DRAFT

Supplemental Environmental Assessment and Supplemental Environmental Impact Report

American River Watershed Common Features Water Resources Development Act of 2016 California Sacramento River East Levee Contract 4

June 2022

Central Valley Flood Protection Board
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Preface

The Sacramento River East Levee (SREL) Contract 4 project includes the installation of levee improvements to meet embankment and foundation stability requirements along various sections of the SREL in Sacramento, California. Most levee improvements included in SREL Contract 4 were analyzed in the 2016 American River Watershed Common Features General Reevaluation Report (ARCF GRR) Environmental Impact Statement/Environmental Impact Report (EIS/EIR). This document is organized as follows: Part 1 is a Supplemental EIR, and Part 2 is a Supplemental Environmental Assessment (SEA), both of which supplement the ARCF GRR Final EIS/EIR by addressing the environmental impacts from project refinements and design details developed after the ARCF GRR Final EIS/EIR was prepared. The Supplemental EIR is being prepared by the Central Valley Flood Protection Board (CVFPB) as the State lead agency under the California Environmental Quality Act (CEQA), and the Supplemental EA is being prepared by the U.S. Army Corps of Engineers (USACE) as the Federal lead agency under the National Environmental Policy Act (NEPA).

As described in more detail below, CEQA and NEPA requirements differ, including which project elements require additional environmental analyses and the definition of baselines used to evaluate impacts. For these reasons, the Supplemental EIR (Part 1) and Supplemental EA (Part 2) for SREL Contract 4 are combined in this document for clarity, completeness, and to better focus and facilitate State and Federal decision-making.

In accordance with CEQA, Part 1 of this document (the Supplemental EIR) analyzes the entirety of the proposed project, which includes SREL Contract 4 project components, at a greater level of design detail than was available in the ARCF GRR Final EIS/EIR. The proposed project impacts are compared to existing conditions (as of January 2022) to determine impact significance.

In accordance with NEPA, Part 2 of this document (the Supplemental EA) analyzes the Proposed Action as only the SREL Contract 4 project components not previously analyzed in the ARCF GRR Final EIS/EIR or its supplemental documents (including but not limited to): (1) a cutoff wall and (2) seepage/stability berms near the community of Freeport. The prior NEPA documents already addressed the installation of cutoff walls, levee raising areas, utility remediation sites, staging areas, haul routes, borrow sites, and potential spoils disposal areas. These project components have already been authorized for construction, analyzed for their full environmental impacts, and therefore are considered to be part of the NEPA No Action Alternative. The impacts of the Proposed Action are compared to the No Action Alternative to determine impact significance in the Supplemental EA presented in Part 2.

CVFPB is releasing this Draft Supplemental EIR for public and agency review in accordance with CEQA requirements. USACE is releasing the Draft Supplemental EA for public and agency review concurrently with the Draft Supplemental EIR. After the review period closes, CVFPB and USACE will consider the comments received and prepare responses. These comments and responses, along with any modifications, will be incorporated into a Final Supplemental EIR and a Final Supplemental EA and USACE will decide whether the Project qualifies for a Finding of No Significant Impact to meet NEPA requirements for the SREL Contract 4 project.

Part 1

Draft Supplemental Environmental Impact Report

American River Watershed Common Features
Water Resources Development Act of 2016 Project
Sacramento River East Levee Contract 4

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
APE	Area of Potential Effects
ARCF GRR	American River Watershed Common Features General Reevaluation Report
BACT	Best Available Control Technology
Basin Plan	Sacramento River Basin and the San Joaquin River Basin Plan
BMPs	Best Management Practices
BSLMS	Beach/Stone Lakes Mitigation Site
BSSCP	Bentonite Slurry Spill Contingency Plan
BWFS	Basin-Wide Feasibility Studies
CAA	Clean Air Act
CARB	California Air Resources Board
CAS	Climate Adaptation Strategy
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CB	cement-bentonite
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
City	City of Sacramento
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
County	County of Sacramento
CRHR	California Register of Historical Resources
CSUS	California State University, Sacramento
CVFMP	Central Valley Flood Management Planning
CVFPB	Central Valley Flood Protection Board
CVFPP	Central Valley Flood Protection Plan
CWA	Clean Water Act
cy	cubic yards
dB	decibels
dBA	A-weighted decibels

