pump operating 8 hours each day.

[7] Alternative 2 material hauling assumes 1 dozer and 2 tractor/loader/backhoes to place dredged material into fractionation tanks.

[8] Alternative 2 hauling emissions account for haul trucks traveling the distance from the Project to the Recology Ostrom Landfill (16 miles). Alternative 2 would require more days (416) to haul 315,600 cubic yards compared with the days necessary (329) to haul 250,000 cubic yards with the Preferred Project. However, the amount of daily hauling operations (truck trips and idling) is assumed to be the same as those under the Preferred Project.

[9] Alternative 3 dredging emissions account for the use of 1 dredge boat, 1 barge, 1 push boat, 1 swift water rescue boat, and 1 support boat operating all day as well as 2 generators and 1 pump operating 8 hours each day.

[10] Alternative 3 dewatering emissions account for the material movement of 315,600 cubic yards of dredged material and other dewatering activity involving 1 crane, 2 forklifts, 1 trencher, 2 dozers, 2 tractor/loader/backhoes, 1 grader, and 1 water truck.

[11] Alternative 3 hauling emissions account for haul trucks traveling the distance from the Project to the Recology Ostrom Landfill (16 miles). Alternative 3 would require more days (416) to haul 315,600 cubic yards compared with the days necessary (329) to haul 250,000 cubic yards with the Preferred Project.

[12] Alternative 4 equates to Preferred Project Phase 1.

As show in Table 4.3-5, PM_{10} pollutant emissions would remain below the threshold of 80 pounds daily during implementation of the Project as well as any of the alternatives. Therefore, PM_{10} emissions would not result in a violation of air quality standards.

Predicted maximum annual emissions for the Proposed Project and all Project alternatives are summarized in Table 4.3-6. Project NO_x and ROG emissions would be considered a potentially significant air quality impact if the volume of pollutants generated exceeds the FRAQMD's NO_x or ROG thresholds of 4.5 tons per year for Type 2 projects spanning multiple years.

Table 4.3-6. Annual Implementation Emissions (tons per year) - Unmitigated				
Alternative	Pollutant (tons per year)			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Preferred Project				
Phase 1 Dredging Activities (2021)[1]	0.2	1.7	0.1	0.1
Phase 1 Dewatering Activities (2021)[2]	0.2	2.2	0.7	0.4
Phase 1 Combined	**0.4**	**3.9**	**0.8**	**0.5**
Phase 2 Dredging Activities (2022 – 2023)[1]	0.2	1.7	0.1	0.1
Phase 2 Dewatering Activities (2022 – 2023)[3]	0.2	2.8	0.7	0.4
Phase 2 Hauling Activities (2022 – 2023)[4]	0.0	1.0	0.0	0.0
Phase 2 Combined	**0.4**	**5.5**	**0.8**	**0.5**
Alternative 1 (No Project)				
Alternative 1 Activities[5]	0.00	0.00	0.00	0.00

Table 4.3-6. Annual Implementation Emissions (tons per year) - Unmitigated				
Alternative	**Pollutant (tons per year)**			
	ROG	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Alternative 2 (No Use of Marysville Wastewater Treatment Plant)				
Alternative 2 Dredging[6]	0.2	1.7	0.1	0.1
Alternative 2 Material Handling[7]	0.1	0.7	0.3	0.2
Alternative 2 Hauling[8]	0.0	1.3	0.0	0.0
Alternative 2 Combined	**0.3**	**3.7**	**0.4**	**0.3**
Alternative 3 (Use of Marysville WWTP for Dewatering Only but Not Disposal)				
Alterative 3 Dredging[9]	0.2	1.7	0.1	0.1
Alternative 3 Dewatering[10]	0.2	3.2	0.7	0.4
Alternative 3 Hauling[11]	0.0	1.3	0.0	0.0
Alternative 3 Combined	**0.4**	**6.2**	**0.8**	**0.5**
Alternative 4 (Reduced Project – Dredge of Only Northern 14-Acres (Phase 1 Only))				
Alternative 4 Dredging[12]	0.2	1.7	0.1	0.1
Alternative 4 Dewatering[12]	0.2	2.2	0.7	0.4
Alternative 4 Combined	**0.4**	**3.9**	**0.8**	**0.5**

Source: Dredging emissions calculated with OFFROAD 2017; Dewatering emissions calculated with CalEEMod version 2016.3.2; hauling emissions calculated with EMFAC 2017. Refer to Appendix C for Model Data Outputs.

Notes:

[1] Preferred Project Phases 1 and 2 dredging emissions account for the use of 1 dredge boat, 1 barge, 1 push boat, 1 swift water rescue boat, and 1 support boat operating all day as well as 2 generators and 1 pump operating 8 hours each day.

[2] Preferred Project Phase 1 dewatering emissions account for the material movement of 65,600 cubic yards of dredged material and other dewatering activity involving 1 crane, 2 forklifts, 1 trencher, 2 dozers, 2 tractor/loader/backhoes, 1 grader, and 1 water truck.

[3] Preferred Project Phase 2 dewatering emissions account for the material movement of 250,000 cubic yards of dredged material and other dewatering activity involving 1 crane, 2 forklifts, 1 trencher, 2 dozers, 2 tractor/loader/backhoes, 1 grader, and 1 water truck.

[4] Preferred Project Phase 2 hauling emissions account for haul trucks traveling the distance from the Project to the Recology Ostrom Landfill (16 miles). 76 one-way haul truck trips are anticipated in order to remove 250,000 cubic yards of dredge material and return to the site. The Project is expected to generate 76 one-way trips (38 round trip truck trips) daily for approximately 329 days (assumed to span years 2022 & 2023). 16 miles x 76 one-way haul trips = 1,216 miles traveled daily. Hauling emissions also account for moments of haul truck idling. Calculations assume 15 minutes of idling per daily haul truck trip. 76 one-way trips x 15 = 1,140 minutes idling daily.

[5] Alternative 1 would involve no dredging and existing conditions in the Yuba and Feather rivers would remain the same.

[6] Alternative 2 dredging emissions account for the use of 1 dredge boat, 1 barge, 1 push boat, 1 swift water rescue boat, and 1 support boat operating all day as well as 2 generators and 1 pump operating 8 hours each day.

[7] Alternative 2 material hauling assumes 1 dozer and 2 tractor/loader/backhoes to place dredged material into fractionation tanks.

[8] Alternative 2 hauling emissions account for haul trucks traveling the distance from the Project to the Recology Ostrom Landfill (16 miles). Alternative 2 would require more days (416) to haul 315,600 cubic yards compared with the days necessary (329) to haul 250,000 cubic yards with the Preferred Project. However, the amount of daily hauling operations (truck trips and idling) is assumed to be the same as those under the Preferred Project.

[9] Alternative 3 dredging emissions account for the use of 1 dredge boat, 1 barge, 1 push boat, 1 swift water rescue boat, and 1 support boat operating all day as well as 2 generators and 1 pump operating 8 hours each day.

[10] Alternative 3 dewatering emissions account for the material movement of 315,600 cubic yards of dredged material and other dewatering activity involving 1 crane, 2 forklifts, 1 trencher, 2 dozers, 2 tractor/loader/backhoes, 1 grader, and 1 water truck.

[11] Alternative 3 hauling emissions account for haul trucks traveling the distance from the Project to the Recology Ostrom Landfill (16 miles). Alternative 3 would require more days (416) to haul 315,600 cubic yards compared with the days necessary (329) to haul 250,000 cubic yards with the Preferred Project.

[12] Alternative 4 equates to Preferred Project Phase 1.

As shown in Table 4.3-6, NO_x emissions during Phase 2 of the preferred Project are predicted to exceed the FRAQMD significance threshold of 4.5 tons of NOx annually. Similarly, NO_x emissions would be exceeded during implementation of Alternative 3. Therefore, mitigation measure **AIR-1** is required to reduce emissions generated during either Phase 2 of the preferred Project or Alternative 3.

Mitigation measure **AIR-1** requires the use of a certified clean fleet of onshore equipment to work the dewatering operation at the Marysville Wastewater Treatment Plant. The first federal standards (Tier 1) for new off-road diesel engines were adopted in 1994 for engines over 50 horsepower and were phased in from 1996 to 2000. In 1996, a Statement of Principles pertaining to off-road diesel engines was signed between the USEPA, CARB, and engine makers (including Caterpillar, Cummins, Deere, Detroit Diesel, Deutz, Isuzu, Komatsu, Kubota, Mitsubishi, Navistar, New Holland, Wis-Con, and Yanmar). On August 27, 1998, the USEPA signed the final rule reflecting the provisions of the Statement of Principles. The 1998 regulation introduced Tier 1 standards for equipment under 50 horsepower and increasingly more stringent Tier 2, Tier 3, and Tier 4 standards for all equipment with phase-in schedules from 2000 to 2015. As a result, all off-road, diesel-fueled construction equipment manufactured from 2006 to 2015 has been manufactured to Tier 3 standards. The Tier 3 standards can reduce NO_x emissions by as much as 64 percent and PM emissions by as much as 39 percent. On May 11, 2004, the USEPA signed the final rule introducing Tier 4 emission standards, which are currently phased-in over the period of 2008-2015. The Tier 4 standards require that NO_x emissions be further reduced by about 90 percent. All off-road, diesel-fueled construction equipment manufactured in 2015 or later have been manufactured to Tier 4 standards.

Mitigation measure **AIR-1** requires the use of Tier 3 certified equipment (dozers, trencher, crane, grader, and tractor/loader/backhoes). To the extent possible, Tier 4 certified equipment is required.

Table 4.3-7 shows the results of preferred Project emissions and Alternative 3 emissions with implementation of mitigation measure **AIR-1**.

Table 4.3-7. Annual Preferred Project & Alternative 3 Emissions (tons per year) - Mitigated

Alternative	Pollutant (tons per year)			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Preferred Project				
Phase 1 Dredging Activities (2021)	0.2	1.7	0.1	0.1
Phase 1 Dewatering Activities (2021)	0.2	2.2	0.7	0.4
Phase 1 Combined	**0.4**	**3.9**	**0.8**	**0.5**
Phase 2 Dredging Activities (2022 – 2023)	0.2	1.7	0.1	0.1
Phase 2 Dewatering Activities (2022 – 2023)	0.1	2.1	0.3	0.2
Phase 2 Hauling Activities (2022 – 2023)	0.0	1.0	0.0	0.0
Phase 2 Combined	**0.3**	**4.8**	**0.4**	**0.3**
Alternative 3 (Use of Marysville WWTP for Dewatering Only but Not Disposal)				
Alterative 3 Dredging	0.2	1.7	0.1	0.1
Alternative 3 Dewatering	0.1	2.5	0.3	0.2
Alternative 3 Hauling	0.0	1.3	0.0	0.0
Alternative 3 Combined	**0.3**	**5.5**	**0.4**	**0.3**

Source: Dredging emissions calculated with OFFROAD 2017; Dewatering emissions calculated with CalEEMod version 2016.3.2; hauling emissions calculated with EMFAC 2017. Refer to Appendix C for Model Data Outputs.

As shown in Table 4.3-7, NO_x emissions would be reduced 0.7 ton during Phase 2 of the preferred Project with implementation of mitigation measure **AIR-1**. Similarly, Alternative 3 NO_x emissions would be reduced 0.7 ton with implementation of mitigation measure **AIR-1**. While this level of NO_x emission reduction is substantial, it is not enough to reduce such emissions to levels below the FRAQMD significance threshold. It is noted that the use of Tier 4 certified equipment would reduce emissions further; however, due to the potential lack of availability associated with this recent technology it is infeasible to require all equipment at this level of efficiency at this time. Therefore, this impact would be considered significant and unavoidable for the preferred Project and Alternative 3. Alternatives 1, 2, and 4 would be less than significant as emissions generated under these alternatives would not surpass FRAQMD thresholds.

As previously identified, the Project region is designated as a nonattainment area for the state standards for O_3 and PM_{10}. O_3 is a health threat to persons who already suffer from respiratory diseases and can cause severe ear, nose and throat irritation and increases susceptibility to respiratory infections. PM_{10} can adversely affect the human respiratory system. As shown in Table 4.3-7, the Proposed Project and Alternative 3 would result in increased emissions of the O_3 precursor pollutants ROG and NO_x, as well as PM_{10}; however, the correlation between a project's emissions and increases in nonattainment days, or frequency or severity of related illnesses, cannot be accurately quantified. The overall strategy for reducing air pollution and related health effects in the Yuba and Sutter counties portion of the NSVAB is contained in the 2018 AQAP, previously described. The 2018 AQAP is a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls describing how the state will attain ambient air quality standards. The CEQA thresholds of significance established by the FRAQMD are designed to meet the objectives of regional air quality planning efforts and in doing so achieve attainment status with state and federal standards. As noted above, the Project would increase the emission of these pollutants and exceed the thresholds of significance established by the FRAQMD for purposes of reducing air pollution and its deleterious health effects.

On December 24, 2018, the California Supreme Court issued an opinion identifying the need to provide sufficient information connecting a project's air emissions to health impacts or explain why such information could not be ascertained (Sierra Club v. County of Fresno [Friant Ranch, L.P.] [2018] 6 Cal.5th 502, Case No. S219783). Pursuant to Rule 8.520(f) of the Rules of the California Court, the South Coast Air Quality Management District (SCAQMD) and the San Joaquin Valley Air Pollution Control District (SJVAPCD) filed amicus curiae briefs in regard to this case. In both briefs, SCAQMD and SJVAPCD provided technical explanations as to why it may not be feasible for a project to relate the expected adverse air quality impacts to likely health consequences. As summarized below, for the reasons set forth by the SCAQMD and SJVAPCD, the Project's significant air quality impacts currently cannot feasibly be related to likely health consequences. The technical demands for feasibly and accurately relating regional air pollutants to likely health consequences are too high for this Project and alternatives at this time. The technical challenges are listed below, with the SCAQMD and SJVAPCD amicus briefs providing support on the findings for the Project:

- O_3 is not formed at the location of sources/emissions, which necessitates the use of complex and more sophisticated modeling that is not reasonably feasible for the Project at this time.
- "For the so-called criteria pollutants, such as O_3, it may be more difficult to quantify health impacts. O_3 is formed in the atmosphere from the chemical reaction of NOx and VOC [ROG] in the presence of sunlight. It takes time and the influence of meteorological conditions for these reactions to occur, so O_3 may be formed at a distance downwind from the sources." [SCAQMD p.11]
- O_3 and secondary PM formation is complex, which necessitates the use of more sophisticated modeling that is not reasonably feasible for the Project at this time. The Proposed Project, while much smaller in scale to the Friant Ranch project, similarly includes area wide sources and mobile sources.

  "Meteorology, the presence of sunlight, and other complex chemical factors all combine to determine the ultimate concentration and location of O_3 or PM. This is especially true for a project like Friant Ranch where most of the criteria pollutant emissions derive not from a single 'point source,' but from area wide sources (consumer products, paint, etc.) or mobile sources (cars and trucks) driving to, from and around the site." [SJVAPCD p.9]
- The quantity of precursor emissions is not proportional to local O_3 and secondary PM concentration, which necessitates the use of complex and more sophisticated modeling that is not reasonably feasible for the Project at this time.

  "Ground level O_3 (smog) is not directly emitted into the air but is formed when precursor pollutants such as NO_x and VOCs [ROG] are emitted into the atmosphere and undergo complex chemical reactions in the process of sunlight. Once formed, O_3 can be transported long distances by wind. Because of the complexity of O_3 formation, a specific tonnage amount of NO_x or VOCs [ROG] emitted in a particular area does not equate to a particular concentration of O_3 in that area." [SJVAPCD p.4]

  "Secondary PM, like O_3, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as SO_x and NO_x. Because of the complexity of secondary PM formation, the tonnage of PM-forming precursor emissions in an area does not necessarily result in an equivalent concentration of secondary PM in that area." [SJVAPCD p.5]
- Emissions do not cause health effects – it is the resulting concentration of criteria pollutants, which is influenced by sunlight, complex reactions, and transport, which necessitates the use of complex and more sophisticated modeling that is not reasonably feasible for the Project at this time.

  "The disconnect between the tonnage of precursor pollutants (NOx, SOx and VOCs [ROG]) and the concentration of O_3 or PM formed is important because it is not necessarily the tonnage of precursor pollutants that causes human health effects, but the concentration of resulting O_3 or PM." [SJVAPCD p.5]

- Currently available modeling tools are appropriate for regional evaluations, but not individual projects like the preferred Project and alternatives.

  "For instance, the computer models used to simulate and predict an attainment date for the O_3 or particulate matter NAAQS in the San Joaquin Valley are based on regional inputs, such as regional inventories of precursor pollutants (NOx, SOx and VOCs [ROG]) and the atmospheric chemistry and meteorology of the Valley…the models simulate future O_3 or PM levels based on predicted changes in precursor emissions Valley wide… The goal of these modeling exercises is not to determine whether the emissions generated by a particular factory or development project will affect the date that the Valley attains the NAAQS. Rather, the Air District's modeling and planning strategy is regional in nature and based on the extent to which all of the emission-generating sources in the Valley (current and future) must be controlled in order to reach attainment." [SJVAPCD p.6-7]

  "Thus, the CEQA air quality analysis for criteria pollutants is not really a localized, project-level impact analysis but one of regional, "cumulative impacts."" [SJVAPCD p.8]

  "…the currently available modeling tools are equipped to model the impact of all emission sources in the Valley on attainment... Running the photochemical grid model used for predicting O_3 attainment with the emissions solely from the Friant Ranch project (which equate to less than one-tenth of one percent of the total NOx and VOC [ROG] in the Valley) is not likely to yield valid information given the relative scale involved." [SJVAPCD p.9-10]

- The SJVAPCD indicates that it is currently impossible to accurately correlate project level emissions to specific health impacts.

  "Finally, even once a model is developed to accurately ascertain local increases in concentrations of photochemical pollutants like O_3 and some particulates, it remains impossible, using today's models, to correlate that increase in concentration to a specific health impact. The reason is the same: such models are designed to determine regional, population-wide health impacts, and simply are not accurate when applied at the local level." [SJVAPCD p.10]

For the reasons set forth above, it is not currently feasible to relate the Project's contribution of regional air pollutants to likely health consequences. The FRAQMD is responsible for assessing air pollutant impacts regionally, and the potential health consequences from those on a regional basis. Currently available regional modeling tools are not designed to capture changes in pollutant concentrations for this Proposed Project or alternatives that would be meaningful. This is due in part to a relatively course spatial resolution (e.g., greater than 4 x 4 km) which makes it speculative to discern regional Project impacts on air quality.

Mitigation Measures

AIR-1: **During all Project implementation activities during Phase 2 of the preferred Project OR Alternative 3, all onshore diesel-fueled, off-road dewatering equipment including, but not limited to, rubber-tired dozers, graders, trenchers, cranes, and tractor/loader/backhoes shall be of a certified clean fleet, specifically California Air Resources Board (CARB) Tier 3 Certified or better, as set forth in Section 2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 of the Code of Federal Regulations.**

Timing/Implementation: *This measure shall be printed on construction plan sets and implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead.*

As previously described, implementation of mitigation measure **AIR-1** would reduce NO_x emissions by 0.7 ton during Phase 2 of the proposed Project by requiring the cleanest, most efficient construction equipment engine types feasibly available. However, even with implementation of this measure, emissions would continue to exceed thresholds of significance.

Impact 4.3-3: **Implementation of the Proposed Project would expose sensitive receptors to substantial pollutant concentrations (i.e., carbon monoxide hot spots or TACs). Impact Determination: *less than significant.***

Threshold:	*Expose sensitive receptors to substantial pollutant concentrations (i.e., carbon monoxide hot spots or TACs).*

As previously described, sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over age 65, children under age 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest sensitive receptors to the Project site are single family homes to the west and northwest of the Yuba City Boat Ramp facility in Yuba City. Specifically, the nearest residences to the Project boundary are approximately 150 feet distant. It is also noted that, for the Project and Alternatives 2, 3, and 4, haul trucks are proposed to exit the Project area from the Yuba City Boat Ramp facility onto Second Street, travel north on Second Street through the residential neighborhood and either travel west on Colusa Avenue to Highway 99 or east on 5th Street to Highway 70 to be transported to the nearest disposal location.

This discussion of potential impacts from pollutant concentrations addresses localized pollutants as regional pollutants were addressed in Impact 4.3-2. Activities associated with implementation of the preferred Project and alternatives would result in temporary, short-term emission concentrations of the localized DPM and CO from the exhaust of off-road, on- and off-shore diesel equipment for site dredging,

dewatering, and hauling activities. In 1998, California identified DPM as a TAC based on its potential to cause cancer, premature death, and other health problems (e.g., asthma attacks and other respiratory symptoms). Those most vulnerable are children (whose lungs are still developing) and the elderly (who may have other serious health problems). Overall, diesel engine emissions are responsible for the majority of California's known cancer risk from outdoor air pollutants. CO tends to be a localized impact associated with congested intersections. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions.

4.3.3.4 Diesel Particulate Matter

The potential cancer risk from the inhalation of DPM outweighs the potential for all other health impacts (i.e., non-cancer chronic risk, short-term acute risk) and health impacts from other TACs. $PM_{2.5}$ exhaust is considered a surrogate for DPM because more than 90 percent of DPM is less than 1 microgram in diameter and therefore is a subset of particulate matter under 2.5 microns in diameter (i.e., $PM_{2.5}$). Most $PM_{2.5}$ derives from combustion, such as use of gasoline and diesel fuels by motor vehicles. Based on the emission modeling conducted, the maximum onsite daily emissions of exhaust $PM_{2.5}$, considered a surrogate for DPM, would be 2.3 pounds per day from dredging equipment, 1.6 pounds per day from onshore equipment, and 0.2 pounds per day from haul trucks. These emissions would occur during Phase 2 of the preferred Project and Alternative 3 (see Appendix C). Comparably, Alternatives 2 and 4 would generate slightly lower DPM emissions. Alternative 1 would not generate any DPM emissions.

DPM disperses rapidly. According to CARB, DPM concentrations decrease by 70 percent at 500 feet from the source (2005). Receptors must be in close proximity to emission sources (over a substantial span of time) in order to be exposed to concentrations of concern. These nearest residences to the Project boundary are approximately 150 feet distant. However, emissions of DPM would be generated from different locations on the site, rather than a single location, because different types of activities (dredging, dewatering, and hauling) would not occur at the same place at the same time. For example, the western edge of the Marysville WWTP, where the heavy-duty equipment would be used in the dewatering process, is approximately 1,140 feet from any residences. The area of the Feather River subject to Phase 1 dredging under the preferred Project and Alternatives 2, 3, and 4 is approximately 1,070 feet from any residences, and the area of the Feather and Yuba river confluence subject to Phase 2 dredging under the preferred Project and Alternatives 2 and 3 is 1,740 feet from a residence. These distances are all greater than the CARB-recommended buffer of 500 feet between a source of DPM and sensitive receptors.

It is also noted that, for the Project and Alternatives 2, 3, and 4, haul trucks are proposed to exit the Project area from the Yuba City Boat Ramp facility onto Second Street, travel north on Second Street through a residential neighborhood. The Project would involve approximately 38 truck trips per day and a total of 329 days for disposal of dredged material. According to the California Air Pollution Control Officers Association (CAPCOA), long-term operational land uses requiring fewer than 100 delivery trucks daily are not considered a potential health risk from DPM emissions (2009). The Project would involve approximately 38 truck trips per day and unlike a long-term operational land use, would only occur 329 days over the course of multiple years. Once the Project is implemented all hauling activities would cease.

Due to the size of the Project site and the fact that DPM disperses rapidly, the distances spanning varying operations from each other and from the nearest sensitive receptors, and the limited amount of daily haul trucks, neither the preferred Project nor any alternatives would expose people to substantial levels of DPM concentrations.

4.3.3.5 Carbon Monoxide Hotspots

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling. Concentrations of CO are a direct function of the number of vehicles and length of idling at a position. Under certain meteorological conditions, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Areas of high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours, not construction-type projects. Further, transport of this criteria pollutant is extremely limited, and CO disperses rapidly with distance from the source under normal meteorological conditions. Furthermore, vehicle emissions standards, including those associated with off-road equipment and haul trucks, have become increasingly more stringent in the last 20 years. In 1993, much of the state was designated nonattainment under the CAAQS and NAAQS for CO. With the turnover of older vehicles and equipment, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration across the entire state is now designated as attainment. Detailed modeling of Project-specific CO "hot spots" is not necessary and thus this potential impact is addressed qualitatively.

A CO "hot spot" would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur. The analysis prepared for CO attainment in the SCAQMD's *1992 Federal Attainment Plan for Carbon Monoxide* in Los Angeles County and a *Modeling and Attainment Demonstration* prepared by the SCAQMD as part of the 2003 AQMP can be used to demonstrate the potential for CO exceedances of these standards. The SCAQMD conducted a CO hot spot analysis as part of the 1992 CO Federal Attainment Plan at four busy intersections in Los Angeles County during the peak morning and afternoon time periods. The intersections evaluated included Long Beach Boulevard and Imperial Highway (Lynwood), Wilshire Boulevard and Veteran Avenue (Westwood), Sunset Boulevard and Highland Avenue (Hollywood), and La Cienega Boulevard and Century Boulevard (Inglewood). The busiest intersection evaluated was at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. Despite this level of traffic, the CO analysis concluded that there was no violation of CO standards (SCAQMD 1992). To establish a more accurate record of baseline CO concentrations, a CO "hot spot" analysis was conducted in 2003 at the same four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards. The highest one-hour concentration was measured at 4.6 ppm at Wilshire Boulevard and Veteran Avenue and the highest eight-hour concentration was measured at 8.4 ppm at Long Beach Boulevard and Imperial Highway.

Similar considerations are also employed by other air districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under

existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal air does not mix in order to generate a significant CO impact.

As previously described, the Project would involve approximately 38 truck trips per day for a total of 329 days for disposal of dredged material. Offshore operations would involve up to five water vessels for approximately 87 workdays in a single year. Onshore dewatering would require approximately 10 pieces of heavy-duty equipment. Because the Project would not involve more than the threshold of 100,000 vehicles/equipment pieces per day, and the majority of vehicles/equipment pieces involved would not be concentrated in proximity to each other, there is no likelihood of the Project traffic exceeding CO values.

For the reasons discussed above, impacts would be less than significant.

Mitigation Measures

None required.

Impact 4.3-4: Implementation of the Proposed Project would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. Impact Determination: *no impact*.

Threshold:	*Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.*

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, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant

reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Project would involve dredging and dewatering and disposal of dredged material, which is not a substantial source of odor. The effect of the Project would be to remove excess sediment buildup in portions of the Feather River, address dangerous conditions at the confluence of the Feather and Yuba rivers for recreational users and emergency vessels due to sediment buildup, restore and maintain access to the Feather River from the Yuba City Boat Ramp facility for emergency vessel launching capabilities and recreational users; and restore and maintain fish passage in both the Feather River and Yuba River at their confluence. Immediately following completion of the Project all Project activity would cease. Therefore, no impact would occur.

Mitigation Measures

None required.

4.3.4 Cumulative Impacts

4.3.4.1 Cumulative Setting

The cumulative setting for air quality includes Yuba and Sutter counties and the NSVAB. The NSVAB is designated as a nonattainment area for state standards of O_3 and PM_{10} (CARB 2018). Cumulative growth in population, vehicle use, and industrial activity could inhibit efforts to improve regional air quality and attain the ambient air quality standards. Thus, the setting for this cumulative analysis consists of the NSVAB and associated growth and development anticipated in the air basin. As previously described, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

4.3.4.2 Cumulative Impacts and Mitigation Measures

Impact 4.3-4: Implementation of the Proposed Project would result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment under an applicable Federal or State ambient air quality standard. Impact Determination: *significant and unavoidable.*

Threshold:	*Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment under an applicable Federal or State ambient air quality standard.*

The standard approach to assessing cumulative impacts is based on the 2018 AQAP forecasts of attainment of ambient air quality standards in accordance with the requirements of the CAA and CCAA. As discussed earlier, the preferred Project and Alternative 3 would not be consistent with the NSVPA 2018 AQAP, which is intended to bring the NSVAB into attainment for criteria pollutants. Additionally, the preferred Project and Alternative 3 would generate emissions in excess of the identified annual NO_x significance thresholds and thus would cause a cumulatively considerable increase in an O_3 precursor emission, for which the NSVAB is in nonattainment. Cumulative impacts associated with the preferred Project and Alternative 3 are significant and unavoidable. For the Project and Alternative 3, feasible mitigation would not reduce NOx emissions below thresholds. Alternatives 1, 2, and 4 would instigate less than significant impacts.

Mitigation Measures

Implementation of mitigation measure **AIR-1** will be required.

4.4 Biological Resources

This section of the EIR describes the existing conditions in the Project area, the regulatory framework necessary to evaluate potential impacts on biological resources from the Project, and potential short-term, long-term, and cumulative impacts that could result from the Project. Impacts from the Project on vegetation communities, special status plant, fish and wildlife species, sensitive habitats, and protected oak trees are discussed below.

The information contained in this section is based on a Biological Resources Assessment (BRA) and Aquatic Resources Determination (ARD) contained within the BRA, Biological Assessment (BA), and other biological resources information prepared by ECORP Consulting, Inc. contained in Appendix E.

4.4.1 Environmental Setting

4.4.1.1 Site Characteristics and Land Use

The Study Area for the biological resources impact analysis includes: (1) the Yuba City Boat Ramp facility and adjacent lands, including the RV Park to the north, (2) the area of proposed dredging and potential future dredging within the Feather and Yuba Rivers, and (3) the City of Marysville's wastewater ponds (wastewater ponds), where dredged spoils may be dewatered and/or disposed (Figure 4.4-1).

The Study Area includes the confluence and adjacent portions of the Feather and Yuba Rivers, the Yuba City Boat Ramp (operated by Sutter County) and surrounding lands on the west bank of the Feather River, the City of Marysville wastewater ponds between the Feather and Yuba Rivers, and a narrow area of shoreline on the eastern bank of the Feather and Yuba Rivers. The developed portions of the boat ramp include a paved roadway, parking areas, the boat ramp, and the Feather River RV Park. The undeveloped areas around the boat ramp include riverbank habitat, ruderal weedy roadside habitats, and unimproved areas of compacted dirt that are used for overflow parking and/or fishing access. The wastewater ponds portion of the Study Area includes constructed/excavated ponds of varying shapes and sizes and a narrow corridor of riparian habitat along the Feather and Yuba rivers.

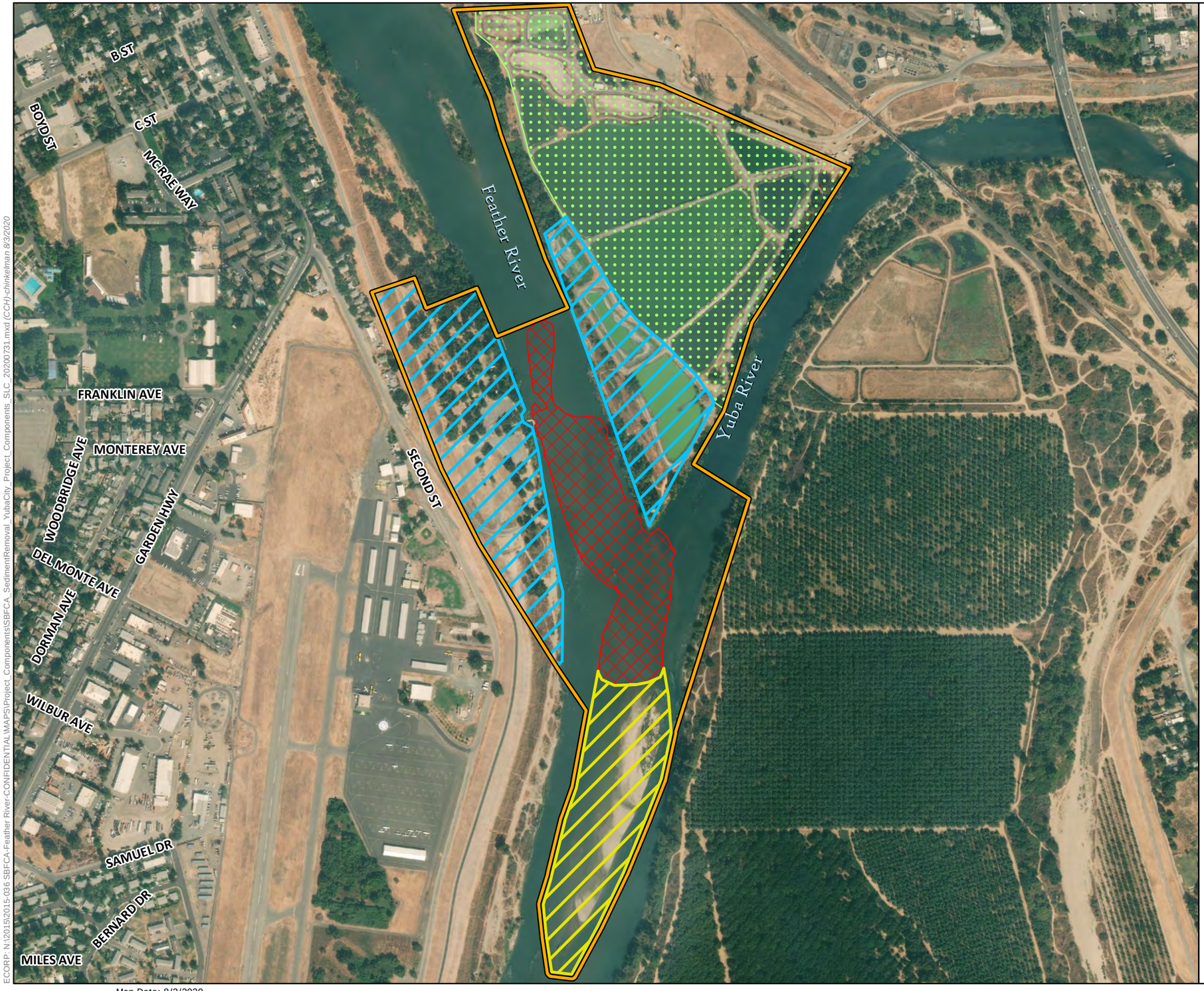
4.4.1.2 Biological Setting

Special Status Species

For the purposes of this assessment, special status species are defined as plants or animals that meet the following criteria:

- Are listed, proposed for listing, or candidates for listing as threatened or endangered under the federal ESA;
- Are listed or candidates for listing as threatened or endangered under the California ESA;
- Meet the definitions of endangered or rare under Section 15380 of the CEQA Guidelines;

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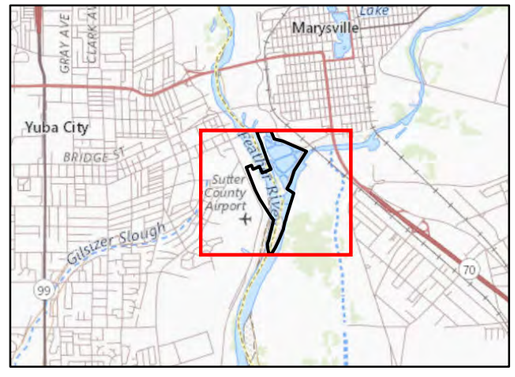
Map Features

- Yuba City Boat Ramp Study Area - 135.55 ac.

Project Components

- Dredging Area (Phase 1)
- Future Dredging Area (Phase 2)
- Potential Disposal Location
- Potential Staging/Access/Dewatering Areas

Sources: ESRI, USGS, Maxar (2018), Peterson Brustad



ECORP: N:\2015\2015-036 SBFCA-Feather River-CONFIDENTIAL\MAPS\Project_Components\SBFCA_SedimentRemoval_YubaCity_Project_Components_SLC_20200731.mxd (CCH)-chinkelman 8/3/2020

Map Date: 8/3/2020

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 560

Figure 4.4-1. Study Area for the Biological Resources Assessment

2015-036.10 Yuba City Boat Ramp Sediment Removal Project

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- Are identified as a species of special concern by the CDFW;
- Are birds identified as birds of conservation concern (BCC) by the (USFWS 2008);
- Are plants considered by the CNPS to be "rare, threatened, or endangered in California" (CRPR 1 and 2);
- Are plants listed by CNPS as species about which more information is needed to determine their status (CRPR 3), and plants of limited distribution (CRPR 4);
- Are plants listed as rare under the California NPPA (California Fish and Game Code, § 1900 et seq.); or
- Are fully protected in California in accordance with the California Fish and Game Code, §§ 3511 (birds), 4700 (mammals), 5050 (amphibians and reptiles), and 5515 (fishes).

Literature Review and Information Search

The following resources were reviewed to determine the special status species that have been documented within or in the vicinity of the Study Area. Results of the species searches are included as Attachment A in the BRA in Appendix E.

- CDFW CNDDB data for the "Yuba City, California" 7.5-minute quadrangles as well as the nine surrounding USGS quadrangles (CDFW 2020);
- USFWS Information, Planning, and Consultation System Resource Report List for the Study Area (USFWS 2020a);
- CNPS' electronic Inventory of Rare and Endangered Plants of California was queried for the "Yuba City, California" 7.5-minute quadrangles and the nine surrounding quadrangles (CNPS 2020).

Additional background information was reviewed regarding the documented or potential occurrence of special status species within or near the Study Areas from the following sources:

- The Status of Rare, Threatened, and Endangered Plants and Animals of California 2000-2004 (California Department of Fish and Game [CDFG] 2005);
- California Bird Species of Special Concern (SSC, Shuford and Gardali 2008);
- Amphibian and Reptile SSC in California (Thompson et al. 2016);
- Mammalian SSC in California (Williams 1986);
- California's Wildlife, Volumes I-III (Zeiner, et al. 1988, 1990a, 1990b);
- A Guide to Wildlife Habitats of California (Mayer and Laudenslayer Jr., eds. 1988);
- USFWS Online Critical Habitat Mapper (USFWS 2020b); and
- NRCS Web Soil Survey (NRCS 2020a).

Field Surveys Conducted

ECORP Biologists Keith Kwan and Gabrielle Attisani conducted the site reconnaissance visit April 8, 2020. The Study Area was systematically surveyed on foot using an ESO Arrow Global Positioning System (GPS) unit with sub-meter accuracy, topographic maps, and aerial imagery to ensure total site coverage. Special attention was given to identifying those portions of the Study Area with the potential to support special status species and sensitive habitats. During the field survey, biological communities occurring onsite were characterized and the following biological resource information was collected:

- Potential aquatic resources
- Vegetation communities
- Plant and animal species directly observed
- Animal evidence (e.g., scat, tracks)
- Existing active raptor nest locations
- Burrows and any other special habitat features
- Representative Study Area photographs (Attachment B of the BRA in Appendix E)

Based on species occurrence information from the literature review and observations in the field, a list of special status plant and animal species that have the potential to occur within the Study Area was generated (see the BRA in Appendix E). Each of these species' potential to occur within the Study Ares was assessed based on the following criteria:

- *Present*. Species was observed during the site visit or is known to occur within the Study Area based on documented occurrences within the CNDDB or other literature.
- *Potential to Occur*. Habitat (including soils and elevation requirements) for the species occurs within the Study Area.
- *Low Potential to Occur*. Marginal or limited amounts of habitat occurs and/or the species is not known to occur within the vicinity of the Study Area based on CNDDB records and other available documentation.
- *Absent*. No suitable habitat (including soils and elevation requirements) and/or the species is not known to occur within the vicinity of the Study Area based on CNDDB records and other documentation.

Aquatic Resources Delineation Site Survey

An aquatic resources delineation of the Study Area was also conducted on April 8, 2020 by ECORP biologist Keith Kwan. The delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation* Manual*: Arid West Region* (Arid West Region Supplement) (USACE 2008). The results are included in an Aquatic Resources Delineation (ARD) report contained in Appendix E.

Soils

According to the Web Soil Survey (NRCS 2020a), five soil units, or types, have been mapped within the Study Area (see Figure 4.7-1 in Section 4.7, *Geology and Soils*):

- 117 – Columbia fine sandy loam, 0 to 2 percent slopes, Major Land Resource Area (MLRA) 17;
- 118 – Columbia fine sandy loam, channeled, 0 to 2 percent slopes;
- 127 – Conejo-Urban land complex, 0 percent slopes MLRA 17;
- 138 – Columbia fine sandy loam, 0 to 1 percent slopes, occasionally flooded; and
- 163 – Holillipah loamy sand, 0 to 1 percent slopes, frequently flooded.

All of these soil units contain hydric components and are considered hydric except 127-Conejo-Urban land complex (NRCS 2020b).

Vegetation Communities

Land cover types or vegetation communities found within the Study Area included riparian woodland, ruderal, paved/developed, and constructed wastewater ponds. Descriptions of the land cover types and vegetation communities present within the Study Area are provided below.

Riparian Woodland. The riparian woodland community is found along the riverbanks. The riparian woodland vegetation is a relatively narrow corridor of mature trees with varying densities of understory cover, depending on levels of human use. Dominant trees include Fremont's cottonwood (*Populus fremontii*), Goodding's black willow (*Salix gooddingii*), and Valley oak (*Quercus lobata*), with scattered box elder (*Acer negundo*), tree-of-heaven (*Ailanthus altissima*), California black walnut (*Juglans hindsii*), black locust (*Robinia pseudoacacia*), and sandbar willow (*Salix exigua*). Understory vegetation was dense in scattered locations and included Himalayan blackberry (*Rubus armeniacus*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), tree tobacco (*Nicotiana glauca*), mugwort (*Artemisia douglasiana*), cow parsnip (*Heracleum maximum*), and common bedstraw (*Galium aparine*).

Ruderal/Disturbed. The ruderal community was found along roadsides, levees, wastewater pond edges, and other areas heavily impacted by human presence. These areas are characterized by the presence of nonnative weedy plants such as cheeseweed (*Malva parviflora*), barley (*Hordeum murinum*), cut-leaved geranium (*Geranium dissectum*), yellow star-thistle (*Centaurea solstitialis*), and wild oats (*Avena* sp.).

Paved/Developed. Paved, developed portions of the Study Area are characterized by existing paved roads and parking areas, compacted dirt/gravel parking areas, and pedestrian paths to the Feather River. The majority of the dirt/gravel roads and paths are unvegetated.

Wastewater Ponds. The wastewater ponds are manmade ponds surrounded by gravel and dirt-surfaced access roads. The ponds are no longer in use and hydrology is limited to seasonal rainfall.

Wildlife

The Study Area supports a variety of common wildlife species. A detailed list of wildlife species observed in the vicinity of the Study Area during the site visit is included as Attachment C of the BRA contained in Appendix E.

Aquatic Resources

A total of 85.898 acres of aquatic resources have been mapped within the Study Area (Table 4.4-1). A discussion of the aquatic resources is presented below, and the aquatic resources delineation maps for the Study Area are presented on Figure 5 of the BRA report contained in Appendix E.

Table 4.4-1. Aquatic Resources in the Study Area

Type	Acreage[1]
Wetlands	
None	0.000
Other Waters/Non-Wetland Waters	
Wastewater Ponds	37.126
Feather/Yuba Rivers	48.772
Total	**85.898**

[1]Acreages represent a calculated estimation and are subject to modification following the USACE verification process.

Wetlands. There are no wetlands within the Study Area.

Wastewater Ponds. The wastewater ponds are located in the City of Marysville north of the confluence of the Feather and Yuba Rivers. The wastewater ponds are constructed/excavated ponds located between access roads and levees. Some ponds are vegetated with upland and emergent wetland vegetation, while others are unvegetated. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of Clean Water Act (CWA), are typically not Waters of the U.S. The U.S. Army Corps of Engineers (USACE) will make the final determination on the jurisdictional status of the wastewater ponds.

River (Feather and Yuba rivers). The Feather and Yuba rivers are perennial and exhibit a bed and bank. Flows and water levels of these rivers are regulated at dams upstream. Feather River is a navigable water as defined under the CWA.

Evaluation of Special Status Species Identified in the Literature Search

A list of all of the special status plant and wildlife species identified in the literature search for the Project as potentially occurring within the Study Area is provided in Table 4.4-2. This table includes the listing status for each species, a brief habitat description, and a determination on the potential to occur in or near the Study Area.

Several species and sensitive habitat types that came up in the database and literature searches have been formally delisted, are tracked by the California Natural Diversity Database (CNDDB) but possess no special status, or are identified as sensitive habitats but not located within the Study Area. These species and habitat types were not included in Table 4.4-2 and are not discussed further.

Table 4.4-2. Special Status Species Evaluated for the Study Area

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
Plants						
Depauperate milk-vetch (*Astragalus pauperculus*)			4.3	Vernally mesic areas on volcanic soils within chaparral, cismontane woodland, and valley and foothill grassland habitats (197'- 3,986').	March-June	Absent. No suitable habitat within Study Area.
Ferris' milk-vetch (*Astragalus tener* var. *ferrisiae*)			1B.1	Vernally mesic meadows and seeps and in sub-alkaline flats within valley and foothill grasslands (7'–246').	April–May	Absent. No suitable habitat within Study Area.
Mexican mosquito fern *(Azolla microphylla)*			4.2	Marshes and swamps, ponds or slow-moving bodies of water (98'–328').	August	Low potential. Marginally suitable habitat within the Study Area.
Valley brodiaea (*Brodiaea rosea* ssp. *vallicola*)			4.2	Old alluvial terraces with silty, sandy, or gravelly loam within vernal pools and swales in valley and foothill grassland (33'–1,100').	April–May	Absent. No suitable habitat within Study Area.
Sierra foothills brodiaea *(Brodiaea sierrae)*			4.3	Usually found on serpentinite or gabbroic soils within chaparral or cismontane woodland (164'–3,215').	May–August	Absent. No suitable habitat within Study Area.
Red-stemmed cryptantha *(Cryptantha rostellata)*			4.2	Often roadsides and gravelly, volcanic openings within cismontane woodland and valley and foothill grassland (131' – 2,624').	April-June	Absent. No suitable habitat within Study Area.
Recurved larkspur (Delphinium recurvatum)			1B.2	Alkaline soils in chenopod scrub, cismontane woodland, and valley and foothill grasslands (10'–2,592').	March–June	Absent. No suitable habitat within Study Area.
Dwarf downingia (*Downingia pusilla*)			2B.2	Mesic areas in valley and foothill grassland, and vernal pools. Species appears to have an affinity for slight disturbance (i.e., scraped depressions, ditches) (Baldwin et al. 2012, CDFW 2018) (3'–1,460').	March–May	Low potential. Marginally suitable habitat within the Study Area.

Table 4.4-2. Special Status Species Evaluated for the Study Area

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
Shield-bracted monkeyflower *(Erythranthe glaucescens)*			4.3	Serpentinite seeps and sometimes streambanks within chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland (197' – 4,068').	February-August	Low potential to occur. Marginally suitable habitat within Study Area.
Woolly rose-mallow (Hibiscus lasiocarpos var. occidentalis)			1B.2	Marshes and freshwater swamps. Often in riprap on sides of levees (0'–394').	June–September	Low potential to occur. Marginally suitable habitat within Study Area.
Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*)			1B.2	Mesic areas in valley and foothill grassland. Species has an affinity for slight disturbance such as farmed fields (USFWS 2005) (98'–751').	March–May	Low potential to occur. Marginally suitable habitat within Study Area.
Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*)			1B.1	Vernally mesic areas in chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools (115'–4,101').	March–June	Absent. No suitable habitat within Study Area.
Legenere (Legenere limosa)			1B.1	Various seasonally inundated areas including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and floodplains of intermittent drainages (USFWS 2005) (3'–2,887').	April–June	Low potential to occur. Marginally suitable habitat within Study Area.
Veiny monardella (*Monardella venosa*)			1B.1	Heavy clay soils in cismontane woodland and valley and foothill grasslands (197'–1,345').	May–July	Absent. No suitable habitat within Study Area.
Baker's navarretia (Navarretia leucocephala ssp. bakeri)			1B.1	Vernal pools and mesic areas within cismontane woodlands, lower montane coniferous forests, meadows and seeps, and valley and foothill grasslands (16'–5,709').	April–July	Absent. No suitable habitat within Study Area.
Adobe navarretia (Navarretia nigelliformis ssp. nigelliformis)			4.2	Clay and sometimes serpentinite soils in vernally mesic valley and foothill grasslands and sometimes in vernal pools (328'–3,281).	April–June	Absent. No suitable habitat within Study Area.

Table 4.4-2. Special Status Species Evaluated for the Study Area

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
Ahart's paronychia (*Paronychia ahartii*)			1B.1	Cismontane woodland, valley and foothill grassland, and vernal pools (98'–1673').	February-June	Absent. No suitable habitat within Study Area.
Hartweg's Golden Sunburst *(Pseudobahia bahiifolia)*	FE	CE	1B.1	Clay, often acidic soils in cismontane woodland, valley and foothill grasslands (49'–492').	March–April	Absent. No suitable habitat within Study Area.
Sanford's arrowhead (*Sagittaria sanfordii*)			1B.2	Shallow marshes and freshwater swamps (0'–2,133').	May–October	Low potential to occur. Marginally suitable habitat within Study Area.
Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*)			2B.1	Alkaline soils in meadows and seeps, marshes and swamps, riparian forest, and vernal pools (16'–1,427').	May–September	Absent. No suitable habitat within Study Area.
Invertebrates						
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT			Elderberry shrubs (host plant for this species).	Any season	Potential to occur. Several elderberry shrubs are present in the Study Area.
Conservancy fairy shrimp (*Branchinecta conservatio)*	FE			Vernal pools/wetlands.	November-April	Absent. No suitable habitat within Study Area.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT			Vernal pools/wetlands.	November - April	Absent. No suitable habitat within Study Area.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE			Vernal pools/wetlands.	November - April	Absent. No suitable habitat within Study Area.
Fish						
Delta smelt (Hypomesus transpacificus)	FT	CE		Sacramento-San Joaquin delta.	N/A	Absent. Outside the known range for this species.
Pacific lamprey (Lampetra tridentata)			SSC	Anadromous; undammed streams rivers, streams, and creeks with gravel spawning substrates.	N/A	Present [2]
River lamprey (*Lampetra ayresi*)			SSC	Anadromous; undammed streams rivers, streams, and creeks with gravel spawning substrates.	N/A	Present [2]

Table 4.4-2. Special Status Species Evaluated for the Study Area

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
Sacramento hitch (*Lavinia exilicauda*)			SSC	Low-velocity habitats of warm water rivers and lakes.	N/A	Present [2]
Sacramento splittail (Pogonichthys macrolepidotus)			SSC	Estuarine environments, rivers, sloughs, and alkaline lakes.	N/A	Low potential to occur. Historically present prior to substantial hydrologic alterations.
Hardhead (Mylopharodon conocephalus)			SSC	Relatively undisturbed streams at low to mid elevations in the Sacramento-San Joaquin and Russian River drainages. In the San Joaquin River, scattered populations found in tributary streams, but only rarely in the valley reaches of the San Joaquin River.	N/A	Present [2]
Chinook salmon (Central Valley fall-run/late fall-run ESU) (*Oncorhynchus tshawytscha*)	SC		SSC	Anadromous; undammed cold-water rivers and streams having riffles with large gravel substrates and relatively deep pools.	N/A	Present [2]
Chinook salmon (Central Valley spring-run ESU)	FT	CT		Anadromous; undammed cold-water rivers and streams having riffles with large gravel substrates and relatively deep pools.	N/A	Present [2]
Steelhead (Central Valley DPS) (*Oncorhynchus mykiss*)	FT			Anadromous; undammed cold-water rivers and streams having riffles with gravel substrates and relatively deep pools.	N/A	Present [2]
Green Sturgeon (Southern DPS) (*Acipenser medirostris*)	FT			Anadromous; undammed cold-water rivers having relatively deep pools with large substrates.	N/A	Low potential to occur. There is little past or current evidence of occurrence or spawning in the Feather/Yuba Rivers.
Riffle sculpin (*Cottus gulosus*)			SSC	Riffles or pools of cold headwater streams having coarse substrates and adequate cover.	N/A	Present [2]

Table 4.4-2. Special Status Species Evaluated for the Study Area

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
Amphibians						
California red-legged frog (*Rana draytonii*)	FT		SSC	Lowlands or foothills at waters with dense shrubby or emergent riparian vegetation. Adults must have aestivation habitat to endure summer dry down.	May 1 - November 1	Absent. Outside the known range of this species.
Western spadefoot (*Spea hammondii*)			SSC	California endemic species of vernal pools, swales, wetlands and adjacent grasslands throughout the Central Valley.	March-May	Absent. No suitable habitat within the Study Area.
Reptiles						
Northwestern pond turtle (*Actinemys marmorata*)			SSC	Requires basking sites and upland habitats up to 0.5 km from water for egg laying. Uses ponds, streams, detention basins, and irrigation ditches.	April-September	Potential to occur. Suitable habitat present within the Study Area.
Giant garter snake (*Thamnophis gigas*)	FT	CT		Freshwater ditches, sloughs, and marshes in the Central Valley. Almost extirpated from the southern parts of its range.	April - October	Absent. No suitable habitat due to lack of vegetation and slow-moving water at the boat ramp and lack of perennial water at the wastewater ponds.
Birds						
Clark's grebe (Aechmophorus clarkii)			BCC	Winters on salt or brackish bays, estuaries, sheltered sea coasts, freshwater lakes, and rivers. Breeds on freshwater to brackish marshes, lakes, reservoirs and ponds, with a preference for large stretches of open water fringed with emergent vegetation.	June-August (breeding)	Absent. There is no emergent vegetation along riverbanks; irregular flows and water levels reduce potential for nesting.

Table 4.4-2. Special Status Species Evaluated for the Study Area

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
Yellow-billed cuckoo (*Coccyzus americanus*)	FT	CE	BCC	Breeds in California, Arizona, Utah, Colorado, and Wyoming. In California, they nest along the upper Sacramento River and the South Fork Kern River from Isabella Reservoir to Canebrake Ecological Reserve. Other known nesting locations include Feather River (Butte, Yuba, Sutter counties), Prado Flood Control Basin (San Bernardino and Riverside County), Amargosa River and Owens Valley (Inyo County), Santa Clara River (Los Angeles County), Mojave River and Colorado River (San Bernardino County). Nests in riparian woodland. Winters in South America.	June 15-August 15	Absent. The degraded riparian habitat along the riverbanks are too narrow to support potential nesting habitat.
Rufous hummingbird (*Selasphorus rufus*)			BCC	Breeds in British Columbia and Alaska (does not breed in California). Winters in coastal Southern California south into Mexico. Common migrant during March-April in Sierra Nevada foothills and June-August in Lower Conifer to Alpine zone of Sierra Nevada. Nesting habitat includes secondary succession communities and openings, mature forests, parks and residential area.	April-July	Absent. This species does not nest in the region.
California black rail (Laterallus jamaicensis coturniculus)		CT	BCC, CFP	Salt marsh, shallow freshwater marsh, wet meadows, and flooded grassy vegetation. In California, primarily found in coastal and Bay-Delta communities, but also in Sierran foothills (Butte, Yuba, Nevada, Placer, El Dorado counties)	March-September (breeding)	Absent. No suitable nesting habitat within the Study Area.

Table 4.4-2. Special Status Species Evaluated for the Study Area

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
Greater sandhill crane (Antigone canadensis tabida)		CT	CFP	Breeds in NE California, Nevada, Oregon, Washington, and British Colombia, Canada; winters from CA to Florida. In winter, they forage in burned grasslands, pastures, and feed on waste grain in a variety of agricultural settings (corn, wheat, milo, rice, oats, and barley), tilled fields, recently planted fields, alfalfa fields, row crops and burned rice fields.	March-August (breeding); September-March (wintering)	Absent. No suitable wintering habitat within the Study Area.
Long-billed curlew (*Numenius americanus*)			BCC	Breeds east of the Cascades in Washington, Oregon, northeastern California (Siskiyou, Modoc, Lassen counties), east-central California (Inyo County), through Great Basin region into Great Plains. Winters in California, Texas, and Louisiana. Wintering habitat includes tidal mudflats and estuaries, wet pastures, sandy beaches, salt marsh, managed wetlands, evaporation ponds, sewage ponds, and grasslands.	September-March (wintering)	Low potential to occur. This species does not nest in the region; the wastewater ponds onsite support marginal wintering habitat.
Marbled godwit (*Limosa fedoa*)			BCC	Nests in Montana, North and South Dakota, Minnesota, into Canada. Winter range along Pacific Coast from British Columbia south to Central America, with small numbers wintering in interior California. Wintering habitat includes coastal mudflats, meadows, estuaries, sandy beaches, sandflats, and salt ponds.	August-April (Migrant/ Wintering in CA)	Low potential to occur. This species does not nest in the region and is uncommon in the Central Valley during migration.
Short-billed dowitcher (*Limnodromus griseus*)			BCC	Nests in Canada, southern Alaska; winters in coastal California south to South America; wintering habitat includes coastal mudflats and brackish lagoons	wintering/ migrant period: late-August-May	Low potential to occur. This species does not nest in the region and is uncommon in the Central Valley during migration.

Table 4.4-2. Special Status Species Evaluated for the Study Area

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
White-tailed kite (*Elanus leucurus*)			CFP	Nesting occurs within trees in low elevation grassland, agricultural, wetland, oak woodland, riparian, savannah, and urban habitats.	March-August	Potential to occur. Nesting habitat present within the Study Area.
Golden eagle (*Aquila chrysaetos*)			BCC, CFP	Nesting habitat includes mountainous canyon land, rimrock terrain of open desert and grasslands, riparian, oak woodland/ savannah, and chaparral. Nesting occurs on cliff ledges, river banks, trees, and human-made structures (e.g., windmills, platforms, and transmission towers). Breeding occurs throughout California, except the immediate coast, Central Valley floor, Salton Sea region, and the Colorado River region, where they can be found during Winter.	Nest (February-August); winter CV (October-February)	Absent. No suitable nesting or foraging habitat within the Study Area.
Bald eagle (*Haliaeetus leucocephalus*)	Delisted	CE	CFP, BCC	Typically nests in forested areas near large bodies of water in the northern half of California; nest in trees and rarely on cliffs; wintering habitat includes forest and woodland communities near water bodies (e.g., rivers, lakes), wetlands, flooded agricultural fields, open grasslands.	February – September (nesting); October-March (wintering)	Low potential to occur. The Study Area contains marginal nesting habitat; however, human presence throughout the Study Area reduces potential of nesting.
Swainson's hawk (*Buteo swainsoni*)		CT	BCC	Nesting occurs in trees in agricultural, riparian, oak woodland, scrub, and urban landscapes. Forages over grassland, agricultural lands, particularly during disking/harvesting, irrigated pastures.	March-August	Potential to occur. Suitable nesting habitat within the Study Area.

Table 4.4-2. Special Status Species Evaluated for the Study Area

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
Burrowing owl (Athene cunicularia)			BCC, SSC	Nests in burrows or burrow surrogates in open, treeless, areas within grassland, steppe, and desert biomes. Often with other burrowing mammals (e.g., prairie dogs, California ground squirrels). May also use human-made habitat such as agricultural fields, golf courses, cemeteries, roadside, airports, vacant urban lots, and fairgrounds.	February-August	Potential to occur. Suitable nesting habitat within the Study Area.
Nuttall's woodpecker (*Dryobates nuttallii*)			BCC	Resident from northern California south to Baja California. Nests in tree cavities in oak woodlands and riparian woodlands.	April-July	Potential to occur. Suitable nesting habitat within the Study Area.
Least Bell's vireo (*Vireo bellii pusillus*)	FE	CE	BCC	In California, breeding range includes Ventura, Los Angeles, Riverside, Orange, San Diego, and San Bernardino counties, and rarely Stanislaus and Santa Clara counties Nesting habitat includes dense, low shrubby vegetation in riparian areas, brushy fields, young second-growth woodland, scrub oak, coastal chaparral and mesquite brushland. Winters in southern Baja California Sur.	April 1-July 31	Absent. Extirpated from the region.
Yellow-billed magpie (*Pica nuttallii*)			BCC	Endemic to California; found in the Central Valley and coast range south of San Francisco Bay and north of Los Angeles County; nesting habitat includes oak savannah with large in large expanses of open ground; also found in urban parklike settings.	April-June	Potential to occur. Suitable nesting habitat within the Study Area.

Table 4.4-2. Special Status Species Evaluated for the Study Area

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
Bank swallow (*Riparia riparia*)		CT		Nests colonially along coasts, rivers, streams, lakes, reservoirs, and wetlands in vertical banks, cliffs, and bluffs in alluvial, friable soils. May also nest in sand, gravel quarries and road cuts. In California, breeding range includes northern and central California.	May-July	Potential to occur. Suitable nesting habitat within the Study Area.
Oak titmouse (*Baeolophus inornatus*)			BCC	Nests in tree cavities within dry oak or oak-pine woodland and riparian; where oaks are absent, they nest in juniper woodland, open forests (gray, Jeffrey, Coulter, pinyon pines and Joshua tree).	March-July	Potential to occur. Suitable nesting habitat within the Study Area.
Wrentit (*Chamaea fasciata*)			BCC	Coastal sage scrub, northern coastal scrub, chaparral, dense understory of riparian woodlands, riparian scrub, coyote brush and blackberry thickets, and dense thickets in suburban parks and gardens.	March-August	Potential to occur. Suitable nesting habitat within the Study Area.
Song sparrow "Modesto" (Melospiza melodia heermanni)			BCC, SSC	Resident in central and southwest California, including Central Valley; nests in marsh, scrub habitat.	April-June	Potential to occur. Suitable nesting habitat within the Study Area.
San Clemente spotted towhee (*Pipilo maculatus clementae*)			BCC, SSC	Resident on Santa Catalina and Santa Rosa Islands; extirpated on San Clemente Island, California. Breeds in dense, broadleaf shrubby brush, thickets, and tangles in chaparral, oak woodland, island woodland, and Bishop pine forest.	Year round resident; breeding season is April-July	Absent. This subspecies does not occur in the region.

Table 4.4-2. Special Status Species Evaluated for the Study Area

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
Tricolored blackbird (*Agelaius tricolor*)		CT	BCC, SSC	Breeds locally west of Cascade-Sierra Nevada and southeastern deserts from Humboldt and Shasta Cos south to San Bernardino, Riverside and San Diego counties. Central California, Sierra Nevada foothills and Central Valley, Siskiyou, Modoc and Lassen counties. Nests colonially in freshwater marsh, blackberry bramble, milk thistle, triticale fields, weedy (mustard, mallow) fields, giant cane, safflower, stinging nettles, tamarisk, riparian scrublands and forests, fiddleneck and fava bean fields.	March-August	Low potential to occur. The wastewater grounds and ruderal upland areas around the boat ramp represent foraging habitat. There is no potential nesting habitat present within the Study Area.
Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*)			BCC, SSC	Breeds in salt marshes of San Francisco Bay; winters San Francisco south along coast to San Diego County.	March-July	Absent. This subspecies does not occur in the region.
Mammals						
Ringtail (*Bassariscus astutus*)			Fully Protected	Occur in riparian areas, preferably those with rocky outcrops. Nest in rock or tree cavities.	February-May	Low potential to occur. Trees with cavities in riparian areas provide habitat.
Pallid bat (*Antrozous pallidus*)			SSC	Crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of redwoods, cavities of oaks, exfoliating pine and oak bark, deciduous trees in riparian areas, and fruit trees in orchards). Also roosts in various human structures such as bridges, barns, porches, bat boxes, and human-occupied as well as vacant buildings (WBWG 2017).	April-September	Potential to occur. Suitable roosting habitat within the Study Area.
Townsend's big-eared bat (*Corynorhinus townsendii*)			SSC	Caves, mines, buildings, rock crevices, trees.	April-September	Potential to occur. Suitable roosting habitat within the Study Area.

Table 4.4-2. Special Status Species Evaluated for the Study Area

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
Western red bat (*Lasiurus blossevillii*)			SSC	Roosts in foliage of trees or shrubs; Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores) (WBWG 2017).	April-September	Potential to occur. Suitable roosting habitat within the Study Area.

Note:
[1]ECORP 2020 (Biological Resources Assessment Report contained in Appendix E)
Status Codes
FESA Federal Endangered Species Act
CESA California Endangered Species Act
FE FESA listed, Endangered.
FT FESA listed, Threatened.
BCC USFWS Bird of Conservation Concern).
CT CESA- or NPPA-listed, Threatened.
CE CESA or NPPA listed, Endangered.
CFP California Fish and Game Code Fully Protected Species (§ 3511-birds, § 4700-mammals, §5 050-reptiles/amphibians).
SSC CDFW Species of Special Concern (CDFW, updated July 2017).
1B CRPR/Rare or Endangered in California and elsewhere.
2B Plants rare, threatened, or endangered in California but more common elsewhere.
4 CRPR/Plants of Limited Distribution – A Watch List.
0.1 Threat Rank/Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2 Threat Rank/Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3 Threat Rank/Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)
Delisted Formally Delisted (delisted species are monitored for 5 years).
[2]Source: San Joaquin River Restoration Program 2014.

Potentially Occurring Special Status Species

Plants. A total of 20 special status plant species were identified as having the potential to occur within Study Areas based on the literature review (Table 4.4-2). Upon further analysis and after the reconnaissance site visit, 13 species were determined to not have potential to occur within the Study Area due to the absence of suitable habitat or the Study Area was outside the elevational range for the species. No further discussion of these species is provided in this analysis. Brief descriptions of the remaining seven species that have the potential to occur within the Study Area are presented in the Biological Resources Assessment contained in Appendix E and are listed below:

- Mexican mosquito fern
- Dwarf downingia
- Shield-bracted monkeyflower
- Woolly rose-mallow

- Ahart's dwarf rush
- Legenere
- Sanford's arrowhead

Fish. The lower Feather River and Yuba River in the Study Area provides migration, spawning, and rearing habitat for a diverse assemblage of native and nonnative fish species, including both resident and anadromous (i.e., ocean migrating) species. At least 31 fish species, including 13 native and 18 nonnative species, have been documented in the lower Feather River in the Study Area (Seesholtz et al. 2004). A total of 10 special status fish species were identified as having the potential to occur within the Study Area based on the literature review (Table 4.4-2). Nine of these species were determined to have some potential to occur in the Study Area. These species are described in more detail in the Biological Resources Assessment contained in Appendix E and include:

- Central Valley Spring-run Evolutionarily Significant Unit (ESU) chinook salmon
- Central Valley Fall-Run/Late Fall-Run ESU chinook salmon
- California Central Valley Distinct Population Segment (DPS) steelhead
- Green sturgeon
- Pacific lamprey
- River lamprey
- Sacramento hitch
- Sacramento splittail
- Hardhead
- Riffle sculpin

Invertebrates. A total of four special status invertebrate species were identified as having the potential to occur within the Study Area based on the literature review (Table 4.4-2). Upon further analysis and after the reconnaissance site visit, all but one was determined to be absent due to lack of suitable habitat: valley elderberry longhorn beetle (*Desmocerus californicus dimorphus,* VELB). VELB was identified to have potential to occur within the Study Area. This species is described in more detail in the BRA contained in Appendix E.

Reptiles. A total of two special status reptile species were identified as having the potential to occur within the Study Area based on the literature review (Table 4.4-2). Upon further analysis and after the reconnaissance site visit, one special-status reptile, the northwestern pond turtle was identified to have potential to occur in the Study Area. This species is described in more detail in the BRA contained in Appendix E.

Birds. A total of 23 special status bird species were identified as having the potential to occur within the Study Area based on the literature review (Table 2). Upon further analysis and after the reconnaissance

site visit, nine species were determined to be absent due to lack of suitable habitat or because the Study Area is outside the elevational range for the species. No further discussion of these species is provided in this analysis. Brief descriptions of the remaining 14 special-status bird species that were determined to have the potential to occur within the Study Areas are described in more detail in the BRA contained in Appendix E and include:

- Long-billed curlew
- Marbled godwit
- Short-billed dowitcher
- White-tailed kite
- Bald eagle
- Swainson's hawk
- Burrowing owl
- Nuttall's woodpecker
- Yellow-billed magpie
- Bank swallow
- Oak titmouse
- Wrentit
- Song sparrow "Modesto" Population
- Tricolored blackbird

Mammals. A total of four special status mammal species were identified as having the potential to occur within the Study Area based on the literature review (Table 4.4-2). Upon further analysis and after the reconnaissance site visit, all four special status mammal species were determined to have potential to occur in the Study Area as described below:

- Ringtail
- Pallid bat
- Townsend's big eared bat
- Western Red Bat

Other Species

While not considered to be special status species, the vegetation communities onsite support potential nesting habitat for birds protected under the Migratory Bird Treaty Act (MBTA). These include a wide variety of native, non-game birds and common species found nesting in and near developed areas and

human habitations. Common migratory birds observed at the Project site include Anna's hummingbird, bushtit, several species of swallows, house finch, lesser goldfinch, and several sparrow species.