DEIS/DEIR	Draft Environmental Impact Statement/Draft Environmental Impact Report
Delta	Sacramento-San Joaquin Delta
DMM	deep soil mixing
DWR	California Department of Water Resources
EA/EIR	Environmental Assessment/Environmental Impact Report
EFH	Essential Fish Habitat
EIP	early implementation project
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
EM	Engineering Manual
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ER	Engineering Regulation
ESA	Endangered Species Act
ESUs	evolutionarily significant units
ETL	Engineering Technical Letter
Farmland	Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
FCR	fire-cracked rock
FEIS/FEIR	Final Environmental Impact Statement/Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FTA	Federal Transit Administration
FWARG	Far Western Anthropological Research Group
GEI	GEI Consultants, Inc.
GHG	Greenhouse gas
HPTP	Historic Properties Treatment Plan
I-5	Interstate 5
IDM	investigation-derived material
ITE	Institute of Transportation Engineers
Leq	equivalent sound level
Leq[h]	1-hour equivalent sound level
LOS	level of service
MIAD	Mormon Island Auxiliary Dam
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant
MMRP	Mitigation Monitoring and Reporting Program
MRZ	Mineral Resource Zone

NAAQS	National Ambient Air Quality Standards
NCIC	North Central Information Center
NEMDC	Natomas East Main Drainage Canal
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO2	nitrogen dioxide
NOX	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O&M	operations and maintenance
OHWM	ordinary high-water mark
OPT	one pass trench
PA	Programmatic Agreement
PAR	PAR Environmental Services
PCE	passenger car equivalent
PG&E	Pacific Gas and Electric Company
Phase I ESA	Phase I Environmental Site Assessment
PM	particulate matter
PM10	particulate matter equal to or less than 10 micrometers in diameter
PM2.5	particulate matter equal to or less than 2.5 micrometers in diameter
PPV	peak particle velocity
PRC	Public Resources Code
Reclamation	U.S. Bureau of Reclamation
RM	River Mile
RPA	Registered Professional Archaeologist
RWQCB	Regional Water Quality Control Board
SAFCA	Sacramento Area Flood Control Agency
SB	soil-bentonite
SCB	soil-cement-bentonite
SHPO	State Historic Preservation Officer
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO2	sulfur dioxide
SPCCP	Spill Prevention Control and Countermeasures Plan
SPRR	Southern Pacific Railroad Company
SR	State Route
SRA	shaded riverine aquatic

SRBPP	Sacramento River Bank Protection Project
SRCSD	Sacramento Regional County Sanitation District
SREL	Sacramento River East Levee
SRFCP	Sacramento River Flood Control Project
SSHCP	South Sacramento Habitat Conservation Plan
SVAB	Sacramento Valley Air Basin
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	toxic air contaminants
UAIC	United Auburn Indian Community of the Auburn Rancheria
UCB	University of California, Berkeley
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VdB	vibration decibels
VMT	vehicle miles traveled
WCM	Water Control Manual
WRDA	Water Resources Development Act
WSAFCA	West Sacramento Area Flood Control Agency
WSLIP	West Sacramento Levee Improvements Program

EXECUTIVE SUMMARY

The Central Valley Flood Protection Board (CVFPB), as lead agency under the California Environmental Quality Act (CEQA), has prepared this Supplemental Environmental Impact Report (SEIR) to evaluate portions of the Sacramento River East Levee (SREL) Contract 4 (proposed project) that require additional environmental analysis since the American River Watershed Common Features General Reevaluation Report (ARCF GRR) Environmental Impact Statement/Environmental Impact Report (EIS/EIR) was certified in 2016. These elements of the proposed project (staging areas, haul routes, borrow site, spoils disposal, municipal drainage infrastructure modifications, and specific seepage and stability improvements and locations) require supplemental analysis under CEQA because further project design details and refinements by USACE since the ARCF GRR Final EIS/EIR have resulted in necessary project refinements to these elements of the proposed project. This additional information provides the requisite detail for decision-making by CEQA responsible agencies."

State CEQA Guidelines Section 15163(a)(2) (Cal. Code Regs., tit. 14, § 15163, subd. (a)(2)) requires preparation of a Supplemental EIR when "minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation." This Supplemental EIR has been prepared to supplement, not replace, the ARCF GRR Final EIS/EIR, and provides only the information necessary to make the previous ARCF GRR Final EIS/EIR adequate for the proposed project (SREL Contract 4) as revised. Consequently, public scoping and alternatives analyses are not contained herein as they were sufficiently conducted during development of the ARCF GRR Final EIS/EIR. This Supplemental EIR compares the effects of the proposed project to existing conditions as of January 2022.

Areas of Controversy and Issues to be Resolved

The ARCF GRR Final EIS/EIR identified several areas of controversy based on comments received during the public scoping period in 2008 and the history of the NEPA and CEQA processes undertaken by USACE, CVFPB, and the Sacramento Area Flood Control Agency since initial scoping for the ARCF GRR EIS/EIR. Several of these areas of controversy are applicable to the proposed project, including:

- Construction-related effects on residents and businesses adjacent to the project levees.
- Construction-related impacts on biological resources.
- Vegetation and tree removal.
- Effects to cultural resources and resources significant to Native American tribes.
- Impacts to recreational facilities.
- Impacts to endangered species and their habitats.

There are no issues to be resolved. The ARCF GRR Final EIS/EIR selected the alternative to be implemented and identified feasible mitigation for significant impacts.

Public Review of Supplemental EIR

The Draft Supplemental EIR was made available to responsible and other potentially interested agencies, stakeholder organizations, and individuals, including all entities that have

previously requested such notice in writing, for a 45-day review period from June 15, 2022 to August 1, 2022. USACE, DWR, and CVFPB will conduct a virtual public meeting on DATE to receive comments on the Draft Supplemental EIR.

A Notice of Completion for the Draft Supplemental EIR was filed with the State Clearinghouse, in accordance with the State CEQA Guidelines (Section 15085), and a Notice of Availability of the Draft Supplemental EIR was posted in accordance with State CEQA Guidelines (Section 15087). A public notice was posted in the Sacramento Bee on June 15, 2022 and sent to individuals requesting information regarding the proposed project. All references used in the preparation of this SEIR, including the 2016 ARCF GRR Final EIS/EIR, have also been made available to the public. This distribution and public noticing ensured that all interested parties had an opportunity to provide written comments on the Draft Supplemental EIR consistent with State CEQA Guidelines. (14 Cal. Code Regs., tit. 14, § 15000 et seq.)

Copies of the Draft Supplemental EIR are available for review online at www.sacleveeupgrades.com.

Summary of Environmental Impacts

Table ES-1 summarizes the environmental effects analysis, provided in detail in Sections 3.2 through 3.14 of this Supplemental EIR, and includes the title of each impact, significance conclusions before and after implementation of mitigation, and the title of each mitigation measure identified in the Supplemental EIR. The supplemental effects of the proposed project were updated and compared to existing conditions as of January 2022. All of the significant environmental effects ("significant impacts") presented in **Table ES-1** were previously presented as such in the ARCF GRR Final EIS/EIR, and there is no substantial increase in the severity of any significant environmental effect previously presented in the ARCF GRR Final EIS/EIR.

Table ES-1 Summary of Environmental Effects and Mitigation Measures for the Proposed Project

Effect	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
Visual Resources			
Damage to Scenic Resources within State- or County-Designated Scenic Highways	LTS long-term, S short-term	None feasible	LTS long term, SU short term
Changes in Scenic Vistas and Existing Visual Character	LTS long-term, S short-term	None feasible	LTS long term, SU short term
Create New Sources of Substantial Light or Glare	LTS	None required	LTS
Air Quality			
Adverse Effects on Air Quality from Construction Emissions	S	Mitigation Measure AIR-1: Implement the Sacramento Metropolitan Air Quality Management District's Basic Construction Emission Control Practices. Mitigation Measure AIR-2: Implement the Sacramento Metropolitan Air Quality Management District's Enhanced Fugitive PM Dust Control Practices. Mitigation Measure AIR-3: Require Lower Exhaust Emissions for Construction Equipment. Mitigation Measure AIR-4: Use the Sacramento Metropolitan Air Quality Management District's Off-Site Mitigation Fee to Reduce NOx Emissions	LTS
Vegetation and Wildlife			
Adverse Effects on Riparian Habitat and Waters of the United States	S	Mitigation Measure VEG-1: Compensate for Riparian Habitat Removal. Mitigation Measure GEO-1: Acquire Appropriate Regulatory Permits and Prepare and Implement a Storm Water Pollution Prevention Plan, Spill Prevention Control and Countermeasures Plan, and Associated Best Management Practices	LTS long term, SU short term
Conflict with Tree Preservation Policies or Ordinances or Provisions of an Adopted Habitat Conservation Plan or Natural Community Conservation Plan	LTS	None required	LTS
Special Species Status			
Adverse Effect on Special-Status Species: Plants	PS	Mitigation Measure PLANT-1: Implement Measures to Protect Special-status Plants	LTS
Adverse Effect on Special-Status Species: Valley Elderberry Longhorn Beetle	PS	Mitigation Measure VELB-1: Implement Current USFWS Avoidance, Minimization, and Compensation Measures for Valley Elderberry Longhorn Beetle	LTS
Adverse Effect on Special-Status Species: Burrowing Owl	PS	Mitigation Measure BUOW-1: Implement Measures to Protect Burrowing Owl	LTS
Adverse Effect on Special-Status Species: Swainson's Hawk and Other Special-Status Birds	PS	Mitigation Measure BIRD-1: Implement Measures to Protect Nesting Migratory Birds	LTS
Adverse Effect on Special-Status Species: Fish	LTS	Mitigation Measure FISH-1: Implement Limits for In-Water Work	LTS
Adverse Effect on Special-Status Species: Special- Status Bats (CEQA only)	PS	Mitigation Measure BAT-1: Implement Measures to Protect Maternity Roosts of Special-Status Bats	LTS
Climate Change			