Sensitive Natural Communities

As described above, the riparian habitat in the Study Area is a relatively narrow corridor of mature trees with varying densities of understory cover, depending on levels of human use. Two sensitive natural communities were identified as having potential to occur within the Study Area based on the literature review (CDFW 2020). These included Great Valley Mixed Riparian Forest and Great Valley Cottonwood Riparian Forest. Based on the site visit, the mixed riparian woodlands present within the Study Area are likely too narrow and limited in extent to be representative of Great Valley Mixed Riparian Forest or Great Valley Cottonwood Riparian Forest.

Wildlife Corridors and Movement and Nursery Sites

Wildlife corridors refer to established migration routes commonly used by resident and migratory species for passage from one geographic location to another. Corridors are present in a variety of habitats and link otherwise fragmented acres of undisturbed area. Maintaining the continuity of established wildlife corridors is important to (a) sustain species with specific foraging requirements, (b) preserve a species' distribution potential, and (c) retain diversity among many wildlife populations. Therefore, resource agencies consider wildlife corridors to be a sensitive resource.

The Feather and Yuba Rivers provide an important aquatic and terrestrial wildlife movement corridor. The rivers are both important migratory habitat for a diversity of native and non-native fish species, including both resident and anadromous (i.e., ocean migrating) species. Adjacent riparian woodlands and open spaces, though limited in extent, support riparian wildlife and wildlife movements through the upland portions of the Study Area.

For the purposes of this analysis, nursery sites include but are not limited to concentrations of nest or den sites such as heron rookeries or bat maternity roosts. This data is available through the California Department of Fish and Wildlife's (CDFW's) BIOS database or as occurrence records in the CNDDB and is supplemented with the results of the field reconnaissance. No nursery sites have been documented within the Study Area (CDFW 2020) and none were observed during the site reconnaissance.

Critical Habitat and Essential Fish Habitat

The Study Area is designated Critical Habitat for the following federally listed species.

- Central Valley spring-run ESU chinook salmon,
- Central Valley DPS steelhead, and
- Southern DPS North American green sturgeon (USFWS 2020b).

The Study Area is Essential Fish Habitat (EFH) for Pacific Coast salmon (i.e., chinook salmon, including Central Valley spring-run and fall-run ESUs).

4.4.2 Regulatory Setting

This section identifies environmental review and consultation requirements, as well as permits and approvals that must be obtained from local, state, and federal agencies before implementation of the project.

4.4.2.1 4.4.2.1 Federal

Endangered Species Act

The federal Endangered Species Act (ESA) protects plants and animals that are listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). Section 9 of ESA prohibits the taking of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16 U.S. Code [USC] 1538). Under Section 7 of ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion (BO), the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan (HCP) is developed.

Section 7 Consultation

Section 7 of ESA mandates that all federal agencies consult with USFWS and/or NMFS to ensure that federal agencies' actions do not jeopardize the continued existence of a listed species or adversely modify Critical Habitat for listed species. If direct and/or indirect effects will occur to Critical Habitat that appreciably diminish the value of Critical Habitat for both the survival and recovery of a species, the adverse modifications will require formal consultation with USFWS or NMFS. If adverse effects are likely, the applicant must conduct a biological assessment (BA) for the purpose of analyzing the potential effects of the project on listed species and critical habitat to establish and justify an "effect determination." The federal agency reviews the BA; if it concludes that the project may adversely affect a listed species or its habitat, it prepares a Biological Opinion (BO). The BO may recommend "reasonable and prudent alternatives" to the project to avoid jeopardizing or adversely modifying habitat.

Section 10 of the ESA

When no discretionary action is being taken by a federal agency but a project may result in the take of listed species, an incidental take permit under Section 10 of the ESA is necessary. The purpose of the incidental take permit is to authorize the take of federally listed species that may result from an otherwise lawful activity, not to authorize the activities themselves. In order to obtain an incidental take permit under Section 10, an application must be submitted that includes an HCP. In some instances, applicants,

USFWS, and/or NMFS may determine that an HCP is necessary or prudent, even if a discretionary federal action will occur. The purpose of the HCP planning process associated with the permit application is to ensure that adequate minimization and mitigation for impacts to listed species and/or their habitat will occur.

Critical Habitat

Critical Habitat is defined in Section 3 of the ESA as (1) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. For inclusion in a Critical Habitat designation, habitat within the geographical area occupied by the species at the time it was listed must first have features that are essential to the conservation of the species. Critical Habitat designations identify, to the extent known and using the best scientific data available, habitat areas that provide essential life cycle needs of the species (areas on which are found the primary constituent elements). Primary constituent elements are the physical and biological features that are essential to the conservation of the species and that may require special management considerations or protection. These include but are not limited to the following:

- Space for individual and population growth and for normal behavior;
- Food, water, air, light, minerals, or other nutritional or physiological requirements;
- Cover or shelter;
- Sites for breeding, reproduction, or rearing (or development) of offspring; or
- Habitats that are protected from disturbance or are representative of the historic, geographical, and ecological distributions of a species.

Magnuson-Stevens Fishery Conservation and Management Act

The 1996 Magnuson-Stevens Fishery Conservation and Management Act, as amended (16 USC 1801), requires federal agencies to consult with NMFS whenever a proposed action has a potential to adversely affect Essential Fish Habitat (EFH). Although states are not required to consult with NMFS, NMFS is required to develop EFH conservation recommendations for any state agency activities with the potential to affect EFH. EFH is defined as "…those waters and substrates necessary to fish for spawning, breeding, feeding or growth to maturity" and includes the necessary habitat for managed fish to complete their life cycles and contribute to a sustainable fishery and healthy ecosystem. Although the concept of EFH is similar to the ESA definition of Critical Habitat, measures recommended by NMFS or a regional fisheries management council to protect EFH are advisory, rather than prescriptive (NMFS 1998).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as

hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act of 1940 (as amended) provides for the protection of bald eagle and golden eagle by prohibiting the take, possession, sale, purchase, barter, offer to sell, purchase or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit [16 USC 668(a); 50 CFR 22]. USFWS may authorize take of bald eagles and golden eagles for activities where the take is associated with, but not the purpose of, the activity and cannot practicably be avoided (50 CFR 22.26).

Clean Water Act

The purpose of the federal CWA is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into "Waters of the U.S." without a permit from the U.S. Army Corps of Engineers (USACE). "Discharges of fill material" is defined as the addition of fill material into Waters of the U.S., including, but not limited to, the following: placement of fill necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes, and subaqueous utility lines" (33 CFR § 328.2(f)). In addition, Section 401 of the CWA (33 USC 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into Waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Substantial impacts to wetlands (over 0.5 acre of impact) may require an individual permit. Projects that only minimally affect wetlands (less than 0.5 acre of impact) may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the RWQCB

Section 10 of the Rivers and Harbors Act of 1899 (Act) requires authorization from the Secretary of the Army, acting through the USACE, for the construction of any structure in or over any navigable Waters of the U.S. Structures or work outside the limits defined for navigable Waters of the U.S. require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. The law applies to any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a navigable water of the U.S., and applies to all structures, from the smallest floating dock to the largest commercial undertaking. It further includes, without limitation, any wharf, dolphin, weir, boom breakwater, jetty, groin, bank protection (e.g., riprap, revetment, bulkhead), mooring structures

such as pilings, aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent, or semi-permanent obstacle or obstruction. The alteration of a USACE federally authorized civil works project requires a permit pursuant to Section 14 of the Act, as amended and codified in 33 USC 408. Projects with minimal impacts require approval by the USACE Sacramento District Construction Operations Group; however, projects with more substantial impacts may require USACE Headquarters review. Coordination with the Central Valley Flood Protection Board, who serve as the Non-Federal Sponsor, is required as a part of the process of obtaining a Section 408 permit.

4.4.2.2 4.4.2.2 State

California Endangered Species Act

The California ESA (California Fish and Game Code §§ 2050-2116) generally parallels the main provisions of the ESA, but unlike its federal counterpart, the California ESA applies the take prohibitions to species proposed for listing (called "candidates" by the State). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California ESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with CDFW to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered, threatened or candidate species or result in destruction or adverse modification of essential habitat.

Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the federal and/or California ESAs. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code § 4700 for mammals, § 3511 for birds, § 5050 for reptiles and amphibians, and § 5515 for fish) provide that fully protected species may not be taken or possessed at any time. Furthermore, the CDFW prohibits any State agency from issuing incidental take permits for fully protected species. The CDFW will issue licenses or permits for take of these species for necessary scientific research or live capture and relocation pursuant to the permit.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 was created with the intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by CDFW and provided in California Fish and Game Code §§ 1900-1913. The Fish and Wildlife Commission has the authority to designate native plants as "endangered" or "rare" and to protect endangered and rare plants from take. The California ESA of 1984 (California Fish and Game Code § 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

Birds of Prey

Sections 3800, 3513, and 3503 of the California Fish and Game Code specifically protect birds of prey. Section 3800 states that it is unlawful to take nongame birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the commission or a mitigation plan approved by CDFW for mining operations. Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA.

Section 3503 of the California Fish and Game Code prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Additionally, Subsection 3503.5 prohibits the take, possession, or destruction of any birds and their nests in the orders Strigiformes (owls) or Falconiformes (hawks and eagles). These provisions, along with the federal MBTA, serve to protect nesting native birds.

Species of Special Concern

Species of Special Concern (SSC) are defined by CDFW as a species, subspecies, or distinct population of an animal native to California that are not legally protected under ESA, the California ESA or the California Fish and Game Code, but currently satisfy one or more of the following criteria:

- The species has been completely extirpated from the state or, as in the case of birds, it has been extirpated from its primary seasonal or breeding role;
- The species is listed as federally (but not state) threatened or endangered, or meets the state definition of threatened or endangered but has not formally been listed;
- The species has or is experiencing serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status;
- The species has naturally small populations that exhibit high susceptibility to risk from any factor that if realized, could lead to declines that would qualify it for state threatened or endangered status.

SSC are typically associated with habitats that are threatened. Project-related impacts to SSC, state-threatened, or endangered species are considered "significant" under CEQA.

California Rare Plant Ranks

The California Native Plant Society (CNPS) maintains the *Inventory of Rare and Endangered Plants of California* (CNPS 2020), which provides a list of plant species native to California that are threatened with extinction, have limited distributions, and/or low populations. Plant species meeting one of these criteria are assigned to one of six California Rare Plant Ranks (CRPRs). The rank system was developed in collaboration with government, academia, non-governmental organizations, and private sector botanists, and is jointly managed by CDFW and the CNPS. The CRPRs are currently recognized in the CNDDB. The following are definitions of the CNPS CRPRs:

- Rare Plant Rank 1A – presumed extirpated in California and either rare or extinct elsewhere

- Rare Plant Rank 1B – rare, threatened, or endangered in California and elsewhere
- Rare Plant Rank 2A – presumed extirpated in California, but more common elsewhere
- Rare Plant Rank 2B – rare, threatened, or endangered in California but more common elsewhere
- Rare Plant Rank 3 – a review list of plants about which more information is needed
- Rare Plant Rank 4 – a watch list of plants of limited distribution

Additionally, the CNPS has defined Threat Ranks that are added to the CRPR as an extension. Threat Ranks designate the level of threat on a scale of 1 through 3, with 1 being the most threatened and 3 being the least threatened. Threat Ranks are generally present for all plants ranked 1B, 2B, or 4, and for the majority of plants ranked 3. Plant species ranked 1A and 2A (presumed extirpated in California), and some species ranked 3, which lack threat information, do not typically have a Threat Rank extension. The following are definitions of the CNPS Threat Ranks:

- Threat Rank 0.1 – Seriously threatened in California (more than 80 percent of occurrences threatened/high degree and immediacy of threat)
- Threat Rank 0.2 – Moderately threatened in California (20-80 percent occurrences threatened/moderate degree and immediacy of threat)
- Threat Rank 0.3 – Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known)

Factors such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Rank; and differences in Threat Ranks do not constitute additional or different protection (CNPS 2020). Depending on the policy of the lead agency, substantial impacts to plants ranked 1A, 1B, or 2 are typically considered significant under CEQA Guidelines §15380. Significance under CEQA is typically evaluated on a case-by-case basis for plants ranked 3 or 4.

Lake or Streambed Alteration Agreements

Section 1602 of the California Fish and Game Code requires individuals or agencies to provide a Notification of Lake or Streambed Alteration to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW reviews the proposed actions and, if necessary, proposed measures to protect affected fish and wildlife resources. The final proposal mutually agreed upon by CDFW and the applicant is the Lake or Streambed Alteration Agreement.

Porter-Cologne Water Quality Act

The Regional Water Quality Control Board (RWQCB) implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of stormwater runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land

require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, with any region that could affect the water of the state" (Water Code 13260(a)). Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code 13050 (e)). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State, that are not regulated by USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of a Waste Discharge Requirements for these activities.

California Environmental Quality Act

In accordance with CEQA Guidelines §15380, a species not protected on a federal or state list may be considered rare or endangered if the species meets certain specified criteria. These criteria follow the definitions in ESA, the California ESA, and §§1900-1913 of the California Fish and Game Code, which deal with rare or endangered plants or animals. Section 15380 was included in the CEQA Guidelines primarily to deal with situations where a project under review may have a significant effect on a species that has not yet been listed by either USFWS or CDFW.

Sensitive Natural Communities

Sensitive natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. The CDFW maintains the *California Natural Community List* (CDFW 2018), which provides a list of vegetation alliances, associations, and special stands as defined in the *Manual of California Vegetation* (Sawyer et al. 2009), along with their respective state and global rarity ranks. Natural communities with a state rarity rank of 1, 2, or 3 are considered sensitive natural communities. Depending on the policy of the lead agency, impacts to sensitive natural communities may be considered significant under CEQA.

Wildlife Movement/Corridors and Nursery Sites

Depending on the policy of the lead agency, impacts to wildlife movement/corridors or nursery sites may be considered significant under CEQA. For the purposes of this analysis, three resources were considered in the assessment of wildlife movement/corridors: The California Essential Habitat Connectivity Project, CDFW's Biogeographic Information and Observation System (BIOS) database on mule deer migration corridors, and site reconnaissance.

As part of the California Essential Habitat Connectivity Project, the CDFW and Caltrans maintain data on Essential Habitat Connectivity areas. This data is available in the CNDDB. The goal of this project is to map large intact habitat or natural landscapes and potential linkages that could provide corridors for wildlife.

CDFW's BIOS database includes information on CDFW Mule Deer Range, which identifies winter range, migration corridors, critical range, or critical fawning areas for mule deer.

For urban settings such as the Project, riparian vegetated stream corridors can serve as wildlife movement corridors and their occurrence is documented during the field reconnaissance.

For the purposes of this analysis, nursery sites include but are not limited to concentrations of nest or den sites such as heron rookeries, bat maternity roosts, and mule deer critical fawning areas. This data is available through CDFW's BIOS database or as or as occurrence records in the CNDDB and is supplemented with the results of the field reconnaissance.

4.4.2.3 4.4.2.3 Local

Sutter County

The following goals and policies of the 2019 Sutter County General Plan (Sutter County 2019) are applicable to the Project:

ER 1: *Support a comprehensive approach for the conservation, enhancement, and regulation of Sutter County's significant habitat and natural open space resources.*

ER 1.2: *Conservation Efforts. Focus conservation efforts on areas identified as having very high and high habitat value as well as Sutter County's unique natural open space resources, including the Sutter Buttes, Sutter Bypass, Butte Sink, and the Sacramento, Feather, and Bear River corridors.*

ER 1.3: *Interconnected Habitat. Emphasize the preservation, enhancement, and creation of sustainable, interconnected habitat and open space areas that highlight unique resources and integrate educational and recreational opportunities as appropriate.*

ER 1.5: *Avoidance. Ensure that new development projects avoid, to the extent feasible, significant biological resources (e.g., areas of rare, threatened or endangered species of plants, riparian areas, vernal pools), except where such projects are identified as "Authorized Development" within an adopted Habitat Conservation Plan.*

ER 1.6: *Mitigation Mitigate biological and open space effects that cannot be avoided in accordance with an applicable Habitat Conservation Plan or federal, state, and local regulations.*

ER 2: *Conserve, protect, and enhance Sutter County's significant natural wetland and riparian habitats.*

ER 2.1: *No Net Loss. Require new development to ensure no net loss of state and federally regulated wetlands, other waters of the United States (including creeks, rivers, ponds, marshes, vernal pools, and other seasonal wetlands), and associated functions and values through a combination of avoidance, restoration, and compensation.*

ER 3: *Conserve, protect, and enhance Sutter County's varied wildlife and vegetation resources.*

ER 3.1: *Special Status Species. Preserve special status fish, wildlife, and plant species (e.g., rare, threatened, or endangered species) and habitats consistent with an applicable Habitat Conservation Plan or federal, state, and local regulations.*

ER 3.3: Fisheries. Support the preservation and re-establishment of fisheries in the rivers and streams within Sutter County.

ER 3.6: Natural Vegetation. Preserve important areas of natural vegetation and the ecological integrity of these habitats, where feasible, including but not limited to riparian, vernal pool, marshes, oak woodlands and annual grasslands.

ER 3.7: Oak Trees. Preserve native oak trees when possible through the review of discretionary development projects and activities. Reduce the loss of oak trees through consideration of tree mitigation/replanting programs.

GOAL ER 4: Conserve, protect, and enhance Sutter County's unique natural open space lands, drainages, floodplains, and resources.

ER 4.3: River Corridors. Preserve the Sacramento, Feather, and Bear River corridors as important habitat, recreation and open space resources. Support efforts to increase public access and recreational uses along the County's river corridors.

Yuba County

The following goals and policies of the Yuba County 2030 General Plan (Yuba County 2011) are applicable to the Project:

Policy CD11.5: The County will support agriculture, agricultural processing, agricultural tourism, ecological tourism, recreational uses, and other natural-resource based economic development projects in areas with land-based natural resources, natural beauty, and cultural attractions.

Policy NR5.5: The County will support cooperative restoration, development, and promotion of natural resources with the U.S. Fish and Wildlife Service, the Army Corps of Engineers, the Bureau of Reclamation, the U.S. Forest Service, and other public agencies with an interest in the Yuba County's water and wildlife assets.

Policy NR5.6: The County will seek funding to enhance and restore habitat along the Yuba River, in coordination with development of recreational facilities and public access.

Policy NR5.7: New developments and public investments near Yuba County's streams and rivers shall be designed to avoid tree removal, erosion, or other modifications that would adversely affect salmonid habitat.

Policy NR5.13: New developments that could adversely affect wildlife movement corridors shall conduct a biological assessment and avoid placing any temporary or permanent barriers within such corridors, if they are determined to exist on-

site. Avoiding barriers to wildlife movement may be accomplished at the project or community plan level.

Policy NR5.15: Roads, water lines, sewer lines, drainage facilities, and other public facilities constructed to serve unincorporated County development shall be located and designed to avoid substantial impacts to stream courses, associated riparian areas, and wetlands, to the greatest extent feasible.

Policy NR10.1: Building placement, grading, and circulation should be planned to retain as much existing native vegetation as feasible, with a priority on preserving existing oak trees that have a diameter at breast height (dbh) of 6 inches or greater and all other trees that have a dbh of 30 inches or greater. The County's policies and standards for fire safety may override consideration of retaining existing vegetation in certain circumstances.

City of Yuba City

The following goals and policies of the City of Yuba City General Plan (2004) are applicable to the Project:

8.1-G-2 Enhance the open space features of the Feather River.

8.1-I-3 Work with public and private entities to implement open space features of the Feather River Parkway Plan. Open space within the parkway will provide visual amenities, as well as habitat protection. The Friends of Yuba City Parks and Recreation Foundation may be able to help the City in funding site acquisition and development of facilities and programs because its status as a charitable organization.

8.1-I-4 Where feasible, encourage restoration of degraded open space areas in the Feather River Parkway planning area to an environmentally valuable and sustainable condition. The Feather River Parkway Plan calls for maintenance and restoration of natural areas within the floodplain areas next to the River.

8.4-G-1 Protect special status species, in accordance with State regulatory requirements.

8.4-G-2 Protect and enhance the natural habitat features of the Feather River and new open space corridors within and around the urban growth area.

8.4-G-3 Preserve and enhance heritage oaks in the Planning Area.

8.4-G-4 Where appropriate, incorporate natural, wildlife habitat features into public landscapes, parks, and other public facilities.

8.4-G-5 Support the preservation and enhancement of fisheries in the Feather River.

8.4-I-1 *Require protection of sensitive habitat areas and special status species in new development site designs in the following order: 1) avoidance; 2) onsite mitigation, and 3) offsite mitigation. Require assessments of biological resources prior to approval of any development within 300 feet of any creeks, sensitive habitat areas, or areas of potential sensitive status species. These priorities are in accordance with the California Department of Fish and Game guidelines. When habitat preservation onsite is not feasible (i.e., preserved parcels would be too small to be of any value), then offsite mitigation should occur.*

8.4-I-2 *Require preservation of oak trees and other native trees that are of a significant size, by requiring site designs to incorporate these trees to the maximum extent feasible.*

8.4-I-3 *Require, to the extent feasible, use of drought tolerant plants in landscaping for new development, including private and public projects.*

8.4-I-4 *Require measures, as part of the Feather River Parkway Plan, to protect and enhance riparian zones, natural areas and wildlife habitat qualities; and establish and maintain a protection zone along the river where development shall not occur, except as part of the parkway enhancement (e.g., trails and bikeways). For park improvements, require a buffer zone along the river in which no grading or construction activities will occur, except as needed for shoreline uses such as boat docks. According to the California Department of Fish and Game, restoration plans should include performance standards such as vegetation types and timing of planting, as well as contingency plans if re-planting is not successful. Construction materials, spoils, or fill should not be placed in the river or located so that they can be washed into the river.*

8.4-I-5 *Establish wildlife corridors in conjunction with implementation of the Feather River Parkway Plan to minimize wildlife-urban conflicts. Successful wildlife corridors along the Feather River would provide routes for wildlife movement and access to the water, without a physical barrier. Factors such as smell, noise, and terrain also influence the success of the wildlife corridor. Wildlife tends to feel most secure in somewhat dark corridors with little human activity.*

8.4-I-6 *Work with California Department of Fish and Game and other agencies to enhance and preserve fisheries in the Feather River.*

City of Marysville

The following goals and policies of the City of Marysville General Plan (1985) are applicable to the Project:

l) To encourage the preservation of wildlife habitat· areas.

1) To protect the fisheries of the adjacent waterways.
2) To protect historically significant areas and encourage their preservation and rehabilitation.

3) To ensure that existing natural resources areas, scenic areas, open space areas and parks are protected from encroachment or destruction by development.
4) To encourage energy conservation in new developments.
5) To promote continued agricultural use of prime soils in the planning area.
6) To work with Yuba County to identify and protect aquifer recharge areas.
7) To permit open space and conservation land use within floodplains.
8) To eliminate such uses in the floodplain where continued use would pose a danger to the public health, safety, or welfare.
9) To take proper steps to assure that floodplains, waterways, ground water recharge areas, and areas with a high water table will not be polluted or contaminated.
10) To maintain the air in the community as free from unnecessary air pollutants as is feasible.

4.4.3 Environmental Impacts and Mitigation Measures

This Section describes potential impacts to sensitive biological resources that could result from the Project. The Section also recommends mitigation measures as needed to reduce significant impacts.

4.4.3.1 Thresholds of Significance

Based on the CEQA Guidelines, Appendix G: Items IV (a) through (f), implementation of the Project would have a significant impact on biological resources if it would:

(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 Wildlife or U.S. Fish and Wildlife Service;
(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
(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;
(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
(e) Conflict with any local policies or Ordinances protecting biological resources, such as a tree preservation policy or Ordinance; or
(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.

Sections 15063-15065 of the CEQA Guidelines address how an impact is identified as significant and are particularly relevant to SSCs. Assessment of "impact significance" to populations of non-listed species

(e.g., SSC) usually considers the proportion of the species' range that will be affected by a project, impacts to habitat, and the regional and population level effects.

4.4.3.2 Project Impacts and Mitigation Measures

Impact 4.4-1: Implementation of the Proposed Project would 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 Wildlife or U.S. Fish and Wildlife Service.
Impact Determination: *less than significant with mitigation incorporated.*

Threshold:	*Would 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 Wildlife or U.S. Fish and Wildlife Service.*

The Project would result in temporary construction-related impacts to the upland and aquatic resources that provide habitat for special status species within the Study Area. Potential impacts to upland habitats include temporary disturbance associated with staging, dewatering, and disposal of dredged spoils. The Project would also result in temporary impacts to aquatic habitat from dredging operations within the Feather and Yuba rivers. As such, the Project would potentially have significant impacts, either directly or through habitat modifications, on special status species identified by CDFW, USFWS, and NMFS and on Critical Habitat and EFH as identified by NMFS. Impacts by species or habitat group are summarized below.

Special Status Plants

There is no habitat for federally or state-listed plant species in the Study Area and there is low potential for seven special status plant species to occur. Upland staging and dewatering areas would result in temporary disturbance but would not result in permanent habitat modifications. Implementation of mitigation measures **BIO-1** and **PLANT-1** would avoid or minimize potential effects on special status plants. Therefore, impacts would be reduced to less than significant levels.

Mitigation Measures

BIO-1: Erosion control measures and Best Management Practices (BMPs) shall be implemented to reduce the potential for sediment or pollutants to enter the Feather or Yuba rivers at the Project site. Measures may include the following:

- **Erosion control measures shall be placed between Waters of the U.S., and the outer edge of the staging and dewatering areas, within an area identified with highly visible markers (e.g., construction fencing, flagging, silt barriers) prior to commencement of construction activities. Such identification and erosion**

control measures shall be properly maintained until construction is completed and the soils have been stabilized.

- **Fiber rolls used for erosion control shall be certified by the California Department of Food and Agriculture as weed free.**
- **Seed mixtures applied for erosion control shall not contain California Invasive Plant Council designated invasive species (http://cal-ipc.org/) and shall be composed of native species appropriate for the site.**
- **Trash generated onsite shall be promptly and properly removed from the site.**
- **Any fueling in the upland portion of the Study Area shall use appropriate secondary containment techniques to prevent spills.**
- **A qualified biologist shall conduct a mandatory Worker Environmental Awareness Program for all contractors, work crews, and any onsite personnel on the potential for special status species to occur on the Project site. The training shall provide an overview of habitat and characteristics of the species, the need to avoid certain areas, and the possible penalties for non-compliance.**
- **A qualified biologist/biological monitor shall be onsite during daily construction activities to ensure compliance with the anticipated terms and conditions of the Project regulatory permits and CEQA compliance document. If appropriate, the approved biologist shall train an individual to act as the onsite construction monitor for periods when there is a low risk of effect to special status species.**

Timing/Implementation: *This measure shall be printed on construction plan sets and implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead.*

PLANT-1. **Preconstruction floristic surveys shall be conducted for any areas of proposed ground disturbance (i.e., grading or earth work) in the Study Area with the potential to support special status plants. The area of ground disturbance and a 25-foot buffer would be surveyed by a qualified botanist during the appropriate blooming period prior to the start of Project activity. If no special status plants are found during the preconstruction surveys, no further measures are necessary. If surveys identify any special status plants, the Applicant shall identify them with flagging and avoid them with a 25-foot no-disturbance buffer during Project activities. If this avoidance is not feasible, the Applicant shall consult with CDFW to determine whether alternative avoidance measures that are equally protective are possible.**

Timing/Implementation: *This measure shall be implemented prior to construction. Any avoided areas will be printed on construction plan sets and avoidance implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead.*

Invertebrates

There are numerous elderberry shrubs, the host species for VELB, in the Study Area. Because the shrubs occur in riparian habitat, they are suitable habitat for VELB and therefore, are potentially occupied habitat (USFWS 2017). The Project is not expected to require removal of elderberry shrubs. Nevertheless, construction activities would likely occur within 165 feet of elderberry shrubs, which could result in effects to shrubs or VELB flight patterns. However, implementation of mitigation measures **BIO-1** and **VELB-1** would minimize the potential for direct effects on VELB. Therefore, impacts would be reduced to less than significant levels.

Mitigation Measures

VELB-1: **To avoid and minimize potential adverse effects to the valley elderberry longhorn beetle (VELB), the following shall be implemented:**

- **Through the Rivers and Harbors Act Section 10 Minor Impact Letter of Permission, request the USACE initiate ESA Section 7 Consultation with USFWS, if necessary, on the project effects to ESA-listed VELB**
- **The area surrounding avoided elderberry shrubs shall be fenced and/or flagged as close to construction limits as possible. Recognizing that the Project may require staging/and or dewatering activities within 165 feet of some shrubs, the shrubs shall be protected during construction by establishing and maintaining a high-visibility fence as far from the drip line of each elderberry shrub as feasible.**
- **As much as feasible, all activities that could occur within 165 feet of an elderberry shrub shall be conducted outside of the flight season of VELB (March - July).**
- **Herbicides will not be used within the drip line of any elderberry shrubs. Insecticides shall not be used within 100 feet of an elderberry shrub and shall be applied using a backpack sprayer or similar direct application method.**
- **The potential effects of dust on VELB shall be minimized by applying water during construction activities or by presoaking work areas that will occur within 100 feet of any potential elderberry shrub habitat.**

Timing/Implementation: *Section 7 consultation with USFWS shall be completed prior to construction. This measure shall be printed on construction plan sets and implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead.*

In addition, implementation of mitigation measure **BIO-1** will be required.

Fish, Critical Habitat, and Essential Fish Habitat

Nine special status fish species, including three federally threatened species (Chinook salmon, steelhead, and green sturgeon), have potential to occur in the Study Area. The Study Area also includes designated Critical Habitat for the three federally threatened fish species and EFH for Chinook salmon. Direct impacts to special status fish species and their Critical Habitat and EFH could occur as a result of dredging operations through scraping bottom substrates and causing downstream turbidity. Noise and vibration from dredging operations could result in direct impacts on these fish species as well. Impacts would be temporary only and would not permanently affect the integrity of the physical and biological factors contributing to the critical habitat designation or result in permanent impacts or loss of EFH. However, impacts would be significant without mitigation. Mitigation measures **BIO-1** and **FISH-1** would minimize the effects of the Project on listed species, other special status fish species, as well as Critical Habitat and EFH. With implementation of these measures, impacts would be reduced to less than significant levels.

Mitigation Measures

FISH-1: To avoid and minimize potential adverse effects to listed and special status fish species, designated critical habitat, and EFH, the following shall be implemented:

- Implement dredging operations during a limited work window (likely June 15 through October 15) to avoid the most sensitive life stages of ESA-listed anadromous fish species;
- Deploy measures, as practicable, to reduce sediment resuspension such as a turbidity curtain, if feasible, given the flow volume and velocity in the Study Area;
- Employ a fish biologist to be onsite as needed to monitor dredging activities and check the exit end of the suction pipe and spoils (i.e., sediment and vegetation);
- If/where mechanical dredging is used, attempt to exclude fish and other aquatic organisms from the area using block nets, to the extent feasible for the Study Area;
- Through the Rivers and Harbors Act Section 10 Minor Impact Letter of Permission, request the USACE initiate ESA Section 7 Consultation with NMFS on the project effects to ESA-listed anadromous fish species, designated critical habitat, and EFH; and
- Consult with CDFW and if necessary, secure an Incidental Take Permit 2081, pursuant to Section 2080 of the California Fish and Game Code.

Timing/Implementation: *Section 7 consultation with NMFS shall be completed prior to construction. This measure shall be printed on construction plan sets and implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead.*

In addition, implementation of mitigation measure **BIO-1** will be required.

Reptiles

Northwestern pond turtles may occur in the upland and river portions of the Study Area. The upland areas have low potential to support this species due to the nature of the soils (which are not conducive to nest building) and the extent of public use. In aquatic habitat, dredging equipment may result in direct mortality. In addition, noise and disturbance associated with setting up the dredging operations could deter and displace turtles from the work area. This could increase or decrease susceptibility to predation, particularly for hatchlings, depending on how predators behave in response to the dredging operations. Impacts would be temporary, however, impacts would be significant without mitigation. Mitigation measures **BIO-1** and **NPT-1** would minimize the effects of the Project on northwestern pond turtle. With implementation of these measures, impacts would be reduced to less than significant levels.

Mitigation Measures

NPT-1: **Conduct a pre-construction northwestern pond turtle survey in the construction staging and dewatering areas 48 hours prior to construction activities. Any northwestern pond turtle individuals discovered in the Project work area immediately prior to or during Project activities shall be allowed to move out of the work area of their own volition. If this is not feasible, they shall be captured by a qualified wildlife biologist and relocated out of harm's way to the nearest suitable habitat at least 100 feet from the Project work area where they were found.**

Timing/Implementation: *Surveys shall be conducted within 48 hours prior to construction. This measure shall be printed on construction plan sets and implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead.*

In addition, implementation of mitigation measure **BIO-1** will be required.

Birds and MBTA-Protected Birds

Three state-listed bird species have the potential to occur in the Study Area and there is potential for 11 additional special status bird species in the Study Area. Upland staging and dewatering areas would generate a temporary disturbance that would likely displace nesting birds from the Study Area for the duration of construction but would not result in permanent habitat modifications. Four special status birds identified as potentially occurring are only migrants and/or wintering species and would not nest in this region or nesting habitat does not occur in the Survey Area. These are marbled godwit, long-billed curlew, short-billed dowitcher, and tricolored blackbird. However, impacts to other special status bird species would be significant without mitigation. Implementation of mitigation measures **BIO-1** and **BIRD-1** would require worker training, and preconstruction surveys and establishment of buffers and monitoring at nest sites until young of the year have fledged for construction activities conducted during the nesting season. With implementation of these measures, impacts would be reduced to a less than significant level.

Mitigation Measures

BIRD-1: To protect nesting birds, no Project activity shall begin from February 1 through August 31 unless the following surveys are completed by a qualified wildlife biologist. Separate surveys and avoidance requirements are listed below for all nesting birds, raptors, including bald eagle, burrowing owl, and Swainson's hawk.

- All Nesting Birds - Within 14 days prior to construction (or less if recommended by CDFW), survey for nesting activity of birds within each Project work area and a 100-foot radius. If any active nests are observed, these nests shall be designated a sensitive area and protected by an avoidance buffer established in coordination with CDFW until the breeding season has ended or until a qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival.
- Raptors (including bald eagle) – Within 14 days prior to construction, survey for nesting activity of birds of prey within each Project work area and a 500-foot radius. If any active nests are observed, these nests shall be designated a sensitive area and protected by an avoidance buffer established in coordination with CDFW until the breeding season has ended or until a qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival.
- Burrowing owl – A qualified wildlife biologist shall survey for burrowing owl within the Project work area and a 250-foot radius of the Project work area, within 14 days prior to starting Project activities. Surveys shall be conducted at appropriate times (dawn or dusk) to maximize detection. If any active nests are observed, these nests shall be designated a sensitive area and protected by an avoidance buffer established in coordination with CDFW until the breeding season has ended or until a qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival.
- Swainson's hawk – Within 14 days prior to construction, survey for nesting activity of birds of prey within each Project work area and a 0.25-mile radius. If any active nests are observed, these nests shall be designated a sensitive area and protected by an avoidance buffer established in coordination with CDFW until the breeding season has ended or until a qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival.

Timing/Implementation: *Surveys shall be conducted within 14 days prior to construction. This measure shall be printed on construction plan sets and implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead.*

In addition, implementation of mitigation measure **BIO-1** will be required.

Special Status Mammals

There are four special status mammals with potential to occur in the Study Area. Upland staging and dewatering areas would generate a temporary disturbance of habitat for these species but would not result in permanent habitat modifications. However, impacts on special status mammal species would be significant without mitigation. Implementation of mitigation measures **BIO-1**, **MAM-1**, and **MAM-2** would minimize the potential for impacts to mammals from upland work areas. With implementation of these measures, impacts would be reduced to a less than significant level.

Mitigation Measures

MAM-1: Within 14 days of construction, a qualified biologist shall survey all trees proposed for removal to determine their potential to provide suitable ringtail nest sites (e.g., trees with cavities). If potential nest trees are found, an avoidance area would be fenced and/or flagged around the tree as close to construction limits as possible.

Timing/Implementation: Surveys shall be conducted within 14 days prior to construction. This measure shall be printed on construction plan sets and implemented at all times during construction.

Monitoring/Enforcement: SBFCA and Project construction lead.

MAM-2: Within 14 days of construction, a qualified biologist shall survey for all suitable roosting habitat for bats (e.g., manmade structures, trees) proposed for removal. If suitable roosting habitat is identified, a qualified biologist will conduct an evening bat emergence survey that may include acoustic monitoring to determine whether or not bats are present. If roosting bats are found, consultation with CDFW prior to initiation of construction activities may be required. If bats are not found during the preconstruction surveys, no further measures are necessary.

Timing/Implementation: Surveys shall be conducted within 14 days prior to construction. This measure shall be printed on construction plan sets and implemented at all times during construction.

Monitoring/Enforcement: SBFCA and Project construction lead.

In addition, implementation of mitigation measure **BIO-1** will be required.

Impact 4.4-2: Implementation of the Proposed Project would 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.
Impact Determination: *less than significant with mitigation incorporated.*

Threshold:	*Would 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.*

The Study Area supports riparian woodland habitat along the Feather and Yuba Rivers. However, there are no Sensitive Natural Communities as defined by CDFW within the Study Area. Construction staging and dewatering dredged spoils would occur in upland, developed or disturbed areas of the Study Area. No vegetation clearing or tree removal within riparian habitats is expected to be required; therefore, the Project would not result in permanent adverse effects to riparian habitats. However, temporary impacts would occur to the banks of the Feather and Yuba Rivers by equipment movement in and out of the water during construction. Impacts would be significant without mitigation. However, implementation of mitigation measures **BIO-1**, **RIP-1**, and **RIP-2** would ensure that temporary impacts are either avoided or minimized. With implementation of these measures, impacts would be reduced to less than significant levels.

Mitigation Measures

RIP-1: **The river channels shall be accessed via areas where no permanent impacts to riparian vegetation will be required.**

Timing/Implementation: *This measure shall be printed on construction plan sets and implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead.*

RIP-2: **A Streambed Alteration Agreement (SAA), pursuant to Section 1602 of the California Fish and Game Code, must be obtained for any activity that will impact the Feather and Yuba Rivers and riparian habitats. Minimization measures shall be developed during consultation with CDFW as part of the SAA agreement process to ensure protections for affected fish and wildlife resources.**

Timing/Implementation: *The SAA from CDFW shall be obtained prior to construction. This measure shall be printed on construction plan sets and implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead.*

In addition, implementation of mitigation measure **BIO-1** will be required.

Impact 4.4-3: **Implementation of the Proposed Project would 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.**
Impact Determination: *less than significant with mitigation incorporated.*

Threshold:	*Would 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.*

The Project would have no direct impact on federally protected wetlands; however, the Feather and Yuba Rivers are considered Waters of the U.S. and the Feather River is designated as a Section 10 Navigable Water. Project implementation would temporarily disturb Waters of the U.S. through proposed dredging of the Feather and Yuba Rivers. Impacts would be significant without mitigation. However, implementation of mitigation measures **BIO-1**, **FISH-1**, and **RIP-2** above as well as **WTR-1** below, would ensure that impacts are avoided and/or minimized. With implementation of these measures, impacts would be reduced to less than significant levels.

Mitigation Measures

WTR-1: To avoid or minimize anticipated short-term adverse effects to Waters of the U.S., the following shall be implemented:

- **If backwater from dewatered dredged spoils has potential to discharge to wetlands or Waters of the U.S. then a Nationwide Permit 16 (Backwater) under Section 404 of the federal CWA must be obtained from USACE. The impacts from such actions are expected to be temporary and solely associated with the dewatering activities.**
- **Authorization to dredge the Feather and Yuba Rivers under Section 10 of the Rivers and Harbor Act must be obtained from the USACE. To facilitate such authorization, an application for a Minor Impact Letter of Permission for the Project shall be prepared and submitted to USACE.**
- **A Water Quality Certification or waiver pursuant to Section 401 of the CWA, as issued by RWQCB, shall be obtained for the Section 10 and any Section 404 permit actions.**
- **A Waste Discharge Requirement for dredge and fill in Waters of the State under the Porter-Cologne Water Quality Control Act as issued by RWQCB shall be obtained for impacts to Waters of the State.**

Timing/Implementation: *Permit authorizations from the USACE and RWQCB shall be obtained prior to construction. This measure shall be printed on construction plan sets and implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead.*

In addition, implementation of mitigation measures **BIO-1**, **FISH-1**, and **RIP-2** will be required.

Impact 4.4-4: Implementation of the Proposed Project would 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.
Impact Determination: *less than significant with mitigation incorporated.*

Threshold:	*Would 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.*

The Feather and Yuba Rivers are important migratory corridors for native fish. Project dredging activities have the potential to interfere with natural movements of resident and migratory fish species as discussed under Impact 4.4-1 above. Impacts would be significant without mitigation. However, implementation of mitigation measures **BIO-1** and **FISH-1** would ensure that potential effects on fish migration and their natural movements are avoided and minimized. Therefore, with implementation of these measures, impacts on fish migration and movement would be reduced to less than significant levels.

The forested uplands and open space lands within the Study Area provide some limited migratory opportunities for wildlife. Establishment of the staging areas, dewatering the dredged spoils, and operation of equipment is likely to temporarily disturb and displace most wildlife from the Study Area. Some wildlife such as birds or nocturnal species are likely to continue to use the habitats opportunistically for the duration of construction. Once construction is complete, wildlife movements are expected to resume. Therefore, impacts on migratory corridors for wildlife would be less than significant.

The Study Area does not include a known nursery sites and no evidence of a wildlife nursery site was observed during the field reconnaissance. Therefore, the Project is not expected to impact wildlife nursery sites. Potential significant impacts to individual nesting birds would be reduced to less than significant levels by implementation of mitigation measures **BIO-1** and **BIRD-1** described above under Impact 4.4-1.

Mitigation Measures

Implementation of mitigation measures **BIO-1**, **FISH-1**, and **RIP-1** will be required.

Impact 4.4-5: Implementation of the Proposed Project would conflict with any local policies or Ordinances protecting biological resources, such as a tree preservation policy or Ordinance.
Impact Determination: *less than significant*.

Threshold:	*Would conflict with any local policies or Ordinances protecting biological resources, such as a tree preservation policy or Ordinance.*

Removal of trees or other upland vegetation is not anticipated under the Project. Because the Project is temporary in nature, no permanent impacts on biological resources are expected. Therefore, the Project does not conflict with a local policy or ordinance protecting biological resources, including tree ordinances. Impacts would be less than significant.

Mitigation Measures

None required.

Impact 4.4-6: Implementation of the Proposed Project would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Impact Determination: *no impact*.

Threshold:	*Would 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 Study Area is not covered by any local, regional, or State conservation plan. Therefore, the Project would not conflict with a local, regional, or State conservation plan. Therefore, there would be no impact.

Mitigation Measures

None required.

4.4.4 Cumulative Impacts

4.4.4.1 Cumulative Setting

The only other known proposed in-water Project in the Feather or Yuba Rivers, involves dredging by SBFCA to remove sediment that has accumulated in portions of the Feather River near the Live Oak Recreational Park Boat Ramp facility, located several miles upstream of the Project. Dredging would remove ±1.5 acres of invasive water primrose and ±3,400 cy of sediment from the Live Oak Recreational Park Boat Ramp facility. Dredged spoils would be dewatered at the boat ramp and spoils would be disposed of at the emergency ponds of the Gridley Wastewater Treatment Plant (WWTP), the Ostrom Road Landfill, or the Neil Road Landfill. This Project is anticipated to be completed in 2021.

In addition, the City of Marysville intends to decommission the existing wastewater treatment ponds at the Marysville WWTP which will involve removal of any water and sludge from the wastewater ponds and regrading the site.

There are no other known past, present, and probable future projects producing related or cumulative impacts in the area.

4.4.4.2 Cumulative Impacts and Mitigation Measures

Impact 4.4-7: Result in a considerable contribution to cumulative impacts on biological resources. Impact Determination: *less than significant with mitigation incorporated*.

Threshold:	*Would result in the conversion of habitat and impact biological resources in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

The project in Live Oak has the potential to result in significant impacts on special status species including fish and wildlife in and along the Feather River. However, the Live Oak project is located several miles upstream of the Proposed Project and implementation of mitigation measures for that Project would also

avoid and minimize impacts on biological resources. Decommissioning of the Marysville WWTP is expected to result in minimal impacts on biological resources as well given that no work is planned in the Feather or Yuba Rivers, only a minimal amount of vegetation removal is planned, and there is no planned work on the banks of the Feather or Yuba Rivers. Some elderberry shrubs exist at the Marysville WWTP wastewater ponds that provide habitat for VELB which could be disturbed by decommissioning of the wastewater ponds. However, measures required in previous environmental documentation would ensure that impacts on VELB are avoided or minimized. Therefore, with implementation of mitigation measures required for the protection of biological resources for the Proposed Project (**BIO-1**, **PLANT-1**, **VELB-1**, **FISH-1**, **NPT-1**, **BIRD-1**, **MAM-1**, **MAM-2**, **RIP-1**, **RIP-2**, and **WTR-1**), the Project would have a less than considerable contribution to cumulative impacts on biological resources. Impacts would be less than significant.

Mitigation Measures

Implementation of mitigation measures **BIO-1**, **PLANT-1**, **VELB-1**, **FISH-1**, **NPT-1**, **BIRD-1**, **MAM-1**, **MAM-2**, **RIP-1**, **RIP-2**, and **WTR-1** will be required.

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4.5 Cultural Resources

This section of the EIR describes the existing conditions in the Project area, the regulatory framework necessary to evaluate potential impacts on cultural resources from the Project, and potential project-specific and cumulative impacts that could result from the Project. Cultural resources could include archaeological sites and historic buildings, structures, and objects.

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

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

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

ECORP Consulting, Inc. prepared a cultural resources inventory (ECORP 2020) for the Proposed Project to determine if cultural resources were present in the Project Area and to assess the sensitivity of the Project Area for undiscovered or buried cultural resources. The inventory consisted of: a records search with the California Historical Resources Information System (CHRIS) at the North Central Information Center (NCIC) and Northeast Information Center (NEIC); a search of the Sacred Lands File of a Native American Heritage Commission (NAHC); a review of historic maps, photographs, records on file with the Office of Historic Preservation (OHP); ethnographic information; literature pertaining to the Project Area and surrounding region; a review of geological and soils data; and pedestrian survey by qualified professionals.

Due to the sensitive nature of cultural resources, the Cultural Resources Report is not included in the EIR appendices. Specifically, Sections 6253, 6254, and 6254.10 of the California Code authorize State agencies to exclude archaeological site information from public disclosure under the Public Records Act. In addition, the California Public Records Act (Government Code § 6250 et seq.) and California's open meeting laws (The Brown Act, Government Code § 54950 et seq.) protect the confidentiality of Native American cultural place information. Under Exemption 3 of the federal Freedom of Information Act (5 USC 5), because the disclosure of cultural resources location information is prohibited by the Archaeological

Resources Protection Act of 1979 (16 USC 470hh) and Section 307103 of the National Historic Preservation Act (NHPA), it is also exempted from disclosure under the Freedom of Information Act. Likewise, the CHRIS prohibits public dissemination of records search information. In compliance with these requirements, the results of the Cultural Resources Report were prepared as a confidential document, which is not intended for public distribution in either paper or electronic format.

However, all pertinent information necessary to provide substantial evidence for impact determinations is summarized in this section of the EIR. While information describing the various Cultural Resources time periods is included in the discussion, all references to location of archaeological sites and artifacts have been removed for confidentiality and protection of these resources.

4.5.1 Environmental Setting

The Project Area is along the banks of the Feather River, a principal tributary of the Sacramento River, in the Southern Sacramento Valley. The Sacramento Valley forms the northern third of California's Great Central Valley and is characterized by a nearly level alluvial plain that extends for about 150 miles from the base of the Klamath Mountains on the north to the confluence of the Sacramento and San Joaquin rivers on the south. The North Coast Ranges lie to the west while the northern Sierra Nevada and southern Cascade ranges lie to the east. The Feather River drains roughly 4,500 square miles along the eastern slopes of the northern Sierra Nevada and southern Cascade ranges. The Yuba River is a principal tributary of the Feather River with a watershed in the northern Sierra of more than 1,300 square miles.

The Project Area is near the center of the southern Sacramento Valley, in the greater Sacramento River Watershed. The area is primarily characterized by agricultural land, ruderal grassland, open space, and limited riparian vegetation. The Project Area is surrounded by residential and commercial areas to the west and north, and agricultural orchards to the east and south.

The Feather River in the Project Area has been affected substantially by past hydraulic mining activities. Sediment buildup from debris in the river channel caused a decrease in the capacity of the river channel. This caused extensive flooding and sediment deposition on the urban and agricultural lands surrounding the Project Area. As a result, the channel banks currently consist of fine-grained slickens from hydraulic mining debris.

4.5.1.1 Pre-Contact History

It is generally believed that human occupation of California began at least 10,000 years BP. The archaeological record indicates that between approximately 10,000 and 8,000 BP, a predominantly hunting economy existed, characterized by archaeological sites containing numerous projectile points and butchered large animal bones. Groups from this time period included only small numbers of individuals who did not often stay in one place for extended periods.

Around 8,000 BP, there was a shift in focus from hunting toward a greater reliance on plant resources. Archaeological evidence of this trend consists of a much greater number of milling tools (e.g., metates and manos) for processing seeds and other vegetable matter. This period, which extended until around 5,000 years BP, is sometimes referred to as the Millingstone Horizon (Wallace 1978). An increase in the

size of groups and the stability of settlements is indicated by deep, extensive middens at some sites from this period. In sites dating to after about 5,000 BP, archaeological evidence indicates that reliance on both plant gathering and hunting continued as in the previous period, with more specialized adaptation to particular environments. During this period, new peoples from the Great Basin began entering southern California. These immigrants, who spoke a language of the Uto-Aztecan linguistic stock, seem to have displaced or absorbed the earlier population of Hokan-speaking peoples. The Project area would encompass the area of the Valley Tradition class of the Middle Archaic Period in California pre-contact History. The Valley Tradition is represented at archaeological sites that show evidence of a diverse food supply and year-round occupation of one area. Sites from the later Middle Archaic Valley Tradition are well represented in the Sacramento Valley and Delta.

4.5.1.2 Ethnography

Ethnographically, the Project Area is in the territory occupied by the Penutian-speaking Nisenan. Nisenan were observed by early ethnographers to inhabit the drainages of the Yuba, Bear, and American rivers, and also the lower reaches of the Feather River, extending from the east banks of the Sacramento River on the west to the mid to high elevations of the western flank of the Sierra Nevada to the east. The territory extended from the area surrounding the current city of Oroville on the north to a few miles south of the American River in the south. The Sacramento River bounded the territory on the west, and in the east, it extended to a general area located within a few miles of Lake Tahoe. The descendants of traditional Nisenan, including the United Auburn Indian Community of Auburn Rancheria, continue to reside in the region. The ethnography of the Project area is discussed in more detail in the Tribal Cultural Resources section of this EIR.

4.5.1.3 Project Area History

The Project Area is located on the banks of the Feather River in Sutter and Yuba counties. Sutter County is one of the original 27 counties and was formed and named after John Sutter, a Swiss immigrant, in 1850. The New Helvetia Rancho encompassed 48,000 acres of land granted to John Sutter in 1841. The rancho extends from downtown Sacramento and north to Marysville along the Sacramento and Feather rivers. Part of the land deeded by Sutter in 1849 encompassed four square miles and would become Yuba City. John Sutter is credited for naming the Yuba River because of the Native American village located near the confluence of the Yuba and Feather rivers. Yuba City was laid out in 1849 and was named after the river. Yuba City was selected by Sutter County voters as the county seat in 1856. The first County courthouse was erected in Yuba City in 1858. Following a fire in 1871, a new courthouse was built at the northeast corner of C and 2nd streets, and subsequently reconstructed after another fire in 1899.

Yuba City and Marysville originated as small settlements located on high ground adjacent to a natural levee formed by silt deposits. Historically, flooding in the region naturally occurs every year but with the rise in development of towns and cities along rivers in Sutter and Yuba counties there came a need for flood control to protect infrastructure and residences. Also, in the early 1860s, hydraulic mining increased and flooding became a significant problem for farmers in the Sacramento Valley due to sediment deposits in the rivers.

In 1876, the State Legislature formed "A Board of Levee Commissioners for the City of Marysville,". In the same year, Mayor Charles E. Stone created a "Committee on Drainage" and the City accepted a bid for $68,000 for extensive improvements to, and extensions of, the existing levee system. The City levied a two percent tax to defray some of the cost. The extensive levee system resulting from these long and costly efforts was credited in large part as the reason Marysville survived during subsequent flooding events.

The Feather River Levee is maintained in part by Levee District (LD) 1. LD1 was formed in April 1868 to construct a 17-mile segment of the levee along the Feather River. LD1 maintains the Feather River Levee located south of Yuba City in the Project Area. The formation of LD1 was largely the result of local landowners' response to a breach of the levee that occurred in 1861 at Gilsizer Slough, a natural bypass located west of the Feather River. In 1867, residents of Sutter County gathered at the County courthouse to plan a levee system paid for by voluntary subscriptions, a method of raising capital for public works projects that proved highly inadequate. The next year LD1 was organized.

The Marysville WWTP was originally constructed in 1950 to provide primary treatment with disposal via percolation and evaporation. The City of Marysville owns and operates the wastewater collection system and treatment plant, which is located near the southwestern corner of the city near the confluence of the Yuba and Feather rivers. The WWTP uses a series of evaporation/percolation ponds for disposal of treated wastewater.

4.5.2 Regulatory Setting

Relevant federal, state, and local laws and regulations pertaining to cultural resources are discussed below.

4.5.2.1 4.5.2.1 Federal

National Historic Preservation Act

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

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

Federal Evaluation Criteria

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

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

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

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

Because the USACE is the lead federal agency for the Project, the 2014 *Sacramento District Regulatory Branch Guidelines for Compliance with Section 106 of the National Historic Preservation Act of 1966, as amended* applies to the Project.

With respect to Section 106, Title 36 CFR Part 800.5, Assessment of adverse effects, requires that the federal agency, in consultation with SHPO, apply the criteria of adverse effect to Historic Properties within the Project Area. According to 36 CFR 800.5(a)(1): "an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of an Historic Property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association." The regulations further define adverse effects to be those that include reasonably foreseeable effects caused by the undertaking, or those that may occur later in time or those that may be cumulative. Examples of adverse effects include, but are not limited to: physical destruction or damage to all or part of the property; alteration, restoration, rehabilitation, repair, maintenance, stabilization, or remediation; removal of the property from its historic location; change of the character or physical features; introduction of visual, atmospheric, or audible elements; neglect; or transfer, lease, or sale out of federal ownership (36 CFR 800.5[a][2] et seq.).

Adverse effects on historic properties include, but are not limited to:

> (i) Physical destruction of or damage to all or part of the property;

(ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary's standards for the treatment of historic properties (36 CFR part 68) and applicable guidelines;

(iii) Removal of the property from its historic location;

(iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;

(v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;

(vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and

(vii) Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

4.5.2.2 State

California Register of Historical Resources

The State Historical Resources Commission designed the California Register of Historic Resources (CRHR) for use by state and local agencies, private groups, and citizens to identify, evaluate, register, and protect California's historical resources. The CRHR is the authoritative guide to the state's significant historical and archaeological resources. This program encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance, identifies historical resources for state and local planning purposes, determines eligibility for state historic preservation grant funding, and affords certain protections under CEQA.

State Evaluation Criteria

Under State law (CEQA) cultural resources are evaluated using CRHR eligibility criteria in order to determine whether any of the sites are Historical Resources, as defined by CEQA. CEQA requires that public agencies identify impacts to Historical Resources be identified and, if the impacts would be significant, that mitigation measures to reduce the impacts be applied.

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

- A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR (PRC § 5024.1).
- A resource included in a local register of historical resources, as defined in PRC § 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC § 5024.1(g), will be presumed to be historically or culturally significant. Public agencies must treat

any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource will be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the California Register of Historical Resources (PRC Section 5024.1), including the following:

    a) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
    b) Is associated with the lives of persons important in our past;
    c) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
    d) Has yielded, or may be likely to yield, information important in prehistory or history.

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

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

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

CEQA also requires lead agencies to determine if a proposed project would have a significant effect on unique archaeological resources. If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC Section 21084.1 and CEQA Guidelines Section 15064.5 would apply. If an archaeological site does not meet the CEQA Guidelines criteria for a historical resource, the site may meet the threshold of PRC Section 21083.2 regarding unique archaeological resources. A unique archaeological resource is an archaeological artifact, object, or site about which it can be clearly demonstrated that,

without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria.

> "Unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
>
> - Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
> - Has a special and particular quality such as being the oldest of its type or the best available example of its type.
> - Is directly associated with a scientifically recognized important prehistoric or historic event or person."

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

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

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

Assembly Bill 52

Assembly Bill (AB) 52 is addressed in Section 4.18 Tribal Cultural Resources of this EIR.

4.5.2.3 Local

County of Sutter

The following goals and policies of the 2019 Sutter County General Plan (Sutter County 2019) are applicable to the Project:

ER 8: *Identify, protect, and enhance Sutter County's important cultural and paleontological resources to increase awareness of the County's heritage.*

ER 8.1: *Identification. Identify cultural resources, which include prehistoric, historic, paleontological, and archeological resources, throughout the County to provide adequate protection of these resources.*

ER 8.2: *Preservation. Ensure the preservation of significant cultural and paleontological resources, including those recognized at the national, state, and local levels.*

County of Yuba

The following goals and policies of the Yuba County 2030 General Plan (Yuba County 2011) are applicable to the Project:

Policy NR6.3: *New developments, roads, water and sewer lines, and stormwater infrastructure should be located to avoid impacts to significant cultural resources.*

City of Yuba City

The following goals and policies of the City of Yuba City General Plan (2004) are applicable to the Project:

8.3-G-1: *Identify and preserve the archaeological, paleontological, and historic resources that are found within the Yuba City Planning Area.*

8.3-I-6L *In accordance with CEQA and the State Public Resources Code, require the preparation of a resource mitigation plan and monitoring program by a qualified archaeologist in the event that archaeological resources are discovered.*

4.5.3 Environmental Impacts and Mitigation Measures

This Section describes potential impacts on cultural resources that could result from implementation of the Project. The Section also recommends mitigation measures as needed to reduce significant impacts

4.5.3.1 Thresholds of Significance

Based on the CEQA Guidelines, Appendix G: Items V (a) through (c), implementation of the Project would have a significant impact related to cultural resources if it would:

(a) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines section 15064.5;
(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines section 15064.5; or
(c) Disturb any human remains, including those interred outsides of dedicated cemeteries.

CEQA Guidelines Section 15064.5(b)(2) defines *materially impaired* for purposes of the definition of substantial adverse change as follows:

The significance of an historical resource is materially impaired when a project:

(A) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

(B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

(C) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

CEQA requires that public agencies must consider the effects of their actions on both historical resources and unique archaeological resources. If a project would result in an effect that may cause a substantial adverse change in the significance of a historical resource or would cause significant effects on a unique archaeological resource, then alternative plans or mitigation measures must be considered. Therefore, prior to assessing effects or developing mitigation measures, the significance of cultural resources must first be determined. The steps that are normally taken in a cultural resources investigation for CEQA compliance are as follows:

- Identify potential historical resources and unique archaeological resources;
- Evaluate the eligibility of historical resources; and
- Evaluate the effects of the project on eligible historical resources.

4.5.3.2 Methods of Analysis

Records Search and Literature Review

Two records searches were conducted for this Project Area because it covers two counties whose records are housed at separate information centers of the CHRIS. Staff at the North Central Information Center (NCIC) of the CHRIS at California State University-Sacramento conducted a Records Search of the Yuba County portions of the Project Area on March 25, 2020). Staff at the NEIC of the CHRIS at California State University-Chico conducted a records search of the Sutter County portions of the Project Area on April 8, 2020. The purpose of the records search was to determine the extent of previous surveys within a 0.5-mile radius of the study area, and whether previously documented pre-contact or historic period archaeological sites, architectural resources, or traditional cultural properties exist within this area.

In addition to the official records and maps for archaeological sites and surveys in Yuba and Sutter counties, the following historic references were also reviewed: Historic Property Data File for Yuba County (OHP 2012a); Historic Property Data File for Sutter County (OHP 2012b); *The National Register Information System* (National Park Service [NPS] 2020); *Office of Historic Preservation, California Historical Landmarks*

(OHP 2020); *California Historical Landmarks* (OHP 1996 and updates); *California Points of Historical Interest* (OHP 1992 and updates); *Directory of Properties in the Historical Resources Inventory* (1999); *Caltrans Local Bridge Survey* (Caltrans 2019); *Caltrans State Bridge Survey* (Caltrans 2018); and *Historic Spots in California* (Kyle 2002). ECORP also conducted focused property- and site-specific archival research online, where primary sources such as historical newspaper articles, maps, and county recorders records were reviewed. These records included the 1880 U.S. census records, the Bureau of Land Management (BLM) General Land Office (GLO) survey plats and historical topographic maps.

In addition to the record search, ECORP contacted the California Native American Heritage Commission (NAHC) on March 24, 2020 to request a search of the Sacred Lands File for the Project Area to determine whether or not Sacred Lands have been recorded by California Native American tribes within the Project Area. Native American Sacred Lands may coincide with archaeological sites.

ECORP mailed letters to the Yuba Historical Society and to the Sutter County Museum on March 26, 2020 to solicit comments or obtain historical information that the repository might have regarding events, people, or resources of historical significance in the area.

Pedestrian Survey

On April 21, 2020, ECORP conducted intensive pedestrian survey within the Project Area under the guidance of the *Secretary of the Interior's Standards for the Identification of Historic Properties* (NPS 1983) using transects spaced 15 meters apart. ECORP archaeologists and a tribal representative from UAIC expended two person-days in the field. At that time, the ground surface was examined for indications of surface or subsurface cultural resources. The general morphological characteristics of the ground surface were inspected for indications of subsurface deposits that may be manifested on the surface, such as circular depressions or ditches. Whenever possible, the locations of subsurface exposures caused by such factors as rodent activity, water or soil erosion, or vegetation disturbances were examined for artifacts or for indications of buried deposits. No subsurface investigations or artifact collections were undertaken during the pedestrian survey. No underwater archaeology was performed within the river.

4.5.3.3 Results

The records search identified 30 previous cultural resource investigations that have been conducted within 0.5 mile of the property, covering approximately 50 percent of the total area surrounding the property within the record search radius, but only approximately 40 percent of the project area had been previously surveyed for cultural resources. These studies revealed the presence of pre-contact sites and historical sites.

The records search also determined that 23 previously recorded pre-contact and historic-period cultural resources are located within 0.5 mile of the Project Area. The records search revealed two pre-contact resources (P-51-20 and P-51-275) and four historic-period resources (P-58-1215, P-51-150, P-51-281, and P-51-271) have been previously recorded within the Project Area.

The nearest California Landmarks and National Register properties are in downtown Marysville, 0.7 mile northeast of the Project Area. Historic land patent records and map reviews indicated that John A. Sutter

and John A. Sutter, Jr., were granted 43,446 acres of the New Helvetia land grant on June 20, 1866 under the Spanish/Mexican land Authority, a portion of which includes the current Project Area. Several roads and buildings were present in the Project Area between the early 1900s and the 1950s, all of which were gone by the early 1970s. Most were replaced by the Marysville WWTP and the wastewater ponds, which were present as early as 1952. The Feather River West Levee (P-51-150) has been mapped in the Project Area since 1952. The Project Area has been historically subject to inundation.

The NAHC Sacred Lands File Search indicated the presence of sacred lands within the Project Area and the NAHC recommended that UAIC be contacted. A summary of the tribal consultation is provided in Chapter 4.18, Tribal Cultural Resources. In addition, a representative from UAIC accompanied archaeologists on the field survey.

During the pedestrian survey, one previously unidentified resource was recorded: FR-001, the Marysville WWTP. Five previously recorded resources were identified: P-58-1215, P-51-150, P-51-281, P-51-271, and P-51-20/P-51-275 (determined to be two recordings of the same resource) (Table 4.5-1.).

Table 4.5-1. Cultural Resources in the Project Area.

Site #	Description	Eligibility
FR-001	Historic Marysville WWTP Ponds	Not eligible for NRHP or CRHR (pending agency concurrence)
P-58-1215	Historic Marysville Dump	Not eligible for NRHP or CRHR (pending agency concurrence)
P-51-150	Historic Feather River West Levee	Previously evaluated as eligible under NRHP Criterion A and CRHR Criterion 1 by USACE with State Historic Preservation Officer (SHPO) concurrence
P-51-281	Historic-period refuse scatter	Previously evaluated as not eligible for NRHP or CRHR by USACE with SHPO concurrence
P-51-271	Historic-period foundation materials	Previously evaluated as not eligible for NRHP or CRHR by USACE with SHPO concurrence
P-51-20/ P-51-275	Large pre-contact habitation site	Previously treated as eligible for NRHP and CRHR under Criteria A/1, B/2, and D/4

Four of the six cultural resources (FR-001, P-58-1215, P-51-281, and P-51-271) were evaluated as not eligible for the NRHP and CRHR, and are therefore not considered Historical Resources. The historic-period Feather River West Levee (P-51-150) was evaluated as eligible for the NRHP and CRHR and is considered a Historical Resource. Pre-contact habitation site P-51-20/P-51-275 is being treated as eligible for the NRHP and CRHR for the purpose of this Project, and is considered an Historical Resource and a unique archaeological resource.

4.5.3.4 Project Impacts and Mitigation Measures

Impact 4.5-1: Implementation of the Proposed Project would cause a substantial adverse change in the significance of a historic resource pursuant to CEQA Guidelines section 15064.5.
Impact Determination: *less than significant with mitigation incorporated*

Threshold:	*Would cause a substantial adverse change in the significance of a historic resource pursuant to CEQA Guidelines section 15064.5.*

As described in Table 4.15-1 above, sites FR-001, P-51-281, P-51-271, and P-58-1215 have been evaluated as not eligible and are not considered further. These resources do not require any further management, preservation, or mitigation under CEQA. The balance of the sites is addressed further. These are the cultural resources that are eligible for inclusion in the NRHP and CRHR, which constitute historic properties as defined in 36 CFR Part 800.16(l)(1) and historical resources under CEQA, respectively.

P-51-150, the historic Feather River West Levee, has been previously determined eligible for the NRHP and CRHR. Major reconstruction and repair of this levee as recently as 2017 was determined to have a no adverse effect to the resource by the USACE with SHPO concurrence for an unrelated previous federal project. Absent complete removal of the levee, there is not much that could be done to the resource to result in an adverse effect; however, an adverse effect would be caused if the Proposed Project were to significantly alter the aspects of location, design, and association, which are the most important aspects of integrity that convey the significance according federal statutes. The current Project is prohibited from impacting the Feather River West Levee by way of jurisdiction by the CVFCB and USACE, and SBFCA does not propose to impact the levee. While equipment and vehicles may pass along the levee toe road or may cross the crown on paved access roads, or park at least 10 feet from the levee toe, this type of use is currently allowable and will not result in any impact to the levee. Therefore, the Project will have a less than significant impact on site P-51-150.

Site P-51-20/P-51-275, a pre-contact habitation site, has been previously treated as eligible for the NRHP and CRHR and is a Historical Resource within the Project Area. The Project would have an adverse effect and a significant impact on the site if it were to damage, excavate, or redeposit currently intact archaeological materials, because doing so would impact and effect the qualities of integrity that would convey the significance: the integrity of materials, location, and association. The Proposed Project will involve extraction of what can be described as "overburden" sediments that were only recently deposited during the 2017 Oroville Dam incident, and therefore, there is a planned vertical and horizontal separation between the Project activity and the site.

However, there remains a possibility that cultural materials will be inadvertently excavated during sediment removal. In addition, according to the review of maps and records, the proximity of the Project Area to major water resources, and the fact that buried pre-contact and historic-period resources are known to exist within the Project Area, indicate a high potential for the presence of previously undiscovered buried historic-period and pre-contact archaeological deposits at the Project Area. The presence of alluvium in and around the Project Area further suggests that there remains a potential for

deeply buried pre-contact resources to be uncovered during ground-disturbing activities. Without mitigation, impacts associated with inadvertent discovery of cultural resources would be significant.