Effect	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
Temporary, Short-Term Generation of Greenhouse Gas Emissions	S	Mitigation Measure GHG-1: Implement GHG Reduction Measures	LTS
Conflict with an Applicable GHG Emissions Reduction Plan and Effects of Climate Change	LTS	None required	LTS
Cultural and Tribal Cultural Resources			
Damage to or Destruction of Built-Environment Historic Properties	LTS	None required	LTS
Damage to or Destruction of Known Precontact-Period Archaeological Sites and Tribal Cultural Resources	LTS	Mitigation Measure CR-1: Resolve Adverse Effects through Programmatic Agreement and Historic Properties Treatment Plan	LTS
Potential Damage to or Destruction of Previously Undiscovered Archaeological Sites or Tribal Cultural Resources	PS	Mitigation Measure CR-2: Prepare an Archaeological Discovery Plan and an Archaeological Monitoring Plan; Mitigation Measure CR-3: Conduct Cultural Resources Awareness Training; Mitigation Measure CR-4: Implement Procedures for Inadvertent Discovery of Cultural Material; Mitigation Measure CR-5: In the Event that Tribal Cultural Resources are Discovered Prior to or During Construction, Implement Procedures to Evaluate Tribal Cultural Resources and Implement Avoidance and Minimization Measures to Avoid Significant Adverse Effects	LTS
Damage to or Destruction of Human Remains during Construction	PS	Mitigation Measure CR-6: Implement Procedures	LTS
Geological Resources			
Potential Temporary, Short-Term Construction-related Erosion	PS	Mitigation Measure GEO-1: Acquire Appropriate Regulatory Permits and Prepare and Implement a Storm Water Pollution Prevention Plan, Spill Prevention Control and Countermeasures Plan, and Associated Best Management Practices	LTS
Potential to Directly or Indirectly Destroy a Unique Paleontological Resource or Site	LTS	None required	LTS
Hazardous Waste and Materials			
Handling of Hazardous Materials within 0.25 Mile of a School	LTS	None required	LTS
Possible Exposure of People and the Environment to Existing Hazardous Materials, Including Cortese-listed Sites	PS	Mitigation Measure HAZ-1: Conduct Phase II Investigations as Needed	LTS
Interfere with Emergency Response or Evacuation	PSS	Mitigation Measure TR-1: Prepare and Implement a Traffic Control and Road Maintenance Plan	LTS
Possible Creation of Wildland Fire Hazards	LTS	None required	LTS
Water Quality and Groundwater Resources			

Effect	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
Violate Any Water Quality Standards or Waste Discharge Requirements or Otherwise Substantially Degrade Surface or Groundwater Quality, Result in Substantial Erosion or Siltation On- or Offsite, or Conflict with or Obstruct Implementation of a Water Quality Control Plan or Sustainable Groundwater Management Plan	PS	Mitigation Measure GEO-1: Acquire Appropriate Regulatory Permits and Prepare and Implement a Storm Water Pollution Prevention Plan, Spill Prevention Control and Countermeasures Plan, and Associated Best Management Practices; Mitigation Measure HWQ-1: Obtain Appropriate Discharge and Dewatering Permit and Implement Provisions for Dewatering	LTS
Substantially Decrease Groundwater Supplies or Interfere Substantially with Groundwater Recharge Such That the Project May Impede Sustainable Groundwater Management of the Basin	LTS	None required	LTS
Create or Contribute Runoff Water Which Would Exceed the Capacity of Existing or Planned Stormwater Drainage Systems or Provide Substantial Additional Sources of Polluter Runoff	LTS	None required	LTS
Risk Release of Pollutants Due to Project Inundation in Flood Hazard, Tsunami, or Seiche Zones	LTS	None required	LTS
Noise			
Potential Increase in Ambient Noise Levels or Exposure of Sensitive Receptors to Excessive Noise	S	Mitigation Measure NOI-1: Implement Measures to Reduce Construction Noise and Vibration Effects	LTS
Potential Exposure of Sensitive Receptors to Excessive Vibration	S	Mitigation Measure NOI-1: Implement Measures to Reduce Construction Noise and Vibration Effects	LTS
Recreation			
Changes in Recreational Opportunities during Project Construction Activities	S	Mitigation Measure REC-1: Implement Bicycle and Pedestrian Detours, Provide Construction Period Information on Facility Closures, and Coordinate with the City of Sacramento to Repair of Damage to Bicycle Facilities	SU short term, LTS long term
Transportation and Circulation			
Conflict with a Program, Plan, or Ordinance: Exceed Level of Service or Conflict with Vehicle- Miles-Traveled Standards	NI	None required	NI
Increase in Traffic Volumes or Decrease in Capacity along Designated Roadways in the Project Area	PS	Mitigation Measure TR-1: Prepare and Implement a Traffic Control and Road Maintenance Plan	SU short term, LTS long term
Conflict with a Program, Plan, or Ordinance: Decreased Performance or Safety of Alternative Modes of Transportation	S	Mitigation Measure TR-1: Prepare and Implement a Traffic Control and Road Maintenance Plan	LTS
Increased Hazards Due to a Design Feature or Incompatible Uses	PS	Mitigation Measure TR-1: Prepare and Implement a Traffic Control and Road Maintenance Plan	LTS
Public Utility Service Systems			

Effect	Significance Before Mitigation Measures	Mitigation Measures	Significance After Mitigation Measures
Potential Disruption of Utility Service	PS	Mitigation Measure UTL-1: Verify Utility Locations, Coordinate with Affected Utility Owners/Providers, Prepare and Implement a Response Plan, and Conduct Worker Training with Respect to Accidental Utility Damage	LTS

Notes: NI = No Impact, LTS = Less than Significant, S = Significant, PS = Potentially Significant, SU = Significant and Unavoidable
Source: GEI Consultants, Inc. 2021

Chapter 1 INTRODUCTION

1.1 Proposed Project

The U.S. Army Corps of Engineers, Sacramento District (USACE), Central Valley Flood Protection Board (CVFPB), and Sacramento Area Flood Control Agency (SAFCA), collectively referred to as the Project Partners, propose to construct, as a part of the American River Watershed Common Features (ARCF) 2016 Project, levee improvements consisting of approximately 12,880 cumulative feet (less than 3 miles) of levee raises, cut off walls, seepage berm, and other levee improvements along the Sacramento River's east levee in Sacramento, California. Construction is planned to start in April 2023 and conclude in October 2023. The proposed project is the fourth of four contracts on the Sacramento River being constructed from 2020 to 2024 to address seepage, stability, and overtopping concerns along the Sacramento River east levee. USACE is the Federal lead agency under the National Environmental Policy Act (NEPA), CVFPB is the State lead agency under the California Environmental Quality Act (CEQA), and SAFCA is a responsible agency under CEQA.

1.2 Project Location

The project is located in the City of Sacramento (City), California, along the east bank of the Sacramento River (**Figure 1-1**). The proposed project includes cutoff wall installation, seepage berm installation, and remediation at five isolated utility locations ("windows") along the Sacramento River, including:

- A 1,150-foot-long shallow cutoff wall adjacent and upstream of the I Street Bridge.
- A 50-foot-long jet-grout cutoff wall near the Pioneer Bridge.
- A 1,730-foot-long cutoff wall including both soil bentonite cutoff wall and jet grout cutoff wall along the levee at the north end of the Little Pocket neighborhood.
- A 400-foot-long cutoff wall segment at the confluence of the Pocket Canal and the Sacramento River.
- A 200-foot-long levee raise adjacent to Freeport Blvd and the Lynn Robie Off-Leash Dog Park; and a 100-foot-long utility window remediation adjacent to Freeport Blvd. near its intersection with Stonecrest Ave.
- An 8,210-foot-long shallow cutoff wall extending from the Bill Conlin Sports Complex to near Cliff's Marina.
- A 200-foot-long flashboard retrofit at Cliff's Marina, a 380-foot cutoff wall, and a 1,000-foot seepage berm to the south of Cliff's Marina.