Therefore, implementation of mitigation measures **CUL-1** is required and will require archaeological monitoring to ensure proper treatment of any cultural resources inadvertently discovered. Implementation of mitigation measures **CUL-2** and **CUL-3** will require proper handling and disposition of resources if they are inadvertently discovered. With these measures in place, the Project would have a less than significant impact on site P-51-20/P-51-275 and other cultural resources inadvertently discovered.

Mitigation Measures

CUL-1: Archaeological Monitoring

- **All terrestrial ground-disturbing activity associated with Project construction shall be monitored by a qualified professional archaeologist that meets or works under the direct supervision of someone who meets the Secretary of the Interior's Professional Qualifications Standards for Archaeology.**
- **The archaeological monitor shall provide a pre-work orientation session to all construction personnel. This includes instructing the Project superintendent and key members of all major excavation, trenching, and grading operations for Project construction to be alert for the possibility of destruction of buried cultural resource materials. The training shall instruct all personnel to recognize signs of historic and prehistoric use, and to report any such finds (or suspected finds) to the archaeological monitor immediately, so damage to such resources may be prevented.**
- **Archaeological monitoring shall not occur for equipment set-up or tear-down that does not disturb the ground surface more than six inches in depth; hydro seeding; paving; placement of imported fill/gravel/rock; restoration; or backfilling of previously excavated areas. Excavated sediment from the river channel, which was redeposited from upstream by the 2017 Oroville Dam incident, will not be subjected to screening; however, any observed cultural materials will be collected and treated in accordance with mitigation measures CUL-2 and CUL-3.**
- **At the conclusion of monitoring activities, the Principal Investigator shall submit to the USACE and SBFCA a brief Summary Monitoring Report for the Project, which incorporates all previously unknown discoveries and presents the methods and results of all monitoring activities. The draft report shall be submitted to the USACE and SBFCA within 12 months of the completion of all Project activities.**
- **All site records, reports, photographs, and other documentation generated for this Project using public funding shall be maintained on file with the CHRIS and made available to professionals meeting the standards of the OHP. Information derived from these documents may be further disseminated at**

professional archaeological conferences or meetings, or to the interested public (with confidentiality maintained).

Timing/Implementation: *This measure shall be printed on construction plan sets and implemented at all times during construction.*

Monitoring/Enforcement: SBFCA and Project construction lead.

CUL-2: **Post-Review Discoveries.** The monitoring archaeologist shall be responsible for taking into account any tribal recommendations when making the following decisions.

- If the monitoring archaeologist determines that the find is not a cultural resource (such as water-worn cobbles or accumulations of natural materials), then no additional action is necessary. Should tribal representatives desire to take possession of those materials, they may do so as long as the possession is documented by the archaeological monitor and as long as removal has been approved in writing by the property owner; however, taking possession does not obligate SBFCA or the USACE to provide fiduciary support for storing, processing, or reburying materials that are not cultural resources. Until a determination is made by the monitoring archaeologist about whether or not the find is subject to further consideration under CEQA and Section 106, tribal representatives shall not remove or take possession of materials or objects observed.
- If the find is determined by the monitoring archaeologist to be redeposited material that lacks primary context, is discovered only in the excavated soils, spoil piles, or stockpiles, or is otherwise not in its original context or place of deposition and does not contain human remains, then this discovery is not potentially eligible for the NRHP or CRHR. The archaeological monitor will assign a temporary field number, take a photograph, record its location with a Global Positioning System receiver, and describe the constituents in field notes. If the redeposited find is associated with European or non-Native American culture, the find may be left in place or discarded in order to not interfere with Project activities. If the find is associated with Native American culture, following consultation with the lead agencies, should tribal representatives desire to take possession of those materials or act in any manner consistent with the tribal cultural resources treatment plan, they may do so as long as the possession is documented by the archaeological monitor and as long as permission has been granted in writing by the property owner. However, taking possession does not obligate SBFCA or the USACE to provide fiduciary support for storing, processing, or reburying materials that are not eligible for the NRHP or CRHR. If the find was made in spoil piles and stockpiles, the material may be reused by the Project and returned to the project site and will not be subject to screening; however, tribal representatives may take possession of any items found in spoils as long as doing so does not interfere with the Project activities.

- If a tribal representative disagrees with the determination by the monitoring archaeologist that a discovery is either not a cultural resource or represents a redeposit, then no material collection may occur by any party, and the Tribal Historic Preservation Officer (THPO) of the dissenting tribe shall notify the USACE and SBFCA within 48 hours of discovery. All timelines specified in 36 CFR 800.13(b) shall be applied in the event of an archaeological discovery. The USACE will have 48 hours to review information submitted by the THPO and communicate its decision to the THPO and SHPO, in accordance with 36 CFR 800.13(b). If the contractor denies the request to stop work at that location during the appeal process (see above), and if the USACE determines that the find does represent an historic property, then the USACE and SBFCA will take into consideration the post-discovery impacts to the resource when determining the scope of the effort required to resolve any adverse effect.
- If the find is determined by the monitoring archaeologist to be in original context (in original place of deposition) and does not contain human remains, and that it constitutes a resource that could not have been discovered prior to construction, then the USACE and SBFCA shall consult on appropriate treatment, in consultation with tribal representatives, pursuant to 36 CFR § 800.13(b) and CEQA, respectively.

Timing/Implementation: *This measure shall be printed on construction plan sets and implemented at all times during construction.*

Monitoring/Enforcement: SBFCA and Project construction lead.

CUL-3: **Protocols for Discovery of Human Remains.** If it is determined that human remains are found, or remains that are potentially human, then the treatment shall conform to the requirements of State law under California Health and Safety Code Section 7050.5 and PRC Section 5097.98 to the greatest extent that they apply to the USACE. The procedures in the human remains treatment plan and contractor specifications shall be followed.

For the purposes of this Project, the definitions of remains subject to State law (Section 5097.98) shall apply. This definition states: "(d)(1) Human remains of a Native American may be an inhumation or cremation, and in any state of decomposition or skeletal completeness. (2) Any items associated with the human remains that are placed or buried with the Native American human remains are to be treated in the same manner as the remains, but do not by themselves constitute human remains."

Timing/Implementation: *This measure shall be printed on construction plan sets and implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead.*

Impact 4.5-2: Implementation of the Proposed Project would cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines section 15064.5.
Impact Determination: *less than significant with mitigation incorporated.*

Threshold:	*Would cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines section 15064.5.*

As discussed under Impact 4.5-1, Site P-51-20/P-51-275, a pre-contact habitation site, has been previously treated as eligible for the NRHP and CRHR and occurs on the Project site. The Project would have an adverse effect on the site if it were to damage, excavate, or redeposit currently intact archaeological materials, because doing so would have an effect on the integrity of materials, location, and association, the qualifies of integrity that would convey the significance. As discussed in the Cultural Resources Report, the Proposed Project will involve extraction of what can be described as "overburden" sediments that were only recently deposited during the 2017 Oroville Dam incident, and therefore, there is a planned vertical and horizontal separation between the Project activity and the site. However, there remains a possibility that cultural materials will be inadvertently excavated during sediment removal. In addition, according to the review of maps and records, the proximity of the Project Area to major water resources, and the fact that buried pre-contact and historic-period resources are known to exist within the Project Area, indicate a high potential for the presence of previously undiscovered buried historic-period and pre-contact archaeological deposits at the Project Area. The presence of alluvium in and around the Project Area further suggests that there remains a potential for deeply buried pre-contact resources to be uncovered during ground-disturbing activities. Without mitigation, impacts associated with inadvertent discovery of cultural resources would be significant.

Therefore, implementation of mitigation measures **CUL-1** is required and will require archaeological monitoring to ensure proper treatment of any cultural resources inadvertently discovered. Implementation of mitigation measures **CUL-2** and **CUL-3** will require proper handling and disposition of resources if they are inadvertently discovered. With these measures in place, the Project would have a less than significant impact on site P-51-20/P-51-275 and other cultural resources inadvertently discovered.

Mitigation Measures

Implementation of mitigation measures **CUL-1**, **CUL-2**, and **CUL-3** will be required.

Impact 4.5-3: Implementation of the Proposed Project would disturb any human remains, including those interred outsides of formal cemeteries.
Impact Determination: *less than significant with mitigation incorporated.*

Threshold:	*Would disturb any human remains, including those interred outsides of formal cemeteries.*

No human remains have been identified on the Project site. However, as described under Impact 4.5-1, implementation of the Proposed Project would include ground-disturbing construction activities that could result in the inadvertent disturbance of currently undiscovered human remains. However, mitigation

measure **CUL-3** would require use of proper procedures to follow discovery of human remains mandated by the California Health and Safety Code and the PRC.

According to these provisions, should human remains be encountered, all work in the immediate vicinity of the burial must cease, and any necessary steps to ensure the integrity of the immediate area must be taken. The remains are required to be left in place and free from disturbance until a final decision as to the treatment and their disposition has been made. The County Coroner would be immediately notified, and the coroner would then determine whether the remains are Native American. If the coroner determines the remains are Native American, the coroner has 24 hours to notify the NAHC, which will in turn notify the person identified as the most likely descendant (MLD) of any human remains. Further actions would be determined, in part, by the desires of the MLD, who has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. Therefore, with implementation of mitigation measure **CUL-3**, impacts would be reduced to less than significant levels.

Mitigation Measures

Implementation of mitigation measure **CUL-3** would be required.

4.5.4 Cumulative Impacts

4.5.4.1 Cumulative Setting

The only other known proposed in-water Project in the Feather or Yuba rivers, involves dredging by SBFCA to remove sediment that has accumulated in portions of the Feather River near the Live Oak Recreational Park Boat Ramp facility, located several miles upstream of the Project. Dredging would remove ±1.5 acres of invasive water primrose and ±3,400 cy of sediment from the Live Oak Recreational Park Boat Ramp facility. Dredged spoils would be dewatered at the boat ramp and spoils would be disposed of at the emergency ponds of the Gridley WWTP or at the Ostrom Road Landfill. This Project is anticipated to be completed in 2021. In addition, the City of Marysville intends to decommission the existing wastewater treatment ponds at the Marysville WWTP which will involve removal of any water and sludge from the wastewater ponds and regrading the site. Neither of these projects are anticipated to impact known cultural resources. There are no other known past, present, and probable future projects producing related or cumulative impacts in the area.

4.5.4.2 Cumulative Impacts and Mitigation Measures

Impact 4.5-5: Result in a considerable contribution to cumulative impacts on cultural resources.
Impact Determination: *less than significant with mitigation incorporated.*

Threshold:	*Would result in a substantial adverse change in the significance of an historical resource, archaeological resource, or disturb human remains in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

All three projects have the potential for inadvertent discovery of cultural resources. In addition, there is one known Historical Resource and significant archaeological resource in the Proposed Project area that could inadvertently be disturbed under the Project. As mitigated, however, the direct impacts associated with the Project will be reduced to a less than significant level. While it is possible that dredging activities and dredging and grading associated with the other projects could result in the discovery of cultural resources, mitigation measures and state and federal laws already in place will set in motion actions designed to mitigate these potential impacts. As a result, mitigation required for this Project, and existing federal and state laws, would ensure that the Project would have a less than considerable contribution to cumulative impacts on cultural resources. Impacts would be less than significant.

Mitigation Measures

Implementation of mitigation measures **CUL-1**, **CUL-2**, and **CUL-3** will be required.

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4.6 Energy

Energy consumption is analyzed in this EIR due to the potential direct and indirect environmental impacts associated with the Project. Such impacts include the depletion of nonrenewable resources (e.g., oil, natural gas, coal) and emissions of pollutants during the implementation phases.

4.6.1 Environmental Setting

4.6.1.1 Existing Setting

Fuel (gasoline) consumption is analyzed in this analysis as the primary source of energy that is relative to the Proposed Project. Annual combined fuel consumption in Sutter County and Yuba County from 2015 to 2019 is shown in Table 4.6-1. As shown, fuel consumption has remained relatively constant since 2015.

Table 4.6-1. Annual Fuel Consumption in Sutter County and Yuba County 2015-2019

Year	Fuel Consumption (gallons)
2015	106,255,557
2016	109,928,869
2017	108,619,125
2018	106,929,775
2019	104,990,287

Source: CARB 2017

4.6.2 Environmental Impacts and Mitigation Measures

This Section describes potential impacts on energy consumption that could result from the Proposed Project.

4.6.2.1 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance and Local CEQA Guidelines (2019). The Project would result in a significant impact to energy if it would do any of the following:

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

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

4.6.2.2 Methods of Analysis

As previously stated, the analysis focuses on the source of energy that is relative to the Proposed Project, which is the equipment fuel necessary for Project implementation. Implementation of the Proposed Project involves maintenance dredging of the confluence of the Yuba River and Feather River.

Implementation includes activities such as dredging, dewatering, material handling and hauling of material. The Project has a preferred Project as well as four alternatives. The amount of total implementation-related fuel used was estimated using ratios provided in the Climate Registry's General Reporting Protocol for the Voluntary Reporting Program, Version 2.1 and compared to the total combined fuel usage in Sutter County and Yuba County. The Project is not proposing the construction of any buildings and once implementation is complete would not result in new traffic trips or energy demand beyond existing conditions. As such, electricity consumption, natural gas consumption and fuel necessary for Project operations are not analyzed.

4.6.2.3 Project Impacts and Mitigation Measures

Impact 4.6-1: Implementation of the Proposed Project would result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
Impact Determination: *less than significant*.

Threshold:	*Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.*

Project Implementation

The impact analysis focuses on the equipment-fuel necessary for Project implementation. Implementation includes dredging activities, dewatering activities, material handling and hauling for the preferred Project and the various alternative. Addressing energy impacts requires an agency to make a determination as to what constitutes a significant impact. There are no established thresholds of significance, statewide or locally, for what constitutes a wasteful, inefficient, and unnecessary consumption of energy for a proposed land use project. For the purpose of this analysis, the amount of fuel necessary for Project implementation for the preferred Project and each alternative is calculated and compared to the total consumed in Sutter County and Yuba County in 2019.

Table 4.6-2. Proposed Project Fuel Consumption

Fuel Consumption	Annual Energy Consumption (Gallons)	Percentage Increase Countywide
Preferred Project	107,586	0.10
Alternative 1 (No Project)	0	0.00
Alternative 2 (No Use of Marysville Wastewater Treatment Plant)	60,296	0.05
Alternative 3 (Use of Marysville WWTP for Dewatering Only but Not Disposal)	90,246	0.08
Alternative 4 (Reduced Project – Dredge of Only Northern 14-Acres (Phase 1 Only)	30,542	0.02

Source: Climate Registry 2016

As shown, the Project's fuel consumption during the implementation is estimated to be 107,586 gallons for the preferred Project, 0 gallons for Alternative 1, 60,296 gallons for Alternative 2, 90,246 gallons for Alternative 3, and 30,542 gallons for Alternative 4. This would increase the combined annual countywide fuel use by 0.10 percent, 0.00 percent, 0.05 percent, 0.08 percent and 0.02 percent respectively. As such, Project implementation would have a nominal effect on local and regional energy supplies. No unusual Project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the state. Construction contractors would purchase their own gasoline and diesel fuel from local suppliers and would judiciously use fuel supplies to minimize costs due to waste and subsequently maximize profits. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency combined with state regulations limiting engine idling times and requiring recycling of construction debris would further reduce the amount of transportation fuel demand during Project construction. For these reasons, it is expected that construction fuel consumption associated with the Project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

For these reasons, this impact would be less than significant.

Post-Project Implementation

None of the components of the Proposed Project would include the provision of new buildings or any other substantial energy consuming components. Nor would the Project instigate new gasoline-consuming vehicle trips over existing conditions. Therefore, by its nature, the Project would not cause wasteful, inefficient, and unnecessary consumption of energy from long-term operations over existing conditions and no impact would occur.

Mitigation Measures

No mitigation is required.

Impact 4.6-2: Implementation of the Proposed Project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.
Impact Determination: *less than significant*.

Threshold:	*Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.*

This impact analysis focuses on fuel consumption during the one-time implementation period for the preferred Project and various alternatives. As discussed above, Project implementation would have a nominal effect on local and regional energy supplies. Furthermore, the main goal of the Project is to conduct maintenance dredging of the confluence of the Yuba River and Feather River, including the Yuba City Boat Ramp. The buildup of sediment, exacerbated by the Oroville Dam Spillway incident of 2017, has created dangerous conditions for recreational users, made some boat launch facilities nearby unusable, and has hampered public safety as it has affected emergency vessel launch capabilities.

For these reasons, this impact would be less than significant.

Mitigation Measures

No mitigation is required.

4.6.3 Cumulative Impacts

4.6.3.1 Cumulative Setting

The setting for this cumulative analysis generally includes the Yuba County and Sutter County, and all existing, proposed, approved, and planned projects in these areas.

4.6.3.2 Cumulative Impacts and Mitigation Measures

Impact 4.6-3: Result in a considerable contribution to cumulative impacts on energy consumption.
Impact Determination: *less than significant*.

Threshold:	*Result in a wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

As previously described, the impact analysis contained herein focuses on the fuel consumption needed for Project implementation. As shown, Project fuel consumption would be neglectable and would not be considered inefficient, wasteful, or unnecessary with regard to energy. Thus, the Proposed Project's impacts are considered less than cumulatively considerable.

Mitigation Measures

No mitigation is required.

4.7 Geology and Soils

This section of the EIR describes the existing conditions in the Project area, the regulatory framework necessary to evaluate potential impacts on geology and soils from the Project, and potential short-term, long-term, and cumulative impacts that could result from the Project. Impacts associated with geologic hazards and erosion, and impacts on paleontological resources are discussed below.

4.7.1 Environmental Setting

4.7.1.1 Soils

According to the Web Soil Survey (NRCS 2020), five soil units, or types, have been mapped within the Project area (Figure 4.7-1) (NRCS-UC Davis 2020):

- 117 – Columbia fine sandy loam, 0 to 2 percent slopes, Major Land Resource Area (MLRA) 17;
- 118 – Columbia fine sandy loam, channeled, 0 to 2 percent slopes;
- 127 – Conejo-Urban land complex, 0 percent slopes MLRA 17;
- 138 – Columbia fine sandy loam, 0 to 1 percent slopes, occasionally flooded; and
- 163 – Holillipah loamy sand, 0 to 1 percent slopes, frequently flooded.

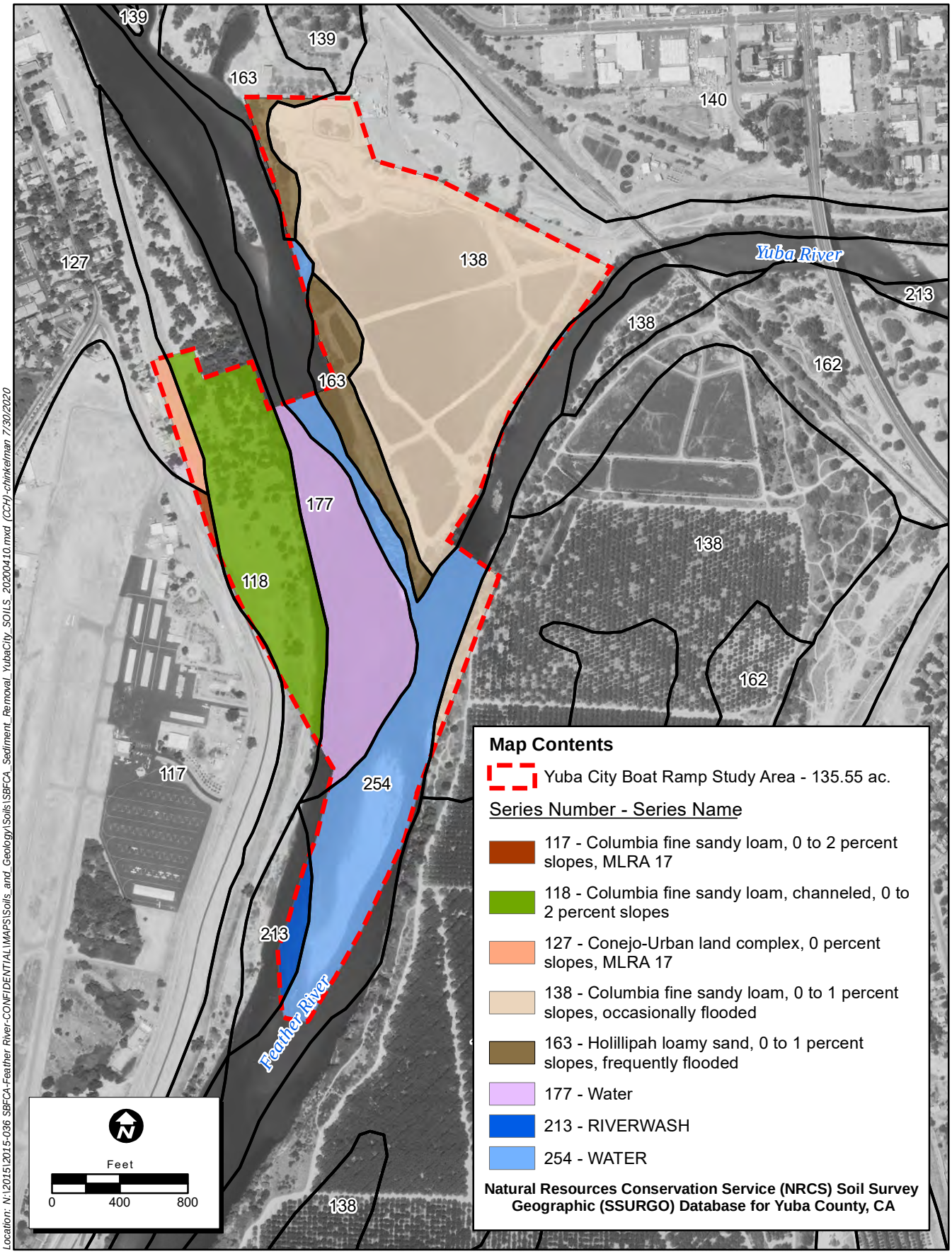
Native soils in the Marysville WWTP ponds area and at the Yuba City Boat Ramp facility primarily comprise Columbia fine sandy loam which are somewhat poorly drained soil types according to USDA NRCS. Specifically, somewhat poorly drained soils are defined as (NRCS-UC Davis 2020):

> "Water is removed slowly so that the soil is wet at a shallow depth for significant periods during the growing season."

Holillipah loamy sand occurs on the east banks of the Feather River at the Marysville WWTP ponds, and is somewhat excessively drained in the area, meaning that "water is removed from the soil rapidly." (NRCS-UC Davis 2020).

4.7.1.2 Site Geology

The geology of the Sacramento Valley is a large, asymmetric, structural trough (syncline) formed by westward-tilting blocks of plutonic and metamorphic rocks on the eastern side, and highly folded and faulted blocks of metamorphic rocks (Franciscan) on the western side. This basin has been partially filled by a thick sequence (up to 12.4 miles [20 km] thick) of sedimentary rock and alluvial deposits that range from late Jurassic to Historical in age. During the Pleistocene, erosion of the Sierra Nevada led to the deposition of large alluvial fans at the base of the foothills along the eastern side of the Sacramento Valley. Glacial conditions are generally credited for the deposition of these fans, while subsequent interglacial periods are marked by landscape stability, soil formation, and channel incision.



Location: N:\2015\2015-036 SBFCA-Feather River-CONFIDENTIAL\MAPS\Soils_and_Geology\Soils\SBFCA_Sediment_Removal_YubaCity_SOILS_20200410.mxd (CCH)-chinkelman 7/30/2020

Map Date: 7/30/2020
Photo Source: NAIP (2018)

Figure 4.7-1. Natural Resources Conservation Service Soils Units

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ENVIRONMENTAL CONSULTANTS

Subsequent depositional cycles during the Holocene progressively buried downstream sections of many older alluvial fans and also led to the formation of inset stream terraces and nested alluvial fans along the foothills (Rosenthal and Willis 2017).

About 4,000 years ago, most of Sacramento Valley had large amounts of alluvium deposited across it, forming a continuous plain extending from southern Glenn County through Yolo County in the west, and from northern Butte County to Sutter County in the east. Along modern streams and rivers in the lower Sacramento Valley, these late Holocene deposits were in part eventually eroded and/or buried by the Latest Holocene and historic period soil deposits (Rosenthal and Willis 2017).

The Project area is located in the flat surface of the Great Valley geomorphic province of California. The Great Valley is an alluvial plain approximately 50 miles wide and 400 miles long in the central portion of California (Sutter County 2008). The Great Valley's northern portion is the Sacramento Valley, drained by the Sacramento River, and its southern portion is the San Joaquin Valley, drained by the San Joaquin River (Sutter County 2008).

The underlying geology in the Project area is Quaternary alluvium (Sutter County 2008).

4.7.1.3 Regional Seismicity and Fault Zones

In California, special definitions for active faults were devised to implement the Alquist-Priolo Earthquake Fault Zoning Act of 1972, which regulates development and construction in order to avoid the hazard of surface fault rupture. The State Mining and Geology Board established policies and criteria in accordance with the Act, which defined an active fault as one which has had surface displacement within Holocene time (about the last 11,000 years). A potentially active fault is considered to be any fault that showed evidence of surface displacement during Quaternary time (last 1.6 million years) (CGS 2010).

Yuba County is not located within a highly active fault zone. No Alquist-Priolo Earthquake Fault Zones are located in the County (Yuba County 2011). Faults include primarily inactive faults of the Foothills Fault System, running south-southeastward near Loma Rica, Browns Valley, and Smartsville. Faults include the Prairie Creek Fault Zone, the Spenceville Fault, and the Swain Ravine Fault (Yuba County 2011).

No active earthquake faults are known to exist in Sutter County (Sutter County 2008). Numerous earthquakes of magnitude 5.0 or greater on the Richter scale have occurred on regional faults, including the San Andreas Fault System in the region (Sutter County 2008) and there are several potentially active faults underlying the Sutter Buttes which are associated with deep-seated volcanism (Sutter County 2008).

4.7.1.4 Other Geologic Hazards

Areas in Yuba County and Sutter County have moderate to severe potential for erosion and/or landslide hazards in the foothills and mountain areas (Sutter County 2008; Yuba County 2011). Sutter County and Yuba County both have areas that are potentially subject to liquefaction, as well as soils that have a high shrink-swell potential (i.e., expansive soils) (Sutter County 2008, 2019; Yuba County 2011). Soils most susceptible to liquefaction include clean, uniformly graded, loose, saturated, fine grained sands (Sutter County 2008). Expansive or shrink-swell soils contain significant amounts of clay minerals that swell when

wet and shrink when dry, which can result in damage to foundations, buildings, infrastructure, and other structures (Yuba County 2011). The Project area is not mapped as an area of subsidence by the USGS (USGS 2020). The Project is not in an area with a known geologic hazard (Sutter County 2008; Yuba County 2011).

4.7.1.5 Paleontological Resources

Paleontological resources include mineralized (fossilized) or unmineralized bones, teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains. A paleontological records search was conducted online at the University of California Museum of Paleontology's (UCMP) online database on September 24, 2020. The search included a review of the institution's paleontology specimen collection records for Sutter and Yuba Counties, including the Project Area and vicinity.

The results of the search of the UCMP indicated that 37 paleontological specimens were recorded from 14 identified localities and nine unidentified localities in Sutter County and three paleontological specimens from three localities in Yuba County. However, no paleontological resources have been previously recorded within or near the Proposed Project site (UCMP 2020).

4.7.2 Regulatory Setting

Relevant federal, state, and local laws and regulations pertaining to geology and soils are discussed below.

4.7.2.1 Federal

Earthquake Hazard Reduction Act of 1977 (Amended 2004)

The Earthquake Hazard Reduction Act includes provisions for earthquake hazard reduction measures to improve design and construction methods and practices, land-use controls and redevelopment, prediction and early-warning systems, coordinated emergency preparedness plans, and public education/involvement programs. The Act led to the creation of the National Earthquake Hazards Reduction Program (NEHRP) which is a collaborative effort among the Federal Emergency Management Agency (FEMA), the National Institute of Standards and Technology (NIST), the National Science Foundation (NSF), and the USGS.

4.7.2.2 State

California Building Code and California Health and Safety Code

The State of California provides minimum standards for building design through the California Building Code (CBC, CCR, Title 24). The state earthquake protection law (California Health and Safety Code Section 19100 et seq.) requires that structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. The CBC identifies seismic factors that must be considered in structural design as well as regulates the excavation of foundations and retaining walls, construction on unstable soils, such as expansive soils and areas subject to liquefaction, and regulates grading activities, including drainage and erosion control.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (PRC Division 2, Chapter 7.5) provides policies and criteria to assist cities, counties, and state agencies prohibit the location of developments and structures for human occupancy across the trace of active faults. In order to assist cities and counties, the State Geologist delineates and compiles maps of earthquake fault zones to encompass all potentially and recently active traces of faults.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (PRC Division 2, Chapter 7.8 and CCR Title 14, Article 10) provides for a statewide seismic hazard mapping and technical advisory program to assist cities and counties in protecting the public health and safety from the effects of strong ground shaking, liquefaction, landslides or other ground failure and other seismic hazards caused by earthquakes.

4.7.2.3 Local

Sutter County

The following goals and policies of the 2019 Sutter County General Plan (Sutter County 2019) are applicable to the Project:

GOAL PHS 2: Minimize the risk of personal injury and property damage due to geologic and seismic hazards and adverse soil conditions.

Yuba County

The following goals and policies of the Yuba County 2030 General Plan (Yuba County 2011) are applicable to the Project:

Policy HS8.3: A grading permit from the County is required for movement of dirt, soil, rock, debris or other material on over one acre of land and construction of retaining walls, bridges, and fill operations exceeding four feet, unless the activity is listed in the County Code as exempt from grading requirements.

Policy HS8.5: An erosion and sediment control plan meeting County standards for preventing to increased discharge of sediment is required for:

- Projects that propose to grade more than ten thousand (10,000) square feet of area having a slope greater than ten (10) percent;
- Clearing and grubbing areas of one acre or more regardless of slope;
- Projects where more than two thousand five hundred (2,500) square feet will be inadequately protected from erosion during any portion of the rainy season;

- Projects that involve grading will occur within fifty (50) feet of any watercourse; or
- Where the County determines that the grading will or may pose a significant erosion, or sediment discharge hazard for any reason.

Policy HS8.13: Grading permittees shall be responsible for the prevention of damage to any adjacent public utilities or services and adjacent properties. No person(s) shall excavate or fill close to the property line without supporting and protecting such property from damage which may result. It shall be the responsibility of the permittee to control discharge of sediment and hazardous materials to any watercourse, drainage system, or adjacent property.

Policy NR9.7: New construction should be designed to avoid excessive cut and fill by following the natural contour of the subject site.

Policy NR6.2: If potential paleontological or prehistoric resources are detected during construction, work shall stop and consultation is required to avoid further impacts.

City of Yuba City

The following goals and policies of the City of Yuba City General Plan (2004) are applicable to the Project:

9.2-G-1: Minimize risks of property damage and personal injury posed by geologic and seismic hazards.

9.2-I-6: Control erosion of graded areas with revegetation or other acceptable methods. Plant materials for revegetation should not be limited to hydro-seeding and mulching with annual grasses. Trees add structure to the soil and take up moisture while adding color and diversity.

4.7.3 Environmental Impacts and Mitigation Measures

This Section describes potential impacts on geology and soils that could result from the Proposed Project. The Section also recommends mitigation measures as needed to reduce significant impacts.

4.7.3.1 Thresholds of Significance

Based on the CEQA Guidelines, Appendix G: Items VII (a) through (e), implementation of the Project would have a significant impact related to geology and soils if it would:

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

(1) 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 (Division of Mines and Geology Special Publication 42);
(2) Strong seismic ground shaking;
(3) Seismic-related ground failure, including liquefaction; or
(4) Landslides;

(b) Result in substantial soil erosion or the loss of topsoil;
(c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landsliding, lateral spreading, subsidence, liquefaction, or collapse;
(d) Be located on expansive soil, as defined by Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property;
(e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater; or
(f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature.

4.7.3.2 Methods of Analysis

For the purposes of this Draft EIR, available USGS and CGS topographical and seismic maps, NRCS soils reports, and other studies that included relevant geologic data, were reviewed, and used to evaluate geological impacts.

4.7.3.3 Project Impacts and Mitigation Measures

Impact 4.7-1: Implementation of the Proposed Project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides.
Impact Determination: *no impact*.

Threshold:	*Would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides.*

No permanent structures would be constructed under the Project. Therefore, the Project would not put the population at risk of adverse impacts associated with seismic activity or liquefaction. In addition, due to the relatively flat slopes in the Project area, there is no risk of landslides in the area. Therefore, there would be no impact.

Mitigation Measures

None required.

Impact 4.7-2: Implementation of the Proposed Project would result in substantial soil erosion or the loss of topsoil.
Impact Determination: *less than significant*.

Threshold:	*Would result in substantial soil erosion or the loss of topsoil.*

Earthmoving activities and any required stockpiling of soil or sediment can increase the risk of erosion from the Project site during storm events. However, implementation of a Stormwater Pollution Prevention Plan (SWPPP) for the Project will be required under the General National Pollutant Discharge Elimination System (NPDES) Permit for Stormwater Discharges Associated with Construction Activities. Best Management Practices (BMPs) will be required in the SWPPP to ensure that erosion and sediment controls are put into place to prevent excess soil and sediment from entering stormwater runoff from the Project site. The SWPPP will require regular inspections and monitoring to ensure that BMPs are implemented and effective. With implementation of a required SWPPP, impacts would be reduced to less than significant levels.

Mitigation Measures

None required.

Impact 4.7-3: Implementation of the Proposed Project would 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 landsliding, lateral spreading, subsidence, liquefaction, or collapse.
Impact Determination: *no impact*.

Threshold:	*Would 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 landsliding, lateral spreading, subsidence, liquefaction, or collapse.*

No permanent structures would be constructed under the Project. Therefore, the Project would not put the population at risk of adverse impacts associated with landsliding, lateral spreading, subsidence, liquefaction, or collapse. Therefore, there would be no impact.

Mitigation Measures

None required.

Impact 4.7-4: Implementation of the Proposed Project would be located on expansive soil, as defined by Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property.
Impact Determination: *no impact*.

Threshold:	*Would be located on expansive soil, as defined by Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property.*

No permanent structures would be constructed under the Project. Therefore, the Project would not put the population at risk of adverse impacts associated with any expansive soils in the area. Therefore, there would be no impact.

Mitigation Measures

None required.

Impact 4.7-5: Implementation of the Proposed Project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. "
Impact Determination: *no impact*.

Threshold:	*Would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.*

No permanent structures would be constructed under the Project. Therefore, sewage disposal would not be required for this Project. Therefore, there would be no impact.

Mitigation Measures

None required.

Impact 4.7-6: Implementation of the Proposed Project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature.
Impact Determination: *less than significant with mitigation incorporated*.

Threshold:	*Would directly or indirectly destroy a unique paleontological resource or site or unique geological feature.*

A search of the UCMP failed to indicate the presence of paleontological resources in the Project Area (UCMP 2020). Although paleontological resources sites were not identified in the Project Area, there is the possibility that unanticipated paleontological resources will be encountered during ground-disturbing Project-related activities. Therefore, mitigation is required to reduce this potential impact. As such, mitigation measure **GEO-1** is included to reduce impacts on unknown paleontological resources to a less than significant level.

Mitigation Measures

GEO-1: If paleontological or other geologically sensitive resources are identified during any phase of Project development, the construction manager shall cease operation at the site of the discovery and immediately notify SBFCA. SBFCA shall retain a qualified paleontologist to provide an evaluation of the find and to prescribe mitigation measures to reduce impacts to a less-than-significant level. In considering any suggested mitigation proposed by the consulting paleontologist, the SBFCA shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, Project design, costs, land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the Project site while mitigation for paleontological resources is carried out.

Timing/Implementation: *During dredging operations*

Monitoring/Enforcement: *SBFCA and the Project construction lead*

4.7.4 Cumulative Impacts

The only other known proposed in-water Project in the Feather or Yuba rivers, involves dredging by SBFCA to remove sediment that has accumulated in portions of the Feather River near the Live Oak Recreational Park Boat Ramp facility, located several miles upstream of the Project. Dredging would remove ±1.5 acres of invasive water primrose and ±3,400 cy of sediment from the Live Oak Recreational Park Boat Ramp facility. Dredged spoils would be dewatered at the boat ramp and spoils would be disposed of at the emergency ponds of the Gridley WWTP or at the Ostrom Road Landfill. This Project is anticipated to be completed in 2021.

In addition, the City of Marysville intends to decommission the existing wastewater treatment ponds at the Marysville WWTP which will involve removal of any water and sludge from the wastewater ponds and regrading the site.

There are no other known past, present, and probable future projects producing related or cumulative impacts in the area.

Impact 4.7-7: Result in a considerable contribution to cumulative impacts on geology and soils.
Impact Determination: *less than significant with mitigation incorporated.*

Threshold:	*Would result in significant impacts on geology and soils in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

CEQA documentation for the Live Oak dredging project and the decommissioning of the Marysville WWTP wastewater treatment ponds indicate that there are no known paleontological resources within these project areas, and that mitigation measures are required to address any unanticipated discovery of

paleontological resources (SBFCA 2020; City of Marysville 2012, 2016a, 2016b). Therefore, with implementation of mitigation measure **GEO-1** the Proposed Project would have a less than considerable contribution on cumulative impacts on paleontological resources.

In addition, with implementation of a SWPPP for the Project, the potential for erosion from the Project site will be minimized and the Project would not result in a considerable contribution to erosion in the area.

Therefore, cumulative impacts would be less than significant.

Mitigation Measures

Implementation of mitigation measure **GEO-1** will be required.

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4.8 Greenhouse Gas Emissions

This section of the EIR describes the existing conditions in the Project area, the regulatory framework necessary to evaluate potential impacts on greenhouse gas (GHG) emissions from the Project, and potential impacts that could result from the Project.

4.8.1 Environmental Setting

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth. Without the greenhouse effect, the earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Fluorinated gases include chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride; however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic factors together (Intergovernmental Panel on Climate Change [IPCC] 2014).

Table 4.8-1 describes the primary GHGs attributed to global climate change, including their physical properties, primary sources, and contributions to the greenhouse effect.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2 (IPCC 2014). Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e), which weight each gas by its global warming potential (GWP). Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric

lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms. Of the total annual human-caused CO_2 emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remains stored in the atmosphere (IPCC 2013).

Table 4.8-1. Greenhouse Gases

Greenhouse Gas	Description
Carbon Dioxide (CO_2)	Carbon dioxide is a colorless, odorless gas. CO_2 is emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere.
Methane (CH_4)	Methane is a colorless, odorless gas and is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. Methane is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (intestinal fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH_4 to the atmosphere. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH_4 is about 12 years.
Nitrous Oxide (N_2O)	Nitrous oxide is a clear, colorless gas with a slightly sweet odor. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. Nitrous oxide is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years.

Source: USEPA 2016a, 2016b, 2016c

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; suffice it to say the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature or to global, local, or microclimates. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

4.8.1.1 Sources of Greenhouse Gas Emissions

In 2020, CARB released the 2020 edition of the California GHG inventory covering calendar year 2018 emissions. In 2018, California emitted 425.3 million gross metric tons of CO_2e including from imported electricity. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2018, accounting for approximately 30 percent of total GHG emissions in the state. This sector was followed by the industrial sector (21 percent) and the electric power sector including both in-state and out-of-state sources (15 percent) (CARB 2020). Emissions of CO_2 are byproducts of fossil fuel combustion. CH_4, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is

largely associated with agricultural practices and landfills. N_2O is also largely attributable to agricultural practices and soil management. Carbon dioxide sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution (CO_2 dissolving into the water), respectively, two of the most common processes for removing CO_2 from the atmosphere.

4.8.1.2 Regulatory Setting

Relevant federal, state, and local laws and regulations pertaining to greenhouse gas emissions are discussed below.

Federal

There are no federal regulations pertaining to GHG emissions.

State

Executive Order S-3-05

Executive Order (EO) S-3-05, signed by Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets for the state. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

Assembly Bill 32 Climate Change Scoping Plan and Updates

In 2006, the California legislature passed AB 32 (Health and Safety Code § 38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 requires CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which outlines measures to meet the 2020 GHG reduction goals. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by the end of 2020.

The Scoping Plan is required by AB 32 to be updated at least every five years. The latest update, the 2017 Scoping Plan Update, addresses the 2030 target established by Senate Bill (SB) 32 as discussed below and establishes a proposed framework of action for California to meet a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the Scoping Plan Update builds on include increasing the use of renewable energy in the state, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of methane emissions from agricultural and other wastes.

Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include § 38566, which

contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030.

Senate Bill X1-2 of 2011, Senate Bill 350 of 2015, and Senate Bill 100 of 2018

In 2018, SB 100 was signed codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

Regional

The local air quality agency regulating the Yuba and Sutter counties is the Feather River Air Quality Management District (FRAQMD), the regional air pollution control officer for the basin. The FRAQMD has yet to establish a significance threshold for construction and operational GHG emissions.

Local

Sutter County

Sutter County Climate Action Plan. The Sutter County Climate Action Plan (CAP) was designed under the premise that the County is uniquely capable of addressing emissions associated with sources under the County's jurisdiction. The County's emissions reduction efforts coordinate with state strategies in order to accomplish emissions reductions in an efficient and cost-effective manner.

In July 2010, the County adopted the CAP based on the premise that the County and the community it represents are uniquely capable of addressing emissions associated with sources under the County's jurisdiction and that the County's emission reduction efforts should coordinate with the state strategies of reducing emissions in order to reduce emissions in an efficient and cost-effective manner. The CAP presents a comprehensive set of actions to reduce the County's internal and external GHG emissions to 15 percent below current levels by 2020, consistent with the AB 32 Scoping Plan. The CAP identifies GHG emissions reduction measures categorized in six sectors: Building Energy (addressing energy efficiency and alternative energy in buildings and renewable energy generation facilities), Solid Waste/Landfills, Landscapes, Agriculture, Transportation, and Industrial/Stationary Sources. For each sector, reduction strategies have been developed to achieve the County's 2020 emissions reduction target.

Sutter County Greenhouse Gas Pre-Screening Measures. As part of the 2016 update to the CAP, the County developed Pre-Screening Tables for land use projects. The purpose of the CAP Screening Tables is to provide guidance on how to determine the significance of a project's GHG contribution. The County has developed a two-tiered screening procedure that uses a threshold of 3,000 metric tons of CO_2e per year. Under Tier 1, projects are pre-screened out based on project type and under Tier 2, projects are pre-screened out based on size.

Sutter County General Plan. The following policy of the 2019 Sutter County General Plan (Sutter County 2019) is applicable to the Project:

ER 9.10: *Contractor Preference. Give preference to contractors that use low-emission equipment and other practices with air quality benefits for County-sponsored construction projects, and to businesses that practice sustainable operations.*

4.8.2 Environmental Impacts and Mitigation Measures

This Section describes potential impacts on GHG emissions that could result from the Proposed Project. The Section also recommends mitigation measures as needed to reduce significant impacts.

4.8.2.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G: Items VIII (a) through (b), implementation of the Proposed Project would have a significant on greenhouse gas emissions if it would:

(a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment;
(b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

The Appendix G thresholds for GHG emissions do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA. With respect to GHG emissions, the CEQA Guidelines Section 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's GHG emissions or rely on a "qualitative analysis or other performance-based standards." (14 CCR 15064.4(b)). A lead agency may use a "model or methodology" to estimate GHG emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change." (14 CCR 15064.4(c)). Section 15064.4(b) provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment:

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see CEQA Guidelines Section 15130(f)). As a note, the CEQA Guidelines were amended in response to Senate Bill 97. In particular, the CEQA

Guidelines were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions." Put another way, CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

As previously described, the FRAQMD has yet to establish a significance threshold for GHG emissions. Similarly, neither Yuba City, Marysville, or Yuba County have established a significance threshold for GHG emissions. However, the Sutter County CAP developed a CEQA Threshold and Screening Tables for land use projects. The purpose of the CAP CEQA Threshold and Screening Tables are to provide guidance on how to determine the significance of a project's GHG contribution. They are based on the CAP, the GHG inventories within the CAP, and the GHG reduction measures that reduce emissions consistent with the reduction goals of AB 32, which promulgates the statewide GHG-reduction goal of achieving 1990 levels of statewide GHG emissions by the end of the year 2020.

The Screening Tables, used for larger land use development projects, use a point system geared towards encouraging efficiency in building developments. Projects that achieve 100 points or more do not need to quantify GHG emissions and are assumed to have a less than significant impact. Small projects with minor levels of GHG emissions, or ones that do not propose buildings or any permanent operations such as the Project, typically cannot achieve the 100-point threshold and therefore must quantify GHG emission impacts. As such, Sutter County developed a two-tier pre- screening procedure using a threshold of 3,000 metric tons of CO_2e per year. This threshold is based on evidence that 90 percent of CO_2e emissions are from CEQA projects that exceed 3,000 metric tons CO_2e per year. Both cumulatively and individually, projects that generate less than 3,000 metric tons CO_2e per year have a negligible contribution to overall emissions.

For the purposes of this analysis, the numeric bright-line threshold promulgated in the Sutter County CAP is employed. This threshold is appropriate for the Project because while the site spans four different jurisdictions (Yuba City, Marysville, Yuba County, and Sutter County), they are all located in the same air basin, the Northern Sacramento Valley Air Basin, and share the same geomorphic and urban pattern. It is noted that the County's bright-line threshold of 3,000 metric tons of CO_2e annually is based, in part, on the GHG-reducing target established for the year 2020 under AB 32, but the Project would be implemented in the year 2021. Statewide goals for GHG reductions in the years beyond 2020 were codified into state law with the passage of SB 32, which as described previously mandates that California

achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. This equates to 40 percent below the statewide GHG reduction target for the year 2020. Therefore, the Project's contribution to GHG emissions will be compared to a significance threshold of 1,800 metric tons of CO_2e per year, which equates to 40 percent less than 3,000 metric tons.

In *Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal. 4th 2014, 213, 221, 227, following its review of various potential GHG thresholds proposed in an academic study [Crockett, *Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203], the California Supreme Court identified the use of numeric bright-line thresholds as a potential pathway for compliance with CEQA GHG requirements. The study found numeric bright line thresholds designed to determine when small projects were so small as to not cause a cumulatively considerable impact on global climate change was consistent with CEQA. Specifically, PRC section 21003(f) provides it is a policy of the state that "[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." The Supreme Court-reviewed study noted, "[s]ubjecting the smallest projects to the full panoply of CEQA requirements, even though the public benefit would be minimal, would not be consistent with implementing the statute in the most efficient, expeditious manner. Nor would it be consistent with applying lead agencies' scarce resources toward mitigating actual significant climate change impacts." (Crockett, *Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203, 221, 227.)

The significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. For the Proposed Project, the Sutter County CAP's 3,000 metric tons of CO_2e per year threshold developed, in part, on the GHG-reducing target established for the year 2020 under AB 32, is reduced to 1,800 metric tons of CO_2e consistent with the statewide goals for GHG reductions in the years beyond 2020 that were codified into State law with the passage of SB 32 and used as the significance threshold. As previously described, the 3,000 metric tons of CO_2e per year threshold represents a 90 percent capture rate (i.e., this threshold captures projects that represent approximately 90 percent of GHG emissions from new sources). The 3,000 metric tons of CO_2e per year value is typically used in defining small projects within the County that are considered less than significant because it represents less than one percent of future 2050 statewide GHG emissions target and the lead agency can provide more efficient implementation of CEQA by focusing its scarce resources on the top 90 percent. Using a threshold of 1,800 metric tons of CO_2e annually is more conservative than the 3,000 metric tons of CO_2e emissions annually as it would represent a capture rate of more than 90 percent.

4.8.2.2 Methods of Analysis

Where GHG emission quantification was required, GHG emissions from off-road equipment and ground disturbance were modeled using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. Emissions from worker commute trips were also calculated with CalEEMod. CalEEMod is a statewide land use emissions computer model designed to quantify potential GHG emissions associated with both construction and operations from a variety of land use projects. GHG emissions generated from haul truck trips are estimated with the use of the 2017 version of the EMFAC. EMFAC 2017 is a mathematical model that was developed to calculate emission rates from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by CARB to project changes in future emissions from on-road mobile sources including cars, trucks, and buses in California. EMFAC 2017 includes the latest data on California's truck fleets and travel activity. GHG emissions generated by marine vessels are estimated using the CARB Mobile Source Emissions Inventory online database –OFFROAD 2017 version 1.0.1 (OFFROAD 2017a). OFFROAD 2017 is a software package used to generate emissions inventory data for off-road mobile sources.

Project and Project alternative GHG emissions were calculated using a combination of model defaults for Sutter and Yuba counties and Project details contained in Section 3.0, *Project Description*, of this EIR, including the Construction Equipment List contained in Table 3-1 of Section 3.0. The Project is expected to begin construction in the Summer of 2021. Dredging operations and dewatering activities are proposed to be limited to between June 15th and October 15th (for a total of 122 calendar days; 87 non-holiday weekdays). Additionally, this analysis assumes the maximum 250,000 cy of dredged material would be hauled offsite during Phase 2 of the preferred Project to the Ostrom Landfill located approximately 16 road miles from the Project site (the analysis of Alternatives 2 and 3 assumes 315,600 cy of dredge material would be hauled to the Ostrom Landfill while the analysis of Alternatives 1 and 4 assumes no dredged material would be hauled).

4.8.2.3 Project Impacts and Mitigation Measures

Impact 4.8-1: Implementation of the Proposed Project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Impact Determination: *less than significant*.

Threshold:	*Would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.*

Implementation of the Proposed Project and Project alternatives, with the exception of Alternative 1, the No Project Alternative, would result in GHG emissions during implementation. The significance criteria established by the Sutter County CAP is relied upon to make the determination whether the Project would result in a cumulatively considerable impact.

GHG emissions generated during Project implementation would be short term and of temporary duration, lasting only as long as dredging and hauling activities occur, but would be considered a significant air quality impact if the volume of GHG emissions generated exceed the threshold of significance. The

predominate source of GHG emissions would be generated from the operation of the offshore and onshore equipment (i.e., dredging vessels, tractors, haul trucks).

GHG emissions generated from onshore, off-road equipment, ground disturbance, and worker commute trips are calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects. Emissions generated from Project haul truck trips are estimated with the use of the EMFAC 2017 model. As previously described, EMFAC 2017 is a mathematical model that was developed to calculate emission rates from motor vehicles that operate on highways, freeways, and local roads in California. GHG emissions generated by Project marine vessels are estimated using OFFROAD 2017. OFFROAD 2017 is a software package used to generate emissions inventory data for off-road mobile sources. See Appendix C for more information regarding Project equipment and duration used in this analysis.

Table 4.8-2 illustrates the specific construction generated GHG emissions that would result from construction of the Project.

Table 4.8-2. Annual Implementation GHG Emissions

Alternative	CO_2e (Metric Tons per Year)
Preferred Project	
Phase 1 Dredging Activities (2021)[1]	94
Phase 1 Dewatering Activities (2021)[2]	216
Phase 1 Combined	**310**
Phase 2 Dredging Activities (2022 – 2023)[1]	94
Phase 2 Dewatering Activities (2022 – 2023)[3]	327
Phase 2 Hauling Activities (2022 – 2023)[4]	361
Phase 2 Combined	**782**
Alternative 1 (No Project)	
Alternative 1 Activities[5]	**0**
Alternative 2 (No Use of Marysville Wastewater Treatment Plant)	
Alternative 2 Dredging[6]	94
Alternative 2 Material Handling[7]	64
Alternative 2 Hauling[8]	454
Alternative 2 Combined	**612**
Alternative 3 (Use of Marysville WWTP for Dewatering Only but Not Disposal)	
Alterative 3 Dredging[9]	94
Alternative 3 Dewatering[10]	368
Alternative 3 Hauling[11]	454

Table 4.8-2. Annual Implementation GHG Emissions	
Alternative	**CO_2e (Metric Tons per Year)**
Alternative 3 Combined	**916**
Alternative 4 (Reduced Project – Dredge of Only Northern 14-Acres (Phase 1 Only))	
Alternative 4 Dredging[12]	94
Alternative 4 Dewatering[12]	216
Alternative 4 Combined	**310**

Source: Dredging emissions calculated with OFFROAD 2017; Dewatering emissions calculated with CalEEMod version 2016.3.2; hauling emissions calculated with EMFAC 2017. Refer to Appendix C for Model Data Outputs.

Notes:

[1] Preferred Project Phases 1 and 2 dredging emissions account for the use of 1 dredge boat, 1 barge, 1 push boat, 1 swift water rescue boat, and 1 support boat operating all day as well as 2 generators and 1 pump operating 8 hours each day.

[2] Preferred Project Phase 1 dewatering emissions account for the material movement of 65,600 cubic yards of dredged material and other dewatering activity involving 1 crane, 2 forklifts, 1 trencher, 2 dozers, 2 tractor/loader/backhoes, 1 grader, and 1 water truck.

[3] Preferred Project Phase 2 dewatering emissions account for the material movement of 250,000 cubic yards of dredged material and other dewatering activity involving 1 crane, 2 forklifts, 1 trencher, 2 dozers, 2 tractor/loader/backhoes, 1 grader, and 1 water truck.

[4] Preferred Project Phase 2 hauling emissions account for haul trucks traveling the distance from the Project to the Recology Ostrom Landfill (16 miles). 76 one-way haul truck trips are anticipated in order to remove 250,000 cubic yards of dredge material and return to the site. The Project is expected to generate 76 one-way trips (38 round trip truck trips) daily for approximately 329 days (assumed to span years 2022 & 2023). 16 miles x 76 one-way haul trips = 1,216 miles traveled daily. Hauling emissions also account for moments of haul truck idling. Calculations assume 15 minutes of idling per daily haul truck trip. 76 one-way trips x 15 = 1,140 minutes idling daily.

[5] Alternative 1 would involve no dredging and existing conditions in the Yuba and Feather rivers would remain the same.

[6] Alternative 2 dredging emissions account for the use of 1 dredge boat, 1 barge, 1 push boat, 1 swift water rescue boat, and 1 support boat operating all day as well as 2 generators and 1 pump operating 8 hours each day.

[7] Alternative 2 material hauling assumes 1 dozer and 2 tractor/loader/backhoes to place dredged material into fractionation tanks.

[8] Alternative 2 hauling emissions account for haul trucks traveling the distance from the Project to the Recology Ostrom Landfill (16 miles). Alternative 2 would require more days (416) to haul 315,600 cubic yards compared with the days necessary (329) to haul 250,000 cubic yards with the Preferred Project. However, the amount of daily hauling operations (truck trips and idling) is assumed to be the same as those under the Preferred Project.

[9] Alternative 3 dredging emissions account for the use of 1 dredge boat, 1 barge, 1 push boat, 1 swift water rescue boat, and 1 support boat operating all day as well as 2 generators and 1 pump operating 8 hours each day.

[10] Alternative 3 dewatering emissions account for the material movement of 315,600 cy of dredged material and other dewatering activity involving 1 crane, 2 forklifts, 1 trencher, 2 dozers, 2 tractor/loader/backhoes, 1 grader, and 1 water truck.

[11] Alternative 3 hauling emissions account for haul trucks traveling the distance from the Project to the Recology Ostrom Landfill (16 miles). Alternative 3 would require more days (416) to haul 315,600 cubic yards compared with the days necessary (329) to haul 250,000 cubic yards with the Preferred Project.

[12] Alternative 4 equates to Preferred Project Phase 1.

As shown in Table 4.8-2, neither the preferred Project nor any of the alternatives would exceed the significance threshold of 1,800 metric tons of GHG emissions per year. Once Project implementation is complete, the generation of these GHG emissions would cease. This impact is less than significant.

Mitigation Measures

None required.

Impact 4.8-2: Implementation of the Proposed Project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Impact Determination: *no impact*.

Threshold:	*Would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.*

The Sutter County CAP includes GHG inventory, an emission reduction target, and reduction measures to reach the target. As previously described, the CAP includes a two-tiered approach using CEQA Threshold and Screening Tables. Due to the relatively short duration of dredging activity and lack of a permanent operational contribution to GHG emissions, the Project's contribution to GHG emissions was compared to the significance threshold of 1,800 metric tons of CO_2e, as previously described. As shown in Table 4.8-2, the preferred Project and all alternatives would produce CO_2e at rates that do not exceed the threshold and are therefore consistent with the County CAP and statewide GHG reduction efforts. The Project would not conflict with any applicable plans or policies related to the reduction of GHG emissions. There is no impact.

Mitigation Measures

None required.

4.8.3 Cumulative Impacts

4.8.3.1 Cumulative Setting

Climate change is a global problem. GHGs are global pollutants, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have much longer atmospheric lifetimes of one year to several thousand years that allow them to be dispersed around the globe.

Impact 4.8-3: Result in a considerable contribution to cumulative impacts associated with greenhouse gas emissions.
Impact Determination: *less than significant.*

Threshold:	*Would result in significant greenhouse gas emissions in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

It is generally the case that an individual project of this size and nature is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory. GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective. The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see CEQA Guidelines Section 15130). The additive effect of Project-related GHGs would not result in a reasonably foreseeable cumulatively considerable contribution to global climate change as the Project was not found to have any cumulatively significant impacts. For comparison purposes, CARB established a GHG emission limit of 431 million metric tons of CO_2e for the year 2020 to meet requirements of AB 32. Thus, the Project would have a nominal contribution, as show in Table 4.8-2, to GHG limits proposed in the state. In addition, the Project, as well as other cumulative related projects, would also be subject to all applicable regulatory requirements, such as those listed in Section 4.8.2 *Regulatory Setting*, which would further reduce GHG emissions. Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if

the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. As previously discussed, the Project would not conflict with applicable plans. Therefore, the Project's cumulative contribution of GHG emissions would be less than significant and the Project's cumulative GHG impacts would also be less than cumulatively considerable.

Mitigation Measures

None required.

4.9 Hazards and Hazardous Materials

This section of the EIR describes the existing conditions in the Project area, the regulatory framework necessary to evaluate potential impacts of hazards and hazardous materials associated with the Project, and potential short-term, long-term, and cumulative impacts that could result from the Project. Impacts associated with hazardous materials management and hazardous waste disposal are discussed below. Impacts associated with flood hazards are discussed in Section 4.10, *Hydrology and Water Quality* of the EIR. Impacts associated with geologic hazards are discussed in Section 4.7, *Geology and Soils*, of the EIR. Impacts associated with wildfire hazards are discussed in Section 4.20, *Wildfire* of the EIR.

4.9.1 Environmental Setting

4.9.1.1 Definition of Hazardous Materials

A hazardous material is defined "as any substance or material that could adversely affect the safety of the public, handlers or carriers during transportation" (U.S. Department of Transportation [DOT] 2020). Hazardous materials are often by-products of manufacturing uses or waste from commercial products such as cleaning fluids or pesticides. Hazardous materials are also commonly used such as diesel fuel, gasoline, paints and solvents, and oil. The USEPA, the federal Occupational Safety and Health Administration (OSHA), and other federal, state, and county regulatory agencies closely monitor the use, handling, and ultimate disposition of hazardous materials. Hazardous materials require special methods of storage and handling. The DOT regulates the transport of hazardous materials.

Definition of Hazardous Waste

Hazardous waste is "a waste with properties that make it potentially dangerous or harmful to human health or the environment" (DTSC 2020a). Hazardous wastes can be liquids, solids, or contained gases and can be the by-products of manufacturing processes, discarded used materials, or discarded unused commercial products, such as cleaning fluids (solvents) or pesticides. Common sewage and drainage systems are not capable of handling disposal of these substances. Improper disposal can harm the environment and workers who may come in contact with these substances. Hazardous materials are often considered hazardous waste which require special disposal procedures, tracking of the waste through the disposal process, and disposal at special facilities that can accept hazardous waste. Commercial businesses that typically handle hazardous materials and generate small quantities of hazardous waste include dry cleaners, auto repair shops, medical facilities, and photo processing centers. Generators of large quantities of hazardous waste include chemical manufacturers, large electroplating facilities, and petroleum refineries.

Hazardous waste can also include soil, surface water, or groundwater that has become contaminated by past spills and/or land use practices if the soil, surface water, or groundwater meets the characteristics of a hazardous waste. Specifically, a hazardous waste is a waste that appears on one of the four Resource Conservation and Recovery Act (RCRCA, also described below) hazardous wastes lists (the F-list, K-list, P-list, or U-list) or that exhibits one of the four characteristics of a hazardous waste – ignitability, corrosivity,

reactivity, or toxicity (DTSC 2020a). In California, a substance is also classified as a hazardous waste if it is on California's M-list (DTSC 2020a). The F-list, K-list, P-list, U-list, and M-list contain chemicals that are used or derived from certain industries (e.g., petroleum refining, pesticide manufacturing, pharmaceuticals etc.) (DTSC 2020a). Ignitable wastes can create fires under certain conditions or undergo spontaneous combustion (DTSC 2020a). Corrosive wastes are materials that are acids or bases or that produce acidic or alkaline solutions (DTSC 2020a). Reactive wastes are unstable under normal conditions; they can cause explosions or release toxic fumes, gases, or vapors when heated, compressed, or mixed with water (DTSC 2020a). Toxic wastes are harmful or fatal when ingested or absorbed. When toxic wastes are disposed, the toxic constituents may leach from the waste and pollute the soil, sediment, surface water, or groundwater (DTSC 2020a). Toxic wastes may cause cancer (i.e., carcinogens), death, or sublethal adverse effects. Adverse effects could be chronic (effects last over a long duration) or acute (effects last over a short duration). USEPA and the California Environmental Protection Agency (CalEPA) have established thresholds to determine if soil, sediment, or water are classified toxic and therefore, classified as hazardous waste.

Existing Setting

The Yuba City Boat Ramp facility is used for recreational boat access to the Feather and Yuba rivers. Personal vehicles, including boats on trailers are also parked onsite. Diesel fuel, gasoline, and oil are hazardous materials that are routinely used at the boat ramp facility.

The Marysville WWTP wastewater ponds have historically been used to store sewage sludge from the wastewater treatment plant. Sewage sludge is primarily comprised of nutrients, but can also contain metals, organic compounds, and pathogens. Decommissioning of the ponds will involve testing of any water and sludge from the ponds to determine any contaminant levels and to determine if the material is classified as hazardous waste. The Central Valley RWQCB will then be responsible for overseeing the proper testing, removal, and disposal of the water and sludge prior to use of the ponds for dewatering and disposal for this proposed Project.

The Feather and Yuba rivers currently receive stormwater runoff from urban areas and adjacent agriculture, and have historically received runoff from past mining activities, all of which have the potential to introduce contaminants into the surface water and sediment. As discussed in Section 4.10, *Hydrology and Water Quality*, the Lower Feather River, from the Lake Oroville Dam to the confluence of the Sacramento River, is on the USEPA's list of impaired water bodies for chlorpyrifos, Group A pesticides, mercury, polychlorinated biphenyls (PCBs), and other unknown toxicity (USEPA 2020). Group A Pesticides include one or more of the following compounds: dieldrin, endrin, alpha-chlordane, gammachlordane, cis-nonachlor, trans-nonachlor, oxychlordane, heptachlor, and heptachlor epoxide (all are organochlorine pesticides). The Lower Yuba River is on the list of impaired water bodies for copper and mercury (USEPA 2020).

Preliminary sediment samples were collected from the dredging area for the proposed Project. The analytical results are presented in Appendix G1. Metals were detected above laboratory detection limits. Table G2-1 in Appendix G2 compares the preliminary sediment sampling results at the Project site with

hazardous waste thresholds. Preliminary sediment sampling results indicate that the dredged material does not contain contaminants that would be classified hazardous waste (Table G2-1).

4.9.2 Regulatory Setting

Relevant federal, state, and local laws and regulations pertaining to hazards and hazardous materials are discussed below.

4.9.2.1 Federal

Hazardous Materials

Federal laws ensure that hazardous materials are properly handled, used, stored, and disposed of to prevent or mitigate injury to health or the environment. The federal agencies with responsibility for hazardous materials management include the USEPA), OSHA, and the DOT. Applicable federal regulations pertaining to hazardous materials are contained in the Code of Federal Regulations (CFR) Titles 29, 40, and 49. Hazardous materials are defined in 49 CFR 172.101.

The Toxic Substances Control Act of 1976 (15 USC Sections 2601–2697) regulates the manufacturing, inventory, and disposition of hazardous materials. Section 403 of the Toxic Substances Control Act establishes standards for lead-based paint hazards in paint, dust, and soil. This is also the federal law that requires the use of the Universal Hazardous Waste Manifest to track hazardous substances from "cradle to grave."

The federal Hazardous Materials Transportation Act (49 USC §§ 5101–5127) is the statute regulating transport of hazardous materials in the United States. Hazardous materials regulations are enforced by the FHWA, the U.S. Coast Guard, the Federal Railroad Administration, the Federal Aviation Administration, and the Federal Motor Carrier Safety Administration.

OSHA is the agency responsible for protecting workers involved in the handling and use of chemicals identified in the Occupational Safety and Health Act of 1970 (Public Law 91-596, 29 USC Sections 651–678). OSHA has adopted numerous regulations pertaining to worker safety, contained in CFR Title 29 that set standards for safe workplaces and work practices, including standards relating to the handling of hazardous materials.

Hazardous Waste

Hazardous waste is governed under the following federal regulations:

- The RCRA is the law under which USEPA regulates hazardous waste from the time the waste is generated until its final disposal ("cradle to grave").
- The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (also called the Superfund Act or CERCLA) (42 USC Sections 9601–9675) gives USEPA authority to seek out parties responsible for releases of hazardous substances and to ensure site remediation.
- The Superfund Amendments and Reauthorization Act (SARA) of 1986 (Public Law 99-499), also known as SARA Title III or the Emergency Planning and Community Right-to-Know Act of 1986

(EPCRA), requires notification and planning requirements to help notify and protect local communities in the event of accidental release and its remediation.

4.9.2.2 State

Hazardous Materials

Cal EPA/Office of Emergency Services

The California Environmental Protection Agency (Cal EPA) establishes regulations governing the use of hazardous materials in the State to protect air, water, and soil, as well as proper disposal and cleanup of hazardous waste. The Office of Emergency Services (OES) coordinates State and local agencies and resources for educating, planning, and warning citizens of hazardous materials and related emergencies, including organized response efforts in case of emergencies.

Transport of Hazardous Materials and Hazardous Materials Emergency Response Plan

The State of California has adopted U.S. DOT regulations for the movement of hazardous materials originating within the state and passing through the state; state regulations are contained in 26 CCR. State agencies with primary responsibility for enforcing state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol and Caltrans. Together, these agencies determine container types, placarding, and signage used, and license hazardous waste haulers to transport hazardous waste on public roads.

California Division of Occupational Safety and Health

The California Division of Occupational Safety and Health (Cal/OSHA) assumes primary responsibility for developing and enforcing workplace safety regulations within the state. Cal/OSHA standards are typically more stringent than federal OSHA regulations and are presented in Title 8 of the CCR. Cal/OSHA conducts onsite evaluations and issues notices of violation to enforce necessary improvements to health and safety practices. CalOSHA's regulatory purview includes provisions to minimize the potential for release of asbestos and lead during construction and demolition activities.

Hazardous Waste

California Department of Toxic Substances Control (DTSC)

DTSC is a branch of Cal/EPA and regulates cleanup of hazardous substances and wastes, oversees remedial investigations, protects drinking water from toxic contamination, and warns the public that could potentially be exposed to listed carcinogens. DTSC regulates the disposal of hazardous waste using the Universal Hazardous Waste Manifest system as well.

California Health and Safety Code, Division 20, Chapter 6.8, Hazardous Substances Account

Chapter 6.8 of Division 20 of the California Health and Safety Code (HSC) also establishes a program for State cleanup processes to provide for response authority for releases of hazardous substances, including spills and hazardous waste disposal sites, that pose a threat to the public health or the environment.

4.9.2.3 Local

Sutter County

The following goals and policies of the 2019 Sutter County General Plan (Sutter County 2019) are applicable to the Project:

PHS 3.1: *Use and Disposal. Ensure that the use and disposal of hazardous materials and waste complies with appropriate federal, state, and local requirements.*

City of Yuba City

The following goals and policies of the City of Yuba City General Plan (2004) are applicable to the Project:

9.5-G-1: *Minimize the risk of property damage and personal injury resulting from the production, use, storage, disposal, or transportation of hazardous materials.*

9.5-I-6: *Specify routes for transporting hazardous materials, taking into account areas of projected new growth. These routes should not pass through residential areas or other sensitive areas. Specific time periods for transport should be established to reduce the impact and accident risk during peak travel periods.*

4.9.3 Environmental Impacts and Mitigation Measures

This Section describes potential impacts related to hazards and hazardous materials that could result from Project implementation and discusses any recommended mitigation measures to reduce significant impacts

4.9.3.1 Thresholds of Significance

Based on the CEQA Guidelines, Appendix G: Items IX (a) through (g), implementation of the Project would have a significant impact related to hazards and hazardous materials if it would:

(a) create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
(b) create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
(c) emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
(d) be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment;
(e) for a project located within an airport Land Use Plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in or outside the Planning Area;

(f) impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan; or

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

Impacts on emergency response (criteria [f]) and wildland fire (criteria [g]) are discussed in Section 4.20, *Wildfire* and are not discussed further in this section.

4.9.3.2 Methods of Analysis

This impact analysis examines the potential for implementation of the proposed project to result in release of hazardous materials into the environment. Construction and operation of the project will comply with all applicable laws, permits, and legal requirements pertaining to hazards and hazardous materials, as discussed above.

4.9.3.3 Project Impacts and Mitigation Measures

Impact 4.9-1: Implementation of the Proposed Project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
Impact Determination: *less than significant with mitigation incorporated*.

Threshold:	*Would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.*

As discussed above and summarized in Appendix G-2, sediment in the proposed dredging areas is not expected to be classified as hazardous waste, or to contain constituents that are harmful to human health or the environment.

The Project would involve the temporary use and transport of fuels, lubricating fluids, and oil for vessels and construction equipment that have the potential to result in minor spills. However, implementation of standard BMPs for management of hazardous materials during construction as well as mitigation measure **HAZ-1** will ensure that the potential risk of spills and adverse impacts on the environment is minimized. Therefore, impacts associated with hazardous materials use would be less than significant with implementation of mitigation.

Mitigation Measures

HAZ-1: Vehicles shall be moved away from the Yuba and Feather rivers prior to refueling and lubrication, as well as repairs if feasible. Staging and storage areas for equipment, materials, fuels, lubricants and solvents, shall be located well away from the top of bank and riparian areas. Stationary equipment such as motors, pumps, generators, compressors and welders, located within or adjacent to Waters of the State shall be positioned over drip-pans. Debris, rubbish, oil, gasoline or diesel fuel, or other petroleum products, or any other substances which could be hazardous to

aquatic life resulting from Project activities shall be prevented from contaminating the soil and/or entering Waters of the State. Absorbent materials designated for spill containment shall be used for all activities performed in or within 50 feet of a watercourse that involve use of hazardous materials to be used for spill response and cleanup in the event of an accidental spill.

Timing/Implementation: *This measure shall be printed on construction plan sets and implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead.*

Impact 4.9-2: Implementation of the Proposed Project would 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. Impact Determination: *less than significant with mitigation incorporated*.

Threshold:	*Would 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.*

Hazardous materials that would be used during construction of the Proposed Project would include diesel fuel, oil, and gasoline. Routine use of these materials are discussed under Impact 4.9-1 above. Fuel and oil contained in vessels used for dredging have the potential to be spilled during a vessel accident which has the potential to result in a major spill. However, mitigation measure **HAZ-2** requires that vessels carry sufficient amounts of absorbent material commensurate with the maximum volume of fuel and oil contained on the vessel. With implementation of mitigation measure **HAZ-2**, adverse impacts associated with a risk of upset would be minimized, and reduced to less than significant levels.

Mitigation Measures

HAZ-2: All vessels shall contain sufficient absorbent material onboard for a spill sufficient to contain the maximum fuel capacity and oil of the vessel.

Timing/Implementation: *This measure shall be printed on construction plan sets and implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead*

Impact 4.9-3: Implementation of the Proposed Project would 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, create a significant hazard to the public or the environment.
Impact Determination: *no impact*.

Threshold:	*Would 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, create a significant hazard to the public or the environment.*

A query of the DTSC's EnviroStor database indicates that there is one hazardous waste site undergoing a cleanup action located near the proposed Project site. The site is at 180 Second Street, Yuba City at the Onstott Dusters, Inc. property near the Sutter County airport and directly across the street from the entrance and exit to the Yuba City Boat Ramp facility. Otherwise, there are no other sites compiled pursuant to Government Code 65962.5 on or near the Project site (DTSC 2020b).

According to the EnviroStor records (DTSC 2020b), Onstott Dusters, Inc. "has provided aerial spraying of pesticides, herbicides, fungicides, fertilizers, and seeds since 1952. From 1970 to 1980, pesticide rinsewater was released into two onsite evaporation ponds via an unlined storm drain ditch. Ditch soil samples collected in 1980 showed pesticide contamination of parathion at 500 parts per million (ppm), toxphene at 750 ppm, and trithion, diazinon, and sulfur all at high levels. Onstott now uses a recycling filtration system, and has released no discharges since 1986. The drain was sealed in 1989." Although this site is immediately across the street from the proposed Project site, there are no reports of migration of contaminants offsite. Therefore, there is no potential for the proposed Project to affect, or be affected by, this nearby hazardous waste site or any other sites. There would be no impact.

Mitigation Measures

None required.

Impact 4.9-4: Implementation of the Proposed Project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
Impact Determination: *no impact*.

Threshold:	*Would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.*

As discussed under Impact 4.9-1, hazardous materials that would be used during construction of the proposed Project would include diesel fuel, oil, and gasoline. However, use of these materials would not extend beyond the boundaries of the Project site.

The Aerostem Academy Charter School and Yuba City Charter School are the nearest schools to the Project site. They are located 0.36 mile and 0.38 mile west of the Yuba City Boat Ramp facility, respectively. Therefore, there would be no impact.

Mitigation Measures

None required.

Impact 4.9-5: 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, implementation of the Proposed Project would result in a safety hazard or excessive noise for people residing or working in or outside the Planning Area.
Impact Determination: *less than significant*.

Threshold:	*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, result in a safety hazard or excessive noise for people residing or working in or outside the Planning Area.*

The Yuba City Boat Ramp facility is located immediately across the street from the Sutter County Airport. Noise impacts associated with this facility are discussed in Section 4.13, *Noise*.

The Project site is within the Overflight Zone of the airport but not within the Clear Zone or Approach-Departure Zone of the airport according to the Sutter County Airport Comprehensive Land Use Plan (ALUP) (Airport Land Use Commission [ALUC] 1994). The Overflight Zone "generally coincides with the area overflown by aircraft during normal traffic pattern procedures and coincides with the area under the horizontal surface" (ALUC 1994).

The following land uses are incompatible in the Clear Zone and the Approach/Departure Zone (ALUC 1994):

"1) Any use that would direct a steady or flashing light of white, red, green, or amber color toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing, other than an FAA approved navigational signal light or visual approach slope indicator.
2) Any use that would cause sunlight to be reflected toward an aircraft engaged in an initial straight climb following take-off or toward an aircraft engaged in a straight final approach toward a landing.
3) Any use that would generate smoke, attract large concentrations of birds, or otherwise affect safe air navigation.
4) Any use that would generate electrical interference that could be detrimental to the operation of aircraft or airport instrumentation.
5) Any hazardous installations such as: above-ground oil, gas or chemical storage facilities, but excluding facilities for non-commercial, private domestic, or private agricultural use."

Most land uses and activities are allowed within the Overflight Zone but with certain height restrictions or restrictions against activities that could interfere with visibility, interfere with flights, or that could pose a safety hazard to air traffic to and from the airport.

The Proposed Project would be short term in nature, and would not result in long term changes to the land use in the Project area. In addition, equipment proposed for the Project would not exceed ALUP height restrictions (150 feet), nor would it introduce hazardous conditions that would interfere with air traffic at the airport. Therefore, the Project would not result in conflicts with any land use restrictions in

the Sutter County Comprehensive Land Use Plan or create hazardous conditions associated with the airport.

Mitigation Measures

None required.

4.9.4 Cumulative Impacts

4.9.4.1 Cumulative Setting

The only other known proposed in-water Project in the Feather or Yuba rivers involves dredging by SBFCA to remove sediment that has accumulated in portions of the Feather River near the Live Oak Recreational Park Boat Ramp facility, located several miles upstream of the Project. Dredging would remove ±1.5 acres of invasive water primrose and ±3,400 cy of sediment from the Live Oak Recreational Park Boat Ramp facility. Dredged spoils would be dewatered at the boat ramp and spoils would be disposed of at the emergency ponds of the Gridley WWTP or at the Ostrom Road Landfill. This Project is anticipated to be completed in 2021. Hazardous materials that would be used during construction of the project at the Live Oak Recreational Park Boat Ramp facility would include diesel fuel, oil, and gasoline.

In addition, the City of Marysville intends to decommission the existing wastewater treatment ponds at the Marysville WWTP, which will involve removal of any water and sludge from the wastewater ponds and regrading of the site.

There are no other known past, present, and probable future projects producing related or cumulative impacts in the area.

4.9.4.2 Cumulative Impacts and Mitigation Measures

Impact 4.9-6: Result in a considerable contribution to cumulative impacts associated with hazards and hazardous materials.
Impact Determination: *less than significant*.

Threshold:	*Would result in significant impacts associated with exposure to hazards, hazardous materials, or hazardous waste in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

As discussed under Impact 4.9-1, hazardous materials that would be used during implementation of the Proposed Project would include diesel fuel, oil, and gasoline. However, use of these materials would not extend beyond the boundaries of the Project site. In addition, these projects would be short term in nature. Therefore, the Proposed Project would have a less than considerable contribution to cumulative impacts associated with hazards and hazardous materials in the area.

Mitigation Measures

None required.

4.10 Hydrology and Water Quality

This section of the EIR describes the existing hydrologic conditions in the Project area as well as existing water and sediment quality in the Project area. The section includes the regulatory framework necessary to evaluate potential environmental impacts on hydrology, water quality, and sediment quality resulting from the Project and describes potential short-term, long-term, and cumulative impacts that could result from the Project. Impacts on groundwater supply and other water-supply related issues are discussed in EIR Section 4.19, *Utilities and Service Systems*.

4.10.1 Environmental Setting

The Project is located at the confluence of the Feather and Yuba rivers in the cities of Yuba City, California and Marysville, California in Sutter and Yuba counties, respectively. This corresponds to the unsectioned Rancho New Helvetia Landgrant lands within the "Olivehurst, California" and "Yuba City, California" 7.5-minute quadrangles (USGS 1952a, photorevised 1973 and 1952b, photorevised 1973, respectively). The approximate center of the Project is 39.1308° latitude, -121.598639° longitude within the Honcut Headwaters-Lower Feather watershed (Hydrologic Unit Code [HUC] #18020159, NRCS, et al. 2016).

4.10.1.1 Groundwater

The Project area is located in the Sacramento Valley Groundwater Basin (Basin No. 5-021). Three groundwater subbasins intersect in the Project area (DWR 2020a). The Sutter Subbasin (Subbasin No. 5-021.62) occurs to the west of the Feather River (DWR 2020a). Two subbasins occur to the east of the Feather River: the North Yuba Subbasin (Subbasin No. 5-021.60), located north of the Yuba River and the South Yuba Subbasin (Subbasin No. 5-021.61), located south of the Yuba River (DWR 2006a, 2020a).

According to 2018 recorded depths to groundwater in nearby groundwater wells (DWR 2020a), depths to groundwater ranged between 13 to 26.5 feet below ground surface (bgs) (Table 4.10-1). Groundwater depths in the Project area are likely approximately 20 feet bgs according to DWR's estimated groundwater contours using 2018 data (DWR 2020a).

Table 4.10-1 Groundwater Depths in the Project Area

Direction from Marysville WWTP	Distance from Marysville WWTP Ponds (miles)	Well ID/ Name	Well Owner	Last Measurement	Well Surface Elevation	Depth to Groundwater (feet)
Northwest	1.59	15N03E15H004M	Residential	March 13, 2018	40.28	20.8
Northeast	2.91	15N04E07H001M	YCWA	April 12, 2018	58.11	13.16
Southeast	3.16	YCWA-09 (Yuba County Airport)	YCWA	March 20, 2018	44.8	16.24
Southwest	2.14	WWTP	--	March 26, 2018	25.5	26.5
Southwest	2.29	La Grande	--	March 26, 2018	36.2	18.8

Note: WWTP = wastewater treatment plant YCWA = Yuba County Water Agency
Source: Department of Water Resources (2020a)

Surface Hydrology

The Project site is located in the greater Sacramento River hydrologic region (DWR 2020a). The Sacramento River hydrologic region covers approximately 17.4 million acres (27,200 square miles) (USEPA 2020a). The region includes all or large portions of Modoc, Siskiyou, Lassen, Shasta, Tehama, Glenn, Plumas, Butte, Colusa, Sutter, Yuba, Sierra, Nevada, Placer, Sacramento, El Dorado, Yolo, Solano, Lake, and Napa counties. Small areas of Alpine and Amador counties are also within the region. Geographically, the region extends south from the Modoc Plateau and Cascade Range at the Oregon border, to the Sacramento-San Joaquin Delta (DWR 2020a). The lower Feather River is the largest natural tributary to the Sacramento River (USEPA 2020a).

The portion of the Project in the Feather River is located within the Honcut Headwaters-Lower Feather River watershed (HUC 8-18020159), which is part of the Sacramento River Watershed. The Lower Feather River Watershed begins from the waters behind the Oroville Dam, the tallest dam in the U.S. There are approximately 190 miles of major creeks and rivers, 695 miles of minor streams, and 1,266 miles of agricultural water delivery canals in the Lower Feather River Watershed. Hydrology also is influenced by operation of the Sutter Bypass, which brings Sacramento River water through Butte Slough and into the Lower Feather River. This system is designed, in part, to relieve flood flows in the Sacramento River (Sacramento River Watershed Program [SRWP] 2010).

The portions of the Project at the Marysville WWTP wastewater ponds and in the Yuba River are in the Lower Yuba River watershed (HUC 8-18020125). The Yuba River has three forks (North, Middle, and South Yuba) that converge northwest of Nevada City (Yuba County Water Agency [YCWA] 2018). The North Yuba and the Middle Yuba rivers converge below New Bullards Bar Reservoir and form the Main Stem of the Yuba River. The Main Stem flows into the north arm of Englebright Reservoir, while the South Yuba feeds the south arm. The Yuba River flows west out of Englebright Reservoir (hereafter, referred to as the Lower Yuba), and eventually into the Feather River in the Project area (YCWA 2018). The Yuba River watershed, from the crest of the Sierra Nevada to the confluence at the Feather River, near Marysville, is approximately 1,340 square miles; elevations in the watershed range between 9,100 and 30 feet above sea level (YCWA 2018).

Flood Hazard

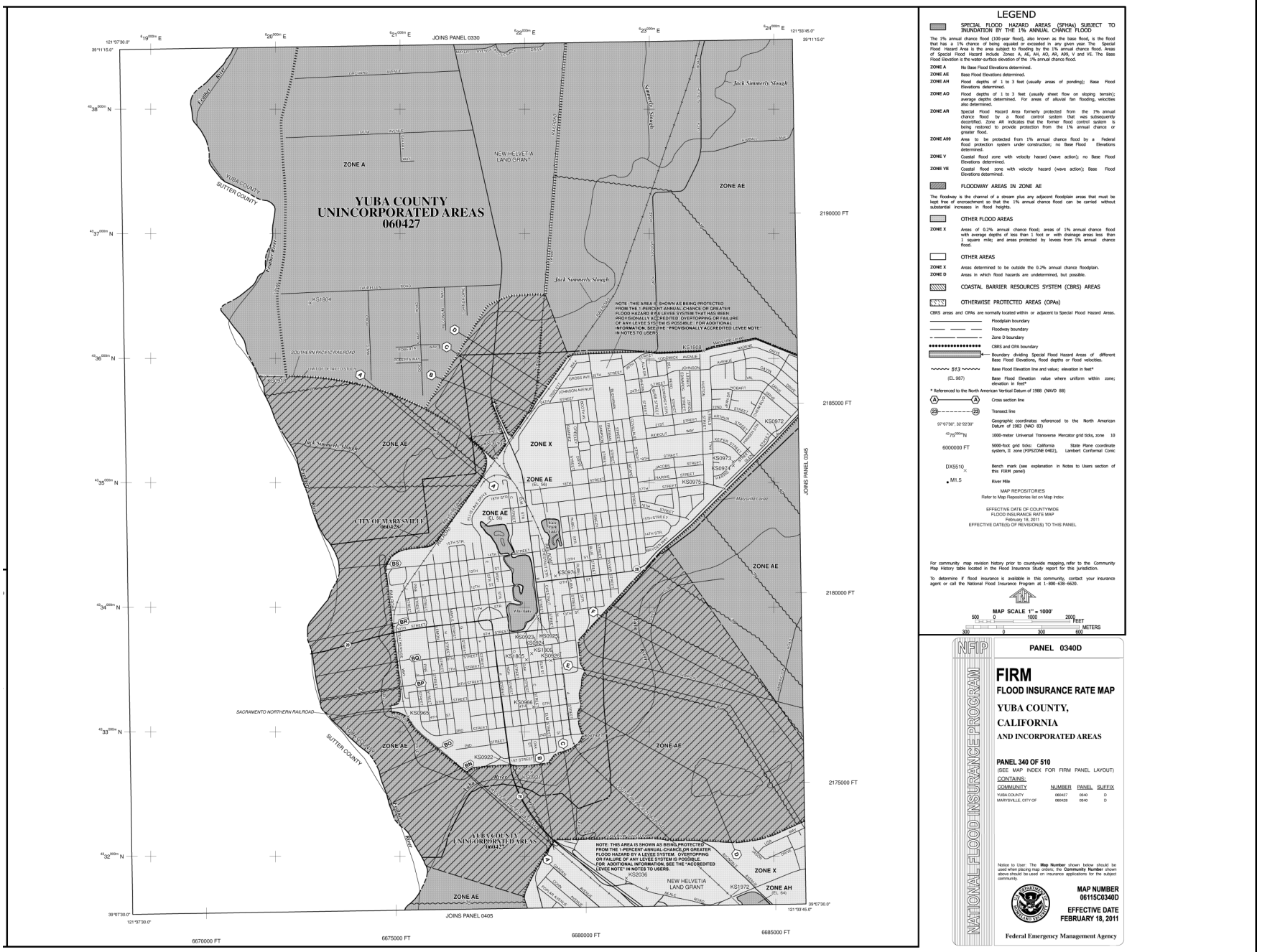
The Project area, except the Yuba City Boat Ramp facility, is mapped as a regulatory floodway (flood hazard zone AE) by the Federal Emergency Management Agency (FEMA) (Flood Insurance Rate Map [FIRM] 06115C0340D effective 2/18/11). The National Flood Insurance Program (NFIP) defines a "regulatory floodway" as the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height (FEMA 2019). This designated height is one foot for most NFIP communities unless existing floodway agreements allow otherwise (FEMA 2019). Base flood elevations are mapped at 75 feet above mean sea level (amsl) by FEMA in the Project area. Figures 4.10-1, 4.10-2, and 4.10-3 show the flood hazard areas as currently mapped by FEMA. Figure 4.10-1 shows the majority of the Project area, while Figures 4.10-2 and 4.10-3 show the very southwest corner and southeast corner of the Project area.

The Yuba City Boat Ramp facility is mapped within the 100-year floodplain (flood hazard zone A) by FEMA (FIRM 0603960005B effective 3/23/84 and FIRM 0603940095E effective 12/2/08), with a portion of the facility in an area that is protected from a 100-year flood event by a levee but is subject to flooding during failure or overtopping during large flood events (flood hazard zone X) (Figures 4.10-2 and 4.10-3).

Water Quality

The preparation and adoption of water quality control plans (Basin Plans) is required by the California Water Code (Section 13240) and supported by Section 303 of the federal CWA to establish water quality standards (i.e., water quality objectives) for the protection of the designated beneficial uses of navigable waters (RWQCB 2018). California's basin plans also establish water quality standards for groundwater in addition to surface water (RWQCB 2018). The Porter-Cologne Water Quality Control Act requires the Regional Water Boards to establish water quality objectives which are defined as "...the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area" (RWQCB 2018). The federal government (USEPA) has also established recommended aquatic water quality criteria for determining when water has become unsafe for people and wildlife.

The Project site is covered under the Basin Plan for the Sacramento River Basin and the San Joaquin River Basin (RWQCB 2018). The Sacramento River Basin covers 27,210 square miles and includes the entire area drained by the Sacramento River (RWQCB 2018). The principal streams are the Sacramento River and its larger tributaries: the Pit, Feather, Yuba, Bear, and American rivers to the east; and Cottonwood, Stony, Cache, and Putah creeks to the west (RWQCB 2018). Major reservoirs and lakes include Shasta, Oroville, Folsom, Clear Lake, and Lake Berryessa. Beneficial uses for the Feather and Yuba rivers in the Project area are shown in Table 4.10-2; water quality objectives for a variety of pollutants are contained in the Basin Plan for the protection of these beneficial uses (RWQCB 2018).



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- **ZONE A** No Base Flood Elevations determined.
- **ZONE AE** Base Flood Elevations determined.
- **ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- **ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- **ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- **ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- **ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- **ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- **ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- **ZONE D** Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

- A — A — Cross section line
- 23 — 23 — Transect line
- 97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 4276000mN — 1000-meter Universal Transverse Mercator grid ticks, zone 10
- 6000000 FT — 5000-foot grid ticks: California State Plane coordinate system, II zone (FIPSZONE 0402), Lambert Conformal Conic
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
February 18, 2011
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
150 0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0340D

FIRM
FLOOD INSURANCE RATE MAP
YUBA COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 340 OF 510
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
YUBA COUNTY	060427	0340	D
MARYSVILLE, CITY OF	060428	0340	D

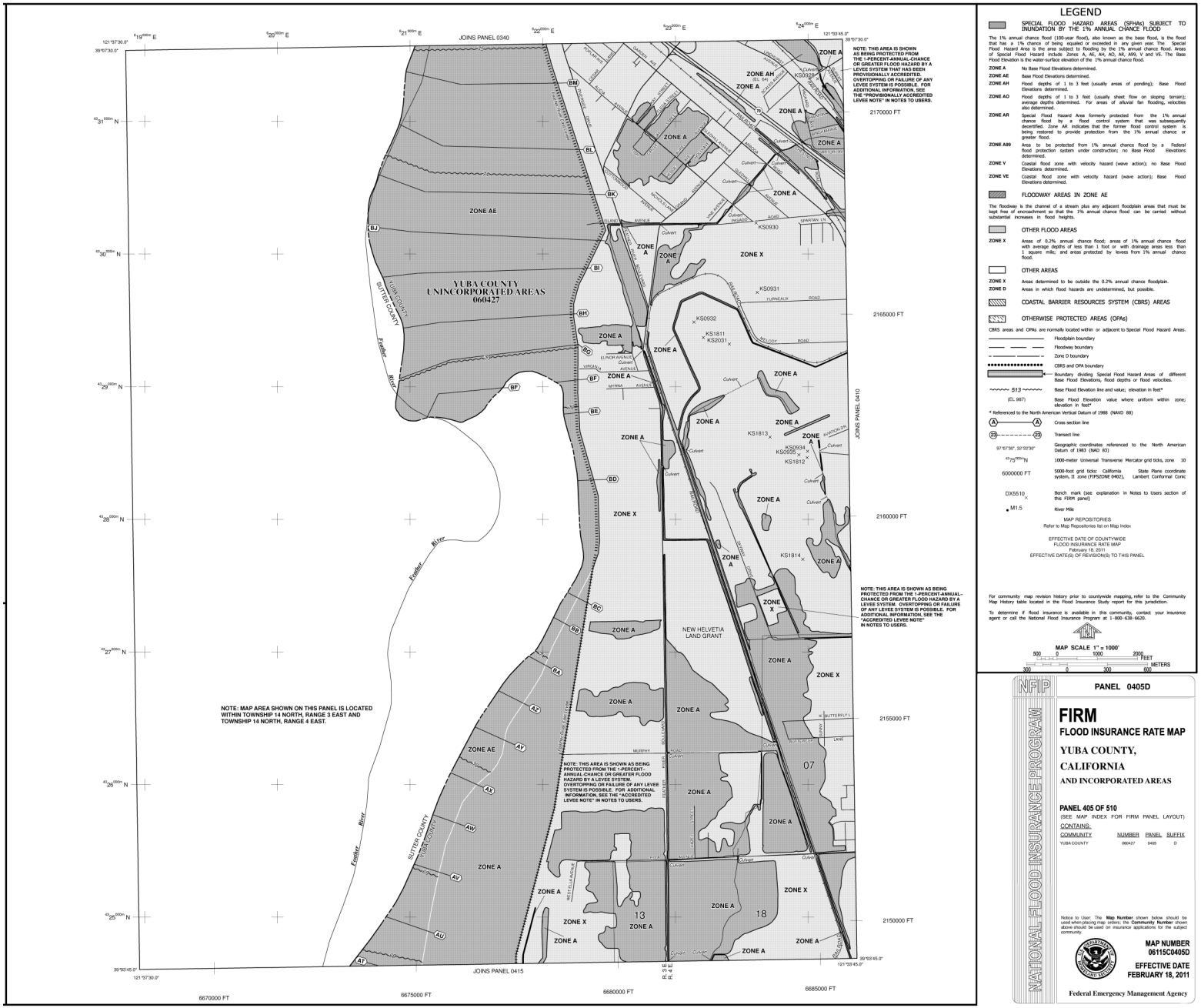
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06115C0340D

EFFECTIVE DATE
FEBRUARY 18, 2011

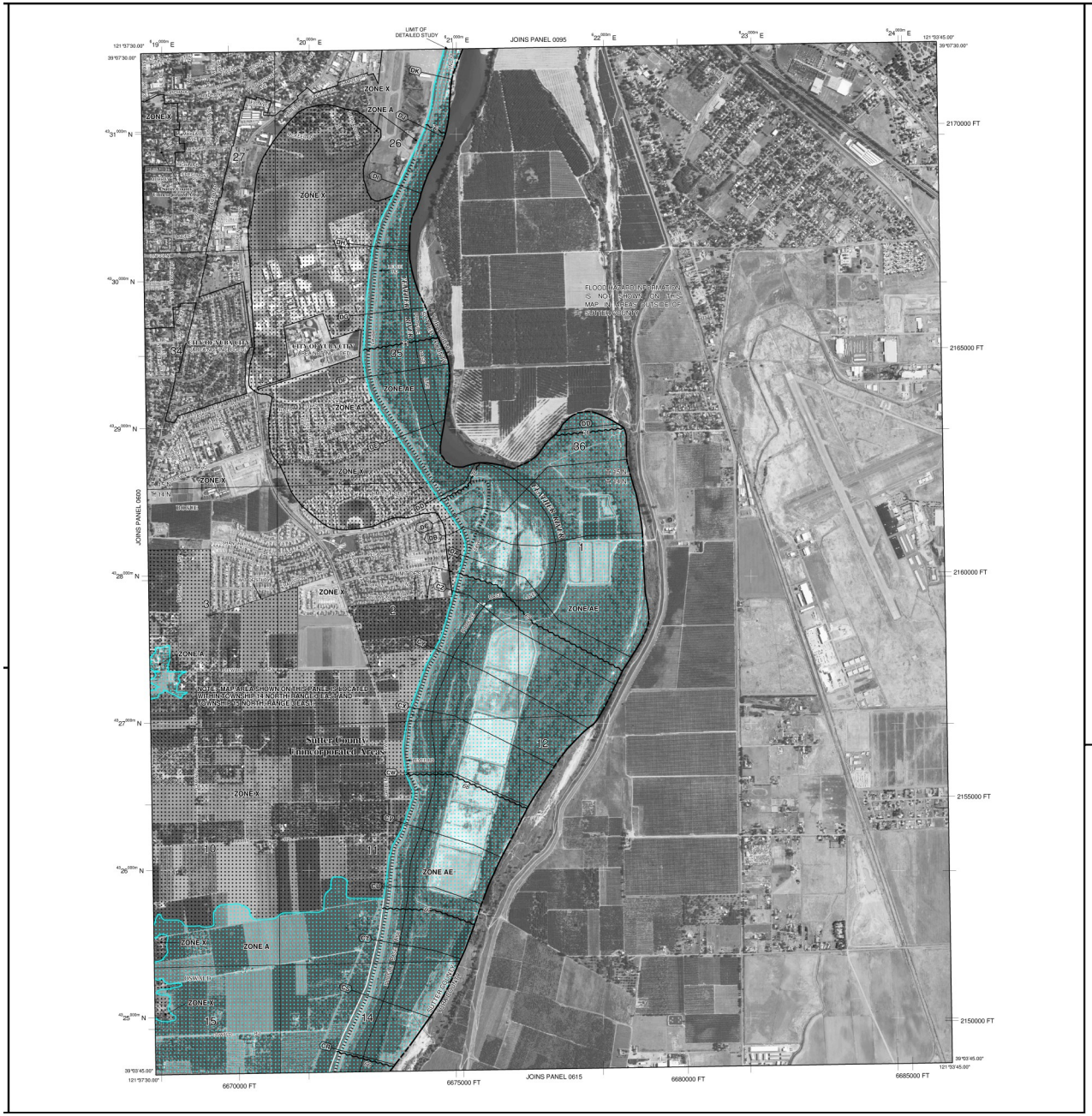
Federal Emergency Management Agency

Figure 4.10-1. FIRM Map 1 of 3



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 4.10-2. FIRM Map 2 of 3



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- **ZONE A** No Base Flood Elevations determined.
- **ZONE AE** Base Flood Elevations determined.
- **ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- **ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- **ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- **ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- **ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- **ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- **ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- **ZONE D** Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the National Geodetic Vertical Datum of 1929 (NGVD 29)

- A — A — Cross section line
- 23 — 23 — Transect line
- 97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 4275000mN — 1000-meter Universal Transverse Mercator grid ticks, zone 10
- 6000000 FT — 5000-foot grid ticks: California State Plane coordinate system, II zone (FIPSZONE 0402), Lambert Conformal Conic
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORY
Sutter County Administrators Office, 1160 Civic Center Blvd., Suite A, Yuba City, California 95993 (Maps available for reference only, not for distribution.)

INITIAL NFIP MAP DATE
June 7, 1977
FLOOD HAZARD BOUNDARY MAP REVISIONS

FLOOD INSURANCE RATE MAP EFFECTIVE
April 5, 1988
FLOOD INSURANCE RATE MAP REVISIONS
November 15, 1989 July 6, 1998

December 2, 2008 - to change base flood elevations, to reflect updated topographic information, to update map format, to add base flood elevations, to change zone designations, and to add roads and road names.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
300 0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0605E

FIRM
FLOOD INSURANCE RATE MAP

SUTTER COUNTY, CALIFORNIA
(UNINCORPORATED AREAS)

PANEL 605 OF 880
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SUTTER COUNTY	060394	0605	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
0603940605E

MAP REVISED
DECEMBER 2, 2008

Federal Emergency Management Agency

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 4.10-3. FIRM Map 3 of 3

Table 4.10-2 Beneficial Uses of Feather and Yuba Rivers	
Feather River	**Yuba River**
Municipal and Domestic Supply (MUN) - Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.	
Agricultural Supply (AGR) for Irrigation - Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation (including leaching of salts), stock watering, or support of vegetation for range grazing.	**Agricultural Supply (AGR) for Irrigation and Stock Watering** - Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation (including leaching of salts), stock watering, or support of vegetation for range grazing.
	Industrial Process Supply (PRO) - Uses of water for industrial activities that depend primarily on water quality.
	Hydropower Generation (POW) - Uses of water for hydropower generation.
Water Contact Recreation (REC-1) including Canoeing and Rafting - Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs.	**Water Contact Recreation (REC-1) including Canoeing and Rafting** - Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs.
Non-contact Water Recreation (REC-2) - Uses of water for recreational activities involving proximity to water, but where there is generally no body contact with water, nor any likelihood of ingestion of water. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.	**Non-contact Water Recreation (REC-2)** - Uses of water for recreational activities involving proximity to water, but where there is generally no body contact with water, nor any likelihood of ingestion of water. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
Warm Freshwater Habitat (WARM) - Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates. (Resident does not include anadromous. Any Segments with both COLD and WARM beneficial use designations will be considered COLD water bodies for the application of water quality objectives).	**Cold Freshwater Habitat (COLD)** - Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates. (Resident does not include anadromous. Any Segments with both COLD and WARM beneficial use designations will be considered COLD water bodies for the application of water quality objectives).
Migration of Aquatic Organisms (MIGR) for Warm and Cold Water Species - Uses of water that support habitats necessary for migration or other temporary activities by aquatic organisms, such as anadromous fish. (Warm: Striped bass, sturgeon, and shad; Cold (Salmon and steelhead)	**Migration of Aquatic Organisms (MIGR) for Warm and Cold Water Species** - Uses of water that support habitats necessary for migration or other temporary activities by aquatic organisms, such as anadromous fish. (Warm: Striped bass, sturgeon, and shad; Cold (Salmon and steelhead)
Spawning, Reproduction, and/or Early Development (SPWN) for Warm and Cold Water Species - Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish. (Warm: Striped bass, sturgeon, and shad; Cold (Salmon and steelhead)	**Spawning, Reproduction, and/or Early Development (SPWN) for Warm and Cold Water Species** - Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish. (Warm: Striped bass, sturgeon, and shad; Cold (Salmon and steelhead)
Wildlife Habitat (WILD) - Uses of water that support terrestrial or wetland ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats or wetlands, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.	**Wildlife Habitat (WILD)** - Uses of water that support terrestrial or wetland ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats or wetlands, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

Section 303(d) of the CWA also requires that states develop a list of water bodies that do not meet water quality standards (i.e., impaired water bodies), to establish priority rankings for waters on the list, and to develop action plans, called Total Maximum Daily Loads (TMDLs), to improve water quality (USEPA

2020b). The Lower Feather River, from the Lake Oroville Dam to the confluence of the Sacramento River, is on the Category 5 303(d) list of impaired water bodies for chlorpyrifos, Group A pesticides, mercury, PCBs, and other unknown toxicity (USEPA 2020b). The Lower Yuba River is on the Category 5 303(d) list for copper and mercury (USEPA 2020b). A Category 5 list contains water bodies that have listed pollutants that still require the development of a TMDL.

Aquatic Invasive Species

Aquatic invasive species that occur in the Yuba and Feather River watersheds include water hyacinth and hydrilla, bullfrog, New Zealand mudsnail, rock snot, giant reed, perennial pepperweed, parrotfeather, Eurasian watermilfoil, Brazilian waterweed, blue gill, crappie, yellow perch, largemouth bass, smallmouth bass, and striped bass (YCWA 2018). Parrotfeather milfoil (*Myriophyllum aquaticum*) is known to occur in the lower Yuba River (YCWA 2018). Additional invasion from quagga mussels, Asian clam, and other exotic species have a risk to occur without close management and prevention (YCWA 2018).

The San Francisco RWQCB similarly developed sediment quality guidelines for the protection of human health, called Environmental Screening Levels (ESLs) using data from samples collected from the San Francisco Bay area (SFRWQCB 2019). Finally, USEPA also established Regional Screening Levels (RSLs) for the protection of human health for impacts of contaminants in soil on future residents for example, as well as for impacts of contaminants in soil on groundwater (assumed to be potential drinking water) (USEPA 2020c).

Preliminary sediment samples were collected from the dredging area for the Project. The analytical results are presented in Appendix G1. Table G2-2 in Appendix G2 compares the preliminary sediment sampling results at the Project site with these various sediment quality guidelines for the protection of human health and the environment. Results are also discussed further in the impact analysis below.

Preliminary sediment sampling results indicate that the dredged material does not contain contaminants that would be hazardous to human health and the environment (Table G2-2). Concentrations of nickel slightly exceed the RSL for protection of groundwater and the effects range – Low (ER-L) and Threshold Effect Concentrations (TECs) for the protection of aquatic life. However, nickel concentrations similarly exceeded these guidelines at a separate location in the watershed several miles upstream in the Feather River (see analytical results in Appendix G1). Therefore, it is likely that nickel concentrations are naturally occurring above these sediment quality guidelines. Similarly, vanadium exceeds the ESL at the Project location, as well as several miles upstream. Therefore, it is likely that vanadium concentrations are also naturally occurring above these sediment quality guidelines.

4.10.2 Regulatory Setting

Relevant federal, state, and local laws and regulations pertaining to the protection of groundwater quality, water and sediment quality, and protection of the public from flooding and other hydrologic hazards are discussed below.

4.10.2.1 Federal

Rivers and Harbors Appropriation Act of 1899

Section 10 of the Rivers and Harbors Appropriation Act of 1899 prohibits obstructions, alterations, and modifications to the navigable waters of the United States. The Feather River is considered navigable in the 28-mile reach extending from its mouth to the railroad bridge in the City of Marysville, just north of the Project area and, therefore, is considered navigable in the Project area by the USACE (California Harbors and Navigation Code § 102 [2019]). The Yuba River historically was considered navigable from its mouth to a point at the mouth of the slough at the foot of F Street, in the City of Marysville, but is no longer on the USACE's list of navigable waters (California Harbors and Navigation Code § 102 [2019]).

Executive Order 11988 (Floodplain Management)

EO 11988 (Floodplain Management) links the need to protect lives and property with the need to restore and preserve natural and beneficial floodplain values. Specifically, federal agencies are directed to avoid conducting, allowing, or supporting actions on the base floodplain unless the agency finds that the base floodplain is the only practicable alternative location.

Floodplain Development

FEMA is responsible for determining flood elevations and floodplain boundaries based on USACE studies and approved agency studies. FEMA is also responsible for distributing the Flood Insurance Rate Maps (FIRMs), which are used in the National Flood Insurance Program (NFIP). These maps identify the locations of special flood hazard areas (SFHAs).

Clean Water Act

The federal CWA was enacted with the primary purpose of restoring and maintaining the chemical, physical, and biological integrity of the Nation's waters. The USEPA has delegated responsibility for implementation of portions of the CWA, including water quality control planning and control programs such as the NPDES Program, to the State Water Resources Control Board (SWRCB) and the RWQCBs.

CWA Section 303(c)(2)(b). Section 303(c)(2)(b) of the CWA requires states to adopt water quality standards for all surface waters of the United States based on the water body's designated beneficial use. Where multiple uses exist, water quality standards must protect the most sensitive use. Water quality standards are typically numeric, although narrative criteria based upon biomonitoring methods may be employed where numerical standards cannot be established or where they are needed to supplement numeric standards. Water quality standards applicable to the Proposed Project are listed in the Basin Plan (RWQCB 2018).

CWA Section 303(d). Section 303(d) of the CWA requires that States develop a list of water bodies that do not meet water quality standards (i.e., impaired water bodies), establish priority rankings for waters on the list, and develop action plans, called TMDLs, to improve water quality.

CWA Section 401. Section 401 of the CWA requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into Waters of the U.S. to obtain a certification

that the discharge will comply with the applicable effluent limitations and water quality standards. Therefore, a Water Quality Certification under Section 401 of the CWA must accompany the USACE permit that must be issued for the Project pursuant to Section 10 of the Rivers and Harbors Act.

National Pollutant Discharge Elimination System Program

The CWA prohibits discharging "pollutants" through a "point source" into "Waters of the United States" unless they have an NPDES permit. The permit contains limits on what can be discharged, creates monitoring and reporting requirements, and implements other provisions to ensure that the discharge does not diminish water quality and/or people's health.

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) was established to protect the quality of drinking water in the U.S. This law focuses on all waters actually or potentially designed for drinking use, whether from above ground or underground sources. Pursuant to the SDWA, legally enforceable standards have been set to protect public health.

National Toxics Rule and California Toxics Rule

In 1992, pursuant to the CWA, USEPA promulgated the National Toxics Rule (NTR) criteria to establish numeric criteria for priority toxic pollutants for California. The NTR established water quality standards for 42 priority pollutants not covered at that time under California's statewide water quality regulations. In May 2000, USEPA issued the California Toxics Rule (CTR), which promulgated numeric criteria for additional priority pollutants. The CTR documentation (Volume 65, pages 31682–31719 of the Federal Register [65 FR 31682–31719], May 18, 2000), along with amendments in February 2001 "carried forward" the previously promulgated criteria of the NTR, thereby providing a single document listing of water quality criteria for 126 priority pollutants for California surface waters.

Federal Antidegradation Policy

The federal antidegradation policy is designed to protect existing uses and the level of water quality necessary to protect existing uses. The federal policy directs states to adopt a statewide policy that includes the following primary provisions (40 CFR 131.12):

1. Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

2. Where the quality of waters exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the state finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the state's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located.

3. Where high quality waters constitute an outstanding national resource, such as waters of national and state parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

Nonindigenous Aquatic Nuisance Prevention And Control Act Of 1990

The Nonindigenous Aquatic Nuisance Prevention And Control Act Of 1990 (as amended through Public Law 106–580, December 29, 2000) is the Act under which the USFWS and NOAA manage the Aquatic Nuisance Species Task Force and their Aquatic Nuisance Species Programs. Per EO 13112, an "invasive species" is defined as a species that is (USDA 2020):

- Nonnative (or alien) to the ecosystem under consideration; and
- Whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

Aquatic Nuisance Species (ANS) are "nonindigenous species that threaten the diversity or abundance of native species, the ecological stability of infested waters, or commercial, agricultural, aquacultural, or recreational activities dependent on such waters. ANS include nonindigenous species that may occur within fresh, estuarine, or marine waters and that presently or potentially threaten ecological processes or natural resources." (ANS Task Force 2020). The goals of the ANS Task Force are to:

- Prevent the introduction and dispersal of ANS;
- Monitor, control and study such species;
- Conduct research on methods to monitor, manage, control and eradicate such species;
- Coordinate ANS programs and activities of ANS Task Force members and affected state agencies; and
- Educate and inform the general public and program stakeholders about the prevention, management, and control of these species.

4.10.2.2 State

Division of Flood Management of the Department of Water Resources

The goals of the Division of Flood Management of the Department of Water Resources are to (DWR 2020b):

- Plan for and improve the flood management system;
- Maintain levees;
- Provide emergency preparedness and response;
- Forecast river levels based on weather conditions;
- Reduce flood risk;

- Enhance public safety;
- Enhance fisheries and wildlife habitat;
- Improve recreation and open spaces;
- Promote wise use of floodplains;
- Improve water quality and supply reliability;
- Produce water supply forecasts that are used to set statewide standards and determine water allocations affecting most Californians;
- Provide grant-funded programs that benefit 27 million Californians directly or indirectly.

Porter-Cologne Water Quality Control Act and Waste Discharge Requirements

The Porter-Cologne Water Quality Control Act is California's statutory authority for the protection of water quality. Under the Act, California must adopt water quality policies, plans, and objectives (synonymous with the term "criteria" used by USEPA) that ensure beneficial uses of State waters are reasonably protected. The Porter-Cologne Water Quality Control Act requires the nine RWQCBs to adopt water quality control plans that define the beneficial uses of the water bodies throughout the region to be protected, the water quality objectives necessary for reasonable protection of the beneficial uses, and a program of implementation for achieving the water quality objectives. In addition, the act authorizes the State Water Resources Control Board (SWRCB) and RWQCBs to issue and enforce waste discharge requirements for discharges of waste to surface waters and land. The Feather and Yuba Rivers are within the jurisdiction of the Central Valley RWQCB.

Low Threat Waiver for Discharges to Land. The Central Valley RWQCB has a Waiver of WDRs for Low Threat Discharges to Land (Low-Threat Waiver) (Order No. R5-2018-0085). Disposal of dredged material to land may qualify under this Waiver, however, submittal of a Report of Waste Discharge is still required for the request to be covered.

Limited Threat Discharges to Surface Water. The Central Valley RWQCB has issued General WDRs for Limited Threat Discharges to Surface Water (Order R5-2016-0076-01), such as for dewatering discharges. An Notice of Intent (NOI) must be filed to request coverage under this General Order.

Water Quality Control Plan for the Sacramento River Basin and San Joaquin River Basin

The *Water Quality Control Plan for the Sacramento River Basin and San Joaquin River Basin* (Basin Plan) (RWQCB 2018) defines the beneficial uses, water quality objectives, implementation programs, and surveillance and monitoring programs for waters of the Sacramento River and San Joaquin River basins. The Basin Plan contains specific numeric water quality objectives for bacteria, dissolved oxygen, pH, pesticides, electrical conductivity, temperature, turbidity, and trace elements, as well as numerous narrative water quality objectives, which are applicable to certain water bodies or portions of water bodies.

State Water Resources Control Board Resolution No. 68-16: Statement of Policy with Respect to Maintaining High Quality Waters in California

The goal of SWRCB Resolution No. 68-16 ("Statement of Policy with Respect to Maintaining High Quality Waters in California") is to maintain high quality waters where they exist in the State. Resolution No. 68-16 states, in part:

1. Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.

2. Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

The SWRCB has interpreted Resolution No. 68-16 to incorporate, and be consistent with, the federal antidegradation policy (RWQCB 2016).

Municipal Regional Stormwater NPDES Permit

The Municipal Stormwater (MS4) NPDES Permitting Program requires that Permittees (i.e., cities, counties) reduce pollutants and runoff flows from new development and redevelopment into their municipal separate storm sewers (MS4) using BMPs to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that result in the capture, infiltration, and treatment of storm water runoff. The Central Valley RWQCB adopted a Regionwide MS4 Permit on June 23, 2016 under Order No. R5-2016-0040. Municipal Stormwater NPDES Permitting Programs require that a new development project or redevelopment of a project site results in no net hydromodification of the site.

Statewide National Pollutant Discharge Elimination System Storm Water Permit for General Construction Activity

The SWRCB has issued a general NPDES permit for stormwater discharges associated with construction activity of greater than one acre in size—Order 2009-0009-DWQ, as amended by Orders 2010-0014-DWQ and 2012-0006-DWQ (General Construction Permit). The General Construction Permit requires the preparation of a SWPPP that identifies and describes the BMPs to be implemented at construction sites to control pollution from stormwater runoff. Coverage is obtained by submitting an NOI, risk assessment, post-construction calculations, a site map, the SWPPP, and a signed certification statement by the legally responsible person to the SWRCB prior to construction.

Title 22 of the California Code of Regulations

Maximum contaminant levels (MCLs) that shall not be exceeded in water supplied to the public have been established in California Code of Regulations Title 22, Division 4. This section is equivalent to the federal Safe Drinking Water Act.

4.10.2.3 Regional

Central Valley Flood Protection Board

Any project encroaching into rivers, waterways, and floodways within and adjacent to federal- and state-authorized flood control projects or within designated floodways must receive approval from the CVFPB. Under California Water Code §§ 8534, 8608, and 8710–8723, the CVFPB is required to enforce appropriate standards for the construction, maintenance, and protection of adopted flood control plans that will best protect the public from floods. The area of CVFPB jurisdiction includes the entire Central Valley, including all tributaries and distributaries of the Sacramento and San Joaquin rivers and Tulare and Buena Vista basins. The entire Project site is in the jurisdiction of the CVFPB. The Feather River West Levee runs in a north-south direction in the Project site at the Yuba City Boat Ramp facility.

Feather River Regional Flood Management Plan

To better address the regionwide flood management issues and concerns, a number of stakeholders in the Feather River Basin recently partnered with DWR) to develop the Feather River Regional Flood Management Plan (FRRFMP). The FRRFMP addresses flood management for 302,000 acres of levee-protected lands within Sutter, Butte, and Yuba Counties and a small portion of Placer County along the Bear River near Wheatland. The region addressed by the FRRFMP extends about 56 miles from north to south and between five and 17 miles from west to east (YCWA 2018).

Integrated Regional Water Management Plans (IRWMPs)

The entire Project area is within the planning area of the Yuba County Integrated Regional Water Management Plan (IRWMP) which encompasses the entire Yuba River watershed and a portion of the Feather River watershed (Yuba County Water Agency [YCWA] 2018). The portion of the Project within Sutter County, including portions of the Feather River, are within the Sacramento Valley IRWMP planning area (DWR 2006b). IRWMPs provide a framework to guide policies, programs, and projects for flood control, water conservation, habitat restoration, and to protect water quality.

4.10.2.4 Local

Sutter County

The following goals and policies of the Sutter County General Plan (Sutter County 2019) are applicable to the Project:

Goal Public Health and Safety (PHS) 1:

> *Minimize the potential for loss of life, personal injury, and property damage associated with floods.*

LU 1.4: Identification of Floodplains. Identify the unincorporated areas of Sutter County that are subject to flooding, and evaluate and regulate development within these areas according to state and federal regulations to minimize the loss of life and damage to property caused by potential flood events.

ER 2.3: Minimize Surface Runoff. Minimize direct discharge of surface runoff into wetland areas and design new development in such a manner that pollutants and siltation will not significantly affect jurisdictional wetlands.

ER 6.2: Surface Water Resources. Protect the surface water resources in the County including the Sacramento, Feather and Bear Rivers and their significant tributaries.

Sutter County's Levee District #1 (LD1) is the Local Maintenance Area for Flood Protection (DWR 2020a).

Yuba County

The following goals and policies of the Yuba County General Plan (Yuba County 2011) are applicable to the Project:

Policy HS1.3: The County may allow non-residential improvements within the 100-year floodplain so long as the proposed improvements do not:

- *Increase flood heights or velocities;*
- *Inhibit emergency access;*
- *Create excessive costs in providing governmental services during or after flooding;*
- *Interfere with the existing waterflow capacity of the floodway;*
- *Substantially increase erosion and/or sedimentation; or*
- *Contribute to the deterioration of any watercourse or the quality of water in any body of water.*

Policy HS1.6: The County will prohibit construction near levees that would adversely affect the integrity of the subject levee or would impede maintenance, inspection, or planned levee expansion.

Policy HS1.11: Natural waterways should be protected from unnecessary alteration whenever floodprotection structures or other forms of construction are proposed.

Policy HS3.14: The County will encourage the preservation, creation, or restoration of riparian corridors, wetlands, open space buffers, and other types of open space that provide water quality benefits.

Policy HS8.7: Grading activities shall be designed, per County standards, to avoid obstructing or impeding the natural flow of stormwaters, causing accelerated erosion, or aggravating any existing flooding condition.

Policy HS8.8: For engineered grading, the peak off-site storm water discharge from the project site shall not exceed pre-construction conditions unless the applicant demonstrates that downstream storm water conveyance systems have sufficient capacity to handle the increased flow rate without exceeding established design standards, subject to County approval.

Policy HS8.9: Grading activity and land disturbance shall be conducted such that the smallest practicable area of erodible land is exposed at any one time.

Policy HS8.10: Grading activities shall preserve natural features, including vegetation, terrain, watercourses and similar resources, wherever feasible.

Policy HS8.11: Grading activities within four hundred (400) feet of a landside levee toe shall require a registered geotechnical engineer to submit a stamped report demonstrating that the proposed action will not have an adverse impact on the integrity of the levee system.

Yuba County also has prepared a Yuba County Multi-Jurisdictional Local Hazard Mitigation Plan (MHMP) along with the City of Marysville, City of Wheatland, and Yuba County Water Agency (Yuba County 2015). The overall goal of the MHMP is to "prevent losses by identifying and implementing hazard mitigation strategies and projects to reduce and eliminate long-term risk to people, property and the environment." Specific goals include:

1. Prevent personal injury, loss of life, and damage to property and the environment from natural hazards;
2. Promote public awareness and understanding of natural hazards and the risks they present to quality of life and the economy;
3. Enhance the ability of Yuba County and participating jurisdictions to respond to the effects of hazards on people, property, and the environment;
4. Continue to support partnerships with private and public sector agencies, businesses, and organizations to further comprehensive planning and implementation of mitigation measures;
5. Encourage individual responsibility from Yuba County residents for their exposure to natural hazards and the risk they present to life, property, and the environment; and
6. Continue the hazard mitigation planning process in support of the Disaster Mitigation Act 2000 by:

    - Organizing and Identifying Resources
    - Assessing Risks and Vulnerabilities

- Identifying Hazard Mitigation Measures
- Updating Mitigation Plans

City of Yuba City

The following policies of the City of Yuba City General Plan (2004) are applicable to the Project:

8.5-G-1: Enhance the quality of surface water and groundwater resources and prevent their contamination.

8.5-G-2: Enhance the natural condition of the Feather River waterway.

8.5-I-6: Protect waterways by prohibiting the dumping of debris and refuse in and near waterways and storm drains.

9.3-G-1: Protect the community from risks to lives and property posed by flooding and stormwater runoff.

9.3-G-2: Collect and dispose of storm water in a safe and efficient manner.

9.3-G-3: Ensure that dams and levees are properly maintained for long-term flood protection.

City of Marysville

A main goal of the City of Marysville's General Plan (City of Marysville 1985) is to "minimize the danger of natural and manmade hazards and to protect residents and visitors from the dangers of earthquake, fire, flood, or other disaster."

4.10.3 Environmental Impacts and Mitigation Measures

This Section describes potential impacts related to hydrology and water quality that could result from the Project. The Section also recommends mitigation measures as needed to reduce significant impacts

4.10.3.1 Thresholds of Significance

Based on the CEQA Guidelines, Appendix G: X (a), (c), and (d), implementation of the Project would have a significant impact related to hydrology and water quality if it would:

(a) violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality;

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

i) result in substantial erosion or siltation in or outside the Project area;

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

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

iv) impede or redirect flood flows; or

(d) risk release of pollutants in flood hazard, tsunami, or seiche zones, due to project inundation.

Impacts on groundwater supply are discussed in EIR Section 4.19, *Utilities and Service Systems*.

4.10.3.2 Methods of Analysis

The methodology for evaluating impacts on hydrology and water quality included sediment sampling of dredging areas, review of existing data and literature in the Project area including FEMA's FIRM maps, the RWQCB's 303(d) list, and review of existing laws and regulations.

4.10.3.3 Project Impacts and Mitigation Measures

Impact 4.10-1 Implementation of the Proposed Project would violate water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality.
Impact Determination: *less than significant with mitigation incorporated.*

Threshold:	*Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality.*

The Proposed Project has the potential to adversely affect water quality during the following steps in the construction process:

- Dredging operations (i.e., in-water work);
- Dewatering operations; and
- Project activities in upland areas.

Dredging Operations (In-Water Work)

Dredging in the Feather and Yuba Rivers has the potential to increase turbidity and settleable solids by resuspending sediment into the water column. This has the potential to reduce dissolved oxygen concentrations, increase water temperatures, and alter pH. In addition, resuspension of sediments can also resuspend and dissolve any pollutants that are attached to sediment particles. Although dredging operations would be limited to June 15 through October 15 and therefore short-term, impacts would be adverse and significant without mitigation.

As discussed above and also summarized in Appendix G, preliminary sediment sampling results indicate that the dredged material in the Project area does not contain contaminants that would be hazardous to human health and the environment (Table G2-2). Concentrations of nickel slightly exceed ER-L and TEC

concentrations for the protection of aquatic life. However, nickel concentrations similarly exceeded these guidelines at a separate location in the watershed several miles upstream in the Feather River (see analytical results in Appendix G1). Therefore, it is likely that nickel concentrations are naturally occurring above these sediment quality guidelines and would not adversely affect beneficial uses in the Feather or Yuba Rivers.

A Water Quality Control Plan (see Appendix G3) has been prepared and will be implemented for the Project as a requirement of the Section 401 Water Quality Certification/WDR permit that will be obtained for the Project and also as required per mitigation measure **HYD-1** below. The Water Quality Control Plan would be reviewed and approved by the RWQCB prior to construction. The Water Quality Control Plan requires continuous water quality monitoring and sampling every four hours for turbidity, settleable solids, dissolved oxygen, and pH during dredging operations. The conditions of the Section 401 Water Quality Certification/WDR shall also be followed to ensure that turbidity, dissolved oxygen, pH, and temperature meet certain thresholds established by the RWQCB necessary to protect beneficial uses of the Feather and Yuba River.

With implementation of the Water Quality Control Plan and other measures required in the Section 401 Water Quality Certification/WDR issued by the RWQCB for the Project, impacts would be reduced to less than significant levels.

Dewatering Operations

Placement of the dredged material on land at the Marysville WWTP for dewatering constitutes a discharge to land, which could adversely impact groundwater quality due to leaching of water into the soil, and/or adversely impact surface water quality if water decanted from the dredged material is allowed to runoff the Project site and return to the Yuba or Feather rivers (called return water). In addition, for dewatering operations in tanks or basins, return of decanted water back to the Feather or Yuba Rivers could also adversely affect surface water quality in the Yuba and Feather Rivers. Impacts would be adverse and significant without mitigation.

However, SBFCA will be requesting coverage under the SWRCB's conditional waiver of WDRs for Low Threat Discharges to Land (Low-Threat Waiver) (Order R5-2018-0085) for proposed disposal of dredged material to land.

SBFCA will also file an NOI to be included under the General WDRs for Limited Threat Discharges to Surface Water (Order No. R5-2016-0076-01) (Limited Threat Order) for discharge of wastewater back to the Feather or Yuba rivers from dewatering operations using tanks or basins. Requirements of this Order include collection of a representative sample of the wastewater and analysis for constituents contained in Attachment I of the Order to determine if treatment of the water prior to discharge will be required. Tier 1B discharges under the Order are discharges that are greater than 0.25 million gallons per day (mgd) or greater than or equal to 4 months in duration; Tier 2 discharges include wastewater that contains toxic consituents, volatile organic compounds (VOCs), petroleum fuel pollution constituents, pesticides, inorganic constituents, chlorine, or other chemical constituents for which treatment will be required prior to discharge. Tier 2 discharges require much more monitoring and reporting than Tier 1B discharges.

As discussed above and also summarized in Appendix G, preliminary sediment sampling results indicate that the dredged material in the Project area does not contain contaminants that would be hazardous to human health and the environment (Table G2-2). Concentrations of nickel slightly exceed the RSL for protection of groundwater and the ER-L and TEC concentrations for the protection of aquatic life. However, nickel concentrations similarly exceeded these guidelines at a separate location in the watershed several miles upstream in the Feather River (see analytical results in Appendix G1). Therefore, it is likely that nickel concentrations are naturally occurring above these sediment quality guidelines. Similarly, vanadium exceeds the ESL at the Project location, as well as several miles upstream. Therefore, it is likely that vanadium concentrations are also naturally occurring above these sediment quality guidelines. Chemical concentrations in sediment in the Project area, therefore, would not result in a significant impairment to water quality and pose little risk of creating a nuisance.

Given the chemical constituents and their concentrations detected during preliminary sediment sampling in the Project area, it is anticipated that wastewater generated from dewatering dredged materials would qualify as a Tier 1B discharge under the Limited Threat Order. The Water Quality Monitoring Plan contained in Appendix G3 requires collection of a representative sample of the wastewater decanted water from dewatering processes using tanks or basins and analysis for the constituents contained in Table I-1 of Attachment I of the General WDRs for Limited Threat Discharges to Surface Water (Order No. R5-2016-0076-01) to determine whether water will need to be treated prior to discharge or not. In addition, water quality monitoring will be required per the Limited Threat Order. Regular water quality monitoring and sampling requirements for Tier 1B discharges are stipulated in the Water Quality Control Plan contained in Appendix G3. Additional monitoring and reporting requirements may be needed if wastewater is determined to meet Tier 2 requirements after initial representative sampling is completed. Review and approval of the Water Quality Control Plan by the RWQCB is required, and implementation of the Water Quality Control Plan is required in mitigation measure **HYD-1**.

In conclusion, implementation of mitigation measure **HYD-1**, and the requirements of the Section 401 Water Quality Certification/WDR issued for the Project, will ensure that groundwater and surface water quality are adequately protected and that potentially significant impacts on groundwater and surface water quality associated with dewatering processes would be reduced to less than significant levels.

Construction Activities in Upland Areas

Earthmoving activities, staging and storing of equipment, and any required stockpiling of soil or sediment can adversely affect surface water quality during storm events. Stormwater runoff across a Project site can pick up excess sediment and soil from the Project site as well as any other pollutants spilled on the site. Impacts would be adverse and significant without mitigation.

Implementation of mitigation measure **HYD-2** will require preparation of a SWPPP, which will require BMPs to ensure proper housekeeping at the Project site such that pollutants are not spilled and hazardous materials are properly stored, and to ensure that erosion and sediment controls are put into place to prevent excess soil and sediment from entering stormwater runoff from the Project site. Under mitigation measure **HYD-2**, the construction contractor shall be required to submit an NOI for coverage under the General NPDES Permit for Stormwater Discharges Associated with Construction Activities, which

will require regular inspections and water quality monitoring, including following storm events, to ensure that water quality in receiving waters (Yuba and Feather rivers) is protected. With implementation of mitigation measure **HYD-2**, impacts would be reduced to less than significant levels.

Mitigation Measures

HYD-1: **A Water Quality Control Plan shall be prepared by SBFCA and approved by the RWQCB prior to construction that will require continuous water quality monitoring during dredging operations to ensure protection of water quality objectives in the Feather and Yuba rivers. The Water Quality Monitoring Plan shall also stipulate the sampling, monitoring, and reporting requirements for discharge of decanted water resulting from dewatering dredged materials in tanks or aboveground basins in compliance with the RWQCB's WDR for Limited Threat Discharges to Surface Waters (Order No. R5-2016-0076-01) and the Section 401 Water Quality Certification/WDR issued for the Project.**

Timing/Implementation: *This measure shall be printed on construction plan sets and implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead.*

HYD-2: **The contractor shall prepare a Stormwater Pollution Prevention Plan (SWPPP) and shall submit a Notice of Intent (NOI) for coverage under the General NPDES Permit for Stormwater Discharges Associated with Construction Activities.**

Timing/Implementation: *This measure shall be printed on construction plan sets and implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead.*

Impact 4.10-2: Implementation of the Proposed Project would substantially alter the existing drainage pattern of the Project area or vicinity, including through the alteration of the course of a stream or river or through the addition of impervious surfaces. Impact Determination: *less than significant.*

Threshold:	*Substantially alter the existing drainage pattern of the Project area or vicinity, including through the alteration of the course of a stream or river or through the addition of impervious surfaces.*

As discussed under the Existing Setting above, the Proposed Project is within a FEMA-designated floodway, with the exception of the upland areas of the boat ramp facility. A FEMA-designated floodway includes the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height (FEMA 2019). This designated height is one foot for most NFIP communities unless existing floodway agreements allow otherwise (FEMA 2019). Base flood elevations are mapped at 75 feet

above mean sea level (amsl) by FEMA in the Project area (Figures 4.10-1, 4.10-2, and 4.10-3), which exceeds the existing grade in the Project area.

Dredged material placed on land at the Marysville WWTP would be utilized by the City of Marysville to decommission their wastewater ponds. It is assumed that dredged material from the Proposed Project would be spread over the entire 46-acre area comprising the wastewater ponds, or 250,000 square yards. Therefore, placement of 250,000 cy of dredged material from the Proposed Project would only raise the finished grade at the Marysville WWTP by one foot. Due to the timing and funding for implementation of Phase 2 of the proposed dredging, it is not anticipated that 250,000 cy of sediment would be able to be dewatered and disposed of at the Marysville WWTP. As a result, disposal of dredged material at the Marysville WWTP is expected to raise the finished grade by less than one foot at the wastewater ponds and therefore, is not expected to significantly increase water surface elevations during a flood. In addition, the City of Marysville intends to compact the Project site during final grading, thereby reducing roughness compared with existing conditions which also would help reduce water surface elevations during a flood. Impacts of the Proposed Project on existing drainage patterns, therefore, would be less than significant.

The Yuba City Boat Ramp facility is mapped within the 100-year floodplain as described in the Existing Setting above. However, this area is protected from a 100-year flood event by the Feather River West Levee. In addition, the Proposed Project would not result in construction of any new structures or placement of any equipment or facilities in the long-term. Therefore, use of the boat ramp facility would not significantly impact existing drainage patterns in this area.

Mitigation Measures

None required.

Impact 4.10-3: Implementation of the Proposed Project would risk release of pollutants in flood hazard, tsunami, or seiche zones, due to project inundation.
Impact Determination: *less than significant.*

Threshold:	*Risk release of pollutants in flood hazard, tsunami, or seiche zones, due to project inundation.*

As discussed above and also summarized in Appendix G, preliminary sediment sampling results indicate that the dredged material in the Project area does not contain contaminants that would be hazardous to human health and the environment (Table G2-2). Concentrations of nickel slightly exceed the RSL for protection of groundwater and the ER-L and TEC concentrations for the protection of aquatic life. However, nickel concentrations similarly exceeded these guidelines at a separate location in the watershed several miles upstream in the Feather River (see analytical results in Appendix G1). Therefore, it is likely that nickel concentrations are naturally occurring above these sediment quality guidelines. Similarly, vanadium exceeds the ESL at the Project location, as well as several miles upstream. Therefore, it is likely that vanadium concentrations are also naturally occurring above these sediment quality guidelines. Final sampling and characterization of the sediment would occur prior to disposal to confirm the proper disposal location. Chemical concentrations in sediment in the Project area, therefore, would not result in a significant impairment to water quality and pose little risk of creating a nuisance.

Inundation of the Project area by a flood, therefore, would not result in significant impacts on surface water quality or groundwater quality.

Mitigation Measures

None required.

4.10.4 Cumulative Impacts

4.10.4.1 Cumulative Setting

The only other known proposed in-water Project in the Feather or Yuba rivers involves dredging to remove sediment that has accumulated in portions of the Feather River, exacerbated by the Oroville Dam Spillway incident of 2017, near the Live Oak Recreational Park Boat Ramp facility located several miles upstream of the Project. Dredging would remove ±1.5 acres of invasive water primrose and ±3,400 cy of sediment from the Live Oak Recreational Park Boat Ramp facility. Dredged spoils would be dewatered at the boat ramp and spoils would be disposed of at the emergency ponds of the Gridley WWTP, at the Ostrom Road Landfill, or the Neil Road Landfill. This Project is anticipated to be completed in 2021.

In addition, the City of Marysville intends to decommission the existing wastewater treatment ponds at the Marysville WWTP as discussed above which will involve removal of any water and sludge from the wastewater ponds and regrading the site.

There are no other known past, present, and probable future projects producing related or cumulative impacts in the area.

4.10.4.2 Cumulative Impacts and Mitigation Measures

Impact 4.10-4: Result in a considerable contribution to cumulative impacts on hydrology and water quality.
Impact Determination: *less than significant with mitigation incorporated*.

Threshold:	*Would result in significant impacts on hydrology and water quality in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

While the two other projects discussed above would be implemented during the same season as the Proposed Project, all projects would have a less than considerable contribution on cumulative impacts on water quality with implementation of each project's respective mitigation measures. All three projects would be short term in nature as well. Therefore, cumulative impacts would be less than significant.

Mitigation Measures

Implementation of mitigation measures **HYD-1** and **HYD-2** will be required.

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4.11 Land Use and Planning

This section describes existing land uses on and near the Project site. This section also describes plans and regulations pertaining to land use management in the project area; evaluates project consistency with relevant land use plans, goals and policies; and addresses project compatibility with adjacent land uses.

4.11.1 Environmental Setting

The Project area is located at the intersection of four local jurisdictions: the incorporated city of Yuba City in the northwest corner, Sutter County in the southwest corner, incorporated City of Marysville in the northeast corner, and Yuba County in the southeast corner (City of Yuba City 2004, Sutter County 2019, City of Marysville 1985, and Yuba County 2011). These jurisdictions meet in the vicinity of the confluence of the Feather and Yuba rivers within the Project area.

The Yuba City Boat Ramp facility, comprising Assessor Parcel No. (APN) 52-570-006, is within the jurisdiction of Yuba City, however, the facility itself is owned by Sutter County Levee District 1 and operated by the Sutter County General Services Department.

The Project area also includes the wastewater ponds of the Marysville WWTP owned and operated by the City of Marysville.

The public has rights to access and use California's navigable waters and the California State Lands Commission (CSLC) protects these public rights. This includes the bed and bank of navigable waters below the ordinary low water mark (OLWM). The CSLC works to protect and enhance these lands and natural resources and may, where appropriate, issue leases for use or development, resolve boundaries between public and private lands, promote public access, remove hazards and unauthorized structures from waterways, and implement regulatory programs to shield state waters from oil spills and the introduction of marine invasive species.