The project site includes the levee prism and areas on the landside of the levee where cutoff walls, and seepage berms will be installed; roadways and haul routes used to transport material to and from work areas; and several parking areas, parks, and vacant lots used for staging areas.

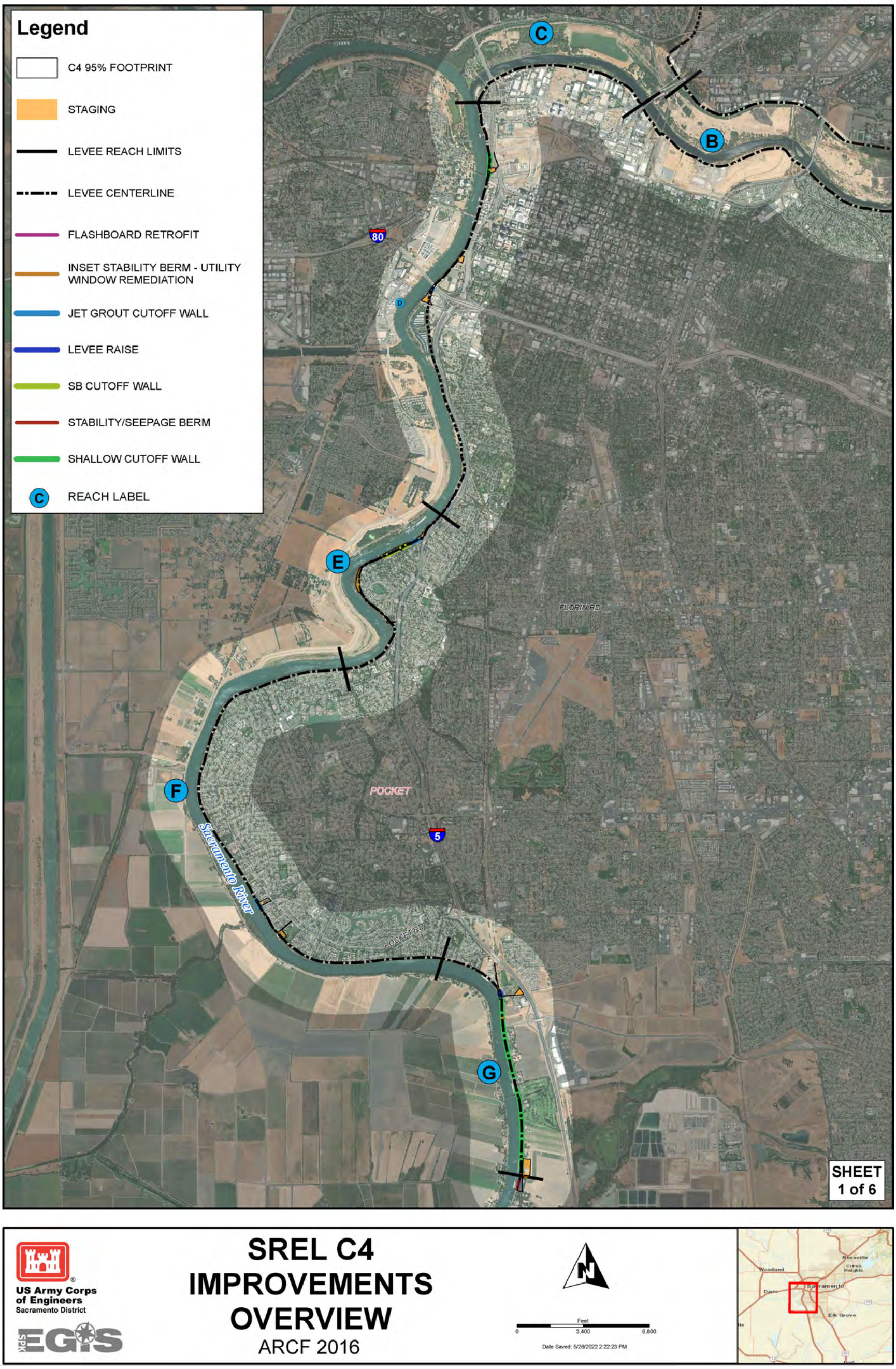


Figure 1-1 Project Vicinity and Overview of Proposed Improvements

1.3 Project Purpose, Need, and Objectives

The purpose of the SREL Contract 4 Project is to reduce the flood risk associated with through-seepage and under-seepage of water from the Sacramento River into the city of Sacramento and the community of Freeport. The Sacramento metropolitan area is one of the most at-risk areas for flooding in the United States. There is a high probability that flood flows in the Sacramento River will stress the network of levees protecting central and southern Sacramento to the point that levees could fail. The consequences of such a levee failure would be severe since the inundated area is highly urbanized and the flooding could be up to 20-feet-deep.

The proposed project is needed to reduce risks of levee failure, especially related to seepage and underseepage, overtopping, and levee stability. The levees in the project area are steeply sloped, and this steepness, particularly in the case of a levee constructed with unsuitable materials over a porous foundation, significantly increases the risk of instability. Through-seepage also increases levee instability. Constructing cutoff walls, shallow cutoff walls, and stability berms will fill this gap and strengthen the levee in the project area. If these levee reaches are not improved, the Sacramento River east levee would remain at heightened risk of failure from through-seepage, and much of Sacramento, including the downtown area and nearby neighborhoods, Interstate 5 (I-5), and the California State Capitol, could be significantly damaged during a future flood event.

The project objectives are unchanged from the ARCF GRR Final EIS/EIR.

1.4 Purpose of the Supplemental Environmental Impact Report

This Supplemental EIR provides new information on the existing environmental conditions in the proposed SREL Contract 4 project area, evaluates the anticipated environmental effects of any proposed changes to the proposed project or from the additional, more detailed information available for the proposed project, and identifies any new mitigation measures to avoid or reduce significant adverse environmental effects to a less-than-significant level where feasible. This Supplemental EIR has been prepared in accordance with the State CEQA Guidelines and, in combination with the ARCF