The Yuba City Boat Ramp is currently authorized by the CSLC under Lease No. PRC 7747.9 issued to the County of Sutter, effective May 5, 2012, and expiring on May 4, 2030. The existing lease covers a boat launch ramp, L-shaped uncovered floating dock, four pilings, retaining wall, and bank protection adjacent to Assessor Parcel Number 52-570-006..

Based on correspondence with the CSLC, the Project will require a lease and formal authorization from the Commission to complete the dredging activities for the Project as these would occur below the OLWM of the Feather River, which is considered navigable waters. SBFCA is in the process of securing an agreement with Sutter County, the current lessee and upland owners of the Yuba City Boat Ramp facility (Sutter County) under existing CSLC Lease No. PRC 7747.9 to grant permission for the use of the Yuba City Boat Ramp facility as well.

4.11.2 Regulatory Setting

Relevant federal, state, and local laws and regulations pertaining to land use and planning are discussed below.

4.11.2.1 Federal

There are no federal land use regulations governing the site.

4.11.2.2 State

General Plan Law (California Government Code Section 65300)

California Government Code Section 65300 requires each city and county to adopt a General Plan for the physical development of the county or city, and any land outside its boundaries which bears relation to its planning. General Plans must include seven mandatory Elements (or topics): Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety. The General Plan expresses the community's vision and goals for buildout over a 15- to 25-year horizon and directs public policy relative to the distribution of future land uses, both public and private. Policies of the General Plan are intended to guide most land use decisions. Zoning ordinances are adopted to reflect the goals, policies, and development standards in a General Plan.

4.11.2.3 Regional

Two common regional plans that overarch land use planning within multiple local jurisdictions (cities and counties), include Metropolitan Transportation Plans (MTPs) (Regional Transportation Plans [RTPs] in some jurisdictions)/Sustainable Communities Strategies (MTPs/SCSs) and Integrated Regional Water Management Plans (IRWMPs).

Metropolitan Transportation Plan/Sustainable Communities Strategy

MTPs (or RTPs)/SCSs track and manage regional growth, plan for adequate housing, plan for adequate transportation routes and other multimodal transportation opportunities (i.e., transit, bike, pedestrian facilities and services), and plan for meeting greenhouse gas emission reductions and other air quality goals in the region.

The Sacramento Area Council of Governments (SACOG) is the larger metropolitan planning jurisdiction over El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba counties. SACOG has prepared the 2020 MTP/SCS to proactively link land use, air quality, and transportation needs for the region (SACOG 2019). The MTP/SCS policies and supporting actions that are relevant to the Project include:

Policy 8: *Support more seamless travel through better traveler information for trip planning, reliable service and coordination between operators for transit, shared mobility and other first/last mile connections.*

Policy 22: *Invest in bicycle and pedestrian infrastructure to encourage healthy, active transportation trips and provide recreational opportunities for residents and visitors.*

Integrated Regional Water Management Plan

IRWMPs are developed under the participation of many local governments and organizations to support all aspects of water management in a region, including management of water supply, water conservation, wastewater, flooding, water quality, and habitat restoration to improve water quality and enhance beneficial uses of our waterways.

The YCWA prepared a Yuba County IRWMP, in collaboration with many organizations and 12 agencies in 2008, which has been updated as recently as 2018 (YCWA 2018). Relevant goals and corresponding objectives of the IRWMP for this Project include:

Goal 3: *Preserve and restore watershed health and promote environmental stewardship.*

Objective 3.2: *Identify and manage for aquatic and terrestrial invasive species and their impact on water supply infrastructure and watershed health.*

Goal 4: *Enhance regional economic development by supporting recreational opportunities and sustainable agriculture.*

Objective 4.2: *Enhance river access points to encourage recreational use while managing for human impacts to watershed health.*

4.11.2.4 Local

Sutter County

While the southwestern portion of the Project area within Sutter County has a land use designation of Open Space (OS), it is also identified as a Growth Area in the 2019 update of the Sutter County General Plan and in an area considered for possible expansion of the Sphere of Influence for the City of Yuba City (Sutter County 2019). A Growth Area is defined as follows in the 2019 Sutter County General Plan:

Growth Areas: *These areas are where new growth and development should be directed within the County. Growth areas are strategically located to provide for the most intense and broadest range of residential, commercial, employment, and related uses, and typically offer the highest levels of public services and infrastructure.*

Possible future expansion of Yuba City's Sphere of Influence (SOI) was discussed during joint City Council/Board of Supervisors meetings held during the General Plan Update process, where future growth would occur subject to coordination amongst the City and County followed by annexation to the City and provision of urban services from Yuba City.

The Open Space land use designation is defined as follows (Sutter County 2019):

Open Space (OS): The Open Space designation identifies and permanently protects important open space lands within Sutter County due to their value as habitat, topography, scenic quality, public safety, or comparable purpose. Typical Open Space lands include non-agricultural areas which contain significant vegetation, wildlife, and/or habitat resources; and areas which

present conditions hazardous to rural and urban development. Typical permitted uses include resource preservation, agriculture, passive public recreation, buffers, and greenbelts.

Finally, a Commercial Recreation Overlay has been applied over the Feather River corridor, and is defined as follows:

> *Commercial Recreation Overlay (CR)* - The Commercial Recreation Overlay is applied along and adjacent to the Sacramento, Feather, and Bear River corridors. It provides opportunities for limited intensity river focused commercial and recreational uses. Typical uses permitted include river oriented and/or tourist serving eating and drinking establishments, food and beverage sales, general stores, lodging facilities, resorts, campgrounds, bait and tackle shops, boat ramps, marinas, picnic areas, public and private recreational facilities, interpretive centers, trails, wedding or special event facilities, and other complimentary uses. All uses permitted under this designation are subject to County discretionary approval and Design Review to ensure high quality design, visual and operational compatibility with the surrounding uses and character of the area, including an analysis of potential impacts to agricultural operations in the project's vicinity, mitigation of environmental impacts, and availability of adequate infrastructure and services to support the proposed uses (either community or individual water and wastewater systems). Areas within, or "inside", the river levees are the primary areas for consideration of this overlay, however, adjacent areas "outside" the levee may also be considered when determined to be necessary for the proposed use and if the use will not have an adverse impact on adjacent agricultural operations or natural resources.

The following goals and policies of the 2019 Sutter County General Plan (Sutter County 2019) are applicable to the Project:

LU 1.1: *Conservation and Growth Areas. Assign land use designations consistent with the boundaries and intent of the Agriculture and Open Space, Rural Community, and Growth Areas reflected on Figure 3-1. Avoid General Plan amendments that would conflict with these boundaries and intent.*

LU 1.5: *Minimize Land Use Conflicts. Avoid/minimize conflicts between land uses and ensure that new development maintains the viability of adjacent agricultural, open space, and rural uses and minimizes impacts upon existing residents, businesses, and resources.*

LU 5.7: *Impacts and Outcomes. Ensure that fiscal and environmental impacts to the County from proposed development within the cities and their spheres of influence are mitigated to less than significant levels, support the County's General Plan policies, and achieve mutually beneficial outcomes relating to affordable housing, protection of agricultural lands and natural resources, public services, flood protection, water resources, transportation, and other issues.*

M 6.3: *Airport Safety Zones. Limit land uses in airport safety zones to those listed in the applicable airport comprehensive land use plan (CLUP).*

M 6.4: *Sutter County Airport. Support Sutter County Airport's continued use as a general aviation facility.*

4.11.3 Environmental Impacts and Mitigation Measures

This section describes potential impacts on land use and planning that could result from the Proposed Project. The Section also recommends mitigation measures as needed to reduce significant impacts.

4.11.3.1 Thresholds of Significance

Based on the CEQA Guidelines, Appendix G: XI (a) through (b), implementation of the Project would have a significant impact related to land use and planning if it would:

(a) physically divide an established community; or
(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.

4.11.3.2 Project Impacts and Mitigation Measures

Impact 4.11-1: Implementation of the Proposed Project would physically divide an established community.
Impact Determination: *no impact*.

Threshold:	*Would physically divide an established community.*

The Project involves temporary, short-term maintenance activities that would not block access to any community. No permanent structures would be built. Therefore, there would be no impact.

Mitigation Measures

None required.

Impact 4.11-2: Implementation of the Proposed Project would 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.
Impact Determination: *less than significant with mitigation incorporated*.

Threshold:	*Would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.*

The Project would result in potentially significant impacts on other environmental issue areas that would potentially result in inconsistencies with local and regional plans and policies. An analysis of the Project's consistency with these plans and policies, by issue area, is contained in Table 4.11-1 below. As discussed in the table, because the Project is short-term in nature and would not result in long-term impacts, and with implementation of mitigation measures for other issue areas, impacts would be reduced to less than significant levels.

Mitigation Measures

Implementation of all mitigation measures for other issue areas would be required. Please see Chapter 2 and the remainder of Chapter 4 for a list of measures.

4.11.4 Cumulative Impacts

4.11.4.1 Cumulative Setting

The only other known proposed in-water Project in the Feather or Yuba rivers, involves dredging by SBFCA to remove sediment that has accumulated in portions of the Feather River near the Live Oak Recreational Park Boat Ramp facility, located several miles upstream of the Project. Dredging would remove ±1.5 acres of invasive water primrose and ±3,400 cy of sediment from the Live Oak Recreational Park Boat Ramp facility. Dredged spoils would be dewatered at the boat ramp and spoils would be disposed of at the emergency ponds of the Gridley WWTP or at the Ostrom Road Landfill. This Project is anticipated to be completed in 2021.

In addition, the City of Marysville intends to decommission the existing wastewater treatment ponds at the Marysville WWTP which will involve removal of any water and sludge from the wastewater ponds and regrading the site. Disposal of approximately 20,000 cy of soil at the Ostrom Road Landfill could occur under this Project in 2021 as well.

There are no other known past, present, and probable future projects producing related or cumulative impacts in the area.

4.11.4.2 Cumulative Impacts and Mitigation Measures

Impact 4.11-4: Result in a considerable contribution to cumulative impacts on land use and planning.
Impact Determination: *less than significant with mitigation incorporated*.

Threshold:	*Would result in significant impacts on land use and planning in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

As for the Project-specific impacts discussed above, the Project would result in potentially significant impacts on other environmental issue areas that would potentially result in inconsistencies with local and regional plans and policies. An analysis of the Project's consistency with these plans and policies, by issue area, is contained in Table 4.11-1 below. As discussed in the table, because the Project is short-term in nature and would not result in long-term impacts, and with implementation of mitigation measures for other issue areas, impacts would be reduced to less than significant levels and would also have a negligible contribution to cumulative impacts on land use and planning in the area.

Mitigation Measures

Implementation of all mitigation measures for other issue areas would be required. Please see Chapter 2 and the remainder of Chapter 4 for a list of measures.

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
Section 4.1 Aesthetics	
Sutter County General Plan (2019)	
LU1.16 Views from Rural Roadways and Highways. Prohibit new projects and activities that would obscure, detract from, or negatively impact the quality of views from the County's rural roadways and highways. Limit off-site advertising along County roadways and highways.	**Consistent.** As discussed in Section 4.1, *Aesthetics*, scenic roadways do not occur in the Project area, but the Feather and Yuba rivers are considered a scenic resource. Local roadways offer public views of the rivers and their natural environments. However, because the Project would be short-term in nature, and would not result in long-term impacts on the area, impacts on this scenic resource would be less than significant. The Project would not block or affect any other public scenic vistas or views of scenic resources (i.e., Sutter Buttes). Therefore, the Project would be consistent with these policies.
LU 3.8 Landmarks and Resources. Preserve and protect local landmarks and significant natural resources within rural communities.	
ER 7.1 Scenic Resources. Protect views of Sutter County's unique scenic resources including the Sutter Buttes, wildlife and habitat areas, the Sacramento, Feather, and Bear Rivers, and other significant resources.	
ER 7.2 Scenic Roadways. Enhance the visual character along the County's key transportation corridors, in particular Highways 99 and 20, through application of consistent design and landscape standards.	
ER 7.5 Lighting. Support practices that reduce light pollution and preserve views of the night sky including the design and sighting of light fixtures to minimize glare and light on adjacent properties.	**Consistent.** The Project would utilize night lighting during night operations if required. However, the Project is short-term in nature and would not result in long term impacts. In addition, implementation of mitigation measures **AES-1** and **AES-2** would ensure the lighting is shielded and directed downward where feasible and that a process is in place to notify adjacent residents of the Project and to respond to complaints. Therefore, the Project would be consistent with this policy.
Yuba County 2030 General Plan (2011)	
Policy CD11.5. The County will support agriculture, agricultural processing, agricultural tourism, ecological tourism, recreational uses, and other natural-resource based economic development projects in areas with land-based natural resources, natural beauty, and cultural attractions.	**Consistent.** See analysis above for Sutter County.
Policy NR9.2. New plans and projects in western Yuba County should be designed to provide view corridors to the Sutter Buttes, where practical.	
Policy NR9.3. Development in Rural Communities should be designed to preserve important scenic resources, landmarks, and icons that positively contribute to the rural character.	

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
City of Yuba City General Plan (2004)	
8.1-G-2 Enhance the open space features of the Feather River.	**Consistent.** See analysis above for Sutter County.
8.1-G-3 Preserve and enhance the visual and scenic resources of the Planning Area.	
8.1-I-3 Work with public and private entities to implement open space features of the Feather River Parkway Plan. Open space within the parkway will provide visual amenities, as well as habitat protection. The Friends of Yuba City Parks and Recreation Foundation may be able to help the City in funding site acquisition and development of facilities and programs because its status as a charitable organization.	
8.1-I-4 Where feasible, encourage restoration of degraded open space areas in the Feather River Parkway planning area to an environmentally valuable and sustainable condition. The Feather River Parkway Plan calls for maintenance and restoration of natural areas within the floodplain areas next to the River.	
8.1-I-5 Work with the County to maintain viable agricultural land on the periphery of the urban growth area for purposes of resource and view protection and establish design standards that protect views of these lands, including orchards and other rural areas.	
City of Marysville General Plan (1985)	
Goal: To provide and maintain a safe and efficient system of streets, highways, and public transportation to service residents' needs, promote sound land use, and protect and enhance scenic highways.	**Consistent.** See analysis above for Sutter County.
Section 4.2 Agriculture and Forestry Resources	
Sutter County General Plan (2019)	
LU 2.1 Long-Term Conservation. Promote the long-term conservation of agricultural and open space lands in accordance with the goals and policies of the Agricultural Resources and Environmental Resources elements.	**Consistent.** As discussed in Section 4.2, *Agriculture and Forestry Resources,* there are no agricultural resources in the Project area. There also is some chance for a benefit to agricultural resources in the region if opportunities arise to utilize the dredged material as beneficial reuse for agriculture.
AG 1.1 Agricultural Land Preservation. Preserve and maintain agriculturally designated lands for agricultural use and direct urban/suburban and other nonagricultural related development to the cities, unincorporated rural communities, and other clearly defined and comprehensively planned development areas.	

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
Yuba County 2030 General Plan (2011)	
Policy CD11.5 The County will support agriculture, agricultural processing, agricultural tourism, ecological tourism, recreational uses, and other natural-resource based economic development projects in areas with land-based natural resources, natural beauty, and cultural attractions.	**Consistent.** See analysis above for Sutter County.
City of Yuba City General Plan (2004)	
8.2-G-1 Promote preservation of agriculture outside of the urban growth area.	**Consistent.** See analysis above for Sutter County.
Section 4.3 Air Quality	
Sutter County General Plan (2019)	
ER 9.1 Ambient Air Quality Standards. Work with the California Air Resources Board and the Feather River Air Quality Management District (FRAQMD) to meet state and federal ambient air quality standards.	**Consistent.** As discussed in Section 4.3, *Air Quality*, annual NO_x emissions would exceed thresholds of significance despite the requirement for use of Tier 3 engines for off-road construction vehicles. However, impacts would be short-term in nature and there would be no long term impacts. In addition, Project emissions for other criteria pollutants would be under thresholds and the Project would comply with all FRAQMD rules and regulations. Therefore, the Project would be consistent with these policies.
ER 9.2 FRAQMD. Support FRAQMD in its establishment of appropriate standards to address the air quality impacts of new development.	
City of Yuba City General Plan (2004)	
8.6-I-6 Require applicants whose development would result in construction-related fugitive dust emissions to control such emissions as follows: • During clearing, grading, earth-moving, or excavation operations, fugitive dust emissions shall be controlled by regular watering, paving of construction roads, or other dust-preventive measures. • All material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust. Watering, with complete coverage, shall occur at least twice daily, preferably in the late morning and after work is done for the day. • All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 20 mph averaged over 1 hour. • All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust. • The area disturbed by demolition, clearing, grading, earth-moving, or excavation operations shall be minimized at all times. • Portions of the construction site to remain inactive longer than a period of 3 months shall be seeded and watered until grass cover is grown.	**Consistent.** See the analysis above for Sutter County.

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
• All on-site roads shall be paved as soon as feasible or watered periodically or chemically stabilized. Particulate emissions are often the result of construction activities. These provisions should also be implemented outside and adjacent to the urban growth area through a Memorandum of Understanding with the County.	
8.6-I-7 Require applicants whose development would result in construction-related exhaust emissions to minimize such emissions by maintaining equipment engines in good condition and in proper tune according to manufacturer's specifications and during smog season (May through October) by not allowing construction equipment to be left idling for long periods.	
Section 4.4 Biological Resources	
Yuba County IRWMP (YCWA 2018)	
Goal 3 Preserve and restore watershed health and promote environmental stewardship. *Objective 3.2* Identify and manage for aquatic and terrestrial invasive species and their impact on water supply infrastructure and watershed health	**Consistent.** The Project would result in a benefit to fish passage in both the Feather and Yuba rivers. As discussed in Section 4.4, *Biological Resources*, with implementation of mitigation measures to protect upland and aquatic biological resources, significant impacts would be reduced to less than significant levels. Finally, the Project would result in short term impacts but would not result in long term impacts. Therefore, the Project would be consistent with this goal and objective.
Sutter County General Plan (2019)	
GOAL ER 1 Support a comprehensive approach for the conservation, enhancement, and regulation of Sutter County's significant habitat and natural open space resources.	**Consistent.** See analysis above for the IRWMP.
ER 1.2 Conservation Efforts. Focus conservation efforts on areas identified as having very high and high habitat value as well as Sutter County's unique natural open space resources, including the Sutter Buttes, Sutter Bypass, Butte Sink, and the Sacramento, Feather, and Bear River corridors.	
ER 1.3 Interconnected Habitat. Emphasize the preservation, enhancement, and creation of sustainable, interconnected habitat and open space areas that highlight unique resources and integrate educational and recreational opportunities as appropriate.	
ER 1.5 Avoidance. Ensure that new development projects avoid, to the extent feasible, significant biological resources (e.g. areas of rare, threatened or endangered species of	

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
plants, riparian areas, vernal pools), except where such projects are identified as "Authorized Development" within an adopted Habitat Conservation Plan.	
ER 1.6 Mitigation. Mitigate biological and open space effects that cannot be avoided in accordance with an applicable Habitat Conservation Plan or federal, state, and local regulations.	
GOAL ER 2 Conserve, protect, and enhance Sutter County's significant natural wetland and riparian habitats.	
ER 2.1 No Net Loss. Require new development to ensure no net loss of state and federally regulated wetlands, other waters of the United States (including creeks, rivers, ponds, marshes, vernal pools, and other seasonal wetlands), and associated functions and values through a combination of avoidance, restoration, and compensation.	
GOAL ER 3 Conserve, protect, and enhance Sutter County's varied wildlife and vegetation resources.	
ER 3.1 Special Status Species. Preserve special status fish, wildlife, and plant species (e.g., rare, threatened, or endangered species) and habitats consistent with an applicable Habitat Conservation Plan or federal, state, and local regulations.	
ER 3.3 Fisheries. Support the preservation and re-establishment of fisheries in the rivers and streams within Sutter County.	
ER 3.6 Natural Vegetation. Preserve important areas of natural vegetation and the ecological integrity of these habitats, where feasible, including but not limited to riparian, vernal pool, marshes, oak woodlands and annual grasslands.	
ER 3.7 Oak Trees. Preserve native oak trees when possible through the review of discretionary development projects and activities. Reduce the loss of oak trees through consideration of tree mitigation/replanting programs.	
GOAL ER 4 Conserve, protect, and enhance Sutter County's unique natural open space lands, drainages, floodplains, and resources.	
ER 4.3 River Corridors. Preserve the Sacramento, Feather, and Bear River corridors as important habitat, recreation and open space resources. Support efforts to increase public access and recreational uses along the County's river corridors.	

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
Yuba County 2030 General Plan (2011)	
Policy CD11.5 The County will support agriculture, agricultural processing, agricultural tourism, ecological tourism, recreational uses, and other natural-resource based economic development projects in areas with land-based natural resources, natural beauty, and cultural attractions.	**Consistent.** See analysis above for the IRWMP.
Policy NR5.5 The County will support cooperative restoration, development, and promotion of natural resources with the U.S. Fish and Wildlife Service, the Army Corps of Engineers, the Bureau of Reclamation, the U.S. Forest Service, and other public agencies with an interest in the Yuba County's water and wildlife assets.	
Policy NR5.6 The County will seek funding to enhance and restore habitat along the Yuba River, in coordination with development of recreational facilities and public access.	
Policy NR5.7 New developments and public investments near Yuba County's streams and rivers shall be designed to avoid tree removal, erosion, or other modifications that would adversely affect salmonid habitat.	
Policy NR5.13 New developments that could adversely affect wildlife movement corridors shall conduct a biological assessment and avoid placing any temporary or permanent barriers within such corridors, if they are determined to exist on-site. Avoiding barriers to wildlife movement may be accomplished at the project or community plan level.	
Policy NR5.15 Roads, water lines, sewer lines, drainage facilities, and other public facilities constructed to serve unincorporated County development shall be located and designed to avoid substantial impacts to stream courses, associated riparian areas, and wetlands, to the greatest extent feasible.	
Policy NR10.1 Building placement, grading, and circulation should be planned to retain as much existing native vegetation as feasible, with a priority on preserving existing oak trees that have a diameter at breast height (dbh) of 6 inches or greater and all other trees that have a dbh of 30 inches or greater. The County's policies and standards for fire safety may override consideration of retaining existing vegetation in certain circumstances.	

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
City of Yuba City General Plan (2004)	
8.1-G-2 Enhance the open space features of the Feather River.	**Consistent.** See analysis above for the IRWMP.
8.1-I-3 Work with public and private entities to implement open space features of the Feather River Parkway Plan. Open space within the parkway will provide visual amenities, as well as habitat protection. The Friends of Yuba City Parks and Recreation Foundation may be able to help the City in funding site acquisition and development of facilities and programs because its status as a charitable organization.	
8.1-I-4 Where feasible, encourage restoration of degraded open space areas in the Feather River Parkway planning area to an environmentally valuable and sustainable condition. The Feather River Parkway Plan calls for maintenance and restoration of natural areas within the floodplain areas next to the River.	
8.4-G-1 Protect special status species, in accordance with State regulatory requirements.	
8.4-G-2 Protect and enhance the natural habitat features of the Feather River and new open space corridors within and around the urban growth area.	
8.4-G-3 Preserve and enhance heritage oaks in the Planning Area.	
8.4-G-4 Where appropriate, incorporate natural, wildlife habitat features into public landscapes, parks, and other public facilities.	
8.4-G-5 Support the preservation and enhancement of fisheries in the Feather River.	
8.4-I-1 Require protection of sensitive habitat areas and special status species in new development site designs in the following order: 1) avoidance; 2) onsite mitigation, and 3) offsite mitigation. Require assessments of biological resources prior to approval of any development within 300 feet of any creeks, sensitive habitat areas, or areas of potential sensitive status species. These priorities are in accordance with the California Department of Fish and Game guidelines. When habitat preservation onsite is not feasible (i.e., preserved parcels would be too small to be of any value), then offsite mitigation should occur.	
8.4-I-2 Require preservation of oak trees and other native trees that are of a significant size, by requiring site designs to incorporate these trees to the maximum extent feasible.	
8.4-I-3 Require, to the extent feasible, use of drought tolerant plants in landscaping for new development, including private and public projects.	

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
8.4-I-4 Require measures, as part of the Feather River Parkway Plan, to protect and enhance riparian zones, natural areas and wildlife habitat qualities; and establish and maintain a protection zone along the river where development shall not occur, except as part of the parkway enhancement (e.g., trails and bikeways). For park improvements, require a buffer zone along the river in which no grading or construction activities will occur, except as needed for shoreline uses such as boat docks. According to the California Department of Fish and Game, restoration plans should include performance standards such as vegetation types and timing of planting, as well as contingency plans if re-planting is not successful. Construction materials, spoils, or fill should not be placed in the river or located so that they can be washed into the river.	
8.4-I-5 Establish wildlife corridors in conjunction with implementation of the Feather River Parkway Plan to minimize wildlife-urban conflicts. Successful wildlife corridors along the Feather River would provide routes for wildlife movement and access to the water, without a physical barrier. Factors such as smell, noise, and terrain also influence the success of the wildlife corridor. Wildlife tends to feel most secure in somewhat dark corridors with little human activity.	
8.4-I-6 Work with California Department of Fish and Game and other agencies to enhance and preserve fisheries in the Feather River.	
City of Marysville General Plan (1985)	
Policies to encourage the preservation of wildlife habitat· areas: 1. To protect the fisheries of the adjacent waterways. 2. To protect historically significant areas and encourage their preservation and rehabilitation. 3. To ensure that existing natural resources areas, scenic areas, open space areas and parks are protected from encroachment or destruction by development. 4. To encourage energy conservation in new developments. 5. To promote continued agricultural use of prime soils in the planning area. 6. To work with Yuba County to identify and protect aquifer recharge areas. 7. To permit open space and conservation land use within floodplains. 8. To eliminate such uses in the floodplain where continued use would pose a danger to the public health, safety, or welfare. 9. To take proper steps to assure that floodplains, waterways, ground water recharge areas, and areas with a high water table will not be polluted or contaminated. 10. To maintain the air in the community as free from unnecessary air pollutants as is feasible.	**Consistent.** See analysis above for the IRWMP.

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
Section 4.5 Cultural Resources	
Sutter County General Plan (2019)	
GOAL ER 8 Identify, protect, and enhance Sutter County's important cultural and paleontological resources to increase awareness of the County's heritage.	**Consistent.** As discussed in Section 4.5, *Cultural Resources,* any known cultural resources in the area would be avoided but there would be some potential for inadvertent discovery of cultural resources during construction. However, mitigation measures **CUL-1** through **CUL-3** would ensure that proper procedures are followed to avoid adverse impacts on cultural resources if they are discovered during construction. With implementation of these measures, the Project would be consistent with these policies.
ER 8.1 Identification. Identify cultural resources, which include prehistoric, historic, paleontological, and archeological resources, throughout the County to provide adequate protection of these resources.	
ER 8.2 Preservation. Ensure the preservation of significant cultural and paleontological resources, including those recognized at the national, state, and local levels.	
Yuba County 2030 General Plan (2011)	
Policy NR6.3 New developments, roads, water and sewer lines, and stormwater infrastructure should be located to avoid impacts to significant cultural resources.	**Consistent.** Please see the analysis for Sutter County.
City of Yuba City General Plan (2004)	
8.3-G-1 Identify and preserve the archaeological, paleontological, and historic resources that are found within the Yuba City Planning Area.	**Consistent.** Please see the analysis for Sutter County.
8.3-I-6 In accordance with CEQA and the State Public Resources Code, require the preparation of a resource mitigation plan and monitoring program by a qualified archaeologist in the event that archaeological resources are discovered.	
Section 4.6 Energy	
None listed.	See Section 4.8 for Greenhouse Gas Emissions
Section 4.7 Geology and Soils	
Sutter County General Plan (2019)	
GOAL PHS 2 Minimize the risk of personal injury and property damage due to geologic and seismic hazards and adverse soil conditions.	**Consistent.** As discussed in Section 4.7, *Geology and Soils,* earth movement during construction has the potential to result in erosion during storm events as well as result in potential inadvertent discovery of sensitive paleontological resources. However, with implementation of erosion control measures required in a SWPPP as part of the conditions of a NPDES General Permit for Storm Water Discharges Associated with Construction Activities, impacts on erosion will be minimized or avoided. In addition, implementation of

Table 4.11-1. Consistency with Local Plans and Policies

EIR Section/Governing Document/Policy	Discussion
	mitigation measure **GEO-1** will ensure that proper procedures are followed to avoid adverse impacts on paleontological resources if inadvertently found during construction. Therefore, the Project would be consistent with this policy.
Yuba County 2030 General Plan (2011)	
Policy HS8.3 A grading permit from the County is required for movement of dirt, soil, rock, debris or other material on over one acre of land and construction of retaining walls, bridges, and fill operations exceeding four feet, unless the activity is listed in the County Code as exempt from grading requirements.	**Consistent.** Please see the analysis above for Sutter County. No grading would occur in areas under Yuba County jurisdiction, although dredging will occur within County boundaries.
Policy HS8.5 An erosion and sediment control plan meeting County standards for preventing to increased discharge of sediment is required for: • Projects that propose to grade more than ten thousand (10,000) square feet of area having a slope greater than ten (10) percent; • Clearing and grubbing areas of one acre or more regardless of slope; • Projects where more than two thousand five hundred (2,500) square feet will be inadequately protected from erosion during any portion of the rainy season; • Projects that involve grading will occur within fifty (50) feet of any watercourse; or • Where the County determines that the grading will or may pose a significant erosion, or sediment discharge hazard for any reason.	
Policy HS8.13 Grading permittees shall be responsible for the prevention of damage to any adjacent public utilities or services and adjacent properties. No person(s) shall excavate or fill close to the property line without supporting and protecting such property from damage which may result. It shall be the responsibility of the permittee to control discharge of sediment and hazardous materials to any watercourse, drainage system, or adjacent property.	
Policy NR9.7 New construction should be designed to avoid excessive cut and fill by following the natural contour of the subject site.	
Policy NR6.2 If potential paleontological or prehistoric resources are detected during construction, work shall stop and consultation is required to avoid further impacts.	
City of Yuba City General Plan (2004)	
9.2-G-1 Minimize risks of property damage and personal injury posed by geologic and seismic hazards.	**Consistent.** Please see the analysis above for Sutter County.

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
9.2-I-6 Control erosion of graded areas with revegetation or other acceptable methods. Plant materials for revegetation should not be limited to hydro-seeding and mulching with annual grasses. Trees add structure to the soil and take up moisture while adding color and diversity.	
Section 4.8 Greenhouse Gas Emissions	
Sutter County Climate Action Plan (2010)	
In July 2010, the County adopted the CAP based on the premise that the County and the community it represents are uniquely capable of addressing emissions associated with sources under the County's jurisdiction and that the County's emission reduction efforts should coordinate with the state strategies of reducing emissions in order to reduce emissions in an efficient and cost-effective manner. The CAP presents a comprehensive set of actions to reduce the County's internal and external GHG emissions to 15 percent below current levels by 2020, consistent with the AB 32 Scoping Plan. The CAP identifies GHG emissions reduction measures categorized in six sectors: Building Energy (addressing energy efficiency and alternative energy in buildings and renewable energy generation facilities), Solid Waste/Landfills, Landscapes, Agriculture, Transportation, and Industrial/Stationary Sources. For each sector, reduction strategies have been developed to achieve the County's 2020 emissions reduction target.	**Consistent.** As discussed in Section 4.8, *Greenhouse Gas Emissions,* GHG emissions under the Project would be less than significance thresholds. Therefore, the Project would be consistent with the CAP. The Project would also be short term in nature and would not result in long term impacts. Therefore, the Project would be consistent with this Plan and its policies.
Greenhouse Gas Pre-Screening Measures. As part of the 2016 update to the CAP, the County developed Pre-Screening Tables for land use projects. The purpose of the CAP Screening Tables is to provide guidance on how to determine the significance of a project's GHG contribution. The County has developed a two-tiered screening procedure that uses a threshold of 3,000 metric tons of CO_2e per year. Under Tier 1, projects are pre-screened out based on project type and under Tier 2, projects are pre-screened out based on size.	
Sutter County General Plan (2019)	
ER 9.10 Contractor Preference. Give preference to contractors that use low-emission equipment and other practices with air quality benefits for County-sponsored construction projects, and to businesses that practice sustainable operations.	**Consistent.** Please see the analysis above for the Sutter County CAP. Contractors will be expected to use low-emission equipment to the maximum extent feasible.
Section 4.9 Hazards and Hazardous Materials	
Sutter County General Plan (2019)	
PHS 3.1 Use and Disposal. Ensure that the use and disposal of hazardous materials and waste complies with appropriate federal, state, and local requirements.	**Consistent.** As discussed in Section 4.9, *Hazards and Hazardous Materials*, the Project involves the use and transport of fuels, lubricating fluids, and oil for vessels and

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
	construction equipment that have the potential to result in spills. However, implementation of mitigation measures **HAZ-1** and **HAZ-2** would ensure that proper procedures are followed to handle and use hazardous materials and to address spills if they do occur, to minimize and avoid adverse impacts to the environment due to hazardous materials. In addition, the Project would be short term in nature and long term impacts are not anticipated. Therefore, the Project would be consistent with this policy.
City of Yuba City General Plan (2004)	
9.5-G-1 Minimize the risk of property damage and personal injury resulting from the production, use, storage, disposal, or transportation of hazardous materials.	**Consistent.** Please see the analysis above for Sutter County.
9.5-I-6 Specify routes for transporting hazardous materials, taking into account areas of projected new growth. These routes should not pass through residential areas or other sensitive areas. Specific time periods for transport should be established to reduce the impact and accident risk during peak travel periods.	
Section 4.10 Hydrology and Water Quality	
Sutter County General Plan (2019)	
Goal Public Health and Safety (PHS) 1 Minimize the potential for loss of life, personal injury, and property damage associated with floods.	**Consistent.** As discussed in Section 4.10, *Hydrology and Water Quality*, the Project is not anticipated to exacerbate the flood risk in the area. Therefore, the Project would be consistent with these policies.
LU 1.4 Identification of Floodplains. Identify the unincorporated areas of Sutter County that are subject to flooding, and evaluate and regulate development within these areas according to state and federal regulations to minimize the loss of life and damage to property caused by potential flood events.	
ER 2.3 Minimize Surface Runoff. Minimize direct discharge of surface runoff into wetland areas and design new development in such a manner that pollutants and siltation will not significantly affect jurisdictional wetlands.	**Consistent.** As discussed in Section 4.10, *Hydrology and Water Quality*, the Project would result in discharges during dredging operations, dewatering of the dredged material, and disposal of the dredged material which has the potential to affect water quality in the Feather and Yuba Rivers. However, implementation of mitigation measures **HYD-1** through **HYD-3** would ensure that water quality monitoring is implemented during each of these activities, that proper BMPs are implemented to protect water quality, and that discharges are regulated under proper permits from the RWQCB. With implementation of these measures, the Project would be consistent with these policies.
ER 6.2 Surface Water Resources. Protect the surface water resources in the County including the Sacramento, Feather and Bear Rivers and their significant tributaries.	

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
Yuba County 2030 General Plan (2011)	
Policy HS1.3 The County may allow non-residential improvements within the 100-year floodplain so long as the proposed improvements do not: • Increase flood heights or velocities; • Inhibit emergency access; • Create excessive costs in providing governmental services during or after flooding; • Interfere with the existing waterflow capacity of the floodway; • Substantially increase erosion and/or sedimentation; or • Contribute to the deterioration of any watercourse or the quality of water in any body of water.	**Consistent.** Please see the analyses above for Sutter County.
Policy HS1.6 The County will prohibit construction near levees that would adversely affect the integrity of the subject levee or would impede maintenance, inspection, or planned levee expansion.	**Consistent.** Truck trips associated with the Project will travel over the Feather River West Levee to enter and exit the Yuba City Boat Ramp Facility. However, SBFCA owns and operates the levee and will ensure the Project does not damage or otherwise adversely affect the levee integrity.
Policy HS1.11 Natural waterways should be protected from unnecessary alteration whenever flood protection structures or other forms of construction are proposed.	**Consistent.** Please see the analyses above for Sutter County.
Policy HS3.14 The County will encourage the preservation, creation, or restoration of riparian corridors, wetlands, open space buffers, and other types of open space that provide water quality benefits.	**Consistent.** As discussed in Section 4.4, *Biological Resources*, sensitive habitat will be fenced and avoided to the maximum extent feasible during implementation of the Project. Therefore, the Project would be consistent with this policy.
Policy HS8.7 Grading activities shall be designed, per County standards, to avoid obstructing or impeding the natural flow of stormwaters, causing accelerated erosion, or aggravating any existing flooding condition.	**Consistent.** Please see the analyses above for Sutter County.
Policy HS8.8 For engineered grading, the peak off-site storm water discharge from the project site shall not exceed pre-construction conditions unless the applicant demonstrates that downstream storm water conveyance systems have sufficient capacity to handle the increased flow rate without exceeding established design standards, subject to County approval.	**Consistent.** The Project would not involve construction of structures or pavement. Placement of dredged material for beneficial reuse at the Marysville WWTP is not expected to adversely affect infiltration and therefore, is not expected to affect post-construction runoff rates or volumes. Therefore, the Project would be consistent with this policy.
Policy HS8.9 Grading activity and land disturbance shall be conducted such that the smallest practicable area of erodible land is exposed at any one time.	**Consistent.** Please see the analyses above for Sutter County.

Table 4.11-1. Consistency with Local Plans and Policies

EIR Section/Governing Document/Policy	Discussion
Policy HS8.10 Grading activities shall preserve natural features, including vegetation, terrain, watercourses and similar resources, wherever feasible.	
Policy HS8.11 Grading activities within four hundred (400) feet of a landside levee toe shall require a registered geotechnical engineer to submit a stamped report demonstrating that the proposed action will not have an adverse impact on the integrity of the levee system.	**Consistent.** No grading is proposed within 400 feet of the landside levee toe.
Yuba County Multi-Jurisdictional Local Hazard Mitigation Plan (2015)	
1. Prevent personal injury, loss of life, and damage to property and the environment from natural hazards; 2. Promote public awareness and understanding of natural hazards and the risks they present to quality of life and the economy; 3. Enhance the ability of Yuba County and participating jurisdictions to respond to the effects of hazards on people, property, and the environment; 4. Continue to support partnerships with private and public sector agencies, businesses, and organizations to further comprehensive planning and implementation of mitigation measures; 5. Encourage individual responsibility from Yuba County residents for their exposure to natural hazards and the risk they present to life, property, and the environment; and 6. Continue the hazard mitigation planning process in support of the Disaster Mitigation Act 2000 by: • Organizing and Identifying Resources • Assessing Risks and Vulnerabilities • Identifying Hazard Mitigation Measures • Updating Mitigation Plans	**Consistent.** Please see the analyses above for Sutter County.
City of Yuba City General Plan (2004)	
8.5-G-1 Enhance the quality of surface water and groundwater resources and prevent their contamination.	**Consistent.** Please see the analyses above for Sutter County. In addition, as discussed in Section 4.10, *Hydrology and Water Quality*, dredged material is expected to qualify as inert material and would not be considered hazardous or contain constituents that would pose a risk to human health or the environment. Therefore, the Project would be consistent with this policy.
8.5-G-2 Enhance the natural condition of the Feather River waterway.	**Consistent.** The purpose of the Project is to remove excess material at the confluence of the Yuba and Feather rivers as a result of the Oroville Dam Spillway incident of 2017. Therefore, the Project would be consistent with this policy.

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
8.5-I-6 Protect waterways by prohibiting the dumping of debris and refuse in and near waterways and storm drains.	**Consistent.** Please see the analyses above for Sutter County.
9.3-G-1 Protect the community from risks to lives and property posed by flooding and stormwater runoff.	
9.3-G-2 Collect and dispose of storm water in a safe and efficient manner.	
9.3-G-3 Ensure that dams and levees are properly maintained for long-term flood protection.	
City of Marysville General Plan (1985)	
Goal: Minimize the danger of natural and manmade hazards and to protect residents and visitors from the dangers of earthquake, fire, flood, or other disaster.	**Consistent.** Please see the analyses above for Sutter County.
Section 4.12 Mineral Resources	
None listed.	There are no mineral resources in the Project area.
Section 4.13 Noise	
Sutter County General Plan (2019)	
Goal N 1: Protect the health and safety of County residents from the harmful effects of exposure to excessive noise and vibration.	**Consistent.** As discussed in Section 4.13, *Noise,* noise and vibration would be generated by off-road construction equipment and vessels, as well as truck trips along area roadways. However, noise and vibration levels from the Project are expected to be less than thresholds of significance. In addition, the Project would only result in short term impacts and no long term impacts. Therefore, the Project is consistent with this policy.
Policy N 1.6: Construction Noise. Require discretionary projects to limit noise-generating construction activities within 1,000 feet of noise-sensitive uses (i.e., residential uses, daycares, schools, convalescent homes, and medical care facilities) to daytime hours between 7:00 A.M. and 6:00 P.M. on weekdays, 8:00 A.M. and 5:00 P.M. on Saturdays, and prohibit construction on Sundays and holidays unless permission for the latter has been applied for and granted by the County.	**Consistent.** SBFCA is not subject to Sutter County development standards. Construction would occur during weekdays and daytime hours to the maximum extent feasible. However, some work may occur during the weekends and nighttime hours. However, according to the analysis in Section 4.13, *Noise*, noise and vibration levels are still expected to be less than significance thresholds. Therefore, the Project is consistent with this policy.
Policy N 1.7: Vibration Standards. Require construction projects and new development anticipated to generate a significant amount of vibration to ensure acceptable interior vibration levels at nearby noise-sensitive uses based on Federal Transit Administration criteria as shown in Table 11-4 (Groundborne Vibration Impact Criteria for General Assessment) of the Sutter County General Plan.	**Consistent.** Please see analysis above.

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
Yuba County 2030 General Plan (2011)	
Policy HS10.6: New developments shall provide all feasible noise mitigation to reduce construction and other short-term noise and vibration impacts as a condition of approval.	**Consistent.** Please see analysis above for Sutter County.
Policy HS10.7: New developments shall ensure that construction equipment is properly maintained and equipped with noise control components, such as mufflers, in accordance with manufacturers' specifications.	
City of Yuba City General Plan (2004)	
9.1-I-7 Minimize vehicular and stationary noise sources and noise emanating from temporary activities, such as construction. The City's Nuisance Ordinance restricts the hours of operation for a variety of noise sources, and State laws limit the noise levels of motor vehicles and some activities at industrial plants.	**Consistent.** Please see analysis above for Sutter County.
City of Marysville General Plan (1985)	
Goal: To protect residents from health hazards and annoyances associated with excessive noise levels.	**Consistent.** Please see analysis above for Sutter County.
Policy 3: To control noise sources in residential areas by restricting truck traffic to designated truck routes.	
Policy 4: To consider the adoption and enforcement of a community noise ordinance to be used as an instrument for short-term or immediate solutions to intrusive noise occurrences.	
Section 4.14 Population and Housing	
City of Yuba City General Plan (2004)	
Policy H-A Provide regulatory incentives to ensure the construction and maintenance of safe and sanitary housing with adequate public services for existing and future residents of the city.	**Consistent.** As discussed in Section 4.14, *Population and Housing*, the Project is expected to employ approximately 30 construction workers who are expected to commute to the project site from local areas. Therefore, the Project is not expected to increase the demand for housing in the area. This Project would be consistent with this policy.
Section 4.15 Public Services	
Sutter County General Plan (2019)	
PS 1.1 Law Enforcement Services and Facilities. Ensure the provision of appropriate law enforcement services and facilities to protect existing and future citizens and businesses.	**Consistent.** As discussed in Section 4.15, *Public Services*, the Project is expected to employ approximately 30 construction workers who are expected to commute to the Project

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
PS 1.2 Response Times. Strive to achieve and maintain appropriate response times for all priority level calls to support high-quality law enforcement services.	site from local areas. Therefore, the Project is not expected to increase the demand for public services. In addition, with implementation of a Construction Traffic Management Plan (see Section 4.17, *Transportation*), the Project is not expected to interfere with response times. This Project would be consistent with this policy.
PS 2.4 Fire Services and Facilities. Ensure the provision of high quality fire protection services and facilities to protect existing and future citizens and businesses.	
PS 2.5 New Fire Stations. Ensure that new fire stations are located strategically throughout the County to provide optimal response times to all areas.	
GOAL PS 4. Provide for the educational needs of current and future Sutter County residents.	
PS 5.1 Library Services and Facilities. Ensure adequate public library services and facilities are maintained for all residents. Adequate services and facilities include full-service libraries with trained staff, and collections, programs, and computer access for residents of all ages.	
Yuba County 2030 General Plan (2011)	
Policy CD12.15. The County recognizes that provision of adequate school facilities is a community priority.	**Consistent.** See analysis above for Sutter County.
Policy HS9.2. The County will provide public access to emergency response procedures in such locations as the Government Center, the County library, and public schools and will otherwise promote awareness of emergency response and evacuation plans.	
City of Yuba City General Plan (2004)	
9.4-G-1 Ensure continued adequate law enforcement capabilities.	**Consistent.** See analysis above for Sutter County.
9.4-G-2 Minimize the risk of personal injury, property damage, and environmental damage from fire, hazardous chemicals releases, natural and human made disasters.	
9.4-G-3 Maintain current police and fire response times and staffing ratios.	
6.2-G-3 Maintain good communication with area school districts on all matters pertaining to the need for and the provision of school sites and facilities. Integrate the land and infrastructure planning efforts of the City and the school districts.	
6.3-I-10 Provide library facilities necessary to meet the needs of the community.	

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
Section 4.16 Recreation	
Yuba County IRWMP (YCWA 2018)	
Goal 4 Enhance regional economic development by supporting recreational opportunities and sustainable agriculture. *Objective 4.2* Enhance river access points to encourage recreational use while managing for human impacts to watershed health.	**Consistent.** As discussed in Section 4.16, *Recreation*, the Project would result in a short-term disruption of recreational use of the Yuba City Boat Ramp facility. However, notification and coordination with recreational users required in mitigation measure **REC-1** would reduce this impact to less than significant levels. The Project would provide a long-term benefit to recreational users by improving access to the Feather and Yuba rivers. Therefore, the Project would be consistent with this policy.
Sutter County General Plan (2019)	
LU 2.5 Commercial Recreation Overlay. Allow for the allocation of the Commercial Recreation Overlay land use designation within, or "inside" the levees along the Sacramento, Feather, and Bear River corridors. Consider allocation of this land use designation to adjacent areas "outside" the levees when determined to be necessary for the proposed use and if the use will not have an adverse impact on adjacent agricultural operations or natural resources.	**Consistent.** Please see the analysis above for the IRWMP. Also please see below for an analysis on impacts on trail use under Transportation.
GOAL PS 6 Ensure that adequate park, recreation, and open space lands and programs are provided to meet the diverse needs of Sutter County's residents.	
PS 6.1 Park Facilities. Support the development of new parks and recreational facilities, and the maintenance and enhancement of existing parks and recreational facilities, to provide for a variety of active and passive recreational needs.	
PS 6.10 River Recreation. Support the development of public recreational amenities that enhance public access to and use of the Sacramento, Feather, and Bear River corridors including launch ramps, marinas, camping facilities, picnic areas, vista points, interpretive centers, and commercial recreation and services.	
PS 7.1 Multi-Use Trails. Support the development of a network of safe, interconnected multi-use trails that link activity and resource areas, and connect with regional trail systems.	
PS 7.3 River Trails. Support opportunities to create multi-use trails along the Sacramento, Feather, and Bear Rivers, including enhancement of the Feather River Parkway, through collaboration with the cities of Yuba City and Live Oak.	
GOAL PS 7 Support creation of an interconnected multi-use trail system that enhances Sutter County's recreational opportunities.	

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
Yuba County 2030 General Plan (2011)	
Policy NR1.1 The County will collaborate with other agencies to ensure a quality park, recreation, natural open space, and trail system that is efficient to administer and cost-effective to maintain.	**Consistent.** Please see the analysis above for the IRWMP.
Policy NR1.10 The County's recreational open space should be designed to provide multiple benefits, including recreational, circulation, and stormwater drainage conveyance and detention. Applicable impact and in-lieu-fees will be reduced to reflect these overlapping uses for developments that include multi-use open space.	
Policy NR1.11 Recreational open space along rivers and streams should incorporate flood control objectives, habitat preservation, and habitat restoration, as appropriate.	
Policy NR1.16 Natural and recreational open space areas should be provided along the Feather River, the Yuba River and Gold Fields, federal- and state-owned lands, and other river channels, river corridors, and reservoirs in collaboration with relevant agencies and willing property owners.	
City of Yuba City General Plan (2004)	
6.1-I-9 Require a high level of maintenance service with respect to all parks and recreational facilities. The maintenance and upkeep of parks and recreational facilities is necessary for the economic health of the community.	**Consistent.** Please see the analysis above for the IRWMP.
6.1-I-10 Implement the Feather River Parkway Strategic Plan in a manner consistent with the plans and programs put forth in that document and consistent with policies in the Open Space and Conservation Chapter (Chapter 8). Proposed actions include: • Improved pedestrian access to the riverfront; • Provide a mix of active- and non-active recreational and open space in those areas delineated in the Feather River Parkway Strategic Plan; and • Ensure that the open spaces proposed in the Feather River Parkway Strategic Plan be designed in a manner flexible enough to accommodate a variety of activities.	

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
City of Marysville General Plan (1985)	
Policies for Outdoor Recreation: 1. To preserve the lakes as major open space areas within the city and continue to improve the recreational uses surrounding the lakes and the aesthetics of the shorelines. 2. To encourage compatible recreational uses in floodplains of the Feather and Yuba rivers. 3. To provide and maintain adequate outdoor recreational facilities within all residential areas. 4. To promote the maximum provision of recreational open space in future residential areas. 5. To provide for the maximum use of public open space by the use of such areas for outdoor recreation. 6. To provide facilities in accordance with park standards. 7. To provide recreation programs that meet citizens needs. 8. To support and cooperate with volunteer groups and organizations that provide recreation activities for young people.	**Consistent.** Please see the analysis above for the IRWMP.
Section 4.17 Transportation	
MTP/SCS (SACOG 2019)	
Policy 8: Support more seamless travel through better traveler information for trip planning, reliable service and coordination between operators for transit, shared mobility and other first/last mile connections.	**Consistent.** As discussed in Section 4.17, *Transportation*, the Project would result in a short-term traffic impacts on area roadways and detours on the bike trail along the Feather River West Levee. Truck trips into and out of the Yuba City Boat Ramp facility as well as the Marysville WWTP may also affect travel along bike lanes along Second Street and Biz Johnson Drive. Implementation of mitigation measure **TRAF-1**, would require preparation of a Construction Traffic Management Plan to minimize construction traffic impacts on area roadways, transit routes, and bicycle facilities to the maximum extent feasible. Peak hours would be avoided to the maximum extent, and detours, traffic control, and signage would be implemented to minimize disruption to bicycle facilities and local traffic at the Yuba City Boat Ramp facility and Marysville WWTP facility. In addition, there would be no long-term impacts on transportation. Therefore, the Project would be consistent with these policies.
Policy 22: Invest in bicycle and pedestrian infrastructure to encourage healthy, active transportation trips and provide recreational opportunities for residents and visitors.	

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
Sutter County General Plan (2019)	
M 1.1 Multimodal Roadways. Design County roads to support all users of multimodal transportation options serving automobiles, transit, trucks, bicycles, and pedestrians for safe and convenient travel that is suitable to the rural context of the County.	**Consistent.** See analysis above for Sutter County.
M 2.9 External Development Mitigation. Coordinate with the cities and neighboring counties to require new development within those jurisdictions to analyze and fully mitigate their impacts to Sutter County roadways through construction of improvements and/or fair share funding of improvements within Sutter County.	
M 3.1 Transit Service for Residents. Support development of transit facilities in strategic locations, including areas of concentrated activity, density, and intensity.	
M 4.1 Protect Rail Facilities. Protect and enhance existing rail facilities to support the transportation of agricultural goods and other materials within and through Sutter County.	
M 5.2 Encourage Use of Bicycle and Pedestrian Facilities. Implement, as appropriate, the reduction measures in the Climate Action Plan targeted to encourage the use of bicycle and pedestrian facilities. Such measures may include siting development in proximity to bicycle lanes, eliminating impediments to bicycle and pedestrian circulation, providing adequate bicycle parking, and implementing incentive programs for bicycle and pedestrian facility use within the Sutter Pointe Specific Plan area.	
M 7.1 New Development. Implement, as appropriate, the reduction measures in the Climate Action Plan targeted to reduce greenhouse gas emissions caused by automobile use. Such measures may include the following: reducing employee based automobile trips; adopting a comprehensive parking program for public and private parking lots that facilitate carpooling and alternative transportation use; managing transportation flow; increasing the use of carpooling; and expanding the use of renewable fuels and low emission vehicles.	
M 7.2 New Development. Require that new development projects avoid or mitigate environmental impacts to the transportation system.	
City of Yuba City General Plan (2004)	
5.2-I-11 Maintain the street network through a regular maintenance program, repave streets on a regular basis, and require that any pavement that has been damaged or dug up be returned to its original condition, with no bumps or ruts.	**Consistent.** See analysis above for Sutter County.
5.4-I-7 Increase bicycle safety by:	

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
1. Sweeping and repairing bicycle lanes and paths on a regular basis; 2. Ensuring that bikeways are delineated and signed in accordance with Caltrans' standards, and lighting is provided, where needed; 3. Providing bicycle paths or lanes on bridges and overpasses; and 4. Ensuring that all new and improved streets have bicycle-safe drainage grates and are free of hazards such as uneven pavement and gravel.	
5.6-I-1 In consultation with Sutter County and Caltrans, designate and provide signed truck routes, ensure that adequate pavement depth, lane widths, bridge capacities, loading areas, and turn radii are maintained on the designated truck routes, and prohibit commercial trucks from non-truck routes except for deliveries.	
City of Marysville General Plan (1985)	
Goal: To provide and maintain a safe and efficient system of streets, highways, and public transportation to service residents' needs, promote sound land use, and protect and enhance scenic highways.	**Consistent.** See analysis above for Sutter County.
Section 4.18 Tribal Cultural Resources	
Sutter County General Plan (2019)	
Goal ER 8.5 Consultation. Consult with the appropriate organizations and individuals early in the development process (e.g., Information Centers of the California Historical Resources Information System, Native American Heritage Commission, and Native American groups and individuals) to minimize potential impacts to cultural resources.	**Consistent.** See analysis above for Cultural Resources above as well as Section 4.18, *Tribal Cultural Resources.* In addition, implementation of mitigation measure **TCR-1** would ensure that tribal monitoring occurs for any ground disturbance in upland areas. With implementation of this measure, the Project would be consistent with this policy.
Yuba County 2030 General Plan (2011)	
Action NR6.1 • Request information from the Native American Heritage Commission regarding Native American groups that may have important sites in the areas that could be affected by project development. • Involve the local Native American community in determining the appropriate mitigation of impacts to significant prehistoric sites.	**Consistent.** Tribal consultation is required for this Project pursuant to AB 52, and has been initiated. The Project is consistent with this policy.
City of Yuba City General Plan (2004)	
8.3-I-4 Consult with the local Native American community in the cases where new development may result in disturbance to Native American sites.	**Consistent.** Tribal consultation is required for this Project pursuant to AB 52, and has been initiated. The Project is consistent with this policy.

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
Section 4.19 Utilities and Service Systems	
Sutter County General Plan (2019)	
I 1.1 Availability. Require new development to study, coordinate and plan the provision of potable water services to support the new development and demonstrate the availability of a long-term, safe, and reliable potable water supply.	**Consistent.** As discussed in Section 4.19, *Utilities and Service Systems*, the Project is expected to employ approximately 30 construction workers who are expected to commute to the Project site from local areas. Therefore, the Project is not expected to increase the demand for water and wastewater. Although the Project would involve disposal of a significant volume of solid waste at the Ostrom Road Landfill, the Landfill would have sufficient capacity and volumes are not expected to exceed daily disposal limits. Therefore, the Project would be consistent with this policy.
I 2.1 Availability. Require new development to study, coordinate, and plan the provision of wastewater services to support the new development and demonstrate the availability of long term, safe, and reliable wastewater collection, treatment, and disposal.	
I 4.1 Reduced Waste Stream. Implement, as appropriate, the reduction measures in the Climate Action Plan targeted to reduce the County's waste stream. Such measures may include reducing solid waste, diverting construction waste, and educating the public on solid waste reduction and recycling.	
ER 6.3 Groundwater Sustainability. Protect the sustainability of groundwater resources.	
ER 6.5 Regional Coordination on Groundwater Use. Coordinate with local and regional jurisdictions and water agencies on groundwater use to minimize overdraft conditions of aquifers.	
ER 6.6 Groundwater Protection. Regulate stormwater collection and conveyance, as necessary, to protect groundwater supplies from contamination.	
Yuba County 2030 General Plan (2011)	
Policy NR12.4 The County will encourage the use of recycled water and water from irrigation districts that is not treated to urban standards for outdoor irrigation, toilet flushing, fire hydrants; commercial and industrial processes, carwashes, concrete batching, laundromats; dust control; parks, golf courses, and other landscaped areas, and other appropriate water-intensive uses.	**Consistent.** Please see analysis above for Sutter County.
City of Yuba City General Plan (2004)	
7.1-G-1 Ensure that an adequate supply of water is available to serve existing and future needs of the City.	**Consistent.** Please see analysis above for Sutter County.
7.1-G-2 Ensure that necessary water supply infrastructure and storage facilities are in place prior to construction of new development.	

Table 4.11-1. Consistency with Local Plans and Policies	
EIR Section/Governing Document/Policy	**Discussion**
7.2-G-1 Ensure that adequate wastewater treatment capacity is available to serve existing and future needs of the City.	
7.3-G-1 Meet the City's solid waste disposal needs, while maximizing opportunities for waste reduction and recycling.	
7.3-I-6 Comply with State requirements for proper handling and storage of solid waste and recyclables and diversion of solid waste from landfills.	
Section 4.20 Wildfire	
Sutter County General Plan (2019)	
GOAL PS 3 Minimize risk to life and property resulting from wildland fire hazards.	**Consistent.** As discussed in Section 4.20, *Wildfire*, the Project is not located in or near a State Responsibility Area or lands classified as a Very High Fire Hazard Severity Zone. In addition, the Project would not involve welding, grinding, or other construction activities that would have a high risk of starting a fire nor would involve a change in the topography or drainage of the area that would exacerbate wildfire risk. Consequently, the Project would result in a minimal risk of exposure to, or generation of, wildland fires. Finally, the Project would not interfere with emergency evacuations. Therefore, the Project would be consistent with this policy.
City of Marysville General Plan (1985)	
Goal: To enforce building codes, fire codes and city ordinances in regard to fire and fire protection. Continue to improve fire protection services, equipment and facilities as required and as economically as possible. Maintain adequate street widths for fire protection equipment, provide adequate turning radius.	**Consistent.** See analysis above for Sutter County.

4.12 Mineral Resources

This section of the EIR describes the existing conditions in the Project area, the regulatory framework necessary to evaluate potential impacts on mineral resources from the Project, and potential short-term, long-term, and cumulative impacts that could result from the Project. Impacts associated with the loss of mineral resources are discussed below.

4.12.1 Environmental Setting

"Minerals" means "any naturally occurring chemical element or compound, or groups of elements and compounds, formed from inorganic processes and organic substances, including, but not limited to, coal, peat, and bituminous rock, but excluding geothermal resources, natural gas, and petroleum" according to the Surface Mining and Reclamation Act (SMARA).

Sutter County contains areas classified by the State Geologist as Mineral Resource Zone (MRZ)-1 and MRZ-3 for concrete aggregate production. MRZ-1 indicates an area where little likelihood exists for the presence of significant mineral deposits. MRZ-3 indicates areas containing mineral deposits, the significance of which requires further evaluation. There are no areas within Sutter County designated by the State Mining and Geology Board to have regional or statewide significance (Sutter County 2019). However, mineral extraction does occur and is subject to the Sutter County Surface Mining Code and the Zoning Code for Sutter County (2019). The extraction of mineral resources in Sutter County has historically been limited to the extraction of clay, sand, soils, and rock (Sutter County 2019). There are currently three active mining operations within the County for construction sand and gravel. All of the mines in the County are open-pit mines (Sutter County 2008). There are currently no deep-shaft mine activities.

Yuba County contains many areas that produce mineral resources, including sand and gravel, clay, stone products, silica, silver, and gold (Yuba County 2011). There are several quarries, mines, and pits where mineral resources are extracted (Yuba County 2011). Most of the gravel and sand extraction areas are located along the Yuba River (Yuba County 2011). However, there are no active mines in or near the Project area or areas mapped by the State or local agencies as having significant mineral resources (Sutter County 2008, 2019; Yuba County 2011).

4.12.2 Regulatory Setting

Relevant federal, state, and local laws and regulations pertaining to mineral resources are discussed below.

4.12.2.1 Federal

There are no federal regulations that pertain to mineral resources.

4.12.2.2 State

Surface Mining and Reclamation Act)

Mining activities are regulated by the SMARA (PRC Section 2710 et seq. and its regulations at 14 CCR Section 3500 et seq.). Under this Act, the California State Mining and Geology Board provides a comprehensive surface mining and reclamation policy to assure that adverse environmental impacts are minimized and mined lands are reclaimed. SMARA also encourages the production, conservation, and protection of the state's mineral resources.

The purpose of this act is to create and maintain an effective and comprehensive surface mining and reclamation policy with regulation of surface mining operations so as to assure that:

(1) adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative land uses;
(2) the production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, wildlife, range and forage, and aesthetic enjoyment; and
(3) residual hazards to the public health and safety are eliminated. These goals are achieved through land use planning by allowing a jurisdiction to balance the economic benefits of resource reclamation with the need to provide other land uses.

California Geological Survey

The California Geological Survey (CGS, formally the Division of Mines and Geology) has classified regions of the state according to the presence or absence of significant mineral resources. The land classification is presented in the form of Mineral Resource Zones, or MRZ's (DOC 2020c). CGS guidelines for establishing the MRZs are as follows:

MRZ-1: *Areas where available geologic information indicates there is little or no likelihood for presence of significant mineral resources.*

MRZ-2a: *Areas underlain by mineral deposits where geologic data indicate that significant measured or indicated resources are present. Areas classified MRZ-2a contain discovered mineral deposits as determined by such evidence as drilling records, sample analysis, surface exposure, and mine information. Land included in the MRZ-2a category is of prime importance because it contains known economic mineral deposits.*

MRZ-2b: *Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present. Areas classified MRZ-2b contain discovered mineral deposits that are either inferred reserves as determined by limited sample analysis, exposure, and past mining history or are deposits that presently are sub-economic. Further exploration and/or changes in technology or economics could result in upgrading areas classified MRZ-2b to MRZ-2a.*

MRZ-3a: *Areas containing known mineral occurrences of undetermined mineral resource significance. Further exploration within these areas could result in the reclassification of specific localities as MRZ-2a or MRZ-2b.*

MRZ-3b: *Areas containing inferred mineral occurrences of undetermined mineral resource significance. Land classified MRZ-3b represents areas in geologic settings that appear to be favorable environments for the occurrence of specific mineral deposits. Further exploration could result in the reclassification of all or part of these areas as MRZ-3a or specific localities as MRZ-2a or MRZ-2b.*

MRZ-4: *Areas of no known mineral occurrences where geologic information does not rule out the presence or absence of significant mineral resources.*

4.12.2.3 Local

There are no local goals or policies regarding protection of mineral resources, although development standards for extraction of mineral resources are contained in the municipal codes of the local jurisdictions (Sutter County 2019, Yuba County 2019, City of Yuba City 2004, City of Marysville 1985).

4.12.3 Environmental Impacts and Mitigation Measures

This Section describes potential impacts on mineral resources that could result from the Proposed Project. The Section also recommends mitigation measures as needed to reduce significant impacts.

4.12.3.1 Thresholds of Significance

Based on the CEQA Guidelines, Appendix G: Items XII (a) and (b), implementation of the Project would have a significant impact related to mineral resources if it would:

(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; or
(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.

4.12.3.2 Methodology

Information related to the location of mines in the area was obtained from the following map (DOC 2020a) referenced below:

https://maps.conservation.ca.gov/dlrp/ciff/

Information related to the location of oil, gas, and geothermal resources in the area was obtained from the following map (DOC 2020b) referenced below:

https://www.conservation.ca.gov/calgem/Pages/Wellfinder.aspx

In addition, data from the Sutter County, Yuba County, City of Yuba City, and City of Marysville General Plans (Sutter County 2019, Yuba County 2011, Yuba City 2004, City of Marysville 1985) were used to complete this section.

4.12.3.3 Project Impacts and Mitigation Measures

Impact 4.12-1: Implementation of the Proposed Project would 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.
Impact Determination: *no impact*.

Threshold:	*Would 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.*

There are no known, state recognized, mineral, oil, gas, or geothermal resources in or near the Project area (DOC 2020a, 2020b). Therefore, the Project would have no impacts on mineral resources known to be of value to the region and residents of the state.

Mitigation Measures

None required.

Impact 4.12-2: Implementation of the Proposed Project would 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.
Impact Determination: *no impact*.

Threshold:	*Would 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.*

There are no known local mines, or oil, gas, or geothermal resources in or near the Project area according to County General Plans (Sutter County 2008, 2019; Yuba County 2011; City of Marysville 1985). Therefore, the Project would have no impacts on mineral resources known to be of local value.

Mitigation Measures

None required.

4.12.4 Cumulative Impacts

Because the Project would have no impact on mineral resources, the Project would have no contribution to cumulative impacts on mineral resources in the area as well.

Mitigation Measures

None required.

4.13 Noise

This section describes the environmental setting for noise, including the regulatory setting and existing site conditions and the noise impacts that would result from the Proposed Project.

4.13.1 Environmental Setting

4.13.1.1 Acoustic Fundamentals

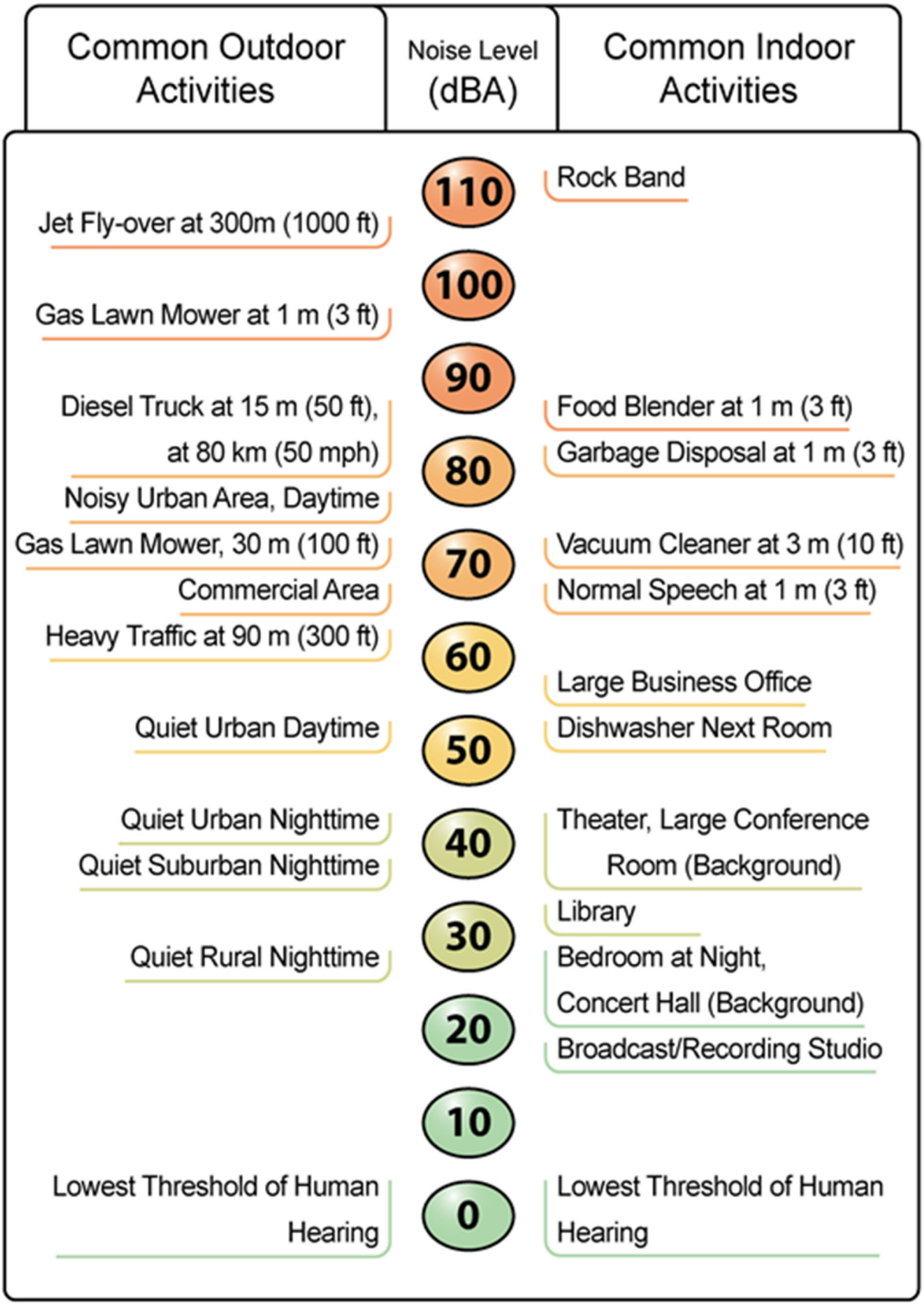
The decibel (dB) scale is logarithmic, not linear; therefore, sound levels cannot be added or subtracted through ordinary arithmetic. Two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted (dBA), an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound and twice as loud as a 60-dBA sound. When two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions (Federal Transit Administration [FTA] 2018). For example, a 65-dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB). Under the decibel scale, three sources of equal loudness together would produce an increase of 5 dB.

Typical noise levels associated with common noise sources are depicted in Figure 4.13-1.

4.13.1.2 Sound Propagation and Attenuation

Noise can be generated by a number of sources including mobile sources such as automobiles, trucks, and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics (Federal Highway Administration [FHWA] 2011). No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. For line sources, an overall attenuation rate of 3 dB per doubling of distance is assumed (FHWA 2011).

Noise levels may also be reduced by intervening structures; generally, a single row of detached buildings between the receptor and the noise source reduces the noise level by about 5 dBA (FHWA 2006), while a solid wall or berm generally reduces noise levels by 10 to 20 dBA (FHWA 2011). However, noise barriers or enclosures specifically designed to reduce site-specific construction noise can provide a sound reduction of 35 dBA or greater (Western Electro-Acoustic Laboratory, Inc. [WEAL] 2000). To achieve the most potent noise-reducing effect, a noise enclosure/barrier must physically fit in the available space,



Source: California Department of Transportation (Caltrans) 2012

Figure 4.13-1. Common Noise Levels

must completely break the "line of sight" between the noise source and the receptors, must be free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces. Noise barriers must be sizable enough to cover the entire noise source and extend lengthwise and vertically as far as feasibly possible to be most effective. The limiting factor for a noise barrier is not the component of noise transmitted through the material, but rather the amount of noise flanking around and over the barrier. In general, barriers contribute to decreasing noise levels only when the structure breaks the line of sight between the source and the receiver.

The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows (Caltrans 2002). The exterior-to-interior reduction of newer residential units is generally 30 dBA or more (Harris Miller, Miller & Hanson Inc. [HMMH] 2006). Generally, in exterior noise environments ranging from 60 dBA Community Noise Equivalent Level (CNEL) to 65 dBA CNEL, interior noise levels can typically be maintained below 45 dBA, a typically residential interior noise standard, with the incorporation of an adequate forced air mechanical ventilation system in each residential building, and standard thermal-pane residential windows/doors with a minimum rating of Sound Transmission Class (STC) 28. (STC is an integer rating of how well a building partition attenuates airborne sound. In the U.S., it is widely used to rate interior partitions, ceilings, floors, doors, windows, and exterior wall configurations.) In exterior noise environments of 65 dBA CNEL or greater, a combination of forced-air mechanical ventilation and sound-rated construction methods is often required to meet the interior noise level limit. Attaining the necessary noise reduction from exterior to interior spaces is readily achievable in noise environments less than 75 dBA CNEL with proper wall construction techniques following California Building Code (CBC) methods, the selections of proper windows and doors, and the incorporation of forced-air mechanical ventilation systems.

4.13.1.3 Noise Descriptors

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs. The L_{eq} is a measure of ambient noise, while the Community Noise Equivalent Level (CNEL) is a measure of community noise..

Table 4.13-1. Common Acoustical Descriptors

Descriptor	Definition
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micropascals (or 20 micronewtons per square meter), where 1 pascal is the pressure resulting from a force of 1 newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micropascals). Sound pressure level is the quantity that is directly measured by a sound level meter.

Table 4.13-1. Common Acoustical Descriptors	
Descriptor	**Definition**
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average acoustic energy content of noise for a stated period of time. Thus, the Leq of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, L_{dn} or DNL	A 24-hour average Leq with a 10 dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour Leq would result in a measurement of 66.4 dBA Ldn.
Community Noise Equivalent Level, CNEL	A 24-hour average Leq with a 5 dBA "weighting" during the hours of 7:00 p.m. to 10:00 p.m. and a 10 dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24-hour Leq would result in a measurement of 66.7 dBA CNEL.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends on its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.

The dBA sound level scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about 1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends on the distance between the receptor and the noise source. Close to the noise source, the models are accurate to within about one to 2 dBA.

4.13.1.4 Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual

physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60- to 70-dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in A-weighted noise levels (dBA), the following relationships should be noted in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived by humans.
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference.
- A change in level of at least 5-dBA is required before any noticeable change in community response would be expected. An increase of 5 dBA is typically considered substantial.
- A 10-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

4.13.1.5 Effects of Noise on People

Hearing Loss

While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise.

OSHA) has a noise exposure standard that is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA averaged over eight hours. If the noise is above 90 dBA, the allowable exposure time is correspondingly shorter.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The L_{dn} as a measure of noise has been found to provide a valid correlation of noise level and the

percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources. For ground vehicles, a noise level of about 55 dBA L_{dn} is the threshold at which a substantial percentage of people begin to report annoyance.

4.13.1.6 Fundamentals of Environmental Groundborne Vibration

Vibration Sources and Characteristics

Sources of earthborne vibrations include natural phenomena (earthquakes, volcanic eruptions, sea waves, landslides, etc.) or manmade causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions).

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the peak particle velocity (PPV); another is the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

Table 4.13-2 displays the reactions of people and the effects on buildings produced by continuous vibration levels. The annoyance levels shown in the table should be interpreted with care since vibration may be found to be annoying at much lower levels than those listed, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

Ground vibration can be a concern in instances where buildings shake, and substantial rumblings occur. However, it is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible. For instance, heavy-duty trucks generally generate groundborne vibration velocity levels of 0.006 PPV at 50 feet under typical circumstances, which as identified in Table 4.13-2 is considered very unlikely to cause damage to buildings of any type. Common sources for groundborne vibration are planes, trains, and construction activities such as earth-moving which requires the use of heavy-duty earth moving equipment.

For the purposes of this analysis, a PPV descriptor with units of inches per section (in/sec) is used to evaluate construction-generated vibration for building damage and human complaints.

Table 4.13-2. Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibration Levels			
Peak Particle Velocity (inches/ second)	**Approximate Vibration Velocity Level (VdB)**	**Human Reaction**	**Effect on Buildings**
0.006–0.019	64–74	Range of threshold of perception	Vibrations unlikely to cause damage of any type
0.08	87	Vibrations readily perceptible	Recommended upper level to which ruins and ancient monuments should be subjected
0.1	92	Level at which continuous vibrations may begin to annoy people, particularly those involved in vibration sensitive activities	Virtually no risk of architectural damage to normal buildings
0.2	94	Vibrations may begin to annoy people in buildings	Threshold at which there is a risk of architectural damage to normal dwellings
0.4–0.6	98–104	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Architectural damage and possibly minor structural damage

Source: Caltrans 2020

4.13.2 Regulatory Setting

4.13.1.7 Noise-Sensitive Land Uses

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as parks, historic sites, cemeteries, and recreation areas are also considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential and are also considered noise-sensitive land uses.

The Project vicinity encompasses multiple jurisdictions. To the west side of the Feather River, in the Project vicinity, lays unincorporated areas of Sutter County as well as areas within Yuba City. To the east of the Feather River lies the City of Marysville and unincorporated Yuba County. The nearest noise sensitive receptors to the Project site are single family homes to the west and northwest of the Project area located within Yuba City. Specifically, these nearest residences are located approximately 150 feet from the northwestern boundary of the Project area. There is also parkland (baseball fields) in Marysville located approximately 160 feet from the Marysville WWTP. However, construction would occur throughout the Project area, which includes 14 acres of river area, the Marysville WWTP, and Yuba City Boat Ramp, and would not be concentrated at one point. It is also noted that haul trucks are proposed to exit the Project area from the Yuba City Boat Ramp facility onto Second Street, travel north on Second Street through the residential neighborhood and either travel west on Colusa Avenue to Highway 99 or east on 5th Street to Highway 70 to transport dredged material to the nearest disposal location.

4.13.1.8 Federal

Occupational Safety and Health Act (OSHA) of 1970

(OSHA) regulates onsite noise levels and protects workers from occupational noise exposure. To protect hearing, worker noise exposure is limited to 90 decibels with A-weighting (dBA) over an 8-hour work shift (29 CFR 1910.95). Employers are required to develop a hearing conservation program when employees are exposed to noise levels exceeding 85 dBA. These programs include provision of hearing protection devices and testing employees for hearing loss on a periodic basis.

4.13.1.9 State

State of California General Plan Guidelines

The State of California regulates vehicular and freeway noise affecting classrooms, sets standards for sound transmission and occupational noise control, and identifies noise insulation standards and airport noise/land-use compatibility criteria. The State of California General Plan Guidelines (State of California 2003), published by the Governor's Office of Planning and Research (OPR), also provides guidance for the acceptability of projects within specific CNEL/Ldn contours. The guidelines also present adjustment factors that may be used in order to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

State Office of Planning and Research Noise Element Guidelines

The State OPR Noise Element Guidelines include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The Noise Element Guidelines contain a land-use compatibility table that describes the compatibility of various land uses with a range of environmental noise levels in terms of the CNEL.

4.13.1.10 Local

Sutter County General Plan

Chapter 11, *Noise,* of the Sutter County General Plan contains goals and policies for the purpose of regulating noise within Sutter County. The following goals and policies are applicable to the Proposed Project:

Goal N 1: Protect the health and safety of County residents from the harmful effects of exposure to excessive noise and vibration.

N 1.6: Construction Noise. Require discretionary projects to limit noise-generating construction activities within 1,000 feet of noise-sensitive uses (i.e., residential uses, daycares, schools, convalescent homes, and medical care facilities) to daytime hours between 7:00 A.M. and 6:00 P.M. on weekdays, 8:00 A.M. and 5:00 P.M. on Saturdays, and prohibit construction on Sundays

and holidays unless permission for the latter has been applied for and granted by the County.

N 1.7: Vibration Standards. Require construction projects and new development anticipated to generate a significant amount of vibration to ensure acceptable interior vibration levels at nearby noise-sensitive uses based on Federal Transit Administration criteria as shown in Table 11-4 (Groundborne Vibration Impact Criteria for General Assessment) of the Sutter County General Plan.

Yuba County General Plan

Chapter 6, *Public Health & Safety Element,* of the Yuba County General Plan contains goals and policies for the purpose of regulating noise within Yuba County. The following goals and policies are applicable to the Proposed Project:

Goal HS10: Noise and Vibration

Policy HS10.6: New developments shall provide all feasible noise mitigation to reduce construction and other short-term noise and vibration impacts as a condition of approval.

Policy HS10.7: New developments shall ensure that construction equipment is properly maintained and equipped with noise control components, such as mufflers, in accordance with manufacturers' specifications.

Yuba City General Plan

Chapter 9, *Noise and Safety,* of the Yuba City General Plan contains policies for the purpose of regulating noise within Yuba City. The following policies are applicable to the Proposed Project:

9.1-I-7 Minimize vehicular and stationary noise sources and noise emanating from temporary activities, such as construction. The City's Nuisance Ordinance restricts the hours of operation for a variety of noise sources, and State laws limit the noise levels of motor vehicles and some activities at industrial plants.

City of Marysville

Chapter E, *Noise Element*, of the City of Marysville General plan contains goals and policies for the purpose of regulating noise within the City of Marysville. The following goals and policies are applicable to the Proposed Project:

Goal: To protect residents from health hazards and annoyances associated with excessive noise levels.

Policy 3: *To control noise sources in residential areas by restricting truck traffic to designated truck routes.*

Policy 4: *To consider the adoption and enforcement of a community noise ordinance to be used as an instrument for short-term or immediate solutions to intrusive noise occurrences.*

4.13.3 Environmental Impacts and Mitigation Measures

This Section describes potential impacts related to noise and vibration that could result from the Project.

4.13.1.11 Thresholds of Significance

The impact analysis provided below is based on the following California Environmental Quality Act Guidelines Appendix G thresholds of significance. The Project would result in a significant noise-related impact if it would produce the following:

(a) Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of the standards established in in the local general plan or noise ordinance, or applicable standards of other agencies;
(b Generate excessive groundborne vibration or groundborne noise levels; or
(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, expose people residing or working in the project area to excessive noise levels.

The preferred Project would perform maintenance dredging of the boat ramp/boat area and the confluence of the Feather River and Yuba River, dewatering of the dredged material in the existing wastewater ponds (evaporation/percolation ponds) at the Marysville WWTP and disposal of the dewatered material. Phase 1 of the Project would involve the removal of 65,600 cy of material and Phase 2 would involve the removal of an additional 250,000 cy if additional funding becomes available.

Alternatives to the Proposed Project consist of the following:

(1) the No Project Alternative (Alternative 1);
(2) Alternative 2, No use of the Marysville WWTP.
(3) Alternative 3, Use of the Marysville WWTP for Dewatering only but no disposal;
(4) Alternative 4, Reduced Project- Dredging of only Phase 1 (14-acres).

As previously mentioned, implementation of the Proposed Project would have the potential to impact noise receptors in four jurisdictions; Yuba County, Sutter County, Yuba City and the City of Marysville.

Since the Proposed Project and alternatives would potentially effect four different jurisdictions, none of which promulgate a numeric noise standard for temporary, construction-type activities, the onsite and offsite noise resulting from implementation of the preferred Project and each alternative will be compared against the construction-related noise level threshold established in the Criteria for a Recommended Standard: Occupational Noise Exposure prepared in 1998 by National Institute for Occupational Safety

and Health (NIOSH). A division of the US Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. The NIOSH construction-related noise level threshold starts at 85 dBA for more than 8 hours per day; for every 3-dBA increase, the exposure time is cut in half. This reduction results in noise level thresholds of 88 dBA for more than 4 hours per day, 92 dBA for more than 1 hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. For the purposes of this analysis, the lowest, more conservative threshold of 85 dBA L_{eq} is used as an acceptable threshold for Project implementation noise at the nearby existing sensitive receptors. Once implementation of the Project is complete it would not be a source of operation noise beyond current conditions.

4.13.1.12 Methods of Analysis

In order to estimate the worst-case noise levels that may occur at the nearest noise-sensitive receptors in the Project vicinity as a result of Project implementation, predicted noise levels were calculated utilizing the FHWA's Roadway Construction Model (2006). Additionally, roadway noise levels due to increased haul truck trips were calculated for the Project vicinity roadway segments in the Project vicinity using the FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77-108) coupled with traffic volumes identified in Section 3.0, *Project Description*.

Groundborne vibration levels associated with implementation-related activities for the Project were evaluated utilizing typical groundborne vibration levels associated with construction equipment, obtained from the California Department of Transportation (Caltrans) guidelines set forth above. Potential groundborne vibration impacts related to structural damage and human annoyance were evaluated, taking into account the distance from earthwork activities to nearby land uses.

4.13.1.13 Project Impacts and Mitigation Measures

Impact 4.13-1: Implementation of the Proposed Project would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of the standards established in in the local general plan or noise ordinance, or applicable standards of other agencies.
Impact Determination: *less than significant*.

Threshold:	*Would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of the standards established in in the local general plan or noise ordinance, or applicable standards of other agencies.*

As previously described, in addition to the preferred Project, alternatives consist of the following:

(1) the No Project Alternative (Alternative 1);
(2) Alternative 2, No use of the Marysville WWTP.
(3) Alternative 3, Use of the Marysville WWTP for Dewatering only but no disposal;
(4) Alternative 4, Reduced Project- Dredging of only Phase 1 (14-acres).

4.13.1.14 Preferred Project

The preferred Project is proposing to conduct maintenance dredging at the confluence of the Yuba River and Feather River, transport of the dredged material to the existing evaporation/percolation ponds at the Marysville WWTP for dewatering (for Phase 1 dredging), and trucking of most of the dewatered material offsite (for Phase 2 dredging). The preferred Project has the potential to have onsite and offsite noise impacts as a result.

Onsite Implementation

Noise associated with implementation of the preferred Project would be temporary and would vary depending on the nature of the activities being performed. Noise generated would primarily be associated with the operation of offroad equipment for onsite dredging and dewatering activities as well as vehicle traffic on area roadways associated with material hauling and worker commutes. Offshore dredging would require the use of heavy-duty equipment (barges, dredging equipment, and generators) and noise from such sources typically occurs intermittently and varies. Noise generated by onshore dewatering equipment, including excavators, material handlers, and tractors, can also reach high levels. Typical operating cycles for these types of equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). During preferred Project implementation, exterior noise levels could negatively affect sensitive land uses in the vicinity of the construction site.

Nearby noise-sensitive land uses consist of single family homes to the west and northwest of the Project area located approximately 150 feet from the northwestern boundary of the Project area, and within Yuba City. There is also parkland (baseball fields) in Marysville located approximately 160 feet from the Marysville WWTP. As previously mentioned, neither Yuba City nor Marysville promulgate a numeric threshold pertaining to the noise associated with temporary, construction-type activities. This is due to the fact that noise generated from such activity is temporary, short term, intermittent in nature, and would cease on completion of the Project. Additionally, construction would occur throughout the Project area, which includes 14 acres of river area, the Marysville WWTP, and Yuba City Boat Ramp, and would not be concentrated at one point. As such, noise due to implementation of the preferred Project is compared to the NIOSH construction noise threshold of 85 dBA, described above.

The anticipated short-term noise levels generated for the necessary on-site equipment is presented in Table 4.13-3. A worst-case scenario would involve the use of hydraulic dredging and mechanical dredging occurring at different times. As such, both scenarios are modeled for their projected noise levels. Consistent with FTA recommendations for calculating noise from construction-type activities, noise is measured from the center of the specific Project area (dredging area, WWTP, or Boat Ramp) depending on the Project component) (FTA 2018).

Table 4.13-3. Preferred Project Implementation Noise Levels at Nearest Sensitive Receptors			
Equipment	**Estimated Exterior Construction Noise Level @ Closest Residence**	**Construction Noise Standard (dBA Leq)**	**Exceeds Standards?**
Hydraulic Dredging Option			
Dredging vessel (1)	55.7	*85*	**No**
Transport Barge (1)	55.7	*85*	**No**
High solids pump (1)	49.2	*85*	**No**
Generator set (2)	55.8 (each)	*85*	**No**
Miscellaneous pump	56.1	*85*	**No**
Towboat (2)	65.7 (each)	*85*	**No**
Swift water rescue boat (1)	59.7	*85*	**No**
Support boat (1)	50.7	*85*	**No**
Light plants with generator (1)	35.7	*85*	**No**
Combined Equipment	**70.2**	***85***	**No**
Mechanical Dredging Option			
Crane (1)	61.1	*85*	**No**
Dredging vessel (1)	55.7	*85*	**No**
Transport Barge (1)	55.7	*85*	**No**
High solids pump (1)	49.2	*85*	**No**
Generator set (2)	55.8 (each)	*85*	**No**
Miscellaneous pump	56.1	*85*	**No**
Towboat (2)	65.7 (each)	*85*	**No**
Swift water rescue boat (1)	59.7	*85*	**No**
Support boat (1)	50.7	*85*	**No**
Light plants with generator (1)	35.7	*85*	**No**
Combined Equipment	**70.7**	***85***	**No**
Onshore Dewatering Equipment at Marysville WWTP			
Crane (1)	47.5	*85*	**No**
Forklifts (2)	54.3 (each)	*85*	**No**
Rubber tired rotary trencher (1)	51.6	*85*	**No**
Rubber Tired dozer (2)	52.6 (each)	*85*	**No**
Tractor/loaders/backhoes (2)	54.9 (each)	*85*	**No**
Graders (1)	55.9	*85*	**No**
Water Truck (1)	60.0	*85*	**No**
Combined Equipment	**64.9**	***85***	**No**

Source: Construction noise levels were calculated by ECORP Consulting, Inc. using the FHWA Roadway Noise Construction Model (FHWA 2006). Refer to Appendix F for Model Data Outputs.

Notes: Equipment derived from Table 3-1 of Section 3.0, *Project Description*. Noise reference measurements for offshore equipment associated with hydraulic and mechanical dredging was obtained from Epsilon Associates, Inc. (2006). Distances to the nearest receptors are calculated at 620 feet from dredging activities in the river and 900 feet from onshore dewatering equipment at the WWTP.

L_{eq} = The equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

As shown, no individual or cumulative pieces of equipment used during preferred Project implementation for either the hydraulic dredging method or mechanical dredging method would exceed the 85-dBA NIOSH noise standard at the nearest noise sensitive receptors. Similarly, dewatering activities would also result in noise levels below the NIOSH noise standard. It is noted that all dredging activities would occur on the river and would be well below the surrounding river bank and levee system which would result in a significant attenuation to any nearby noise sensitive receptors beyond what is shown in Table 4.13-3. A less than significant impact would occur and no mitigation is necessary.

Offsite Implementation

Once the Phase 1 material has been dredged it would be transported to the Maryville WWTP located directly east of the Yuba River and Feather River confluence, for dewatering and will be left onsite. For Phase 2 dredging, material would be dewatered in tanks onshore at the Yuba City Boat Ramp Facility. After dewatering, the material would then be hauled offsite for disposal (for Phase 2 dredging) , all of the material associated with Phase 2 would be transported to the Ostrom Road Landfill via haul trucks. It is anticipated that it would take approximately 38 truck trips per day and a total of 329 days for the disposal of the dredged and dewatered material. Haul trucks would exit the Yuba City Boat Ramp facility onto Second Street, travel north on Second Street and either travel west on Colusa Avenue to Highway 99 or east on 5th Street to Highway 70.

The predicted increase in traffic noise due to the 38 truck trips a day as a result of implementation of the Project was accomplished using the FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77-108). The model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) used in the FHWA model have been modified to reflect average vehicle noise rates identified for California by Caltrans. The Caltrans data shows that medium and heavy truck noise in California is 0.3 - 3.0 dBA lower than national levels.

Table 4.13-4 presents the noise increase on roadways that could potentially impact noise sensitive receptors due to the increased 38 truck trips a day. The noise increase as a result of the Project is compared against the NIOSH construction noise threshold of 85 dBA.

Table 4.13-4. Traffic Noise Levels

Roadway	Surrounding Uses	CNEL at 25 feet from Centerline of Roadway	Noise Standard	Exceeds Standards?
2nd Street	Residential & Commercial	**60.0**	*85*	**No**
5th Street	Residential & Commercial	**60.0**	*85*	**No**
Highway 70	Residential & Commercial	**61.8**	*85*	**No**

Source: Traffic noise levels were calculated by ECORP using the FHWA roadway noise prediction model in conjunction with the trip generation identified by the Project description. Refer to Appendix F for traffic noise modeling assumptions and results.

As shown, the increase in haul truck traffic noise would not exceed the 85-dBA NIOSH noise standard on any roadway segment. Furthermore, according to the Caltrans Technical Noise Supplement to the Traffic Noise Analysis Protocol (2013), doubling of traffic on a roadway would result in an increase of 3 dB (a barely perceptible increase). Per Traffic Volume Data prepared by the Yuba City Public Works Department, Second Street at the intersection of B Street accommodates approximately 7,023 vehicle trips per day and according to Caltrans, the 5th Street intersection at Highway 70 accommodates approximately 45,000 vehicle trips per day. The Project would not result in a doubling of traffic, thus its contribution to existing traffic noise would not be perceptible compared with current conditions. A less than significant impact would occur, and no mitigation is necessary.

4.13.1.15 Alternative 1: No Project Alternative

Under the No Project Alternative, dredging of the boat ramp area downstream to the confluence of the Yuba and Feather Rivers would not occur. The sediment in these areas would continue to block safe access to the rivers from the boat ramp and continue to impede boat and fish passage along both the Yuba and Feather River. There would be no change in the noise environment over existing conditions. As such, no impact would occur.

4.13.1.16 Alternative 2: No Use of Marysville WWTP

Alternative 2 would involve dewatering of Phase 1 and Phase 2 dredged material in a series of fractionation tanks or other temporary dewatering basins staged at the Yuba City Boat Ramp facility. Dredged material, once dry, would be trucked offsite for disposal at the Ostrom Road Landfill or for other beneficial reuse for nearby agricultural, habitat restoration, construction or reclamation projects on an opportunistic basis. This alternative has the potential to have onsite and offsite noise impacts as a result of Project implementation.

Onsite Implementation

Similar to the preferred Project, noise associated with implementation of Alternative 2 would be temporary and would vary depending on the nature of the activities being performed. Like the preferred Project, noise would be generated from the operation of offroad equipment, dredging activities, and vehicle traffic on area roadways associated with material hauling and worker commutes. However, Alternative 2 would not require as much onshore equipment since dewatering activities would be accomplished with a series of fractionation tanks or other temporary dewatering basins staged at the Yuba City Boat Ramp facility. It is noted though that the use of onshore equipment under Alternative 2 would occur nearer to sensitive residential receptors than dewatering activities occurring at the Marysville WWTP as proposed as part of the preferred Project (approximately 400 feet compared with 900 feet).

The anticipated short-term noise levels generated for the necessary on-site equipment under Alternative 2 is presented in Table 4.13-5. Alternative 2 noise levels are compared to the NIOSH noise standard of 85 dBA, described above. As previously stated, a worst-case scenario would involve the use of hydraulic dredging and mechanical dredging occurring at different times. As such, both scenarios are modeled below. Consistent with FTA recommendations for calculating noise from construction-type activities, noise

is measured from the center of the specific Project area (dredging area or Boat Ramp) depending on the Project component) (FTA 2018).

Table 4.13-5. Alternative 2 Noise Levels at Nearest Residential Receptors

Equipment	Estimated Exterior Construction Noise Level @ Closest Residence	Construction Noise Standard (dBA Leq)	Exceeds Standards?
Hydraulic Dredging Option			
Dredging vessel (1)	55.7	*85*	**No**
Transport Barge (1)	55.7	*85*	**No**
High solids pump (1)	49.2	*85*	**No**
Generator set (2)	55.8 (each)	*85*	**No**
Miscellaneous pump	56.1	*85*	**No**
Towboat (2)	65.7 (each)	*85*	**No**
Swift water rescue boat (1)	59.7	*85*	**No**
Support boat (1)	50.7	*85*	**No**
Light plants with generator (1)	35.7	*85*	**No**
Combined Equipment	**70.2**	***85***	**No**
Mechanical Dredging Option			
Crane (1)	61.1	*85*	**No**
Dredging vessel (1)	55.7	*85*	**No**
Transport Barge (1)	55.7	*85*	**No**
High solids pump (1)	49.2	*85*	**No**
Generator set (2)	55.8 (each)	*85*	**No**
Miscellaneous pump	56.1	*85*	**No**
Towboat (2)	65.7 (each)	*85*	**No**
Swift water rescue boat (1)	59.7	*85*	**No**
Support boat (1)	50.7	*85*	**No**
Light plants with generator (1)	35.7	*85*	**No**
Combined Equipment	**70.7**	***85***	**No**
Onshore Dewatering Equipment at Yuba City Boat Ramp			
Rubber Tired dozer (2)	59.6	*85*	**No**
Tractor/loaders/backhoes (2)	55.5 (each)	*85*	**No**
Combined Equipment	**62.1**	***85***	**No**

Source: Construction noise levels were calculated by ECORP Consulting using the FHWA Roadway Noise Construction Model (FHWA 2006). Refer to Appendix F for Model Data Outputs.

Notes: Noise reference measurements for offshore equipment associated with hydraulic and mechanical dredging was obtained from Epsilon Associates, Inc. (2006). Distances to the nearest receptors are calculated at 620 feet from dredging activities in the river and 400 feet from onshore dewatering equipment at the Yuba City Boat Ramp.

L_{eq} = The equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

As shown, no individual or cumulative pieces of equipment used during Alternative 2 would exceed the 85-dBA NIOSH noise standard at the nearest noise sensitive receptors. It is noted that all dredging

activities would occur on the river and would be well below the surrounding river bank and levee system which would result in a significant attenuation to any nearby noise sensitive receptors beyond what is shown in Table 4.13-5. A less than significant impact would occur under this alternative and no mitigation is necessary.

Offsite Implementation

Under Alternative 2, material that has been dredged would be transported to the Yuba City Boat Ramp located directly east of the Yuba River and Feather River confluence, for dewatering. After dewatering the material would then be hauled offsite for disposal. It is anticipated that approximately 38 truck trips per day of the dredged and dewatered material are possible. Haul trucks would exit the Yuba City Boat Ramp facility onto Second Street, travel north on Second Street and either travel west on Colusa Avenue to Highway 99 or east on 5th Street to Highway 70.

The amount of daily haul trucks would not differ from the preferred Project, though more days would be necessary to haul due to the greater amount of material (315,600 cy under Alternative 2 vs. 250,000 cy under the Project). This is based upon the assumption that the maximum number of trucks would be run per day as possible. Thus, daily offsite haul truck noise associated with Alternative 2 would be identical to that projected for the preferred Project (see Table 4.13-4). Therefore, a less than significant impact would occur during Alternative 2, and no mitigation is necessary.

4.13.1.17 Alternative 3: Use of the Marysville WWTP for Dewatering Only but not Disposal

Alternative 3 would involve dewatering of the dredged material at the Marysville WWTP but once dry the dredged material would be trucked offsite and disposed of at the Ostrom Road Landfill or another offsite location for beneficial reuse. This alternative has the potential to have onsite and offsite noise impacts as a result of Project implementation.

Onsite Implementation

Onsite activities (i.e., dredging, dewatering) under Alternative 3 would be identical to those under the preferred Project, and therefore would result in the same noise levels (see Table 4.13-3). No individual or cumulative pieces of equipment used during Alternative 3 implementation for either the hydraulic dredging method or mechanical dredging method would exceed the 85-dBA NIOSH noise standard at the nearest noise sensitive receptors. Similarly, dewatering activities, which would occur at the Marysville WWTP, would also result in noise levels below the NIOSH noise standard. A less than significant impact would occur and no mitigation is necessary.

Offsite Implementation

Under Alternative 3, the amount of daily haul trucks would not differ from the preferred Project, though would involve more days of hauling (315,600 cy under Alternative 3 vs. 250,000 cy under the Project). This is based upon the assumption that the maximum number of trucks would be run per day as possible. Thus, daily offsite haul truck noise associated with Alternative 3 would be identical to that projected for the preferred Project (see Table 4.13-4). Therefore, a less than significant impact would occur during Alternative 3, and no mitigation is necessary.

4.13.1.18 Alternative 4: Reduced Project- Dredging of Phase 1

Alternative 4, the Reduced Project Alternative, would involve completion of Phase 1 dredging only. Under this alternative, it is assumed that dewatering and disposal of the material would occur at the Marysville WWTP. This alternative has the potential to have onsite and offsite noise impacts as a result of Project implementation.

Onsite Implementation

Onsite activities (i.e., dredging, dewatering) under Alternative 4 would be identical to those under the preferred Project though would occur for a shortened length of time, and therefore would result in the same daily noise levels (see Table 4.13-3) over the course of its implementation. No individual or cumulative pieces of equipment used during Alternative 4 implementation for either the hydraulic dredging method or mechanical dredging method would exceed the 85-dBA NIOSH noise standard at the nearest noise sensitive receptors. Similarly, dewatering activities, which would occur at the Marysville WWTP, would also result in noise levels below the NIOSH noise standard. A less than significant impact would occur and no mitigation is necessary.

Offsite Implementation

Alternative 4 would not involve the use of offsite haul trucks. Thus, no noise would be generated by this type of activity. No offsite noise impacts would occur.

As shown, none of the activities associated with the preferred Project or any of the alternatives would generate noise in excess of the NIOSH noise standard. As such, a less than significant noise-related impact would occur.

The Project is proposing maintenance dredging of the confluence of the Yuba River and Feather River, including the Yuba City Boat Ramp. Upon completion of the Project it would not attract new stationary or mobile sources of noise beyond what is currently experienced. The Proposed Project would have no noise impact once Project dredging is complete.

Mitigation Measures

None required.

Impact 4.13-2: Implementation of the Proposed Project would generate excessive groundborne vibration or groundborne noise levels.
Impact Determination: *less than significant*.

Threshold:	*Would generate excessive groundborne vibration or groundborne noise levels.*

Excessive groundborne vibration impacts result from continuously occurring vibration levels. Increases in groundborne vibration levels attributable the preferred Project and all alternatives would be associated with short-term dredging-related activities. Dredging and related activities on the Project area would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific

construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

Construction-type ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. It is noted that pile drivers would not be necessary during Project construction. Vibration decreases rapidly with distance and it is acknowledged that construction activities would occur throughout the Project are and would not be concentrated at the point closest to sensitive receptors. Groundborne vibration levels associated with offroad, heavy duty equipment are summarized in Table 4.13-6.

Table 4.13-6. Representative Vibration Source Levels for Implementation Equipment

Equipment Type	Approximate Vibration Decibels (VdB) at 25 Feet
Large Bulldozer	0.089
Caisson Drilling	0.170
Loaded Trucks	0.089
Hoe Ram	0.076
Jackhammer	0.089
Small Bulldozer/Tractor	0.035

Source: FTA 2018; Caltrans 2020

Yuba County, Yuba City, and the City of Marysville are the jurisdictions that contain structures that could be impacted from vibration due to implementation of the Project. None of these jurisdictions regulate heavy-duty equipment induced vibrations. However, a discussion of vibration is included for full disclosure purposes. For comparison purposes, the Caltrans (2020) recommended standard of 0.2 inch per second PPV with respect to the prevention of structural damage for older residential buildings is used as a threshold. This is also the level at which vibrations may begin to annoy people in buildings.

The location with the nearest offsite structures is the Yuba City Boat Ramp. Based on the representative vibration levels presented for various equipment types in Table 4.13-15 and the vibration assessment methodology published by the FTA (2018), it is possible to estimate the potential equipment induced vibration levels at the nearest offsite structure. Consistent with FTA recommendations for calculating construction vibration, vibration due to implementation of the Project and alternatives were measured from the center of the Project area (FTA 2018). The FTA provides the following equation:

$$PPVequip = PPVref * \left(\frac{25}{D}\right) 1.5$$

Table 4.13-7 presents the expected Project-related vibration levels at the nearest structure measured from the center of the Project area, which is approximately 500 feet distant.

Table 4.13-7. Vibration Levels at 500 Feet									
Receiver PPV Levels (in/sec)[1]							Peak Vibration	Threshold	Exceed Threshold
Large Bulldozer	Pile Driver	Drilling	Loaded Trucks	Rock Breaker	Jack-hammer	Small Bulldozer			
0.0009	0.001	0.009	0.0008	0.0009	0.0003	0.00003	0.001	0.2	**No**

Notes: [1] Based on the Vibration Source Levels of Construction Equipment included on Table 4.13-15 (FTA 2018).

As shown, groundborne vibrations attenuate rapidly from the source due to geometric spreading and material damping. Geometric spreading occurs because the energy is radiated from the source and spreads over an increasingly large distance while material damping is a property of the friction loss which occurs during the passage of a vibration wave. As shown in Table 4.13-7, the nearest structure at 500 feet from the Project area would not experience groundborne levels in exceedance of Caltrans recommended standards. It is noted that the equipment listed in Table 4.13-7 was modeled on a worst-case scenario basis for the preferred Project thus, the project alternatives would have less of an impact due to vibration.

Additionally, single family homes on Second Street, and other roadways, could potentially experience vibration impacts due to the increase in haul truck traffic. However, these vehicles can only generate groundborne vibration velocity levels of 0.006 PPV at 50 feet under typical circumstances. Therefore, the Project would not result in an exceedance of Caltrans recommended standards due to an increase in haul truck traffic.

Upon completion of Project implementation, there would be no use of any equipment beyond current conditions. Thus, a less than significant impact would occur.

Mitigation Measures

None required.

Impact 4.13-3: Implementation of the Proposed Project would 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, expose people residing or working in the Project area to excessive noise levels.
Impact Determination: *less than significant impact*.

Threshold:	*Would 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, expose people residing or working in the project area to excessive noise levels.*

The Sutter County Airport is located directly adjacent to the western boundary of the Project site. No commercial airlines use the Sutter County airport due to the close proximity to the Sacramento International Airport just south of Sutter County (Sutter County General Plan 2007). According to the Sutter County Airport Land Use Compatibility Plan, the Project site is located within the overflight zone but is located outside of the 65 CNEL noise contour. People working on the Project site would not be negatively impacted by the noise due to airport operations. Thus, no impact would occur with implementation of the Proposed Project.

Mitigation Measures

None required.

4.13.4 Cumulative Impacts

4.13.1.19 Cumulative Setting

The only other known proposed in-water Project in the Feather or Yuba rivers, involves dredging by SBFCA to remove sediment that has accumulated in portions of the Feather River near the Live Oak Recreational Park Boat Ramp facility, located several miles upstream of the Project. Dredging would remove ±1.5 acres of invasive water primrose and ±3,400 cy of sediment from the Live Oak Recreational Park Boat Ramp facility. Dredged spoils would be dewatered at the boat ramp and spoils would be disposed of at the emergency ponds of the Gridley WWTP or at the Ostrom Road Landfill. This Project is anticipated to be completed in 2021. Hazardous materials that would be used during construction of the project at the Live Oak Recreational Park Boat Ramp facility would include diesel fuel, oil, and gasoline.

In addition, the City of Marysville intends to decommission the existing wastewater treatment ponds at the Marysville WWTP which will involve removal of any water and sludge from the wastewater ponds and regrading of the site. (City of Marysville 2016)

There are no other known past, present, and probable future projects producing related or cumulative impacts in the area.

Impact 4.13-4: Result in a considerable contribution to cumulative noise and vibration impacts. Impact Determination: *less than significant*.

Threshold:	*Would result significant noise and vibration impacts in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

Implementation activities associated with the Proposed Project, or alternatives, and other construction projects in the area may overlap, resulting in construction-type noise in the area. However, such noise impacts primarily affect the areas immediately adjacent to the construction site. Construction-type noise for the Proposed Project was determined to be less than significant. Cumulative development in the vicinity of the Project site could result in elevated construction noise levels at sensitive receptors in the Project area. However, each project would be required to comply with the applicable limitations on allowable hours of construction-type activities. Therefore, the Project would not contribute to cumulative impacts and impacts in this regard are not cumulatively considerable.

Mitigation Measures

No mitigation is required.

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4.14 Population and Housing

This section of the EIR describes the existing conditions in the Project area, the regulatory framework necessary to evaluate potential impacts on population and housing from the Project, and potential short-term, long-term, and cumulative impacts that could result from the Project. Impacts associated with the division of a community, conflicts with land use plans or policies regarding housing, unplanned population growth in the area, and loss or conversion of affordable housing are discussed below.

4.14.1 Environmental Setting

The Project site is primarily located in the City of Yuba City, with portions of the Project in unpopulated areas of the City of Marysville, unincorporated Sutter County, and unincorporated Yuba County. According to the California Department of Finance (January 2013) and the latest Housing Element Update (2013 to 2021), the population of the City of Yuba City was 65,841 (City of Yuba City 2014). The majority of the housing units comprise single family residences; approximately 24 percent comprise multi-family residences, and the remaining 4 percent of housing units are mobile homes and trailers (City of Yuba City 2014). The Project area is a mapped disadvantaged community according to census block data from the U.S. Census Bureau's 2010 Census (DWR 2020).

Yuba City had the largest population growth between 2000 and 2013 compared with neighboring jurisdictions, with a 77 percent increase in population (City of Yuba City 2014). Live Oak's population increased 35 percent in the same time period. Both Sutter and Yuba Counties' populations increased by 20 percent while Marysville saw a 2 percent decrease in population (City of Yuba City 2014).

Employment growth in Yuba City increased at a much slower rate than population or household growth from 2000 to 2013, however, the Yuba-Sutter area has still experienced significant growth in the commercial and industrial sectors (City of Yuba City 2014).

4.14.2 Regulatory Setting

Relevant federal, state, and local laws and regulations pertaining to population and housing are discussed below.

4.14.2.1 State

Housing Element Law (California Government Code Article 10.6)

State Law requires each City and County to prepare and maintain a current Housing Element as part of the community's General Plan to attain a Statewide Goal of providing "decent housing and a suitable living environment for every California family." Under State Law, Housing Elements must be updated every five years and reviewed by the State Department of Housing and Community Development.

4.14.2.2 Local

City of Yuba City

The following policy of the City of Yuba City's Housing Element (2014) is applicable to the Project:

> *Policy H-A: Provide regulatory incentives to ensure the construction and maintenance of safe and sanitary housing with adequate public services for existing and future residents of the city.*

4.14.3 Environmental Impacts and Mitigation Measures

This Section describes potential impacts related to population and housing that could result from the Project. The Section also recommends mitigation measures as needed to reduce significant impacts

4.14.3.1 Thresholds of Significance

Based on the CEQA Guidelines, Appendix G: Items XIV (a) through (b), implementation of the Project would have a significant impact related to population and housing if it would:

(a) Induce substantial unplanned population growth either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure); or
(b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

4.14.3.2 Project Impacts and Mitigation Measures

Impact 4.14-1: Implementation of the proposed Project would induce substantial unplanned population growth either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure).
Impact Determination: *less than significant*.

Threshold:	*Would induce substantial unplanned population growth either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure).*

The Project would only involve a small crew of personnel (approximately 30 people) who are expected to commute from nearby areas over a relatively short period of time. Therefore, the Project would not induce a substantial unplanned population growth in the area. Impacts would be less than significant.

Mitigation Measures

None required.

Impact 4.14-2: Implementation of the proposed Project would displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.
Impact Determination: *no impact*.

Threshold:	*Would displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.*

Construction of the Project would not cause the displacement of people or housing. Therefore, there would be no impact.

Mitigation Measures

None required.

4.14.4 Cumulative Impacts

4.14.4.1 Cumulative Setting

The only other known construction projects in the area include proposed dredging by SBFCA to remove sediment that has accumulated in portions of the Feather River near the Live Oak Recreational Park Boat Ramp facility, located several miles upstream of the Project. In addition, the City of Marysville intends to decommission the existing wastewater treatment ponds at the Marysville WWTP which will involve removal of any water and sludge from the wastewater ponds and regrading the site.

There are no other known past, present, and probable future projects producing related or cumulative impacts in the area.

4.14.4.2 Cumulative Impacts and Mitigation Measures

Impact 4.14-3: Result in a considerable contribution to cumulative impacts on population and housing.
Impact Determination: *less than significant*.

Threshold:	*Would result in conversion or loss of housing or a shortage of housing in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

The combination of all of the projects in the area would not involve a significant number of personnel that would warrant construction of new housing or displacement of people or housing, as workers are anticipated to already live in the region and the proposed projects will be implemented over a relatively short timeline. Therefore, the Project would have a less than considerable contribution on cumulative impacts on population growth and housing in the region. Impacts would be less than significant.

Mitigation Measures

None required.

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4.15 Public Services

This section of the EIR describes the existing conditions in the Project area, the regulatory framework necessary to evaluate potential impacts on public services from the Project, and potential short-term, long-term, and cumulative impacts that could result from the Project. Impacts on police and fire protection services, schools, and libraries are discussed below.

4.15.1 Environmental Setting

4.15.1.1 Police

Law enforcement services are provided by the Sutter County Sheriff's Department within the unincorporated County (Sutter County 2019), in addition to the Yuba City Police Department. The nearest police station is the Yuba City Police Station at 1545 Poole Avenue, 2.5 miles west of the Project.

4.15.1.2 Fire Protection

The nearest fire station is the Yuba City Fire Station at 824 Clark Avenue in Yuba City, 1.38 miles west of the Project.

4.15.1.3 Schools

The Aerostem Academy Charter School and Yuba City Charter School in Yuba City and the Mary Covillaud Elementary School in the City of Marysville are the nearest schools to the Project site. They are located 0.36 mile and 0.38 mile west and 0.5 mile east of the Project, respectively.

4.15.1.4 Libraries

The Sutter County Library located at 750 Forbes Avenue in Yuba City is 1.36 miles to the west of the Project.

4.15.2 Regulatory Setting

Relevant federal, state, and local laws and regulations pertaining to public services are discussed below.

4.15.2.1 Local

Sutter County

The following goals and policies of the 2019 Sutter County General Plan (Sutter County 2019) are applicable to the Project:

Police

PS 1.1 *Law Enforcement Services and Facilities. Ensure the provision of appropriate law enforcement services and facilities to protect existing and future citizens and businesses.*

PS 1.2 *Response Times. Strive to achieve and maintain appropriate response times for all priority level calls to support high-quality law enforcement services.*

Fire Protection

PS 2.4 *Fire Services and Facilities. Ensure the provision of high quality fire protection services and facilities to protect existing and future citizens and businesses.*

PS 2.5 *New Fire Stations. Ensure that new fire stations are located strategically throughout the County to provide optimal response times to all areas.*

Emergency Medical Facilities

The nearest medical facilities occur 0.63 mile west (on Plumas Street in Yuba City) and 0.27 mile east (on 3rd Street in Marysville) of the Project site in Yuba City and the City of Marysville, respectively.

Schools

PS 4: *Provide for the educational needs of current and future Sutter County residents.*

Libraries

PS 5.1: *Library Services and Facilities. Ensure adequate public library services and facilities are maintained for all residents. Adequate services and facilities include full-service libraries with trained staff, and collections, programs, and computer access for residents of all ages.*

Yuba County

The following goals and policies of the Yuba County 2030 General Plan (Yuba County 2011) are applicable to the Project:

Policy CD12.15: The County recognizes that provision of adequate school facilities is a community priority.

Policy HS9.2L The County will provide public access to emergency response procedures in such locations as the Government Center, the County library, and public schools and will otherwise promote awareness of emergency response and evacuation plans.

City of Yuba City

The following goals and policies of the City of Yuba City General Plan (2004) are applicable to the Project:

Police and Fire Protection

9.4-G-1: *Ensure continued adequate law enforcement capabilities.*

9.4-G-2: Minimize the risk of personal injury, property damage, and environmental damage from fire, hazardous chemicals releases, natural and human made disasters.

9.4-G-3: Maintain current police and fire response times and staffing ratios.

Schools

6.2-G-3: Maintain good communication with area school districts on all matters pertaining to the need for and the provision of school sites and facilities. Integrate the land and infrastructure planning efforts of the City and the school districts.

Libraries

6.3-I-10: Provide library facilities necessary to meet the needs of the community.

4.15.3 Environmental Impacts and Mitigation Measures

This Section describes potential impacts related to public services that could result from implementation of Project and recommends mitigation measures as needed to reduce significant impacts.

4.15.3.1 Thresholds of Significance

Based on the CEQA Guidelines, Appendix G: Items XV (a), implementation of the Project would have a significant impact related to public services if it would:

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

- Fire Protection and Emergency Medical Service
- Police Protection
- Public Schools
- Libraries or other Public Facilities

4.15.3.2 Project Impacts and Mitigation Measures

Impact 4.14-1: Implementation of the proposed Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance

objectives for fire protection and emergency medical services.
Impact Determination: *less than significant*.

Threshold:	*Would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency medical services.*

The Project would have no physical impacts on existing public service facilities. The construction Project would only involve a small crew of personnel (approximately 30 people) who are expected to commute from nearby areas. Therefore, construction of new facilities to maintain acceptable service ratios in the nearby areas would be required for the Project.

Frequent truck trips on roads where fire stations or emergency medical facilities are located could potentially have an effect on emergency access and service. However, the proposed truck routes would include Second Street and either 5th Street or Colusa Avenue (Highway 20)/10th Street to E Street to Highway 70 in Marysville, or Colusa Avenue (Highway 20) to Highway 99 in Yuba City (Figure 3-4), and there are no fire stations or emergency medical facilities located along these routes. Therefore, the Project would have a less than significant impact on fire protection services and emergency medical services.

Mitigation Measures

None required.

Impact 4.14-2: Implementation of the proposed Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection.
Impact Determination: *less than significant*.

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

The Project would have no physical impacts on existing public service facilities. The construction Project would only involve a small crew of personnel (approximately 30 people) who are expected to commute from nearby areas. Therefore, construction of new facilities to maintain acceptable service ratios in the nearby areas would not be required for the Project.

Frequent truck trips on roads where police stations are located could potentially have an effect on service. However, the proposed truck routes would include Second Street and either 5th Street or Colusa Avenue

(Highway 20)/10th Street to E Street to Highway 70 in Marysville, or Colusa Avenue (Highway 20) to Highway 99 in Yuba City (Figure 3-4), and there are no police stations located along these routes. Therefore, the Project would have a less than significant impact on police protection services.

Mitigation Measures

None required.

Impact 4.14-3: Implementation of the proposed Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools.
Impact Determination: *less than significant*.

Threshold:	*Would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable school capacity.*

The Project would have no physical impacts on existing public service facilities. The construction Project would only involve a small crew of personnel (approximately 30 people) who are expected to commute from nearby areas. Therefore, construction of new facilities to maintain acceptable service ratios in the nearby areas would not be required for the Project.

Frequent truck trips on roads where schools are located could potentially have an effect access to and from schools. However, the proposed truck routes would include Second Street and either 5th Street or Colusa Avenue (Highway 20)/10th Street to E Street to Highway 70 in Marysville, or Colusa Avenue (Highway 20) to Highway 99 in Yuba City (Figure 3-4), and there are no schools located along these routes. Therefore, the Project would have a less than significant impact on schools.

Mitigation Measures

None required.

Impact 4.14-4: Implementation of the proposed Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for libraries.
Impact Determination: *less than significant*.

Threshold:	*Would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable library services.*

The Project would have no physical impacts on existing public service facilities. The construction Project would only involve a small crew of personnel (approximately 30 people) who are expected to commute from nearby areas. Therefore, construction of new facilities to maintain acceptable service ratios in the nearby areas would not be required for the Project.

Frequent truck trips on roads where libraries are located could potentially have an effect access to and from schools. However, the proposed truck routes would include Second Street and either 5th Street or Colusa Avenue (Highway 20)/10th Street to E Street to Highway 70 in Marysville, or Colusa Avenue (Highway 20) to Highway 99 in Yuba City (Figure 3-4), and there are no libraries located along these routes. Therefore, the Project would have a less than significant impact on library services.

Mitigation Measures

None required.

4.15.4 Cumulative Impacts

4.15.4.1 Cumulative Setting

The only other known construction projects in the area include proposed dredging by SBFCA to remove sediment that has accumulated in portions of the Feather River near the Live Oak Recreational Park Boat Ramp facility, located several miles upstream of the Project. In addition, the City of Marysville intends to decommission the existing wastewater treatment ponds at the Marysville WWTP which will involve removal of any water and sludge from the wastewater ponds and regrading the site.

There are no other known past, present, and probable future projects producing related or cumulative impacts in the area.

4.15.4.2 Cumulative Impacts and Mitigation Measures

Impact 4.15-5: Result in a considerable contribution to cumulative impacts on fire protection and emergency medical services, police protection, schools, or libraries.
Impact Determination: *less than significant*.

Threshold:	*Would result in a loss or shortage of fire protection and emergency medical services, police protection, schools, or libraries in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

None of other projects planned in the area would involve alterations to fire protection, police, school, or library facilities. The combination of all of the projects in the area would not involve a significant number of personnel that would warrant construction of new public service facilities as well, as workers are

expected to live in the area already. Truck traffic associated with the project in Live Oak would occur farther north than the proposed Project. In addition, truck traffic associated with decommissioning of the Marysville WWTP would likely travel to Highway 70 along Biz Johnson Drive for a very short distance before its interchange with Highway 70. There are no public service facilities along this route. Therefore the combined planned projects in the area are not likely to disrupt public services along haul routes. Therefore, the Project would have a less than considerable contribution to cumulative impacts on public services in the area.

Mitigation Measures

None required.

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4.16 Recreation

This section of the EIR describes the existing conditions in the Project area, the regulatory framework necessary to evaluate potential impacts on recreation from the Project, and potential short-term, long-term, and cumulative impacts that could result from the Project. Impacts on parks and in-water recreational uses in the area are discussed below. Impacts on trails and bicycle lanes and paths are discussed in Section 4.17, Transportation.

4.16.1 Environmental Setting

The Yuba City Boat Ramp facility is located at 80 Second Street in Yuba City on the west bank of the Feather River. It has 4 boarding floats at the end of the ramp for loading people and supplies, one carry-down walkway (California Division of Boating and Waterways 2020). The facility has 40 parking spaces for cars with trailers, campsites, swimming area, and electricity and water on the dock (California Division of Boating and Waterways 2020). The facility is open 24 hours per day, seven days per week, and can launch two boats at a time.

Boyd's Pump Boat Launch Facility is located at 4530 Garden Highway in Yuba City on the west bank of the Feather River approximately several miles downstream of the Yuba City Boat Ramp facility (Sutter County 2020). The Boyd's Pump Boat Launch Facility is open 24 hours per day, seven days per week, can launch two boats at a time, and contains floating docks at the end of the ramp to load people and supplies. The Live Oak Riverfront Park is located several miles upstream of the Yuba City Boat Ramp facility on the west bank of the Feather River and contains a boat launch that is open from 6:00 am to 9:00 pm.

The 2002 Feather River Parkway Strategic Plan for the City of Yuba City (City of Yuba City 2004) is a comprehensive strategic plan that was developed to establish a framework for improvements for lands on the western bank of the Feather River and includes the Yuba City Boat Ramp facility and areas upstream and downstream (Figure 4.16-1). The waterfront area of the Feather River has a large amount of undeveloped open space that is part of the floodplain and east of the existing levee which is identified as the location of future Feather River Park (Figure 4.16-2). The Feather River Parkway Strategic Plan contains a framework of uses for these area including a trail system, beaches, river viewing pavilions, additional boating facilities, and active recreational facilities, such as a golf course (City of Yuba City 2004). New bike and foot paths are shown as planned at the Yuba City Boat Ramp facility in the Strategic Plan but yet have been constructed (City of Yuba City 2004) (Figure 4.16-1).

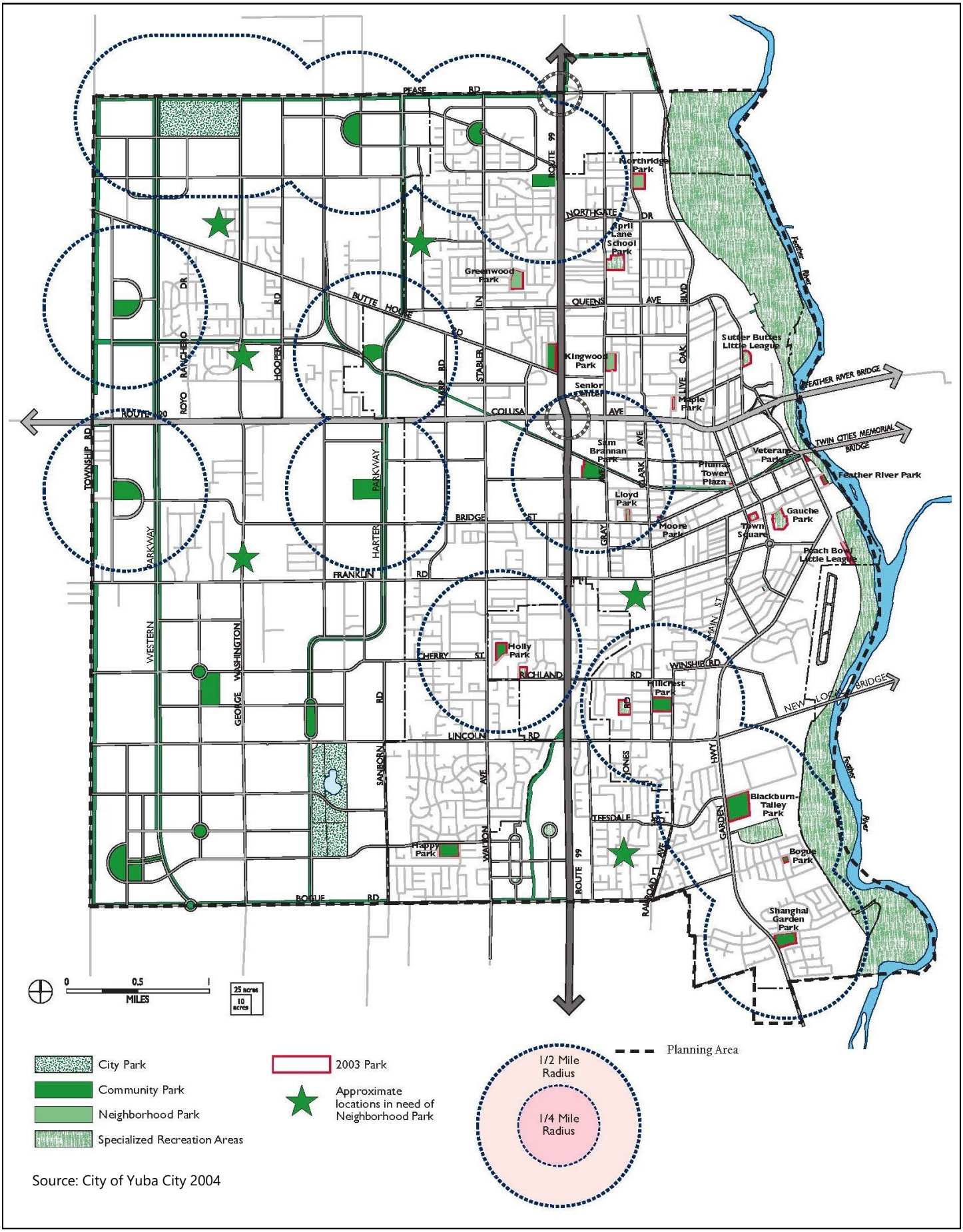
The largest park in the City of Marysville park system is a regional park, the Beckwourth Riverfront Park, which is a 207-acre park located along the Feather River, north of the Marysville WWTP wastewater ponds (labeled as "Regional Facility" in Figure 4.16-3). This park includes a variety of recreation features from a large 21-field soccer complex to a dirt bike track and an ATV course. The park also includes a boat launching facility for residents to access to the river. The boat launching facility is located immediately to the north of the Marysville WWTP wastewater ponds. The southern end of the park also contains a pavilion, known as Cotton Rosser Arena, previously called Mervyn's Feather River Pavilion. The southern end also contains two baseball fields and a large picnic area with restroom facilities and seating. The park



Source: City of Yuba City 2004

Figure 4.16-1. Feather River Strategic Plan Area

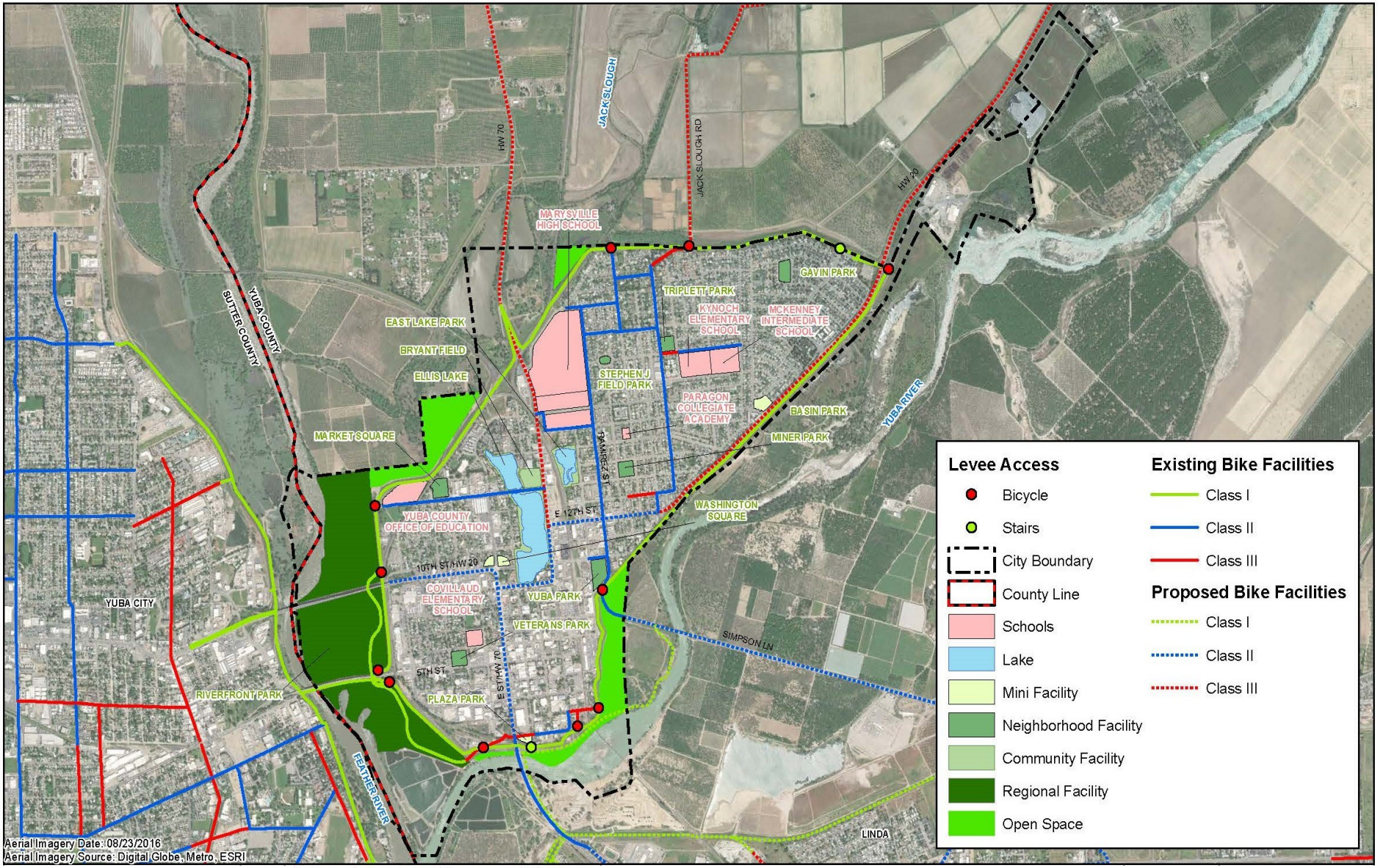
2015-036.10 Yuba City Boat Ramp Sediment Removal Project



Source: City of Yuba City 2004

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Figure 4.16-2. Yuba City Park Locations



Source: City of Marysville 2019

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Figure 4.16-3. Marysville Parks and Bicycle Facilities

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provides access to a levee-top bike trail loop (City of Marysville 2019) (Figure 4.16-3). Access to this park is via Biz Johnson Drive.

4.16.2 Regulatory Setting

Relevant federal, state, and local laws and regulations pertaining to recreation are discussed below.

4.16.2.1 State

Quimby Act

The Quimby Act authorizes cities and counties to pass ordinances requiring developers to set aside land, donate conservation easements, or pay fees for park improvements. Revenues generated by the Quimby Act cannot be used for the operation and maintenance of park facilities. A 1982 amendment (AB 1600) requires agencies to clearly show a reasonable relationship between the public need for a recreation facility or park land, and the type of development project upon which the fee is imposed.

4.16.2.2 Local

Sutter County

The following goals and policies of the 2019 Sutter County General Plan (Sutter County 2019) are applicable to the Project:

LU 2.5: *Commercial Recreation Overlay. Allow for the allocation of the Commercial Recreation Overlay land use designation within, or "inside" the levees along the Sacramento, Feather, and Bear River corridors. Consider allocation of this land use designation to adjacent areas "outside" the levees when determined to be necessary for the proposed use and if the use will not have an adverse impact on adjacent agricultural operations or natural resources.*

PS 6: *Ensure that adequate park, recreation, and open space lands and programs are provided to meet the diverse needs of Sutter County's residents.*

PS 6.1: *Park Facilities. Support the development of new parks and recreational facilities, and the maintenance and enhancement of existing parks and recreational facilities, to provide for a variety of active and passive recreational needs.*

PS 6.10: *River Recreation. Support the development of public recreational amenities that enhance public access to and use of the Sacramento, Feather, and Bear River corridors including launch ramps, marinas, camping facilities, picnic areas, vista points, interpretive centers, and commercial recreation and services.*

PS 7.1: *Multi-Use Trails. Support the development of a network of safe, interconnected multi-use trails that link activity and resource areas, and connect with regional trail systems.*

PS 7.3: River Trails. Support opportunities to create multi-use trails along the Sacramento, Feather, and Bear Rivers, including enhancement of the Feather River Parkway, through collaboration with the cities of Yuba City and Live Oak.

PS 7: Support creation of an interconnected multi-use trail system that enhances Sutter County's recreational opportunities.

Yuba County

The following goals and policies of the Yuba County 2030 General Plan (Yuba County 2011) are applicable to the Project:

Policy NR1.1: The County will collaborate with other agencies to ensure a quality park, recreation, natural open space, and trail system that is efficient to administer and cost-effective to maintain.

Policy NR1.10: The County's recreational open space should be designed to provide multiple benefits, including recreational, circulation, and stormwater drainage conveyance and detention. Applicable impact and in-lieu-fees will be reduced to reflect these overlapping uses for developments that include multi-use open space.

Policy NR1.11: Recreational open space along rivers and streams should incorporate flood control objectives, habitat preservation, and habitat restoration, as appropriate.

Policy NR1.16: Natural and recreational open space areas should be provided along the Feather River, the Yuba River and Gold Fields, federal- and state-owned lands, and other river channels, river corridors, and reservoirs in collaboration with relevant agencies and willing property owners.

City of Yuba City

The following goals and policies of the City of Yuba City General Plan (2004) are applicable to the Project:

6.1-I-9: Require a high level of maintenance service with respect to all parks and recreational facilities. The maintenance and upkeep of parks and recreational facilities is necessary for the economic health of the community.

6.1-I-10: Implement the Feather River Parkway Strategic Plan in a manner consistent with the plans and programs put forth in that document and consistent with policies in the Open Space and Conservation Chapter (Chapter 8). Proposed actions include:

- Improved pedestrian access to the riverfront;

- Provide a mix of active- and non-active recreational and open space in those areas delineated in the Feather River Parkway Strategic Plan; and
- Ensure that the open spaces proposed in the Feather River Parkway Strategic Plan be designed in a manner flexible enough to accommodate a variety of activities.

City of Marysville

The following goals and policies of the City of Marysville General Plan (1985) are applicable to the Project:

Policies for Outdoor Recreation:

1. To preserve the lakes as major open space areas within the city and continue to improve the recreational uses surrounding the lakes and the aesthetics of the shorelines.
2. To encourage compatible recreational uses in floodplains of the Feather and Yuba rivers.
3. To provide and maintain adequate outdoor recreational facilities within all residential areas.
4. To promote the maximum provision of recreational open space in future residential areas.
5. To provide for the maximum use of public open space by the use of such areas for outdoor recreation.
6. To provide facilities in accordance with park standards.
7. To provide recreation programs that meet citizens needs.
8. To support and cooperate with volunteer groups and organizations that provide recreation activities for young people.

4.16.3 Environmental Impacts and Mitigation Measures

This Section describes potential impacts related to recreation that could result from implementation of the Project and recommends mitigation measures as needed to reduce significant impacts.

4.16.3.1 Thresholds of Significance

Based on the CEQA Guidelines, Appendix G: Items XVI (a) and (b), implementation of the Project would have a significant impact related to recreation if it would:

(a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated;

(b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

4.16.3.2 Methods of Analysis

The potential effects of proposed project construction and operation on recreational use in areas likely to be directly or indirectly affected by these activities are qualitatively evaluated and presented herein.

4.16.3.3 Project Impacts and Mitigation Measures

Impact 4.16-1: Implementation of the proposed Project would 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. Impact Determination: *less than significant with mitigation incorporated*.

Threshold:	*Would 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.*

Implementation of the Project would result in temporary disruption of use of the Yuba City Boat Ramp facility and in-water recreational uses of the Feather and Yuba Rivers at their confluence in the proposed dredging area. Complete closure of these areas and recreational uses between late May through November would be required for each year of the Project (for potentially three seasons). Closure of these areas would be required during the height of anticipated recreational use of these areas (i.e., summer months). Use of the additional boat launch locations in the area would be anticipated (i.e., in Riverfront Park in Marysville upstream of the Project area, and Boyd's Pump boat launch downstream of the Project area). Although impacts would be temporary, and would result in a net benefit to in-water uses of the rivers once the Project is completed, impacts would be adverse and significant without mitigation.

Mitigation Measures

REC-1: Notification and Coordination with Recreational Users. Notification and coordination with recreational users of the Yuba City Boat Ramp facility and in-water users of the Yuba and Feather Rivers shall be implemented. Temporary signage, and exclusion fencing or access barriers, where appropriate, shall be installed at the entrance to the Boat Ramp facility to prevent members of the public from entering the construction site. Prior to construction, public outreach would be conducted through mailings, posting signs, and coordination with interested groups to provide information regarding changes to recreation use and access during implementation of the project. In addition, buoys and temporary fencing along the river banks shall be placed to demarcate in-water work areas and a 100-foot safety zone to prevent boaters and recreationists on the banks from entering the dredging area and approaching construction equipment.

Timing/Implementation: *This measure shall be implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead.*

**Impact 4.16-2: Implementation of the proposed Project would include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.
Impact Determination: *no impact*.**

Threshold:	*Would include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.*

The Project would not involve the construction or expansion of new recreational facilities. Therefore, there would be no impact.

Mitigation Measures

None required.

4.16.4 Cumulative Impacts

4.16.4.1 Cumulative Setting

The only other known construction projects in the area include proposed dredging by SBFCA to remove sediment that has accumulated in portions of the Feather River near the Live Oak Recreational Park Boat Ramp facility, located several miles upstream of the Project. In addition, the City of Marysville intends to decommission the existing wastewater treatment ponds at the Marysville WWTP which will involve removal of any water and sludge from the wastewater ponds and regrading the site.

There are no other known past, present, and probable future projects producing related or cumulative impacts in the area.

4.16.4.2 Cumulative Impacts and Mitigation Measures

Impact 4.16-3: Result in a considerable contribution to cumulative impacts on recreation. Impact Determination: *no impact*.

Threshold:	*Would result in conversion or loss of recreational opportunities in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

The project in Live Oak would be so far away that it would not result in aesthetic impacts in the same area as the proposed Project. The decommissioning of the Marysville WWTP would not have an impact on in-water recreational users or on boat launch facilities. Therefore, there would be no cumulative impacts on recreational use in the area.

Mitigation Measures

None required.

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4.17 Transportation

This section of the EIR describes the existing conditions in the Project area, the regulatory framework necessary to evaluate potential impacts on transportation from the Project, and potential short-term, long-term, and cumulative impacts that could result from the Project. Impacts from vehicle miles traveled (VMT) generated from the Project and traffic safety are discussed below. Impacts on transit service and on bike paths and trails are also discussed below.

4.17.1 Environmental Setting

4.17.1.1 Roadway System

The road networks in Yuba City and Marysville are shown in Figures 4.17-1 and 4.17-2. The proposed routes for truck trips and deliveries are shown in Figure 3-4 and listed below. Trucks are currently planned to travel to and from Recology's Ostrom Road Landfill in order to dispose of dredged material. The routes listed below could be used for equipment and material deliveries to the Project site, worker trips to the Project site, and/or disposal of dredged material for beneficial reuse at offsite locations if available.

4.17.1.2 Yuba City Boat Ramp Facility Access

Egress and Ingress to/from State Route 70 (primary planned route)

- Second Street
- 5th Street/Twin Cities Memorial Bridge or Colusa Avenue (State Route 20)/Feather River Bridge/10th Street
- E Street
- State Route 70
- State Route 65

Egress and Ingress to/from State Route 99

- Second Street
- Colusa Avenue (State Route 20)
- State Route 99

4.17.1.3 Marysville WWTP Wastewater Ponds Access

- Biz Johnson Drive
- F Street
- State Route 70

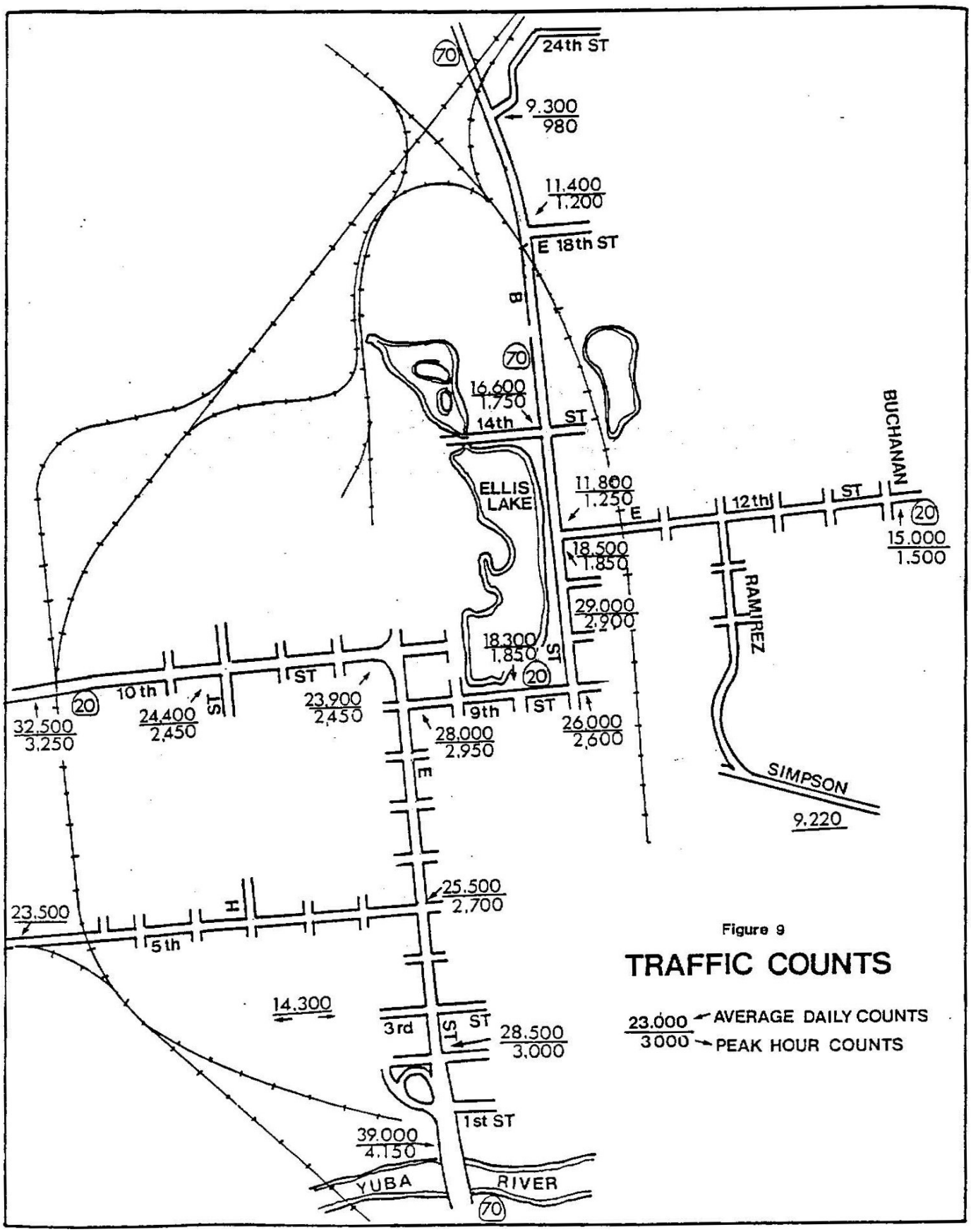


Source: City of Yuba City 2004

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Figure 4.17-1. Roadway Network in Yuba City

2015-036.10 Yuba City Boat Ramp Sediment Removal Project



Source: City of Marysville 1985

Figure 4.17-2. Roadway Network in Marysville

- Second Street (in Marysville)

Roadway classifications for each roadway segment in the Project area are described in more detail below; details for the roadway segments are shown in Figures 4.17-1 and 4.17-2 for the cities of Yuba City and Marysville, respectively.

Second Street. Second street is a minor arterial in the City of Yuba City (2004).

5th Street/Twin Cities Memorial Bridge. 5th Street becomes the Twin Cities Memorial Bridge that crosses the Feather River from Yuba City to Marysville. The Twin Cities Memorial Bridge was just reconstructed as a new 4-lane span bridge. 5th Street is identified as a minor arterial in the City of Yuba City but as a principal arterial in the City of Marysville (City of Yuba City 2004; City of Marysville 1985).

Colusa Avenue (State Route 20)/Feather River Bridge/10th Street. Colusa Avenue (State Route 20), east of its intersection with Second Street, is a 4-lane highway and becomes the Feather River Bridge from Yuba City to Marysville, where it becomes 10th Street in Marysville (City of Yuba City 2004). 10th Street is classified as a principal arterial in the City of Marysville (1985) along the segment between the Feather River Bridge and its intersection with E Street, as it is still considered State Route 20 (City of Marysville 1985).

E Street. E Street is considered part of State Route 20 and a principal arterial in the City of Marysville (City of Marysville 1985).

State Route 70. E Street becomes State Route 70 just outside of the boundary of the City of Marysville (City of Marysville 1985). State Route 70 is a 4-lane highway that crosses the Yuba River over the Yuba River Bridge.

State Route 65. State Route 70 connects with 4-lane State Route 65 south of Olivehurst. Ostrom Road Landfill is accessed via State Route 65.

Colusa Avenue (State Route 20). Colusa Avenue (State Route 20), west of its intersection with Second Street, is a 6-lane highway in the City of Yuba City (2004) and leads to State Route 99. This roadway segment is covered under a *SR 20 Master Plan* that is being prepared to provide complete streetscapes that are safe, visible, and accessible. The goals of the Master Plan are "(1) to enhance vehicle and pedestrian circulation while balancing the needs of the commercial corridor, and (2) to create an identity for the corridor with appealing landscape and hardscape elements that facilitate development and promote safe and local use (City of Yuba City 2020).

State Route 99. State Route 99 south of Colusa Avenue (State Route 20) is a 6-lane highway in the City of Yuba City (2004).

Biz Johnson Drive. Biz Johnson Drive is considered a local street in the City of Marysville (City of Marysville 1985).

F Street. F Street is considered a local street in the City of Marysville (City of Marysville 1985).

Second Street (in Marysville). Second Street in Marysville is considered a local street (City of Marysville 1985).

The City of Yuba City defines their roadways as follows (City of Yuba City 2004):

> "*Highways* are designed to carry heavy traffic volumes at speeds of 40-55 miles per hour. Highways should serve longer distance intra-city travel as well as linking the City with other nearby urban areas. Access is limited, crossings are generally signalized at grade, parking is not allowed, and a continuous median separates lanes moving in opposite directions.
>
> *Arterials* are designed to move large volumes of traffic between freeways/highways and other arterials in Yuba City and to adjacent jurisdictions. Major arterials are access controlled roadways emphasizing mobility between major portions of the city and to regional freeways and highways. Minor arterials provide mobility through the city and access to major residential, employment, and activity centers. On-street parking should not be provided on major arterials but may be appropriate for minor arterials that emphasize accessibility over mobility. Minor arterials should provide two travel lanes. Driveway access should be minimized, consistent with the primary function of arterials to move through traffic. Bike lanes, landscaped parkstrips, sidewalks, and transit facilities may also be accommodated within the right-of-way of minor arterials, depending on the right-of-way width."

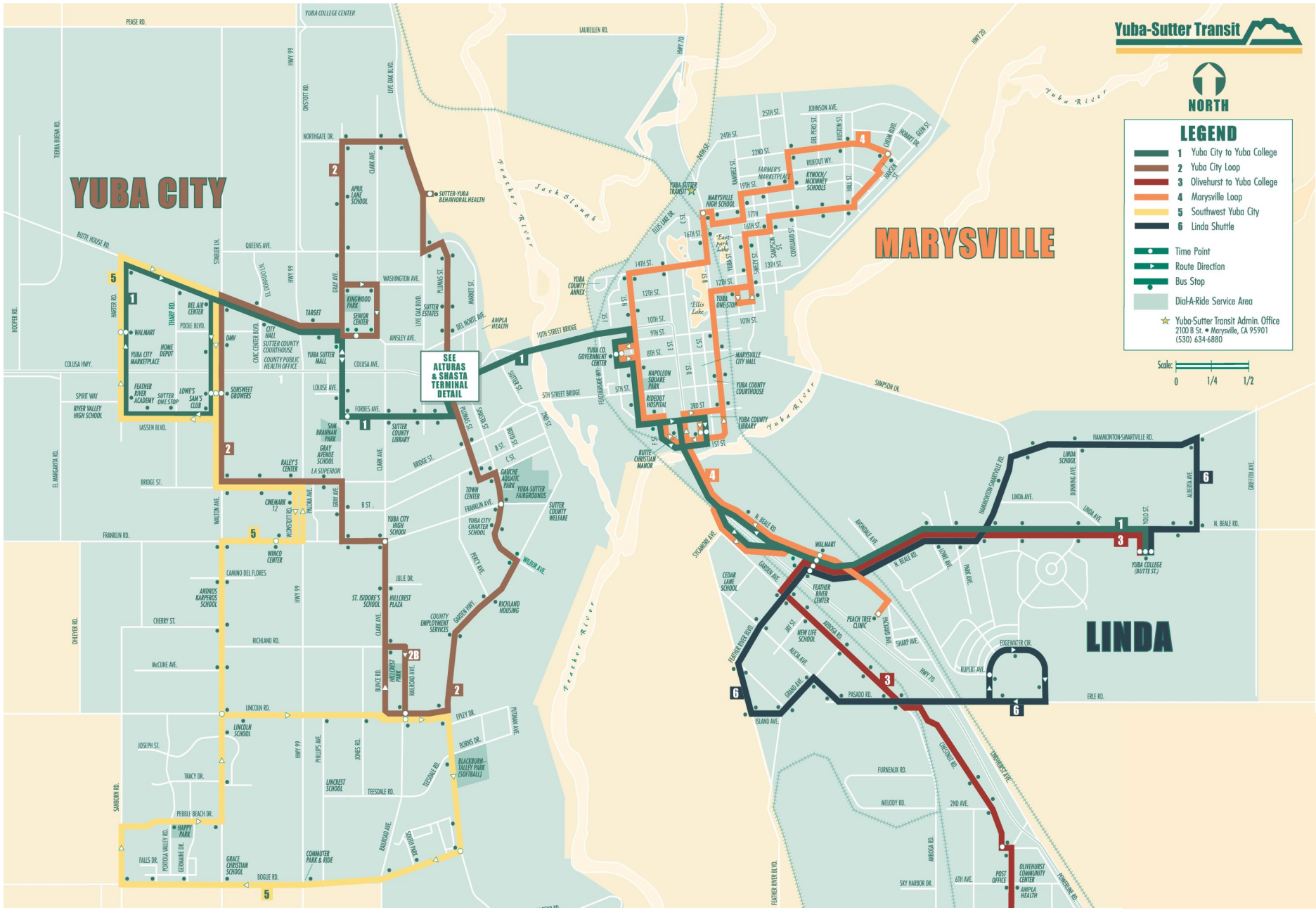
The City of Marysville defines principal arterials as roadways "intended to carry large volumes of through-traffic efficiently." (City of Marysville 1985). Local streets are "intended to provide access to property" according to the City of Marysville (1985).

According to traffic counts conducted in 2001 for the City of Yuba City's General Plan Update (City of Yuba City 2004), the Feather River Bridge (SR 20), operates at a Level of Service (LOS) F. The existing four lanes on the bridge cannot accommodate the high traffic volume of approximately 42,000 vehicles per day. The General Plan states, "The bridge becomes a 'bottleneck' and reduces the transportation mobility between Yuba City and the City of Marysville." (City of Yuba City 2004).

In addition, the Twin Cities Bridge operates at LOS F according to the City of Yuba City's General Plan (2004). The bridge cannot adequately accommodate the high traffic volume of approximately 22,000 vehicles per day (City of Yuba City 2004). LOS F conditions include "forced flow conditions; stoppages for long periods; low operating speeds. Delays at intersections average 60 seconds or more." (Transportation Research Board 2020). However, the bridge was recently upgraded from two lanes to four.

4.17.1.4 Transit Facilities

Yuba-Sutter Transit is the public transit operator for Yuba City and operates four fixed routes within the City with loops connecting major activity centers, residential neighborhoods, Caltrans Park & Ride facilities, and the City of Marysville (City of Yuba City 2004). The Yuba-Sutter Transit fixed-routes are shown on Figure 4.17-3, as are major transit stops and transfer stations (Yuba-Sutter Transit 2020). The Yuba City to Yuba College bus route travels along eastbound Colusa Avenue/SR 20 across the Feather River Bridge to and from Yuba City and Marysville. In addition, this route and the Marysville Loop route utilize a small portion of E Street, F Street, as well as SR 70. There are no bus stops along the proposed haul routes for the Project (Yuba-Sutter Transit 2020, Figure 4.17-3).



Source: Yuba-Sutter Transit 2020

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Figure 4.17-3. Transit Routes in Yuba City and Marysville

4.17.1.5 Bicycle Facilities

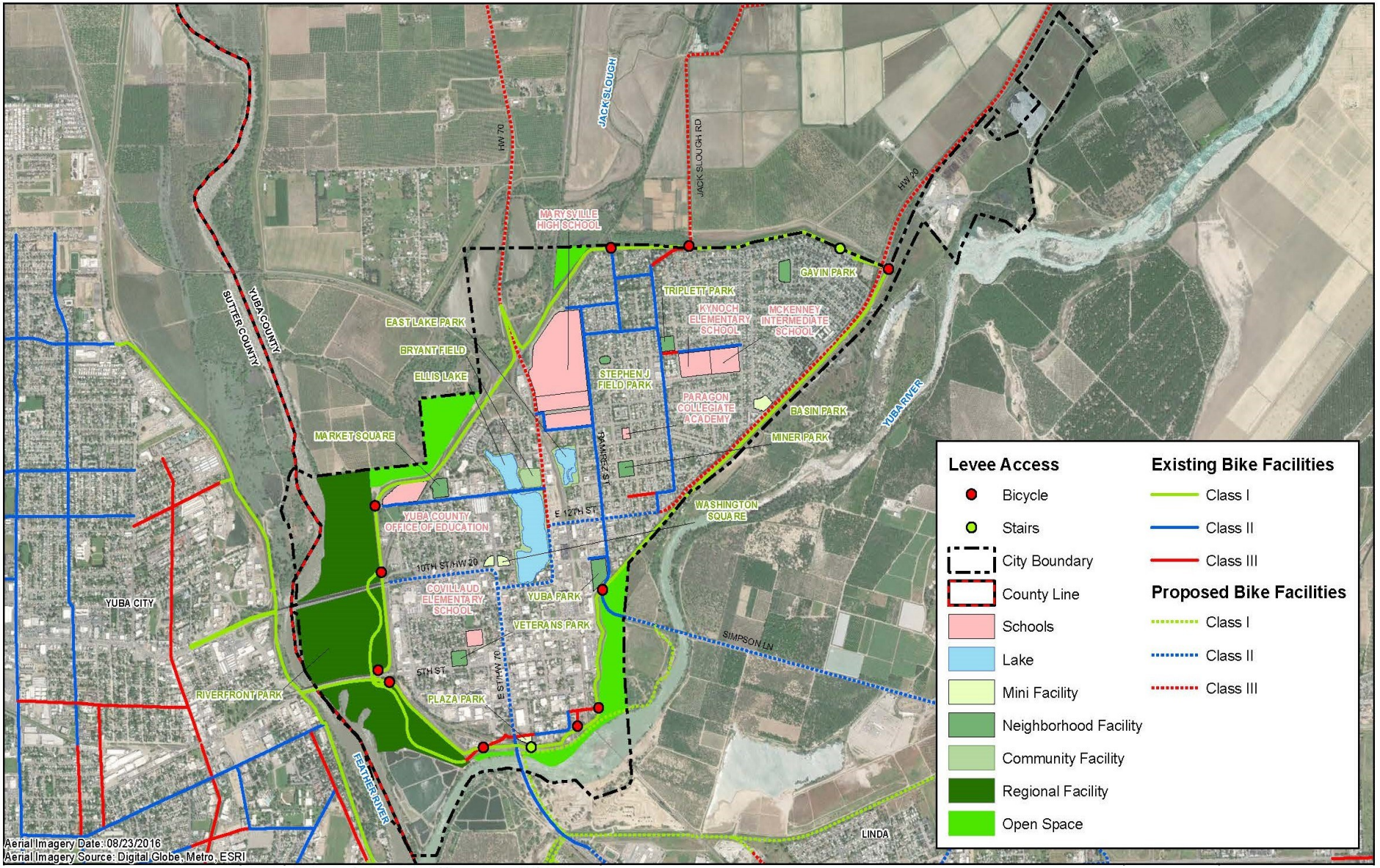
The locations of existing and proposed bicycle facilities are shown in Figure 4.17-4 in both Yuba City and Marysville (City of Marysville 2019). Existing and proposed bicycle facilities along Yuba City and Marysville roadways are listed as follows and shown in Figure 4.17-4:

- Class I bike path owned and operated by SBFCA on top of the Feather River West Levee. The road accessing the Yuba City Boat Ramp facility to and from Second Street crosses this bike path. This Class I bike path continues north of the Project area adjacent to Second Street.
- Class I bike path along eastbound 5th Avenue across the Twin Cities Memorial Bridge from Yuba City to the Riverfront Park in Marysville (see Section 4.16, Recreation).
- Class I bike path along westbound Colusa Avenue/SR 20 from its intersection with Second Street.
- Class III bike lane along Second Street in Yuba City in the Project area.
- Class II bike lane along SR 70 just south of the City of Marysville boundary, and continuing on the Yuba City Bridge across the Feather River.
- Proposed Class II bike lane along 10th Street in Marysville as well as along E Street from 10th Street south.
- Class I bike path along Biz Johnson Drive in the Project area, as well as north of Biz Johnson Drive.
- Class III bike lane along a segment of Biz Johnson Drive near its intersection with F Street.

A Class I bikeway, also referred to as a bike path, "is a right-of-way that is completely separated from any street." (City of Yuba City 2004). A Class II bikeway, or bike lane, "is a one-way, striped, and signed lane on a street." A Class III bike route "shares the road with pedestrians and motor vehicle traffic and is marked only by signs" (City of Yuba City 2004).

4.17.1.6 Designated Truck Routes

The City of Yuba City has designated specific truck routes in their General Plan for trucks moving goods. These routes "are designed to allow truck traffic to pass through the City with minimal impact on residential neighborhoods as well as local vehicular and pedestrian traffic" (City of Yuba City 2004). The designated truck routes in Yuba City are shown in Figure 4.17-5. The primary haul route for the Project along Second Street in Yuba City (shown in Figure 3-4), correspond with these designated truck routes with the exception of a short segment of Second Street south of B Street. In addition, State Route 20 (along 10th and E Streets) is also the designated truck route for the City of Marysville (City of Marysville 1985).

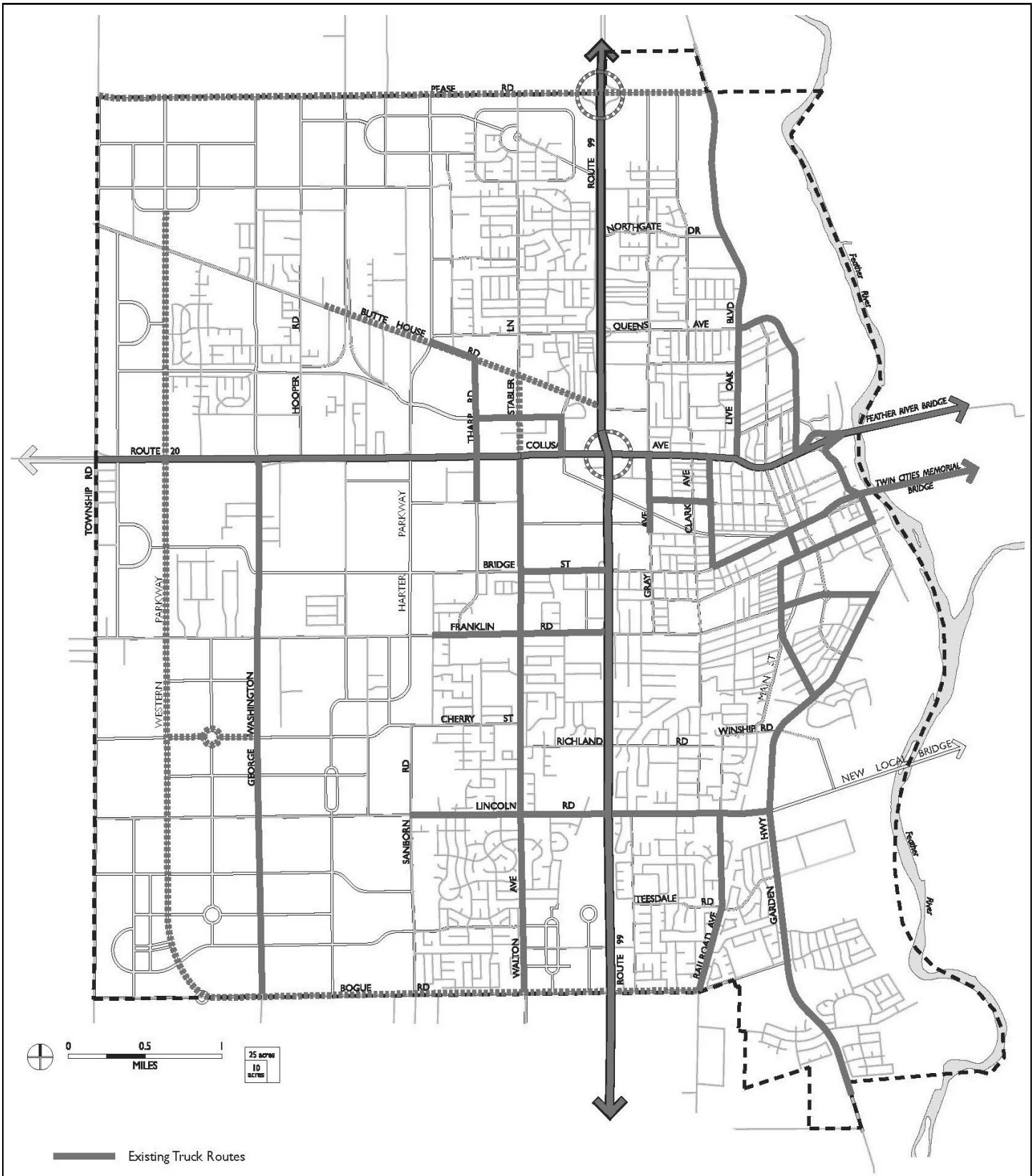


Source: City of Marysville 2019

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Figure 4.17-4. Marysville Parks and Bicycle Facilities

2015-036.10 Yuba City Boat Ramp Sediment Removal Project



Source: City of Yuba City 2004

Figure 4.17-5. Designated Truck Routes in Yuba City

4.17.2 Regulatory Setting

Relevant federal, state, and local laws and regulations pertaining to transportation are discussed below.

4.17.2.1 Regional

Sacramento Area Council of Governments (SACOG)

SACOG is designated by the federal government as the Metropolitan Planning Organization (MPO) for the Sacramento region, including Sutter and Yuba counties. SACOG works with its 28 member cities and counties to conduct transportation infrastructure planning and to provide funding assistance for cities, counties, transit operators, and other entities responsible for providing for the travel needs of the region's residents (SACOG 2019). SACOG generated a regional transportation plan, the 2020 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) (SACOG 2019), a "20-year multimodal transportation plan that is financially feasible, achieves health standards for clean air, and addresses statewide climate goals." (SACOG 2019). The four priority policy areas of the MTP/SCS include:

- Build vibrant places for today's and tomorrow's residents;
- Foster the next generation of mobility solutions;
- Modernize the way we pay for transportation infrastructure; and
- Build and maintain a safe, reliable, and multimodal transportation system.

4.17.2.2 Local

Sutter County

The following goals and policies of the 2019 Sutter County General Plan (Sutter County 2019) are applicable to the Project:

M 1.1: *Multimodal Roadways. Design County roads to support all users of multimodal transportation options serving automobiles, transit, trucks, bicycles, and pedestrians for safe and convenient travel that is suitable to the rural context of the County.*

M 2.9: *External Development Mitigation. Coordinate with the cities and neighboring counties to require new development within those jurisdictions to analyze and fully mitigate their impacts to Sutter County roadways through construction of improvements and/or fair share funding of improvements within Sutter County.*

M 3.1: *Transit Service for Residents. Support development of transit facilities in strategic locations, including areas of concentrated activity, density, and intensity.*

M 4.1: *Protect Rail Facilities. Protect and enhance existing rail facilities to support the transportation of agricultural goods and other materials within and through Sutter County.*

M 5.2: *Encourage Use of Bicycle and Pedestrian Facilities. Implement, as appropriate, the reduction measures in the Climate Action Plan targeted to encourage the use of bicycle and pedestrian facilities. Such measures may include siting development in proximity to bicycle lanes, eliminating impediments to bicycle and pedestrian circulation, providing adequate bicycle parking, and implementing incentive programs for bicycle and pedestrian facility use within the Sutter Pointe Specific Plan area.*

M 7.1: *New Development. Implement, as appropriate, the reduction measures in the Climate Action Plan targeted to reduce greenhouse gas emissions caused by automobile use. Such measures may include the following: reducing employee based automobile trips; adopting a comprehensive parking program for public and private parking lots that facilitate carpooling and alternative transportation use; managing transportation flow; increasing the use of carpooling; and expanding the use of renewable fuels and low emission vehicles.*

M 7.2: *New Development. Require that new development projects avoid or mitigate environmental impacts to the transportation system.*

City of Yuba City

The following goals and policies of the City of Yuba City General Plan (2004) are applicable to the Project:

5.2-I-11: *Maintain the street network through a regular maintenance program, repave streets on a regular basis, and require that any pavement that has been damaged or dug up be returned to its original condition, with no bumps or ruts.*

5.4-I-7: *Increase bicycle safety by:*

1. Sweeping and repairing bicycle lanes and paths on a regular basis;
2. Ensuring that bikeways are delineated and signed in accordance with Caltrans' standards, and lighting is provided, where needed;
3. Providing bicycle paths or lanes on bridges and overpasses; and
4. Ensuring that all new and improved streets have bicycle-safe drainage grates and are free of hazards such as uneven pavement and gravel.

5.6-I-1: *In consultation with Sutter County and Caltrans, designate and provide signed truck routes, ensure that adequate pavement depth, lane widths, bridge capacities, loading areas, and turn radii are maintained on the designated truck routes, and prohibit commercial trucks from non-truck routes except for deliveries.*

City of Marysville

The following goals and policies of the City of Marysville General Plan (1985) are applicable to the Project:

Goal: *To provide and maintain a safe and efficient system of streets, highways, and public transportation to service residents' needs, promote sound land use, and protect and enhance scenic highways.*

4.17.3 Environmental Impacts and Mitigation Measures

This Section describes potential transportation impacts that could result from the Project. The Section also recommends mitigation measures, as needed, to reduce significant impacts to less than significant levels.

4.17.3.1 Thresholds of Significance

Based on current CEQA Guidelines, Appendix G: Items XVII (a) through (d), implementation of the Project would have a significant impact on transportation if it would:

(a) Conflict with an applicable program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities;
(b) Conflict with or be inconsistent with CEQA Guidelines section15064.3(b);
(c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
(d) Result in inadequate emergency access.

Changes to CEQA and the CEQA Guidelines recently went into effect on December 28, 2018, whereby an evaluation of impacts on Level of Service (LOS) is no longer required in CEQA but an evaluation of impacts on vehicle miles traveled (VMT) is now required. Specifically, Section 15064.3 of the CEQA Guidelines titled "Determining the Significance of Traffic Impacts" was added and states:

> "(a) Purpose.
>
> This section describes specific considerations for evaluating a project's transportation impacts. Generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, "vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) below (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact.
>
> (b) Criteria for Analyzing Transportation Impacts.
>
> (1) Land Use Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.
> (2) Transportation Projects. Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional

transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.

(3) Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.

(4) Methodology. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.

(c) Applicability. The provisions of this section shall apply prospectively as described in section 15007. A lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide."

4.17.3.2 Project Impacts and Mitigation Measures

Impact 4.17-1: Implementation of the proposed Project would conflict with an applicable program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities.
Impact Determination: *less than significant with mitigation incorporated*.

Threshold:	*Would conflict with an applicable program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities.*

The Project potentially would generate a substantial amount of construction traffic along roadways within the City of Yuba City and the City of Marysville. Offsite disposal of dredged material would potentially result in up to 38 truck trips per day on area roadways. In addition, trips associated with approximately 30 workers commuting to and from the job site and deliveries of equipment, materials, and supplies would also result in a significant number of trips on area roadways per day. Heavy construction traffic could damage area roadways as well as bike lanes. Construction traffic can also contribute to congestion on local roadways, especially the Feather River Bridge and Twin Cities Memorial Bridge, and downtown areas in Yuba City and Marysville over the short-term during implementation of the Project. Therefore, the Project has the potential to conflict with local and regional goals for safe and reliable transportation systems. SBFCA would be required to obtain a transportation permit for any use of overweight-transport

vehicles on State highways, as well as potential road encroachment permits from the City of Yuba City and the City of Marysville. Nevertheless, impacts would be adverse and significant without mitigation.

Implementation of mitigation measure **TRAF-1**, would require preparation of a Construction Traffic Management Plan to minimize construction traffic impacts on area roadways, transit routes, and bicycle facilities to the maximum extent feasible. Peak hours would be avoided to the maximum extent, and detours, traffic control, and signage would be implemented to minimize disruption to bicycle facilities and local traffic at the Yuba City Boat Ramp facility and Marysville WWTP facility. Because the Project would be short-term in nature, with implementation of mitigation measure **TRAF-1**, impacts would be reduced to less than significant levels.

Mitigation Measures

TRAF-1: **Construction Traffic Management Plan. A Construction Traffic Management Plan shall be prepared and implemented by the construction contractor to manage and plan for any lane closures or detours for roadways or bicycle facilities, and ingress and egress of truck traffic and deliveries of equipment and supplies at the Yuba City Boat Ramp facility and Marysville Wastewater Treatment Plant (WWTP). For the Class I bike paths crossing the access roads into both the Yuba City Boat Ramp facility and the Marysville WWTP facility, alternate routes and detours shall be provided and signage placed around the construction areas to identify the closed areas and alternate routes. Where construction traffic would cross these routes, flaggers shall be used during egress and ingress of delivery trucks and trucks hauling dredged material.**

The Construction Traffic Management Plan shall include proposed times and days of deliveries and hauling of dredged material to avoid peak hours to the maximum extent feasible.

Timing/Implementation: *This measure shall be printed on construction plan sets and implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead.*

Impact 4.17-2: Implementation of the proposed Project would result in a significant increase in vehicle miles traveled (VMT).
Impact Determination: *less than significant*.

Threshold:	*Would result in a significant increase in vehicle miles traveled (VMT).*

The Project potentially would generate a substantial amount of construction traffic along roadways within the City of Yuba City and the City of Marysville over the short-term. Offsite disposal of dredged material would potentially result in up to 38 truck trips per day on area roadways. In addition, trips associated with approximately 30 workers commuting to and from the job site and deliveries of equipment, materials, and supplies would also result in a significant number of trips on area roadways per day. However,

implementation of the Project would not generate vehicle trips over the long term. Therefore, impacts associated with vehicle miles traveled would be less than significant.

Mitigation Measures

None required.

Impact 4.17-3: Implementation of the proposed Project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
Impact Determination: *less than significant with mitigation incorporated*.

Threshold:	*Would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).*

As discussed under Impact 4.17-1, the substantial number of anticipated truck trips per day on area roadways could create hazardous conditions at ingress and egress points at the Yuba City Boat Ramp facility and Marysville WWTP facility, on Second Street and Biz Johnson Drive, respectively. In addition, Class I bike paths and a Class III bike lane (at the Boat Ramp facility) intersect these ingress and egress points as well. Without mitigation, safety impacts would be adverse and significant.

However, implementation of a Construction Traffic Management Plan as described in mitigation measure **TRAF-1** would ensure that truck traffic is managed in and out of these facilities with detours, traffic control, and signage to minimize conflicts between truck traffic and normal day-to-day traffic on roadways and bicyclists using adjacent bike paths and bike lanes. With implementation of **TRAF-1**, impacts would be less than significant.

Mitigation Measures

Implementation of mitigation measure **TRAF-1** would be required.

Impact 4.17-4: Implementation of the proposed Project would result in inadequate emergency access.
Impact Determination: *less than significant with mitigation incorporated*.

Threshold:	*Result in inadequate emergency access.*

The proposed truck routes for the Project including Second Street and either 5th Street or Colusa Avenue (Highway 20)/10th Street to E Street to Highway 70 in Marysville, or Colusa Avenue (Highway 20) to Highway 99 in Yuba City (Figure 3-4) serve, or are likely to serve, as evacuation routes for the residents of Yuba City and Marysville during an emergency (Sutter County 2013). However, construction of the project would be required to stop, and truck traffic would be required to cease in the event of an emergency under mitigation measure **TRAF-2**. Therefore, the Project would have a less than significant impact on emergency evacuations.

Mitigation Measures

TRAF-2: All construction activities and truck traffic on area roadways shall cease during an event requiring emergency evacuations in the City of Yuba City or City of Marysville.

Timing/Implementation: *This measure shall be printed on plans and implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead.*

4.17.4 Cumulative Impacts

4.17.4.1 Cumulative Setting

The only other known construction projects in the area include proposed dredging by SBFCA to remove sediment that has accumulated in portions of the Feather River near the Live Oak Recreational Park Boat Ramp facility, located several miles upstream of the Project. In addition, the City of Marysville intends to decommission the existing wastewater treatment ponds at the Marysville WWTP which will involve removal of any water and sludge from the wastewater ponds and regrading of the site.

There are no other known past, present, and probable future projects producing related or cumulative impacts in the area.

4.17.4.2 Cumulative Impacts and Mitigation Measures

Impact 4.17-5: Result in a considerable contribution to cumulative impacts on transportation. Impact Determination: *less than significant*.

Threshold:	*Would result in conflicts with a program, plan, ordinance, or policy addressing transit, roadway, bicycle and pedestrian facilities, result in a significant increase in vehicle miles traveled, substantially increase hazards due to a geometric design feature or incompatible uses, or result in inadequate emergency access in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

The project in Live Oak would be so far away that it would not result in transportation impacts in the same area as the proposed Project. The decommissioning of the Marysville WWTP, however, would potentially result in significant construction traffic impacts on Biz Johnson Drive, F Street, Second Street (in Marysville) and State Route 70 at the same time as the proposed Project. Without implementation of mitigation measures, the proposed Project would result in a considerable contribution to short-term construction impacts on area roadways and bicycle facilities, including evacuation routes. However, implementation of mitigation measures **TRAF-1** and **TRAF-2**, would require preparation of a Construction Traffic Management Plan to minimize construction traffic impacts on area roadways, transit routes, and bicycle facilities to the maximum extent feasible. These measures would help manage construction traffic generated by both projects. Peak hours would be avoided to the maximum extent, and detours, traffic

control, and signage would be implemented to minimize disruption to bicycle facilities and local traffic at the Marysville WWTP facility. In addition, mitigation measure **TRAF-2** would ensure that the proposed Project would cease if emergency evacuations were in effect in the City of Marysville to avoid interference with evacuation routes. Because the Project would be short-term in nature, with implementation of mitigation measures **TRAF-1** and **TRAF-2**, the Project's contribution to cumulative construction traffic impacts in the area would be reduced to less than considerable levels.

Mitigation Measures

Implementation of mitigation measures **TRAF-1** and **TRAF-2** are required.

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4.18 Tribal Cultural Resources

This section of the EIR describes the existing environment and regulatory framework necessary to evaluate potential impacts on Tribal Cultural Resources (TCRs) from the Project, and potential project-specific and cumulative impacts on TCRs that could result from the Project. A TCR is 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.

The following analysis of the potential environmental impacts related to TCRs is derived primarily from the following sources:

- California NAHC Sacred Lands File Search, March 24, 2020;
- Cultural Resources Inventory Report for the Yuba City Boat Ramp Sediment and Invasive Species Removal Project (ECORP 2020a);
- Ethnographic overviews of the Nisenan (Beals 1933; Kroeber 1925; Littlejohn 1928; Wilson and Towne, 1978); and
- Confidential AB52 tribal consultation record between SBFCA and the United Auburn Indian Community of the Auburn Rancheria (UAIC).

4.18.1 Environmental Setting

4.18.1.1 Ethnographic, Religious, and Cultural Context

The Project Area is in the territory occupied by the Penutian-speaking Nisenan. Nisenan were observed by early ethnographers to inhabit the drainages of the Yuba, Bear, and American rivers, and also the lower reaches of the Feather River, extending from the east banks of the Sacramento River on the west to the mid to high elevations of the western flank of the Sierra Nevada to the east. The territory extends from the area surrounding the current city of Oroville on the north to a few miles south of the American River in the south. The Sacramento River is the western boundary, and in the east, it extended to a general area located within a few miles of Lake Tahoe. The descendants of traditional Nisenan, including the UAIC, continue to reside in the region and retain many of the traditional lifeways that were described by ethnographers, as summarized below.

At the time of contact, ethnographers identified that the basic social and economic group for the traditional Nisenan was the family or household unit. The nuclear and/or extended family formed a corporate unit. These basic units were combined into distinct village or hamlet groups, each largely composed of relatives in the same extended family. Tribelet populations of Valley Nisenan were as large as 500 persons at contact, while foothill and mountain tribelets ranged between 100 and 300 persons.

Early Nisenan groups practiced seasonal migration, a subsistence strategy involving moving from one area or elevation to another to harvest plants, fish, and hunt game across different ecosystems that were in relatively close proximity. Ethnographers noted that during most of the year, Nisenan usually lived in

permanent villages located below about 2,500 feet that generally had a southern exposure, were surrounded by an open area, and were located above, but close to watercourses. The rather large uninhabited region between the 3,000-foot contour and the summit of the Sierra Nevada was considered open ground that was only used by communities living along its edge. Permanent villages in the foothills and mountains were usually located on high ground between rivers. Valley villages were also usually located on raised areas to avoid flooding. Studies indicate that at one time there were settlements located on every small stream within Nisenan territory, but permanent villages were not located in steep, dark, narrow canyons of large rivers, or at altitudes where deep snows persisted throughout the winter. In fact, permanent occupation sites above 3,500 feet were only located in protected valleys.

The Spanish arrived on the central California coast in 1769. The first known occupation by Euro-Americans was marked by American and Hudson Bay Company fur trappers in the late 1820s establishing camps in Nisenan territories. In 1833, a deadly epidemic (probably malaria) swept through the Sacramento Valley and had a devastating effect on Nisenan populations. Entire villages were lost, and many surviving Nisenan retreated into the hills. An estimated 75 percent of their population was wiped out, and only a handful were left to face the gold miners and settlers who were soon to follow. Captain John Sutter settled in Nisenan territory in 1839, and through force and persuasion he coerced most of the remaining Valley Nisenan to be on peaceful terms. The discovery of gold, however, led to their territory being overrun within a matter of a few years. James Marshal's 1848 gold discovery was in the middle of Nisenan territory, and thousands of miners were soon living in the area. As Europeans flooded Northern California after 1849 and mining methods changed, the assistance of the native population was less relied on and were viewed as an obstacle to settlement of land. This dynamic led to widespread killing, destruction, and persecution of the Nisenan and their culture. The survivors were relegated to working in agriculture, logging, ranching, or domestic pursuits. A native culture resurgence occurred around 1870 with influence from the Ghost Dance revival, but by the 1890s, the movement had all but ended in dissolution. By the Great Depression, it was said that no living Nisenan could remember a time before European contact.

Despite enduring over a century of adversity and hardship, descendants of the pre-contact Nisenan exist in thriving communities today. They are members of modern society and many still practice traditional Nisenan customs. Nisenan and other modern Native American populations participate in pan-Indian activities and celebrations.

4.18.2 Regulatory Setting

Relevant federal, state, and local laws and regulations pertaining to cultural resources are discussed below.

4.18.2.1 Federal

National Historic Preservation Act

The National Historic Preservation Act (NHPA) requires that the federal government list significant historic resources on the National Register of Historic Places (NRHP), which is the nation's master inventory of known historic resources. The NRHP is administered by the National Park Service (NPS) and includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering,

archaeological, or traditional cultural significance at the national, state, or local level. The act defines the responsibilities of federal agencies to protect and preserve historic properties found eligible for or listed in the NRHP. Sections 106 and 110 include specific provisions for the identification and evaluation of these properties for inclusion in the NRHP, such as consulting with interested parties that often include local Native American tribes.

Through amendments to the NRHP in 1992 and their implementing regulations, federal responsibilities for consultations with interested parties, and especially Indian tribes, during the Section 106 process were expanded. The result has been a more focused effort by federal agencies to involve interested parties in identifying historic properties of cultural significance and, if warranted, in considering effects that may result from a federal undertaking. Traditional Cultural Properties (TCPs) are more often identified as resources during these consultation efforts.

Structures, sites, buildings, districts, and objects over 50 years of age can be listed in the NRHP as significant historic resources. However, properties under 50 years of age that are of exceptional importance or are contributors to a historic district can also be included in the NRHP. In 1990, National Register Bulletin 38 presented guidelines for evaluating traditional cultural significance as a kind of cultural significance for which historic properties can be found eligible for inclusion in the NRHP using established criteria (Parker and King 1990; revised in 1992 and 1998). The process for considering TCPs is situated within the framework of the NRHP as the preservation of tangible cultural properties that have historical and ongoing significance to living communities, as evidenced in their traditional cultural practices, values, beliefs, and identity.

The criteria for listing in the NRHP include resources that:

a) are associated with events that have made a significant contribution to the broad patterns of history;
b) are associated with the lives of persons significant in our past;
c) embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
d) have yielded or may likely yield information important in prehistory or history.

Additionally, the NRHP guidelines describe a type of cultural significance for which properties may be eligible for inclusion in the NRHP. A property with traditional cultural significance will be found eligible for the NRHP because it is associated with cultural practices or beliefs of a living community that:

a) are rooted in that community's history, and
b) are important in maintaining the continuity of the cultural identity of the community.

This type of significance is grounded in the cultural patterns of thought and behavior of a living community and refers specifically to the association between their cultural traditions and a historic property.

4.18.2.2 State

Assembly Bill 52

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

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

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

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

    a. included or determined to be eligible for inclusion in the California Register of Historical Resources; and/or
    b. included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and/or
    c. a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

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

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

In accordance with Section 21082.3(c)(1) of the PRC, "… information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with subdivision (r) of Section 6254 of, and Section 6254.10 of, the Government Code, and subdivision (d)

of Section 15120 of Title 14 of the CCR, without the prior consent of the tribe that provided the information." Therefore, the details of tribal consultation summarized herein are provided in a confidential administrative record and not available for public disclosure without written permission from the tribes.

Thresholds of Significance

Based on the CEQA Guidelines Appendix G: Items XVII (a) and (b) of the CEQA Guidelines, TCR impacts are considered to be significant if the project would result in any of the following:

1. Cause a substantial adverse change in the significance of a Tribal Cultural Resource, defined in PRC § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

    (a) Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC § 5020.1(k), or
    (b) 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 PRC § 5024.1. In applying the criteria set forth in subdivision (c) of PRC § 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.

State CEQA Guidelines Section 15064.5 defines *substantial adverse change* as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource is materially impaired.

4.18.2.3 Local

County of Sutter

The following goals and policies of the 2019 Sutter County General Plan Policy Document (Sutter County 2019) are applicable to the Project:

Goal ER 8.5: *Consultation. Consult with the appropriate organizations and individuals early in the development process (e.g., Information Centers of the California Historical Resources Information System, Native American Heritage Commission, and Native American groups and individuals) to minimize potential impacts to cultural resources.*

County of Yuba

The following actions detailed under Action NR6.1 of the Yuba County 2030 General Plan (Yuba County 2011) are applicable to the Project:

- Request information from the Native American Heritage Commission regarding Native American groups that may have important sites in the areas that could be affected by project development.

- Involve the local Native American community in determining the appropriate mitigation of impacts to significant prehistoric sites.

City of Yuba City

The following goals and policies of the City of Yuba City General Plan (2004) are applicable to the Project:

8.3-I-4: Consult with the local Native American community in the cases where new development may result in disturbance to Native American sites.

4.18.3 Environmental Impacts and Mitigation Measures

This section describes potential impacts TCRs that could result from implementation of the Project. The Section also recommends mitigation measures as needed to reduce impacts to less than significant.

4.18.3.1 Thresholds of Significance

Following Appendix G: Items XVII (a) and (b) of the CEQA Guidelines, Tribal Cultural Resource impacts are considered to be significant if the project would result in any of the following:

1. Cause a substantial adverse change in the significance of a Tribal Cultural Resource, defined in PRC § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

    (a) Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC § 5020.1(k), or

    (b) 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 PRC § 5024.1. In applying the criteria set forth in subdivision (c) of PRC § 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.

4.18.3.2 Methods of Analysis

4.18.3.3 Summary of Tribal Consultation under AB 52

AB 52 consultation requirements went into effect on July 1, 2015 for all projects that had not already published a Notice of Intent to Adopt a Negative Declaration or MND or published a Notice of Preparation of an EIR (Section 11 [c]) before that date. At the time SBFCA was ready to initiate CEQA review, it had received written requests to receive project notices from two California Native American Tribes which identified themselves as being traditionally and culturally affiliated with the lands subject to SBFCA jurisdiction: the United Auburn Indian Community of UAIC, and The Torrez Martinez Desert Cahuilla Indians. In 2016, the Torrez Martinez Desert Cahuilla Indians rescinded their general AB 52 notification request to defer to tribes closer to the SBFCA's areas of operation. Correspondence with UAIC is summarized below.

United Auburn Indian Community of Auburn Rancheria. On March 23, 2020, SBFCA determined that it had a complete project description and it was ready to begin review under CEQA. SBFCA mailed an initial notification letter to UAIC and an invitation to consult on the Project. SBFCA requested responses to the offer to consult within 30 days of the receipt of the letter.

On April 29, 2020, UAIC sent a formal response to SBFCA via email. The tribe acknowledged receipt of SBFCA's offer to consult and requested a copy of the cultural resources report for the Project Area. On April 30, 2020 SBFCA officially initiated consultation via email and informed the tribe that the cultural resources study was in progress and report would be provided upon completion. On June 6, 2020 SBFCA transmitted ECORP's completed report to the tribe. On July 16, 2020, UAIC responded with comments on the report, indicating it agrees with the need for a tribal monitor and requesting schedule, whether or not other tribes responded, and if the monitor will be compensated. In its response, UAIC did not indicate that there are any TCRs known to exist inside the Project Area. SBFCA replied the same day, and confirmed that a tribal monitor will be compensated, that SBFCA will give UAIC a week's notice prior to construction, and that no other tribes have responded to the request for consultation.

On August 4, 2020, SBFCA provided UAIC with updated project plans and a revised version of the cultural resources report, which included a slightly larger area than was consulted upon originally. Later that day on August 4, 2020, UAIC acknowledged receipt of the updated plans. As of the preparation of this document, SBFCA has not received any information from consulting tribes that there are TCRs in the project area. Consultation will be concluded before the adoption of this environmental document.

4.18.3.4 Tribal Cultural Resources

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

Sacred Lands File Search

A search of the NAHC Sacred Lands File was requested on March 24, 2020. The NAHC responded on March 27, 2020, that the sacred lands file search was positive, and suggested contacting UAIC for more information. UAIC was offered an opportunity to consult, as summarized above.

Ethnographic Information

The ethnographic information reviewed for the Project, including ethnographic maps (Wilson and Towne 1978) lists several villages along the Feather River, the nearest one being six miles south of the Project Area. There is nothing in the ethnographic literature that suggests that the Project location is either known or suspected to have ethnographic villages or resources within its boundaries.

Archaeological Site Records

The entire Project Area was subjected to an archaeological survey and records search review, and one Native American site was previously mapped with approximation within its boundaries: pre-contact habitation site P-51-20/P-51-275. In addition, approximately 40 percent of the area within a 0.5-mile radius surrounding the Project Area has been subject to cultural surveys, resulting in 13 Native American archaeological sites having been previously recorded in the vicinity. Site P-51-20 /P-51-275 has been considered eligible for inclusion in the CRHR but has not been identified as a TCR by consulting tribes.

Tribal Consultation Results

The UAIC did not provide any information during consultation to date that the Project Area contains known TCRs. However, there remains a possibility that undiscovered TCRs could become known during construction, and if TCRs are impacted, this would be considered a significant impact. Therefore, mitigation measures are required to reduce the impact to unknown TCRs to less than significant.

The impact to CRHR-eligible pre-contact site P-51-20/P-51-275, and associated mitigation, is addressed separately, in Section 4.5 Cultural Resources.

4.18.3.5 Project Impacts and Mitigation Measures

Impact 4.18-1: Implementation of the proposed Project would cause a substantial adverse change in the significance of a Tribal Cultural Resource.
Impact Determination: *less than significant with mitigation incorporated*.

Threshold:	*Would cause a substantial adverse change in the significance of a Tribal Cultural Resource.*

The Project would have a significant impact on a TCR if it were to result in a substantial adverse change by way of physical demolition, destruction, relocation, or alteration; however, no TCRs have been identified within the Project Area. As discussed in the Cultural Resources Report (ECORP 2020), the proposed Project will involve extraction of what can be described as "overburden" sediments that were only recently deposited during the 2017 Oroville Dam incident. There exists a possibility that TCRs will be inadvertently excavated during sediment removal. In addition, according to the review of maps and records, the proximity of the Project Area to major water resources, and the fact that buried pre-contact resources are known to exist within the Project Area, indicate a high potential for the presence of previously undiscovered buried pre-contact archaeological deposits at the Project Area, including additional potential TCRs. The presence of alluvium in and around the Project Area further suggests that there remains a potential for deeply buried pre-contact resources to be uncovered during ground-disturbing activities. Without mitigation, impacts associated with inadvertent discovery of TCRs would be adverse and significant.

Therefore, implementation of mitigation measure **TCR-1** is required and will require tribal monitoring to ensure proper treatment of any inadvertently discovered TCRs.

Mitigation Measures

Implementation of mitigation measure **TCR-1** will be required.

TCR-1: **Tribal Monitoring. All terrestrial ground disturbing activity should be monitored by a qualified tribal monitor representing a consulting tribe. The monitor must be given a minimum of 7 days' notice of the opportunity to be present during these activities and to coordinate closely with the archaeological monitor, to observe work activities, and assist in ensuring that sensitive tribal resources are not impacted. The monitor must be given a reasonable opportunity to inspect soil and other material as work proceeds to assist in determining if resources significant to the tribes are present. If potential tribal resources are discovered, a reasonable work pause or redirection of work by the contractor may be requested. If the tribe cannot recommend a monitor or if the tribal monitor does not report at the scheduled time, all work will continue as long as the specified notice was provided. Tribal monitoring will not occur for equipment set-up or tear-down that does not disturb the ground surface more than six inches in depth; hydroseeding; paving; placement of imported fill/gravel/rock; restoration; or backfilling of previously excavated areas. Excavated sediment from the river channel, which was redeposited from upstream by the 2017 Oroville Dam incident, will not be subjected to screening. However, any potential TCRs observed in any location will be subject to the decision process in CUL-2 and subsequent consultation between the monitoring tribe and the lead agencies to evaluate and, if necessary, treat the discovery to the satisfaction of the lead agencies. If the discovery includes human remains, then the procedures in CUL-3 shall apply.**

Timing/Implementation: *This measure shall be printed on construction plan sets and implemented at all times during construction.*

Monitoring/Enforcement: *SBFCA and Project construction lead.*

4.18.4 Cumulative Impacts

4.18.4.1 Cumulative Setting

The only other known proposed in-water Project in the Feather or Yuba Rivers, involves dredging by SBFCA to remove sediment that has accumulated in portions of the Feather River near the Live Oak Recreational Park Boat Ramp facility, located several miles upstream of the Project. Dredging would remove approximately ±1.5 acres of invasive water primrose and ±3,400 cubic yards (cy) of sediment from the Live Oak Recreational Park Boat Ramp facility. Dredged spoils would be dewatered at the boat ramp and spoils would be disposed of at the emergency ponds of the Gridley Wastewater Treatment Plant (WWTP) or at the Ostrom Road Landfill. This Project is anticipated to be completed in 2021. In addition, the City of Marysville intends to decommission the existing wastewater treatment ponds at the Marysville WWTP which will involve removal of any water and sludge from the wastewater ponds and re-grading the site. Neither of these activities includes impacts to known TCRs.

There are no other known past, present, and probable future projects producing related or cumulative impacts in the area.

4.18.4.2 Cumulative Impacts and Mitigation Measures

Impact 4.18-2: Result in a considerable contribution to cumulative impacts on TCRs.
Impact Determination: *less than significant with mitigation incorporated.*

Threshold:	*Would result in a substantial adverse change in the significance of a Tribal Cultural Resource in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

All three projects have the potential for inadvertent discovery of TCRs that could inadvertently be disturbed under the Project. As mitigated, however, the direct impacts associated with the Project will be reduced to a less than significant level. While it is possible that dredging activities and dredging and grading associated with the other projects could result in the discovery of TCRs, mitigation measures and state and federal laws already in place will set in motion actions designed to mitigate these potential impacts. As a result, mitigation required for this Project, and existing federal and state laws, would ensure that the Project would have a less than considerable contribution to cumulative impacts on TCRs. Impacts would be less than significant.

Mitigation Measures

Implementation of mitigation measure **TCR-1** will be required.

4.19 Utilities and Service Systems

This section of the EIR describes the existing conditions in the Project area, the regulatory framework necessary to evaluate potential impacts on utilities and service systems from the Project, and potential short-term, long-term, and cumulative impacts that could result from the Project. Impacts from the Project on water supply, wastewater treatment, and solid waste generation are discussed below.

4.19.1 Environmental Setting

4.19.1.1 Water Supply

The Project area is within the Water Service Area, and served by, the City of Yuba City (City of Yuba City 2004; Carollo 2016). The water supply source for the City of Yuba City is surface water from the Feather River (Carollo 2016). The City of Yuba City has a surface water treatment plant (WTP) with a permitted capacity of 36 million gallons per day (mgd) (Carollo 2016). In addition, the City also has access to a 2.9 mgd back-up/standby well located at the WTP for emergency purposes (Carollo 2016).

According to the Urban Water Management Plan (UWMP) for Yuba City, when assessing the adequacy of the water supply, the City's water source is the Feather River, north of the confluence with the Yuba River (Carollo 2016). Upstream dams on all forks of the Feather River control flow in the Feather River. Oroville Dam is the primary upstream control; the Department of Water Resources (DWR) operates Oroville Reservoir for the State Water Project (SWP) (Carollo 2016).

The City holds two appropriative water rights, State Water Resources Control Board (SWRCB) License 13855 (Application Number 0A18025) and 18558 (Application Number A025751) and two surface water supply contracts from the North Yuba Water District (NYWD) and the DWR SWP that pull from the Feather River (Carollo 2016).

During low rainfall years, the City's allocation from the SWP can be significantly reduced, as was done in 2014 when allocations were reduced to 5 percent and in 2015 when allocations were reduced to 25 percent (Carollo 2016). Additionally, the SWRCB permit 18558 has also been significantly reduced in recent years due to drought (Carollo 2016). The NYWD contract has never been curtailed and is considered a very reliable water source (Carollo 2016). In addition, the City recently obtained water rights to an additional 53 acre-feet per year (AFY) through the DWR Dry Year Water Purchase Program (Carollo 2016).

According to the latest UWMP for Yuba City (Carollo 2016), without implementation of water rationing measures, water demand in the City is expected to exceed supply in a year that represents the lowest recorded water supply available to the City (Carollo 2016). During a multiple-dry year scenario that represents the lowest average water supply available to the City for a consecutive multiple year period. Water demand is also expected to exceed supply in the third year of a multiple-dry year scenario without implementation of water rationing measures (Carollo 2016).

The Yuba County Water Agency (YCWA) is a major water rights holder on the Yuba River and serves unincorporated areas of Yuba County. YCWA's permits authorize direct diversion up to a total rate of 1,593 cubic feet per second (cfs) from the Lower Yuba River from September 1 to June 30 for irrigation and other uses, and up to 1,250,000 acre-feet (af) from October 1 to June 30 to storage in New Bullards Bar Reservoir (YCWA 2018).

Within the unincorporated areas of Sutter County, the source of potable water is groundwater from privately owned wells (Sutter County 2008). Groundwater in many areas of Sutter County has naturally occurring elevated levels of arsenic and nitrates; elevated nitrates are attributable to septic systems and agricultural practices (Sutter County 2008, 2012). Groundwater is also a critical source of water for agricultural and urban areas in Yuba County (Yuba County 2011). As discussed in Section 4.10, Hydrology and Water Quality, the Project area is located in the Sacramento Valley Groundwater Basin (Basin No. 5-021). Three groundwater subbasins intersect in the Project area (DWR 2020a). The Sutter Subbasin (Subbasin No. 5-021.62) occurs to the west of the Feather River (DWR 2020a). Two subbasins occur to the east of the Feather River: the North Yuba Subbasin (Subbasin No. 5-021.60), located north of the Yuba River and the South Yuba Subbasin (Subbasin No. 5-021.61), located south of the Yuba River (DWR 2006, 2020a).

4.19.1.2 Wastewater

Yuba City operates a sanitary sewer collection system and wastewater treatment Plant and Yuba City has a wastewater master plan that identifies the facilities required for the City to collect and treat its wastewater through the year 2030 (City of Yuba City 2006). Future growth within the City's Sphere of Influence will be limited until the sanitary sewer system can be expanded to accommodate new growth. The Yuba City Boat Ramp facility is within the Yuba City Sewer Master Plan boundary (City of Yuba City 2006). In early 2005, the City completed the upgrade and expansion of their wastewater treatment facility to provide treatment for an average dry weather flow of 9 mgd (City of Yuba City 2006). These facilities currently convey and treat an average dry weather flow of about 6.5 mgd and a peak hourly flow of approximately 12 mgd (City of Yuba City 2020). The City's wastewater treatment plant is currently discharging secondary, disinfected effluent to the Feather River (City of Yuba City 2006).

4.19.1.3 Solid Waste

The Yuba-Sutter Regional Waste Management Authority provides solid waste services to Sutter and Yuba Counties by way of a Joint Powers Agreement between Sutter and Yuba Counties and the Cities of Live Oak, Marysville, Wheatland and Yuba City (Sutter County 2019). The Project would be within the jurisdiction of the Yuba-Sutter Regional Waste Management Authority.

The County of Yuba Environmental Health Department serves as the local enforcement agency (LEA) for solid waste disposal in the area. The LEA oversees solid waste facilities in both Yuba and Sutter counties along with associated reviews permits and regulations under this program for compliance with State and local regulations (Sutter County 2008). Together with the LEA, the Yuba-Sutter Regional Waste Management Authority oversee regional solid waste management, monitoring and evaluation of programs, waste removal services, and solid waste planning (Sutter County 2008).

The Ostrom Road Landfill is located in Wheatland (Yuba County) and is a 261-acre Class II and Class III Landfill permitted to accept the following types of waste: solid waste; wastewater treatment sludge; construction debris; food and green waste; some types of contaminated soils; and non-friable asbestos (Sutter County 2008; CalRecycle 2020). The landfill can accept a maximum of 3,000 tons of waste a day; and is estimated to have enough capacity to remain open until the year 2066 with only about three percent in use as of 2006 (Sutter County 2008). The landfill has a permitted capacity of approximately 44 million cubic yards of solid waste with a remaining capacity of approximately 39 million cy of solid waste (CalRecycle 2020).

The Integrated Waste Management Act (Assembly Bill (AB) 939) requires that all California jurisdictions prepare a Source Reduction and Recycling Element (SRRE) that outlines programs to achieve the mandated 50 percent diversion rate by the year 2000 (Sutter County 2008). The Yuba-Sutter Waste Management Authority has met the requirements set forth by AB 939 (Sutter County 2008).

4.19.2 Regulatory Setting

Relevant federal, state, and local laws and regulations pertaining to utilities and service systems are discussed below.

4.19.2.1 State

Water Supply

California Department of Water Resources

The DWR is responsible for the management and regulation of water usage, including the delivery of water to two-thirds of California's population through the nation's largest State-built water development and conveyance system, the State Water Project. Working with other agencies and the public, DWR develops strategic goals and near-term and long-term actions to conserve, manage, develop, and sustain California's watersheds, water resources, and water management systems. DWR also works to prevent and respond to floods, droughts, and catastrophic events that would threaten public safety, water resources and management systems, the environment, and property.

Urban Water Management Planning Act

In 1983, the California legislature enacted the Urban Water Management Planning Act (Water Code Section 10610–10656). The Act states that every urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 AFY, should make every effort to ensure the appropriate level of reliability in its water service to meet the needs of its various categories of customers during normal, dry, and multiple-dry years. The Act requires that urban water suppliers adopt an Urban Water Management Plan (UWMP) at least once every five years and submit it to the DWR.

Sustainable Groundwater Management Act (SGMA)

The Sustainable Groundwater Management Act (SGMA) established a new structure for managing California's groundwater resources at the local level by local agencies. SGMA required Groundwater Sustainability Agencies (GSAs) to form in the State's high- and medium-priority basins and subbasins by

June 30, 2017. The Water Code states that a GSA shall have five years from the date of reprioritization to be managed under a Groundwater Sustainability Plan (GSP). The planning deadline for California's first round of GSPs is January 31, 2020, for basins subject to critical conditions of overdraft, and January 31, 2022, for all other high- and medium-priority basins.

Statewide Water Conservation Act of 2009 (Senate Bill X7-7)

In November 2009, the California State legislature passed SB X7-7 requiring a 20 percent reduction in per capita urban water use by 2020, with an interim target of 10 percent in 2015. The legislation requires urban water users to develop consistent water use targets and to use those targets in their UWMPs.

Assembly Bill (AB) 1668 and Senate Bill (SB) 606

AB 1668 and SB 606 establish guidelines for efficient water use and a framework for the implementation and oversight of the new standards, which must be in place by 2022. The two bills strengthen the state's water resiliency in the face of future droughts.

Solid Waste

California Department of Resources Recycling and Recovery (CalRecycle; formerly the California Integrated Waste Management Board)

CalRecycle oversees, manages, and monitors waste generated in California. It provides limited grants and loans to help California cities, counties, businesses, and organizations meet the State waste reduction, reuse, and recycling goals. CalRecycle develops, manages, and enforces waste disposal and recycling regulations, including Assembly Bill (AB) 939 and Senate Bill (SB) 1016.

Assembly Bill (AB) 939

AB 939 (Public Resources Code [PRC] 41780) requires cities and counties to prepare Integrated Waste Management Plans (IWMPs) and to divert 50 percent of solid waste from landfills beginning in calendar year 2000 and each year thereafter. AB 939 also requires cities and counties to prepare Source Reduction and Recycling Elements (SRRE) as part of their IWMPs. These Elements are designed to develop recycling services to achieve diversion goals, stimulate local recycling in manufacturing, and stimulate the purchase of recycled products.

Senate Bill (SB) 1016

SB 1016 requires that the 50-percent solid waste diversion requirement established by AB 939 be expressed in pounds per person per day. SB 1016 also changed the CalRecycle review process for each municipality's IWMP. The CalRecycle Board reviews a jurisdiction's compliance with diversion rate targets in accordance with a specified schedule.

4.19.2.2 Local

Sutter County

The following goals and policies of the 2019 Sutter County General Plan (Sutter County 2019) are applicable to the Project:

I 1.1: *Availability. Require new development to study, coordinate and plan the provision of potable water services to support the new development and demonstrate the availability of a long-term, safe, and reliable potable water supply.*

I 2.1: *Availability. Require new development to study, coordinate, and plan the provision of wastewater services to support the new development and demonstrate the availability of long term, safe, and reliable wastewater collection, treatment, and disposal.*

I 4.1: *Reduced Waste Stream. Implement, as appropriate, the reduction measures in the Climate Action Plan targeted to reduce the County's waste stream. Such measures may include reducing solid waste, diverting construction waste, and educating the public on solid waste reduction and recycling.*

ER 6.3: *Groundwater Sustainability. Protect the sustainability of groundwater resources.*

ER 6.5: *Regional Coordination on Groundwater Use. Coordinate with local and regional jurisdictions and water agencies on groundwater use to minimize overdraft conditions of aquifers.*

ER 6.6: *Groundwater Protection. Regulate stormwater collection and conveyance, as necessary, to protect groundwater supplies from contamination.*

Yuba County

The following goals and policies of the Yuba County 2030 General Plan (Yuba County 2011) are applicable to the Project:

Policy NR12.4: The County will encourage the use of recycled water and water from irrigation districts that is not treated to urban standards for outdoor irrigation, toilet flushing, fire hydrants; commercial and industrial processes, carwashes, concrete batching, laundromats; dust control; parks, golf courses, and other landscaped areas, and other appropriate water-intensive uses.

The Yuba County Water Agency also serves as a Groundwater Sustainability Agency (GSA) for both the North Yuba Subbasin and South Yuba Subbasin in the Project area (DWR 2020a).

City of Yuba City

The following goals and policies of the City of Yuba City General Plan (2004) are applicable to the Project:

Water Supply

7.1-G-1: *Ensure that an adequate supply of water is available to serve existing and future needs of the City.*

7.1-G-2: *Ensure that necessary water supply infrastructure and storage facilities are in place prior to construction of new development.*

Wastewater

7.2-G-1: Ensure that adequate wastewater treatment capacity is available to serve existing and future needs of the City.

Solid Waste

7.3-G-1: Meet the City's solid waste disposal needs, while maximizing opportunities for waste reduction and recycling.

7.3-I-6: Comply with State requirements for proper handling and storage of solid waste and recyclables and diversion of solid waste from landfills.

The City of Yuba City serves as a GSA for portions of the Project within this jurisdiction (DWR 2020a).

City of Marysville

The City of Marysville serves as a GSA for portions of the Project within this jurisdiction (DWR 2020a).

4.19.3 Environmental Impacts and Mitigation Measures

This Section describes potential impacts related to utilities and service systems that could result from the Project. This Section also recommends mitigation measures as needed to reduce potentially significant impacts.

4.19.3.1 Thresholds of Significance

Based on the CEQA Guidelines, Appendix G: Items XIX (a) through (e), implementation of the Project would result in a significant impact related to utilities and service systems if it would:

(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 would cause significant environmental effects;

(b) Not have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years;

(c) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;

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

(e) Fail to comply with Federal, State, and local management and reduction statutes and regulations related to solid waste.

In addition, based on the CEQA Guidelines, Appendix G: X (b) and X (e), implementation of the Project would have a significant impact on groundwater resources if it would:

(b) substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin; or

(e) conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

4.19.3.2 Project Impacts and Mitigation Measures

Impact 4.19-1: Implementation of the proposed Project would 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 would cause significant environmental effects. Impact Determination: *no impact*.

Threshold:	*Would 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 would cause significant environmental effects.*

The Project would not require the use of existing municipal water or wastewater services. Portable toilets and a portable water supply would be utilized for workers. Most of the construction equipment would operate on diesel fuel. Any use of electricity would be minimal and short-term in nature during the course of implementing the Project. Therefore, the Project would not result in the need to increase or expand any infrastructure or facilities for utilities or service systems. There would be no impact.

Mitigation Measures

None required.

**Impact 4.19-2: Implementation of the proposed Project would not have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.
Impact Determination: *less than significant*.**

Threshold:	*Would not have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.*

The Project would not require the use of the existing municipal water service. A portable water supply would be utilized for project activities (e.g., for dust control and for workers). The Project would have a minimal demand for water occurring over a short duration. Therefore, impacts would be less than significant.

Mitigation Measures

None required.

Impact 4.19-3: Implementation of the proposed Project would result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
Impact Determination: *less than significant*.

Threshold:	*Would result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.*

The Project would not require the use of the existing municipal wastewater services. Portable toilets would be utilized for construction workers. The Project would have a minimal demand on wastewater services occurring over a short duration. Therefore, impacts would be less than significant.

Mitigation Measures

None required.

Impact 4.19-4: Implementation of the proposed Project would 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.
Impact Determination: *less than significant*.

Threshold:	*Would 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.*

Beneficial reuse of the dredged material would be implemented to the maximum extent feasible, either for disposal at the Marysville WWTP, use as construction fill, use for habitat restoration, or use for agricultural purposes. Therefore, the Project would meet the requirements of AB 939 and the goals of the Yuba-Sutter Regional Waste Management Authority to reduce solid waste disposal by 50 percent since AB 939 was passed.

According to CalRecycle, sediment can weigh between 2,100 to 3,000 pounds per cy depending on whether it is wet or dry. Under the proposed Project, as discussed in Chapter 3, Project Description, it is estimated that a total of 38 truck trips could be made per day to dispose of 20 cy per truck trip at Recology's Ostrom Road Landfill. This would equate to 760 cy, or between 798 tons and 1,140 tons of material disposed of at the Ostrom Road Landfill per day. The landfill has a limit of 3,000 tons per day. The Project, therefore, could comprise 27 percent to 38 percent of the daily disposal limit of the landfill under a worst-case scenario. Because daily disposal limits could still be met however, disposal of dredged material at the Ostrom Road Landfill would remain a less than significant impact on the capacity of the landfill.

Mitigation Measures

None required.

Impact 4.19-5: Implementation of the proposed Project would fail to comply with Federal, State, and local management and reduction statutes and regulations related to solid waste.
Impact Determination: *less than significant*.

Threshold:	*Would fail to comply with Federal, State, and local management and reduction statutes and regulations related to solid waste.*

As discussed above, beneficial reuse of the dredged material would be implemented to the maximum extent feasible, either for disposal at the Marysville WWTP, use as construction fill, use for habitat restoration, or use for agricultural purposes. Therefore, the Project would meet the requirements of AB 939 and the goals of the Yuba-Sutter Regional Waste Management Authority to reduce solid waste disposal by 50 percent since AB 939 was passed, as well as the goals and policies of the local jurisdictions in the Project area to reduce solid waste generation and disposal. Therefore, impacts would be less than significant.

Mitigation Measures

None required.

Impact 4.19-6: Implementation of the proposed Project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
Impact Determination: *less than significant*.

Threshold:	*Would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.*

The Project would not require the use of the existing municipal water service, nor any public or private potable water wells. A portable water supply would be utilized for construction activities (e.g., for dust control and for workers). The Project would have a minimal demand for water and occur over a short duration. Therefore, impacts on groundwater supply would be less than significant.

In addition, the Project would not involve placement of impermeable material on land (i.e., pavement or asphalt). Disposal of dredged material on land is not expected to interfere with surface water infiltration or groundwater recharge in the area. Therefore, the Project would have a less than significant impact on groundwater recharge.

Mitigation Measures

None required.

Impact 4.19-7: Implementation of the proposed Project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.
Impact Determination: *less than significant*.

Threshold:	*Would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.*

Impacts on water quality are discussed in Section 4.10, Hydrology and Water Quality. Sutter County and the Yuba County Water Agency have Groundwater Management Plans (Sutter County 2012, YCWA 2010).

The Project would not require the use of the existing municipal water service available to the site, nor any public or private potable water wells. A portable water supply would be utilized for dust control and for workers. The Project would have a minimal demand for water, and over a short duration. Therefore, impacts on groundwater supply would be less than significant.

In addition, the Project would not involve placement of impermeable material on land (i.e., pavement or asphalt). Disposal of dredged material on land is not expected to interfere with surface water infiltration or groundwater recharge in the area. Therefore, the Project would have a less than significant impact on the goals and objectives of the local Groundwater Management Plans for the area (Sutter County 2012, YCWA 2010).

Mitigation Measures

None required.

4.19.4 Cumulative Impacts

4.19.4.1 Cumulative Setting

The only other known proposed in-water Project in the Feather or Yuba Rivers, involves dredging by SBFCA to remove sediment that has accumulated in portions of the Feather River near the Live Oak Recreational Park Boat Ramp facility, located several miles upstream of the Project. Dredging would remove ±1.5 acres of invasive water primrose and ±3,400 cubic yards (cy) of sediment from the Live Oak Recreational Park Boat Ramp facility. Dredged spoils would be dewatered at the boat ramp and spoils would be disposed of at the emergency ponds of the Gridley Wastewater Treatment Plant (WWTP) or at the Ostrom Road Landfill. This Project is anticipated to be completed in 2021.

In addition, the City of Marysville intends to decommission the existing wastewater treatment ponds at the Marysville WWTP which will involve removal of any water and sludge from the wastewater ponds and regrading the site. Disposal of approximately 20,000 cy of soil at the Ostrom Road Landfill could occur under this Project in 2021 as well.

There are no other known past, present, and probable future projects producing related or cumulative impacts in the area.

4.19.4.2 Cumulative Impacts and Mitigation Measures

Impact 4.19-8: Result in a considerable contribution to cumulative impacts on water and wastewater services.
Impact Determination: *less than significant*.

Threshold:	*Would result in relocation or construction of new water or wastewater services in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

The Project and other two construction projects planned in the area would not require the use of existing municipal water or wastewater services. Portable toilets and a portable water supply would be utilized for the Project. Therefore, the Project would have a less than considerable contribution on overall cumulative impacts on utilities and service systems in the area.

Mitigation Measures

None required.

Impact 4.19-9: Result in a considerable contribution to cumulative impacts on solid waste generation.
Impact Determination: *less than significant*.

Threshold:	*Would result significant generation of solid waste in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

Recology's Ostrom Road Landfill has a daily limit of 3,000 tons of material per day. As discussed above, CalRecycle estimates that soil or sediment weighs between 2,100 to 3,000 pounds per cy depending on the moisture content in the material. Therefore, hypothetically, the Ostrom Road Landfill could accept up to a maximum of 2,857 to 2,000 cy of soil or sediment per day. If all three planned construction projects dispose of 760 cy of dredged material per day, that would equate to 2,280 cy per day. This scenario represents a worst-case scenario, where each construction project would be utilizing the Ostrom Road Landfill to the maximum extent and at the same time, which is highly unlikely. However, even under this scenario, daily limits could still be met and would be controlled by operators of the landfill. Therefore, the Project would have a less than considerable contribution to cumulative impacts on solid waste disposal at the local landfill. Impacts would be less than significant.

Mitigation Measures

None required.

Impact 4.19-10: Result in a considerable contribution to cumulative impacts on groundwater supply.
Impact Determination: *less than significant*.

Threshold:	*Would substantially decrease groundwater supplies or interfere substantially with groundwater recharge, or conflict with a sustainable groundwater management plan, in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

The Project and other two construction projects planned in the area would not require the use of existing municipal water. Portable toilets and a portable water supply would be utilized for the Project. Therefore, the Project would have a less than considerable contribution on overall cumulative impacts on utilities and service systems in the area, including groundwater supply.

Mitigation Measures

None required.

4.20 Wildfire

This section of the EIR describes the existing conditions in the Project area, the regulatory framework necessary to evaluate potential impacts on wildfire from the Project, and potential short-term, long-term, and cumulative impacts that could result from the Project. Impacts from the Project on the risk of wildfire and wildfire management in the area are discussed below.

4.20.1 Environmental Setting

The California Department of Forestry and Fire Protection (CAL FIRE) provides fire protection services for privately-owned wildlands as well as emergency services in 36 of the State's 58 counties via contracts with local governments (CAL FIRE 2020a).

CAL FIRE has established State Responsibility Areas (SRAs) or "lands exclusive of cities and federal lands regardless of ownership, classified by the State Board of Forestry as areas in which the primary financial responsibility for preventing and suppressing fires is that of the State. These are lands covered wholly or in part by timber, brush, undergrowth, or grass, whether of commercial value or not, which protect the soil from erosion, retard runoff of water or accelerated percolation, and lands used principally for range or forage purpose" (CAL FIRE 2020a).

CAL FIRE has also established Fire Hazard Severity Zones (FHSZs) in SRAs which are mapped areas that designate zones (based on factors such as fuel, slope, and fire weather) with varying degrees of fire hazard (i.e., moderate, high, and very high). FHSZ maps evaluate wildfire hazards, which are physical conditions that create a likelihood that an area will burn over a 30- to 50-year period (CAL FIRE 2020b). Moderate, high, and very high FHSZs are found in areas where the State has financial responsibility for fire protection and prevention (SRA). In addition, Very High FHSZs have been established in Local Responsibility Areas (LRAs).

The City of Yuba City, City of Marysville, and areas within Sutter and Yuba Counties in or near the Project area are not within an SRA (CAL FIRE 2020b). In addition, there are no FHSZs in or adjacent to the Project area. The nearest FHSZs are located in the foothills of the Sierra Nevada mountains approximately eight miles from the Project site (CAL FIRE 2020b).

4.20.2 Regulatory Setting

Relevant federal, state, and local laws and regulations pertaining to wildfire are discussed below.

4.20.2.1 State

California Fire Code (Title 24, Part 9, California Code of Regulations)

The California Fire Code incorporates the Uniform Fire Code with necessary California amendments. The California Building Code (CBC) requires that new buildings located in any Fire Hazard Severity Zone within SRAs, any Local Agency in a Very High FHSZ, or any Wildland-Urban Interface Fire Area designated by the

enforcing agency for which an application for a building permit is submitted, comply with all sections of the California Fire Code.

4.20.2.2 Local

Sutter County

The following goals and policies of the 2019 Sutter County General Plan (Sutter County 2019) are applicable to the Project:

GOAL PS 3; Minimize risk to life and property resulting from wildland fire hazards.

City of Marysville

The following goals and policies of the City of Marysville General Plan (1985) are applicable to the Project:

l) To enforce building codes, fire codes and city ordinances in regard to fire and fire protection. Continue to improve fire protection services, equipment and facilities as required and as economically as possible. Maintain adequate street widths for fire protection equipment, provide adequate turning radius.

4.20.3 Environmental Impacts and Mitigation Measures

This Section describes potential impacts on the risk of wildfire and wildfire management that could result from implementation of Project and recommends mitigation measures as needed to reduce significant impacts.

4.20.3.1 Thresholds of Significance

In addition, based on the CEQA Guidelines, Appendix G: Items IX (f) and (g), and XX (a) through (d), implementation of the Project would have a significant impact related to the risk of fire and wildland fire management if it would:

Hazards (Item IX):

(f) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan (see also Appendix G: Items XX [a]); or

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

In addition, for areas located in or near state responsibility areas or lands classified as very high fire hazard severity zones, based on the CEQA Guidelines, Appendix G: Items XX (b) through (d), implementation of the Project would also have a significant impact related to wildland fire management if it would:

Wildland Fire (Items XX):

(a) Substantially impair an adopted emergency response plan or emergency evacuation plan;

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

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

(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.

4.20.3.2 Project Impacts and Mitigation Measures

Impact 4.20-1: Implementation of the proposed Project would impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.
Impact Determination: *less than significant*.

Threshold:	*Would impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.*

The proposed truck routes for the Project including Second Street and either 5th Street or Colusa Avenue (Highway 20)/10th Street to E Street to Highway 70 in Marysville, or Colusa Avenue (Highway 20) to Highway 99 in Yuba City (Figure 3-4) serve, or are likely to serve, as evacuation routes for the residents of Yuba City and Marysville during an emergency (Sutter County 2013). However, construction of the project would be required to stop, and truck traffic would cease in the event of an emergency and evacuation order along with the public. In addition, the Project would be short term in nature. Therefore, the Project would have a less than significant impact on emergency evacuations.

Mitigation Measures

None required.

Impact 4.20-2: Implementation of the proposed Project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.
Impact Determination: *less than significant*.

Threshold:	*Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.*

The Project is not located in or near an SRA or lands classified as a Very High FHSZ. In addition, the Project would not involve welding, grinding, or other construction activities that would have a high risk of starting a fire. Consequently, the Project would result in a minimal risk of exposure to, or generation of, wildland fires. Therefore, the Project would not significantly increase the risk of wildland fires in these areas and impacts would be less than significant.

Mitigation Measures

None required.

Impact 4.20-3: Implementation of the proposed Project would expose project occupants to pollutant concentrations from a wildfire or exacerbate wildfire risks and the uncontrolled spread of a wildfire due to slope, prevailing winds, and other factors. Impact Determination: *less than significant*.

Threshold:	*Expose project occupants to pollutant concentrations from a wildfire or exacerbate wildfire risks and the uncontrolled spread of a wildfire due to slope, prevailing winds, and other factors.*

As described under Impact 4.20-2, the Project would not involve welding, grinding, or other construction activities that would have a high risk of starting a fire. In addition, the Project would not involve the construction of structures. Therefore, the Project would result in a minimal risk of exposure to, or generation of, wildland fires. Impacts would be less than significant.

Mitigation Measures

None required.

Impact 4.20-4: Implementation of the proposed Project would 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. Impact Determination: *no impact*.

Threshold:	*Would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.*

The Project would not require the installation of any new infrastructure. Therefore, there would be no impact.

Mitigation Measures

None required.

Impact 4.20-5: Implementation of the proposed Project would 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. Impact Determination: *less than significant*.

Threshold:	*Would 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 would not involve construction of structures. Therefore, the Project would result in a minimal risk of exposure to, or generation of, wildland fires. Impacts would be less than significant.

Mitigation Measures

None required.

4.20.4 Cumulative Impacts

4.20.4.1 Cumulative Setting

The only other known construction projects in the area include proposed dredging by SBFCA to remove sediment that has accumulated in portions of the Feather River near the Live Oak Recreational Park Boat Ramp facility, located several miles upstream of the Project. In addition, the City of Marysville intends to decommission the existing wastewater treatment ponds at the Marysville WWTP which will involve removal of any water and sludge from the wastewater ponds and re-grading the site.

There are no other known past, present, and probable future projects producing related or cumulative impacts in the area.

4.20.4.2 Cumulative Impacts and Mitigation Measures

Impact 4.20-3: Result in a considerable contribution to cumulative impacts on wildfire management.
Impact Determination: *less than significant*.

Threshold:	*Would expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires in combination with existing, approved, proposed, and reasonably foreseeable development in nearby areas.*

None of the other projects planned in the area would involve welding, grinding, or other construction activities that would have a high risk of starting a fire. Truck traffic associated with the project in Live Oak would occur farther north than the proposed Project and therefore would not utilize the same haul routes. In addition, truck traffic associated with decommissioning of the Marysville WWTP would likely travel to Highway 70 along Biz Johnson Drive for a very short distance before its interchange with Highway 70. There are no public service facilities along this route. In addition, construction of projects would be required to stop, and truck traffic would cease in the event of an emergency and evacuation order. Therefore, the combined planned projects in the area are not likely to disrupt public services along haul routes. Therefore, the Project would have a less than considerable contribution to cumulative impacts on the risk of wildfire and wildfire management in the area.

Mitigation Measures

None required.

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CHAPTER 5 OTHER CEQA ANALYSES

This Chapter evaluates potential growth-inducing effects, significant unavoidable impacts, and irreversible environmental changes. Section 15128 of the California Environmental Quality Act (CEQA) Guidelines requires that the Environmental Impact Report (EIR) "contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR." This EIR evaluates all environmental topic areas and questions included in CEQA Guidelines Appendix G (Environmental Checklist Form). No possible significant effects of the Project were excluded from analysis in this EIR.

5.1 Growth-Inducing Impacts

CEQA Guidelines Section 15126.2(d) requires that the EIR discuss "...the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment."

Implementation of the Project would not result in construction of structures, long term employment, or result in a net increase of the population of the area. Construction of the project is anticipated to require 30 construction workers who are expected to commute from local areas. Therefore, no substantial, detrimental, growth-inducing effect is expected under the Project.

5.2 Significant Unavoidable Impacts

CEQA Guidelines Section 15126.2(b) requires that an EIR discuss "significant environmental effects which cannot be avoided if the proposed project is implemented."

Impacts can be identified in an EIR as significant and unavoidable for any of the following four reasons: (1) no potentially feasible mitigation has been identified; (2) potential mitigation has been identified but may be found by the Lead Agency to be infeasible; (3) with implementation of feasible mitigation, the impact still would not, or might not, be reduced to a less than significant level; or (4) implementation of the mitigation measure would require approval of another jurisdictional agency, whose approval will be pursued by the Lead Agency but cannot be guaranteed as of the publication of this EIR.

As discussed in Chapter 4, Section 4.3 *Air Quality*, the Project would result in a significant and unavoidable impact on air quality. Specifically, annual nitric oxide (NO_x) emissions under the Project would exceed thresholds of significance despite a requirement for use of Tier 3 engines on all off-road construction equipment. However, impacts would be temporary and occur over a relatively short duration.

5.3 Irreversible Environmental Changes

CEQA Guidelines Section 15126.2(c) requires that the EIR discuss "significant irreversible environmental changes which would be caused by the proposed project should it be implemented." The Project would be temporary in nature, and therefore, would only result in short-term impacts and no irreversible environmental changes, except for beneficial effects on recreational access and fish passage in the Yuba

and Feather Rivers. Because the Project would be temporary, it also would not result in an irreversible commitment of energy resources, such as fossil fuels, including fuel oil, natural gas, and gasoline or diesel fuel. The Project would also not involve consumption or destruction of other non-renewable or slowly renewable resources such as lumber, concrete, sand, gravel, asphalt, masonry, metals, and water, nor would it consume any of those resources wastefully, inefficiently, or unnecessarily.

CHAPTER 6 ALTERNATIVES

The alternatives analysis consists of the following components: an overview of California Environmental Quality Act (CEQA) requirements for alternatives analysis, descriptions of the alternatives evaluated, a comparison between the anticipated environmental effects of the alternatives and those of the proposed Project, and identification of an environmentally superior alternative.

6.1 Introduction

6.1.1 CEQA Requirements for Alternatives

Section 15126.6 of the CEQA Guidelines requires an Environmental Impact Report (EIR) to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." Section 15126.6 of the CEQA Guidelines also states that the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if those alternatives would impede to some degree the attainment of the basic project objectives or would be more costly.

Pursuant to Section 15126.6, this Section describes alternatives to the Project and compares their impacts to the Project. Pursuant to the CEQA Guidelines, the ability of the alternatives to meet the basic project objectives is also described, and the "environmentally superior" alternative is identified.

In accordance with CEQA Guidelines Section 15126.6(a), this EIR does not evaluate every conceivable alternative. A reasonable range of feasible alternatives that will allow decision-makers to make a reasoned choice and that meet most of the project objectives has been evaluated. The project objectives are as follows below.

1. Remove excess sediment buildup in portions of the Feather River that were exacerbated by the Oroville Dam Spillway incident of 2017;
2. Address dangerous conditions at the confluence of the Feather and Yuba Rivers for recreational users and emergency vessels due to sediment buildup;
3. Restore and maintain access to the Feather River from the Yuba City Boat Ramp facility for emergency vessel launching capabilities and recreational users; and
4. Restore and maintain fish passage in both the Feather River and Yuba River at their confluence.

6.1.2 Development of Project Alternatives

Alternatives to the proposed Project include:

- Alternative 1: No Project;
- Alternative 2: No Use of Marysville WWTP;

- Alternative 3: Use of Marysville WWTP for Dewatering Only but Not Disposal; and
- Alternative 4: Reduced Project – Dredge of Only Northern 14-Acres (Phase 1 Only).

Table 6-1 provides a summary of elements of the project and project alternatives. Table 6-2 summarizes the impacts of each alternative relative to the project. The reminder of this section provides a detailed description of each alternative and comparison of impacts on each issue area.

Table 6-1. Summary Statistics for Project Alternatives

Alternative	Construction End Date	Dewatering Method/Location	Disposal Method/ Location
Project Phase 1 Phase 2	 2021 2023	 Marysville WWTP Tanks in Upland Areas	 Marysville WWTP Ostrom Road Landfill
Alternative 1, No Project	NA	NA	NA
Alternative 2, No Use of Marysville WWTP Phase 1 Phase 2	 2021 2023	 Tanks in Upland Areas Tanks in Upland Areas	 Ostrom Road Landfill Ostrom Road Landfill
Alternative 3, Use of the Marysville WWTP for Dewatering Only but Not Disposal Phase 1 Phase 2	 2021 2023	 Marysville WWTP Tanks in Upland Areas	 Ostrom Road Landfill Ostrom Road Landfill
Alternative 4, Reduced Project - Phase 1 Dredging Only	2021	Marysville WWTP	Marysville WWTP

Table 6-2. Summary of Impacts of Alternatives Relative to the Project

Issue Area	Project	Alternative 1 (No Project)	Alternative 2 (No Use of Marysville WWTP)	Alternative 3 (No Use of Marysville WWTP for Disposal)	Alternative 4 (Phase 1 Only)
Aesthetics	Less than Significant with Mitigation Incorporated	No Impact	Same as the Project: Same amount of night lighting expected.	Same as the Project: Same amount of night lighting expected.	Less than the Project: Project duration would be shorter.
Agriculture and Forestry Resources	No Impact	No Impact	No Impact	No Impact	No Impact
Air Quality	Significant and Unavoidable	No Impact: No development would occur	Less than the Project: Annual NO_x emissions would be lower. Impacts would be Less than Significant.	Greater than the Project: Annual NO_x emissions would be greater than the Project. Impacts would remain Significant and Unavoidable.	Less than Project: Annual NO_x emissions would be lower. Impacts would be Less than Significant.

Table 6-2. Summary of Impacts of Alternatives Relative to the Project

Issue Area	Project	Alternative 1 (No Project)	Alternative 2 (No Use of Marysville WWTP)	Alternative 3 (No Use of Marysville WWTP for Disposal)	Alternative 4 (Phase 1 Only)
Biological Resources	Less than Significant with Mitigation Incorporated	No Impact: No development would occur. Benefits associated with improved fish passage would not be realized.	Less than Project: Alternative would involve less ground disturbance than the Project.	Less than Project: Alternative would involve less ground disturbance than the Project.	Less than Project: Project duration would be shorter and dredging area would be smaller. Benefits associated with improved fish passage would be less.
Cultural Resources	Less than Significant with Mitigation Incorporated	No Impact: No development would occur.	Less than Project: Alternative would involve less ground disturbance than the Project.	Less than Project: Alternative would involve less ground disturbance than the Project.	Less than the Project: Dredging area would be smaller.
Energy	Less than Significant	No Impact: No development would occur	Less than Project: Alternative would involve a lower fuel consumption.	Less than Project: Alternative would involve a lower fuel consumption.	Less than Project: Alternative would involve a lower fuel consumption.
Geology and Soils	Less than Significant with Mitigation Incorporated	No Impact: No development would occur	Less than Project: Alternative would involve less ground disturbance than the Project.	Less than Project: Alternative would involve less ground disturbance than the Project.	Less than Project: Alternative would involve less dredging area than the Project.
Greenhouse Gas Emissions	Less than Significant	No Impact: No development would occur	Less than the Project: Annual GHG emissions would be lower.	Greater than the Project: Annual GHG emissions would be greater. Impacts would remain Less than Significant.	Less than the Project: Annual GHG emissions would be lower.
Hazards and Hazardous Materials	Less than Significant with Mitigation Incorporated	No Impact: No development would occur	Same as the Project: Same use of hazardous materials expected.	Same as the Project: Same use of hazardous materials expected.	Same as the Project: Same use of hazardous materials expected.
Hydrology and Water Quality	Less than Significant with Mitigation Incorporated	No Impact: No development would occur	Less than Project: Alternative would involve less ground disturbance than the Project.	Less than Project: Alternative would involve less ground disturbance than the Project.	Less than the Project: Project would involve a smaller dredging area.
Land Use and Planning	Less than Significant with Mitigation Incorporated	No Impact: No development would occur	Greater than the Project: Alternative would involve a significantly	Greater than the Project: Alternative would involve a significantly	Less than the Project: Project duration would be shorter.

Table 6-2. Summary of Impacts of Alternatives Relative to the Project

Issue Area	Project	Alternative 1 (No Project)	Alternative 2 (No Use of Marysville WWTP)	Alternative 3 (No Use of Marysville WWTP for Disposal)	Alternative 4 (Phase 1 Only)
			greater number of truck trips which affects bike paths use. Impacts remain Less than Significant with Mitigation Incorporated.	greater number of truck trips which affects bike paths use. Impacts remain Less than Significant with Mitigation Incorporated.	
Mineral Resources	No Impact	No Impact	No Impact	No Impact	No Impact
Noise	Less than Significant	No Impact: No development would occur	Greater than the Project: Alternative would involve hauling material over a greater number of days. Impacts remain Less than Significant.	Greater than the Project: Alternative would involve hauling material over a greater number of days. Impacts remain Less than Significant.	Less than the Project: Project duration would be shorter.
Population and Housing	Less than Significant	No Impact: No development would occur	Same as the Project: Same number of construction workers expected.	Same as the Project: Same number of construction workers expected.	Less than the Project: Project duration would be shorter.
Public Services	Less than Significant	No Impact: No development would occur	Same as the Project: Same number of construction workers expected.	Same as the Project: Same number of construction workers expected.	Less than the Project: Project duration would be shorter.
Recreation	Less than Significant with Mitigation Incorporated	No Impact: No development would occur. Safety benefits and benefits associated with restored access to the Feather River for recreational users would not be realized.	Same as the Project: Alternative would involve a similar disruption of use of the Yuba City Boat Ramp facility.	Same as the Project: Alternative would involve a similar disruption of use of the Yuba City Boat Ramp facility.	Less than the Project: Project duration would be shorter.
Transportation	Less than Significant with Mitigation Incorporated	No Impact: No development would occur	Greater than the Project: Alternative would involve a significantly greater number of truck trips. Impacts remain Less than Significant with Mitigation Incorporated.	Greater than the Project: Alternative would involve a significantly greater number of truck trips. Impacts remain Less than Significant with Mitigation Incorporated.	Less than the Project: Project duration would be shorter.

Table 6-2. Summary of Impacts of Alternatives Relative to the Project

Issue Area	Project	Alternative 1 (No Project)	Alternative 2 (No Use of Marysville WWTP)	Alternative 3 (No Use of Marysville WWTP for Disposal)	Alternative 4 (Phase 1 Only)
Tribal Cultural Resources	Less than Significant with Mitigation Incorporated	No Impact: No development would occur	Less than Project: Alternative would involve less ground disturbance than the Project.	Less than Project: Alternative would involve less ground disturbance than the Project.	Less than the Project: Dredging area would be smaller
Utilities and Service Systems	Less than Significant	No Impact: No development would occur	Greater than the Project: Alternative would involve a significantly greater volume of solid waste disposal at the Ostrom Road Landfill. Impacts remain Less than Significant.	Greater than the Project: Alternative would involve a significantly greater volume of solid waste disposal at the Ostrom Road Landfill. Impacts remain Less than Significant.	Less than the Project: Project duration would be shorter.
Wildfire	Less than Significant	No Impact: No development would occur	Same as the Project: Same/similar equipment would be used.	Same as the Project: Same/similar equipment would be used.	Less than the Project: Project duration would be shorter.

6.2 Alternatives Descriptions and Analysis

6.2.1 Alternative 1: No Project Alternative

Under the No Project Alternative, dredging of the boat ramp area or confluence of the Yuba and Feather Rivers would not occur. The sediment in these areas would continue to block safe access to the rivers from the boat ramp and continue to impede fish passage along both the Yuba and Feather rivers.

6.2.1.1 Project Objectives

Under the No Action Alternative, none of the project objectives would be met.

6.2.1.2 Comparison of Impacts

Under the No Action Alternative, no environmental impacts would occur as no construction would occur. The Project benefits on fish passage and recreational access to the Feather River would not be realized.

6.2.2 Alternative 2: No Use of Marysville WWTP

This alternative would involve dewatering of the dredged material in a series of fractionation tanks or other temporary dewatering basins staged at the Yuba City Boat Ramp facility, rather than dewatering of

the material at the Marysville Wastewater Treatment Plant (WWTP). Dredged material would be trucked offsite for disposal at the Ostrom Road Landfill or for another beneficial reuse.

Under this alternative, all dredged material would be placed, either via the discharge pipeline or via mechanical equipment, into fractionation tanks (e.g., Rain-for-Rent Filter Boxes; see Exhibit 1 in Chapter 3, Project Description, Example Filter Box) or other temporary dewatering basins staged at the Yuba City Boat Ramp facility, where water would be decanted from the dredged material. Dewatering procedures using tanks would be followed as described in Section 3, *Project Description*.

Beneficial reuse of the dewatered dredged material for nearby agriculture, nearby habitat restoration, or as fill for construction or reclamation projects in nearby areas would then be implemented on an opportunistic basis. All other dewatered material that cannot be reused would be disposed of at Recology's Ostrom Road Landfill.

As under the proposed Project, dewatered dredged material would be hauled offsite in fractionation tanks or dump trucks to the nearest disposal location. Trucks would exit the Yuba City Boat Ramp facility onto Second Street, travel north on Second Street and either travel west on Colusa Avenue to Highway 99 or east on 5th Street to Highway 70 to be transported to the nearest disposal location. To enter and exit the Yuba City Boat Ramp facility, trucks would need to cross over the Feather River West Levee.

Each fractionation tank would be capable of holding approximately 25 cubic yards of sediment. However, Caltrans' weight limit of 34,000 pounds (lbs) per tandem axle may ultimately limit the amount of material that can be transported on local roadways and highways. For the purposes of this analysis, it is assumed that only 20 cubic yards (cy) of material can be transported per truck trip, for a total of 15,780 truck trips to dispose of 315,600 cy of dredged material under this alternative.

Under a worst-case scenario for purposes of the impact analyses in this document, it is assumed that truck trips would only occur during weekday, daytime hours (i.e., or during the hours that the Ostrom Road Landfill is open Monday through Friday from 6:00 a.m. through 3:30 p.m., for 9.5 hours per day). Assuming a maximum of one truck every 15 minutes to dispose of 315,600 cy of dredged material would involve approximately 38 truck trips per day and a total of 415 days for disposal of dredged material.

Dredging operations would occur between June 15 and October 15 as under the proposed Project (for a total of 122 calendar days; 87 non-holiday weekdays). Therefore, stockpiling of dewatered dredged material and disposal of dredged material past October 15 may be required under this alternative. Time to dewater the dredged material may also be a limiting factor on the construction duration. Although not anticipated, delays may also result if the Ostrom Road Landfill reaches its daily maximum threshold for solid waste disposal (at 3,000 tons per day). Implementation of this alternative, therefore, would not be completed until 2023.

As under the proposed Project, equipment staging, material storage, temporary trailers for workers, and parking for workers would be located in the Yuba City Boat Ramp facility. Under this alternative the need for a large stockpile area for dewatered dredge material in the Yuba City Boat Ramp facility would be required.

6.2.2.1 Project Objectives

Like the proposed Project, all project objective would be met under this alternative.

6.2.2.2 Comparison of Impacts

Aesthetics

Like the proposed Project, Alternative 2 would result in potentially significant impacts on aesthetics due to the potential use of night lighting during construction. Impacts under this alternative would be the same as under the Project due to the use of the same equipment. Implementation of mitigation measure **AES-1** to direct lighting downward and to shield lighting to the maximum extent feasible, and mitigation measure **AES-2** to implement a community outreach program to notify nearby residents of the Project and to manage complaints, would also ensure that impacts on aesthetics under this alternative would be reduced to less than significant levels.

Agriculture and Forestry Resources

Due to the lack of agricultural resources and/or forestry resources in the Project area, Alternative 2 would have no impact on these resources.

Air Quality

Alternative 2 would result in less impacts on air quality than the proposed Project. Specifically, with implementation of mitigation measure **AIR-1** involving the use of Tier 3 filters on all onshore, diesel-fueled, off-road equipment, criteria pollutant emissions would be below thresholds and impacts would be less than significant.

Biological Resources

Alternative 2 would not involve ground disturbance at the Marysville WWTP. Therefore, Alternative 2 would have a lower risk of impacts on biological resources than under the proposed Project. Otherwise, impacts on biological resources associated with Alternative 2 would be the same as under the proposed Project, with potentially significant impacts on aquatic resources and habitat in the Yuba and Feather rivers including special status fish species, northwestern pond turtle, and jurisdictional Waters of the U.S. and State; special status plant species; valley elderberry longhorn beetle (VELB); ringtail; and bats. Implementation of mitigation measures **BIO-1**, **PLANT-1**, **VELB-1**, **FISH-1**, **NPT-1**, **BIRD-1**, **MAM-1**, **MAM-2**, **RIP-1**, **RIP-2**, and **WTR-1**, would ensure that proper procedures are implemented to minimize and avoid impacts on biological resources to the maximum extent feasible. With implementation of these measures, impacts would be reduced to less than significant levels.

Cultural Resources

Alternative 2 would not involve ground disturbance at the Marysville WWTP. Therefore, Alternative 2 would have a lower risk of inadvertent discovery of cultural resources than under the proposed Project. Otherwise, impacts on cultural resources associated with Alternative 2 would be the same as under the proposed Project, with some potential for inadvertent discovery of cultural resources in other work areas

under Alternative 2. Implementation of mitigation measures **CUL-1** through **CUL-3** would ensure that proper procedures are implemented to manage any potential cultural resources discovered during construction. With implementation of these measures, impacts would be reduced to less than significant levels.

Energy

Alternative 2 would result in less fuel consumption than the proposed Project and therefore, lower impacts on energy consumption. As with the proposed Project, impacts would be less than significant.

Geology and Soils

Alternative 2 would result in less ground disturbance than the proposed Project. However, Alternative 2 would still have the potential to increase the risk of erosion. Implementation of a SWPPP and notification for coverage under an National Pollution Discharge Elimination System (NPDES) Permit for Stormwater Discharges Associated with Construction Activities would still be required for this alternative. Therefore, impacts on erosion would be less than significant. Alternative 2 would still have the potential to impact paleontological resources if inadvertently discovered during construction. Impacts would be potentially significant without mitigation. However, implementation of mitigation measure **GEO-1** would ensure that proper procedures are followed if paleontological resources are inadvertently discovered during construction. Therefore, impacts would be less than significant.

Greenhouse Gas Emissions

Alternative 2 would result in lower greenhouse gas (GHG) emissions than the proposed Project. Therefore, as with the proposed Project, GHG emissions would be below thresholds and impacts would be less than significant.

Hazards and Hazardous Materials

Alternative 2 would involve the use of the same equipment as the proposed Project. Therefore, impacts would be the same as under the proposed Project. Alternative 2 would result in potentially significant impacts associated with the use and handling of hazardous materials on the project site (e.g., fuels, lubricating fluids, and oil), as well as due to the risk of upset and potential for spills from vessel use. However, mitigation measures **HAZ-1** and **HAZ-2** would ensure that proper procedures are implemented to minimize the risk of spills. Therefore, with implementation of these measures, impacts would be less than significant.

Hydrology and Water Quality

Alternative 2 would involve less ground disturbance than the Project, and therefore, would involve less impacts on hydrology and water quality than the Project. Nevertheless, Alternative 2 would result in similar discharges associated with dewatering activities as well as dredging activity. Impacts on hydrology and water quality would continue to be potentially significant. Implementation of mitigation measures **HYD-1** and **HYD-2**, however, would ensure that water quality monitoring is implemented to minimize impacts on the Feather and Yuba Rivers, and would ensure that permits are obtained from the Regional

Water Quality Control Board (RWQCB) for those discharges. With implementation of these measures, impacts would be less than significant.

Land Use and Planning

Like the Project, Alternative 2 would result in potentially significant impacts on various issue areas. Implementation of mitigation measures for the individual issue areas would reduce impacts to less than significant levels and ensure consistency with local policies. Alternative 2 in general would result in greater impacts on land use policies as this alternative would result in greater truck trips that have a greater potential to disrupt use of local bike lanes and bike paths. Nevertheless, implementation of mitigation measures, such as mitigation measure **TRAF-1** requiring a Construction Traffic Management Plan, would reduce significant impacts to less than significant levels.

Mineral Resources

Due to the lack of mineral resources in the Project area, Alternative 2 would have no impact on these resources.

Noise

Alternative 2 would result in a greater noise impact than the Project due to a larger number of truck trips than the Project. The maximum number of daily trips is anticipated to be the same as the Project, but the number of days for hauling would be greater under Alternative 2. Nevertheless, noise levels associated with Alternative 2 would be below thresholds of significance, and impacts would be less than significant.

Population and Housing

Alternative 2 is expected to utilize the same number of construction workers as the Project. Therefore, impacts under this alternative would be the same as the Project and would be less than significant.

Public Services

Alternative 2 is expected to utilize the same number of construction workers as the Project. Therefore, impacts on the demand for public services under this alternative would be the same as the Project and would be less than significant.

Recreation

Alternative 2 is expected to result in the same impacts on recreation as the Project because it would disrupt use of the Yuba City Boat Ramp Facility for the same number of seasons. Impacts would be potentially significant. However, implementation of mitigation measure **REC-1** would ensure that notification and coordination with recreational users is implemented to minimize impacts. With implementation of this measure, impacts would be reduced to less than significant levels.

Transportation

Alternative 2 would result in a greater traffic impacts than the Project due to a larger number of truck trips than the Project. The maximum number of daily trips is anticipated to be the same as the Project, but the number of days for hauling would be greater under Alternative 2. Heavy construction traffic could

damage area roadways as well as bike lanes. Construction traffic can also contribute to congestion on local roadways, especially the Feather River Bridge and Twin Cities Memorial Bridge, and downtown areas in Yuba City and Marysville over the short-term during implementation of the Project. Implementation of mitigation measure **TRAF-1** would require preparation of a Construction Traffic Management Plan to minimize construction traffic impacts on area roadways, transit routes, and bicycle facilities to the maximum extent feasible. Peak hours would be avoided to the maximum extent, and detours, traffic control, and signage would be implemented to minimize disruption to bicycle facilities and local traffic at the Yuba City Boat Ramp facility. Because Alternative 2 would be short-term in nature, with implementation of mitigation measure **TRAF-1**, impacts would be reduced to less than significant levels.

Tribal Cultural Resources

No Tribal Cultural Resources (TCRs) have been identified in the Alternative 2 area. Nevertheless, there remains the potential for inadvertent discovery of potential TCRs. Alternative 2 would not involve ground disturbance at the Marysville WWTP. Therefore, Alternative 2 would have a lower risk of inadvertent discovery of TCRs than under the proposed Project. Otherwise, impacts on cultural resources associated with Alternative 2 would be the same as under the proposed Project, with some potential for inadvertent discovery of TCRs in other work areas under Alternative 2. Implementation of mitigation measure **TCR-1** would ensure that terrestrial ground disturbing activity would be monitored by a qualified tribal monitor. With implementation of this measure, impacts would be reduced to less than significant levels.

Utilities and Service Systems

Alternative 2 would have the same demand on water and wastewater services as the Project. Therefore, impacts on these services would remain less than significant under Alternative 2.

Alternative 2 would result in a significantly higher volume of solid waste disposal at the Ostrom Road Landfill. Specifically, without use of the Marysville WWTP site for disposal of dredged material, an additional 65,600 cubic yards (cy) of sediment would need to be discharged at the Ostrom Road Landfill, unless some other opportunity for beneficial reuse of the material for agricultural use, use as construction fill, or use for habitat restoration, arises. It is estimated that a total of 38 truck trips could be made per day to dispose of 20 cy per truck trip at the Ostrom Road Landfill. This would equate to 760 cy, or between 798 and 1,140 tons, of material per day (depending upon water content). The landfill has a limit of 3,000 tons per day. This volume would comprise 27 to 38 percent of the daily disposal limit of the landfill under a worst-case scenario, therefore, daily limits could still be met. In addition, as discussed in Chapter 4.19, the Ostrom Road Landfill still has a current overall capacity of 39 million cy of solid waste. Therefore, the Ostrom Road Landfill would have sufficient capacity for solid waste disposal under Alternative 2 and impacts would be less than significant.

Wildfire

Alternative 2 would have the same impacts on wildfire risk as the proposed Project. Alternative 2 is not located in or near a State Responsibility Area or lands classified as a Very High Fire Hazard Severity Zone. In addition, Alternative 2 would not involve welding, grinding, or other construction activities that would have a high risk of starting a fire. Alternative 2 would also not involve a change in the topography or

drainage of the area that would exacerbate wildfire risk. Consequently, the Alternative 2 would result in a minimal risk of exposure to, or generation of, wildland fires. Therefore, Alternative 2 would not significantly increase the risk of wildland fires in these areas and impacts would be less than significant. The proposed truck routes for the Project including Second Street and either 5th Street or Colusa Avenue (Highway 20)/10th Street to E Street to Highway 70 in Marysville, or Colusa Avenue (Highway 20) to Highway 99 in Yuba City (Figure 3-4) serve, or are likely to serve, as evacuation routes for the residents of Yuba City and Marysville during an emergency (Sutter County 2013). However, construction of the project would be required to stop, and truck traffic would cease in the event of an emergency and evacuation order. Therefore, Alternative 2 would have a less than significant impact on emergency evacuations. Impacts would be less than significant.

6.2.3 Alternative 3: Use of Marysville WWTP for Dewatering Only but Not Disposal

Under this alternative, Phase 1 dredged material would be dewatered at the Marysville WWTP wastewater ponds (or also referred to as evaporation/percolation ponds) but dredged material would be trucked offsite and disposed of either at the Ostrom Road Landfill or at another offsite location for beneficial reuse. As under the proposed Project, Phase 2 dredged material would be dewatered in the Marysville WWTP wastewater ponds as well if funding is received in time for use of the Marysville WWTP site (i.e., in 2021), but otherwise will be dewatered in tanks in upland areas. Phase 2 dredged material would be trucked offsite and disposed of either at the Ostrom Road Landfill or at another offsite location for beneficial reuse. The number of truck trips for this Alternative would be the same as under Alternative 2.

6.2.3.1 Project Objectives

Like the proposed Project, all project objectives would be met under this alternative.

6.2.3.2 Comparison of Impacts

Aesthetics

Like the proposed Project, Alternative 3 would result in potentially significant impacts on aesthetics due to the potential use of night lighting during construction. Impacts under this alternative would be the same as under the Project due to the use of the same equipment. Implementation of mitigation measure **AES-1** to direct lighting downward and to shield lighting to the maximum extent feasible, and mitigation measure **AES-2** to implement a community outreach program to notify nearby residents of the Project and to manage complaints, would also ensure that impacts on aesthetics under this alternative would be reduced to less than significant levels.

Agriculture and Forestry Resources

Due to the lack of agricultural resources and/or forestry resources in the Project area, Alternative 3 would have no impact on these resources.

Air Quality

Alternative 3 would result in greater impacts on air quality than the proposed Project and would continue to result in significant and unavoidable impacts on air quality. Specifically, even with implementation of mitigation measure **AIR-1** involving the use of Tier 3 filters on all onshore, diesel-fueled, off-road equipment, annual nitric oxide (NO_x) emissions would continue to be above thresholds and would be greater than under the proposed Project.

Biological Resources

Alternative 3 would involve less ground disturbance at the Marysville WWTP than under the proposed Project. Therefore, Alternative 3 would have a lower risk of impacts on biological resources than under the proposed Project. Otherwise, impacts on biological resources associated with Alternative 3 would be the same as under the proposed Project, with potentially significant impacts on aquatic resources and habitat in the Yuba and Feather Rivers including special status fish species, northwestern pond turtle, and jurisdictional waters of the U.S. and State; special status plant species; VELB; ringtail; and bats. Implementation of mitigation measures **BIO-1**, **PLANT-1**, **VELB-1**, **FISH-1**, **NPT-1**, **BIRD-1**, **MAM-1**, **MAM-2**, **RIP-1**, **RIP-2**, and **WTR-1**, would ensure that proper procedures are implemented to minimize and avoid impacts on biological resources to the maximum extent feasible. With implementation of these measures, impacts would be reduced to less than significant levels.

Cultural Resources

Alternative 3 would involve less ground disturbance at the Marysville WWTP than under the proposed Project. Therefore, Alternative 3 would have a lower risk of inadvertent discovery of cultural resources than under the proposed Project. Otherwise, impacts on cultural resources associated with Alternative 3 would be the same as under the proposed Project, with some potential for inadvertent discovery of cultural resources in other work areas under Alternative 3. Implementation of mitigation measures **CUL-1** through **CUL-3** would ensure that proper procedures are implemented to manage any potential cultural resources discovered during construction. With implementation of these measures, impacts would be reduced to less than significant levels.

Energy

Alternative 3 would result in less fuel consumption than the proposed Project and therefore, lower impacts on energy consumption. As with the proposed Project, impacts would be less than significant.

Geology and Soils

Alternative 3 would result in less ground disturbance than the proposed Project. However, Alternative 3 would still have the potential to increase the risk of erosion. Implementation of a SWPPP and notification for coverage under an NPDES Permit for Stormwater Discharges Associated with Construction Activities would still be required for this alternative. Therefore, impacts on erosion would be less than significant. Alternative 3 would still have the potential to impact paleontological resources if inadvertently discovered during construction. Impacts would be potentially significant without mitigation. However, implementation of mitigation measure **GEO-1** would ensure that proper procedures are followed if

paleontological resources are inadvertently discovered during construction. Therefore, impacts would be less than significant.

Greenhouse Gas Emissions

Alternative 3 would result in greater GHG emissions than the proposed Project. Nevertheless, GHG emissions would be below thresholds and therefore, impacts would remain less than significant.

Hazards and Hazardous Materials

Alternative 3 would involve the use of the same equipment as the proposed Project. Therefore, impacts would be the same as under the proposed Project. Alternative 3 would result in potentially significant impacts associated with the use and handling of hazardous materials on the project site (e.g., fuels, lubricating fluids, and oil), as well as due to the risk of upset and potential for spills from vessel use. However, mitigation measures **HAZ-1** and **HAZ-2** would ensure that proper procedures are implemented to minimize the risk of spills. Therefore, with implementation of these measures, impacts would be less than significant.

Hydrology and Water Quality

Alternative 3 would involve slightly less ground disturbance than the Project, and therefore, would involve less impacts on hydrology and water quality than the Project. Nevertheless, Alternative 3 would result in similar discharges associated with dewatering activities as well as dredging activity. Impacts on hydrology and water quality would continue to be potentially significant. Implementation of mitigation measures **HYD-1** and **HYD-2**, however, would ensure that water quality monitoring is implemented to minimize impacts on the Feather and Yuba Rivers, and would ensure that permits are obtained from the RWQCB for those discharges. With implementation of these measures, impacts would be less than significant.

Land Use and Planning

Like the Project, Alternative 3 would result in potentially significant impacts on various issue areas. Implementation of mitigation measures for the individual issue areas would reduce impacts to less than significant levels and ensure consistency with local policies. Alternative 3 in general would result in greater impacts on land use policies as this alternative would result in greater truck trips that have a greater potential to disrupt use of local bike lanes and bike paths. Nevertheless, implementation of mitigation measures, such as mitigation measure **TRAF-1** requiring a Construction Traffic Management Plan, would reduce significant impacts to less than significant levels.

Mineral Resources

Due to the lack of mineral resources in the Project area, Alternative 3 would have no impact on these resources.

Noise

Alternative 3 would result in a greater noise impacts than the Project due to the larger number of truck trips than the Project. The maximum number of daily trips is anticipated to be the same as the Project, but

the number of days for hauling would be greater under Alternative 3. Nevertheless, noise levels associated with Alternative 3 would be below thresholds of significance, and impacts would be less than significant.

Population and Housing

Alternative 3 is expected to utilize the same number of construction workers as the Project. Therefore, impacts under this alternative would be the same as the Project and would be less than significant.

Public Services

Alternative 3 is expected to utilize the same number of construction workers as the Project. Therefore, impacts on the demand for public services under this alternative would be the same as the Project and would be less than significant.

Recreation

Alternative 3 is expected to result in the same impacts on recreation as the Project because it would disrupt use of the Yuba City Boat Ramp Facility for the same number of seasons. Impacts would be potentially significant. However, implementation of mitigation measure **REC-1** would ensure that notification and coordination with recreational users is implemented to minimize impacts. With implementation of this measure, impacts would be reduced to less than significant levels.

Transportation

Alternative 3 would result in greater traffic impacts than the Project due to a larger number of truck trips than the Project. The maximum number of daily trips is anticipated to be the same as the Project, but the number of days for hauling would be greater under Alternative 3. Heavy construction traffic could damage area roadways as well as bike lanes. Construction traffic can also contribute to congestion on local roadways, especially the Feather River Bridge and Twin Cities Memorial Bridge, and downtown areas in Yuba City and Marysville over the short-term during implementation of the Project. Implementation of mitigation measure **TRAF-1** would require preparation of a Construction Traffic Management Plan to minimize construction traffic impacts on area roadways, transit routes, and bicycle facilities to the maximum extent feasible. Peak hours would be avoided to the maximum extent, and detours, traffic control, and signage would be implemented to minimize disruption to bicycle facilities and local traffic at the Yuba City Boat Ramp facility and Marysville WWTP facility. Because Alternative 2 would be short-term in nature, with implementation of mitigation measure **TRAF-1**, impacts would be reduced to less than significant levels.

Tribal Cultural Resources

No TCRs have been identified in the Alternative 3 area. Nevertheless, there remains the potential for inadvertent discovery of potential TCRs. Alternative 3 would involve less ground disturbance at the Marysville WWTP than under the proposed Project. Therefore, Alternative 3 would have a lower risk of inadvertent discovery of TCRs than under the proposed Project. Otherwise, impacts on TCRs associated with Alternative 3 would be the same as under the proposed Project, with some potential for inadvertent discovery of TCRs in other work areas under Alternative 3. Implementation of mitigation measure **TCR-1**

would ensure that terrestrial ground-disturbing activity would be monitored by a qualified tribal monitor. With implementation of this measure, impacts would be reduced to less than significant levels.

Utilities and Service Systems

Alternative 3 would have the same demand on water and wastewater services as the Project. Therefore, impacts on these services would remain less than significant under Alternative 3.

Alternative 3 would result in a significantly higher volume of solid waste disposal at the Ostrom Road Landfill. Specifically, without use of the Marysville WWTP site for disposal of dredged material, an additional 65,600 cy of sediment would need to be discharged at the Ostrom Road Landfill, unless some other opportunity for beneficial reuse of the material for agricultural use, use as construction fill, or use for habitat restoration, arises. It is estimated that a total of 38 truck trips could be made per day to dispose of 20 cy per truck trip at the Ostrom Road Landfill. This would equate to 760 cy, or between 798 and 1,140 tons, of material per day (depending upon water content). The landfill has a limit of 3,000 tons per day. This volume would comprise 27 to 38 percent of the daily disposal limit of the landfill under a worst-case scenario, therefore, daily limits could still be met. In addition, as discussed in Chapter 4.19, the Ostrom Road Landfill still has a current overall capacity of 39 million cy of solid waste. Therefore, the Ostrom Road Landfill would have sufficient capacity for solid waste disposal under Alternative 3 and impacts would be less than significant.

Wildfire

Alternative 3 would have the same impacts on wildfire risk as the proposed Project. Alternative 3 is not located in or near a State Responsibility Area (SRA) or lands classified as a Very High Fire Hazard Severity Zone. In addition, Alternative 3 would not involve welding, grinding, or other construction activities that would have a high risk of starting a fire. Alternative 2 would also not involve a change in the topography or drainage of the area that would exacerbate wildfire risk. Consequently, the Alternative 3 would result in a minimal risk of exposure to, or generation of, wildland fires. Therefore, Alternative 3 would not significantly increase the risk of wildland fires in these areas and impacts would be less than significant. The proposed truck routes for Alternative 3 include proposed haul routes under the Project (Figure 3-4) as well as use of Biz Johnson Drive to access State Route 70.All of these routes serve, or are likely to serve, as evacuation routes for the residents of Yuba City and Marysville during an emergency (Sutter County 2013). However, construction of the project would be required to stop, and truck traffic would cease in the event of an emergency and evacuation order. Therefore, Alternative 3 would have a less than significant impact on emergency evacuations. Impacts would be less than significant.

6.2.4 Alternative 4: Reduced Project – Dredge of Only Northern 14-Acres (Phase 1 Only)

Alternative 4, the Reduced Project Alternative, would only involve completion of Phase 1 dredging of 65,000 cy within the original planned 14-acre area funded by Proposition 68. Under Alternative 4, it is assumed that dewatering and disposal of this material could occur at the Marysville WWTP as described under the proposed Project. Construction of this alternative is expected to be completed in one season, in 2021, but under a worst-case scenario it is assumed to potentially take two seasons to complete (in 2022).

6.2.4.1 Project Objectives

Under Alternative 4, only some of the project objectives would be met. Specifically, the following objectives would still be met:

1. Remove excess sediment buildup in portions of the Feather River that were exacerbated by the Oroville Dam Spillway incident of 2017.
2. Address dangerous conditions at the confluence of the Feather and Yuba Rivers for recreational users and emergency vessels due to sediment buildup.
3. Restore and maintain access to the Feather River from the Yuba City Boat Ramp facility for emergency vessel launching capabilities and recreational users.

However, Objective #4, to restore and maintain fish passage in both the Feather River and Yuba River at their confluence, would only be met partially. Phase 1 dredging activities will improve fish passage, but sediment proposed for removal in Phase 2 would continue to hinder fish passage, especially to the Yuba River watershed.

6.2.4.2 Comparison of Impacts

Aesthetics

Like the proposed Project, Alternative 4 would result in potentially significant impacts on aesthetics due to the potential use of night lighting during construction. Impacts would be less than the proposed Project due the significantly shorter duration of construction. Nevertheless, implementation of mitigation measure **AES-1** to direct lighting downward and to shield lighting to the maximum extent feasible, and mitigation measure **AES-2** to implement a community outreach program to notify nearby residents of the Project and to manage complaints, would also ensure that impacts on aesthetics under this alternative would be reduced to less than significant levels.

Agriculture and Forestry Resources

Due to the lack of agricultural resources and/or forestry resources in the Project area, Alternative 4 would have no impact on these resources.

Air Quality

Alternative 4 would result in less impacts on air quality than the proposed Project. Alternative 4 would not involve Phase 2 dredging activities, resulting in much lower annual NO_x emissions than the proposed Project. In addition, with implementation of mitigation measure **AIR-1** involving the use of Tier 3 filters on all onshore, diesel-fueled, off-road equipment, criteria pollutant emissions would be below thresholds and impacts would be less than significant.

Biological Resources

Alternative 4 would involve less dredging area than under the proposed Project; otherwise, impacts in upland areas are expected to be the same as the proposed Project. Therefore, Alternative 4 would have a lower risk of impacts on aquatic biological resources than under the proposed Project. Otherwise, impacts

on biological resources associated with Alternative 4 would be the same as under the proposed Project, with potentially significant impacts on aquatic resources and habitat in the Yuba and Feather Rivers including special status fish species, northwestern pond turtle, and jurisdictional waters of the U.S. and State; special status plant species; VELB; ringtail; and bats. Implementation of mitigation measures **BIO-1**, **PLANT-1**, **VELB-1**, **FISH-1**, **NPT-1**, **BIRD-1**, **MAM-1**, **MAM-2**, **RIP-1**, **RIP-2**, and **WTR-1**, would ensure that proper procedures are implemented to minimize and avoid impacts on biological resources to the maximum extent feasible. With implementation of these measures, impacts would be reduced to less than significant levels.

Cultural Resources

Alternative 4 would involve less dredging area than under the proposed Project; otherwise, impacts in upland areas are expected to be the same as the proposed Project. Therefore, Alternative 4 would have a lower risk of inadvertent discovery of cultural resources than under the proposed Project. Otherwise, impacts on cultural resources associated with Alternative 4 would be the same as under the proposed Project, with some potential for inadvertent discovery of cultural resources in other work areas under Alternative 4. Implementation of mitigation measures **CUL-1** through **CUL-3** would ensure that proper procedures are implemented to manage any potential cultural resources discovered during construction. With implementation of these measures, impacts would be reduced to less than significant levels.

Energy

Alternative 4 would result in less fuel consumption than the proposed Project and therefore, lower impacts on energy consumption. As with the proposed Project, impacts would be less than significant.

Geology and Soils

Alternative 4 would result in the same upland ground disturbance in upland areas as the proposed Project but would involve dredging less area. Therefore, overall Alternative 4 would result in less impacts on geology and soils than the Project. Alternative 4 would still have the potential to increase the risk of erosion. Implementation of a SWPPP and notification for coverage under an NPDES Permit for Stormwater Discharges Associated with Construction Activities would still be required for this alternative. Therefore, impacts on erosion would be less than significant. Alternative 4 would still have the potential to impact paleontological resources if inadvertently discovered during construction. Impacts would be potentially significant without mitigation. However, implementation of mitigation measure **GEO-1** would ensure that proper procedures are followed if paleontological resources are inadvertently discovered during construction. Therefore, impacts would be less than significant.

Greenhouse Gas Emissions

Alternative 4 would result in lower GHG emissions than the proposed Project. Therefore, as with the proposed Project, GHG emissions would be below thresholds and impacts would be less than significant.

Hazards and Hazardous Materials

Alternative 4 would involve the use of the same equipment as the proposed Project. Therefore, impacts would be the similar as under the proposed Project, but overall would be less given the shorter duration

of the Project. Alternative 4 would result in potentially significant impacts associated with the use and handling of hazardous materials on the project site (e.g., fuels, lubricating fluids, and oil), as well as due to the risk of upset and potential for spills from vessel use. However, mitigation measures **HAZ-1** and **HAZ-2** would ensure that proper procedures are in implemented to minimize the risk of spills. Therefore, with implementation of these measures, impacts would be less than significant.

Hydrology and Water Quality

Alternative 4 would involve a smaller dredging area than the Project, and therefore, would involve less impacts on hydrology and water quality than the Project. Nevertheless, Alternative 3 would result in similar discharges associated with dewatering activities as well as dredging activity. Impacts on hydrology and water quality would continue to be potentially significant. Implementation of mitigation measures **HYD-1** and **HYD-2**, however, would ensure that water quality monitoring is implemented to minimize impacts on the Feather and Yuba Rivers, and would ensure that permits are obtained from the RWQCB for those discharges. With implementation of these measures, impacts would be less than significant.

Land Use and Planning

Alternative 4 in general would result in less impacts on land use policies as this alternative would result in a lesser number of truck trips with the potential to disrupt the use of local bike lanes and bike paths. In addition, Alternative 4 would involve a shorter project duration than the Project. However, like the Project, Alternative 4 would result in potentially significant impacts on various issue areas. Nevertheless, implementation of mitigation measures, such as mitigation measure **TRAF-1** requiring a Construction Traffic Management Plan, would reduce significant impacts to less than significant levels and ensure consistency with local policies.

Mineral Resources

Due to the lack of mineral resources in the Project area, Alternative 4 would have no impact on these resources.

Noise

Alternative 4 would result in a lesser noise impact than the Project due to the shorter duration of the Project. The maximum number of daily trips is anticipated to be the same as the Project, but the number of days for hauling would be lower under Alternative 4. In addition, noise levels associated with Alternative 4 would be below thresholds of significance, and impacts would be less than significant.

Population and Housing

Alternative 4 is expected to utilize the same number of construction workers as the Project. However, the duration of Alternative 4 would be less than the Project. Therefore, impacts under this alternative would be less than under the Project and would be less than significant.

Public Services

Alternative 4 is expected to utilize the same number of construction workers as the Project. However, the duration of Alternative 4 would be less than the Project. Therefore, impacts on the demand for public services under this alternative would be less than under the Project and would be less than significant.

Recreation

Alternative 4 is expected to result in less of a disruption of recreational use of the Yuba City Boat Ramp facility than the Project due to the shorter project duration. Nevertheless, impacts would be potentially significant. However, implementation of mitigation measure **REC-1** would ensure that notification and coordination with recreational users is implemented to minimize impacts. With implementation of this measure, impacts would be reduced to less than significant levels.

Transportation

Alternative 4 would result in less traffic impacts than the Project due to a lower number of truck trips than the Project. Nevertheless, heavy construction traffic could damage area roadways as well as bike lanes. Construction traffic can also contribute to congestion on local roadways, especially the Feather River Bridge and Twin Cities Memorial Bridge, and downtown areas in Yuba City and Marysville over the short-term during implementation of the Project. Implementation of mitigation measure **TRAF-1** would require preparation of a Construction Traffic Management Plan to minimize construction traffic impacts on area roadways, transit routes, and bicycle facilities to the maximum extent feasible. Peak hours would be avoided to the maximum extent, and detours, traffic control, and signage would be implemented to minimize disruption to bicycle facilities and local traffic at the Yuba City Boat Ramp facility and Marysville WWTP facility. Because the Alternative 4 would be short-term in nature, with implementation of mitigation measure **TRAF-1**, impacts would be reduced to less than significant levels.

Tribal Cultural Resources

No TCRs have been identified in the Alternative 4 area. Alternative 4 would also involve less dredging area than under the proposed Project; otherwise, impacts in upland areas are expected to be the same as the proposed Project. Therefore, Alternative 4 would have a lower risk of inadvertent discovery of TCRs than under the proposed Project. Otherwise, impacts on TCRs associated with Alternative 4 would be the same as under the proposed Project, with some potential for inadvertent discovery of TCRs in other work areas under Alternative 4. Implementation of mitigation measure **TCR-1** would ensure that terrestrial ground disturbing activity would be monitored by a qualified tribal monitor. With implementation of this measure, impacts would be reduced to less than significant levels.

Utilities and Service Systems

Under Alternative 4, demand for water and wastewater services would be less than under the Project due to the shorter project duration. In addition, the solid waste disposal volumes would involve 250,000 cy less solid waste disposal at the Ostrom Road Landfill. Impacts on utilities and service systems would be less than significant under Alternative 4.

Wildfire

Alternative 4 would have the same impacts on wildfire risk as the proposed Project. Alternative 4 is not located in or near a SRA or lands classified as a Very High Fire Hazard Severity Zone. In addition, Alternative 4 would not involve welding, grinding, or other construction activities that would have a high risk of starting a fire. Alternative 2 would also not involve a change in the topography or drainage of the area that would exacerbate wildfire risk. Consequently, the Alternative 4 would result in a minimal risk of exposure to, or generation of, wildland fires. Therefore, Alternative 4 would not significantly increase the risk of wildland fires in these areas and impacts would be less than significant. The proposed truck routes for the Project including Second Street and either 5th Street or Colusa Avenue (Highway 20)/10th Street to E Street to Highway 70 in Marysville, or Colusa Avenue (Highway 20) to Highway 99 in Yuba City (Figure 3-4) serve, or are likely to serve, as evacuation routes for the residents of Yuba City and Marysville during an emergency (Sutter County 2013). However, construction of the project would be required to stop, and truck traffic would cease in the event of an emergency and evacuation order. Therefore, Alternative 4 would have a less than significant impact on emergency evacuations. Impacts would be less than significant.

6.3 Environmentally Superior Alternative

The CEQA Guidelines (Section 15126[e][2]) stipulate, "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Alternative 1 (No Project Alternative) would result in the least environmental impacts but would not meet any of the project objectives.

Alternatives 2 and 3 would meet all project objectives. Alternative 2 (No Use of the Marysville WWTP) would result in less air quality impacts than the Project, where impacts would be Less than Significant with Mitigation Incorporated. Alternative 2 would also result in less ground disturbance resulting in lower impacts on biological resources, cultural resources, geology and soils, and hydrology and water quality. However, Alternative 2 would result in a significantly greater number of truck trips than the proposed Project, resulting in greater noise impacts and impacts on recreation, as well as a significantly greater volume of solid waste disposed of at the Ostrom Road Landfill. Alternative 3 (involving dewatering but no disposal at the Marysville WWTP) would result in slightly less ground disturbance than the proposed Project but would continue to result in significant and unavoidable impacts on air quality and, like Alternative 2, result in significantly more truck trips and solid waste disposal at the Ostrom Road Landfill than the proposed Project.

Alternative 4, involving implementation of only Phase 1 dredging activities, would result in the least environmental impacts due to a shorter project duration. In addition, Alternative 4 would not result in any significant and unavoidable impacts (i.e., on air quality). However, Alternative 4 would only partially meet project objectives; it would not provide the full benefits on fish passage to the Feather and Yuba rivers. Nevertheless, Alternative 4 is identified as the Environmentally Superior Alternative.

6.4 Alternatives Considered but Rejected

Disposal of dredged material back into either the Feather or Yuba rivers in a different location was considered but rejected due to greater anticipated impacts on aquatic biological resources as well as disruption of the sediment budget within the river systems.

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CHAPTER 7 REFERENCES

2.0 Summary

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6.0 Alternatives

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