GRR Final EIS/EIR (USACE 2016), which it supplements, fully discloses the potential environmental effects of the proposed project to the public and provides an opportunity for the public to review and comment on the proposed project. A 45-day public review period will occur in June and July 2022. Public comments and responses to significant environmental issues raised in those comments will be included in the Final Supplemental EIR in an appendix.

Section 15162 of the State CEQA Guidelines provides that when an EIR has been certified for a project, a subsequent EIR need not be prepared unless a substantial change in the project is proposed, there are substantial change in the circumstances under which the project is undertaken, or new information of substantial importance shows that the project would have one or more new or substantially more severe significant environmental effects not discussed in the certified EIR. A lead agency may choose to prepare a supplement to an EIR, rather than a subsequent EIR, when the conditions that require preparation of a subsequent EIR are met, but “only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation” (State CEQA Guidelines Section 15163). CVFPB has

determined that a Supplemental EIR for the proposed project meets State CEQA Guidelines Sections 15162 and 15163 and, therefore, has prepared this Supplemental EIR. This Supplemental EIR supplements (not replaces) the previously certified ARCF GRR Final EIS/EIR and addresses proposed project modifications, changed circumstances, and new information that could not have been known with the exercise of reasonable diligence at the time the prior document was certified, as required under State CEQA Guidelines Section 15163. Pursuant to the State CEQA Guidelines, the Supplemental EIR need contain only the information necessary to analyze the proposed project modifications, changed circumstances, and new information that triggered the need for additional environmental review.

1.5 Public Review of Supplemental EIR

The Draft Supplemental EIR was made available to responsible and other potentially interested agencies, stakeholder organizations, and individuals, including all entities that have previously requested such notice in writing, for a 45-day review period from June 15, 2022 to August 1, 2022. CVFPB will conduct a virtual public meeting on July 13 to receive comments on the Draft Supplemental EIR.

A Notice of Completion for the Draft Supplemental EIR was filed with the State Clearinghouse, in accordance with the State CEQA Guidelines (Section 15085), and a Notice of Availability of the Draft Supplemental EIR was posted in accordance with State CEQA Guidelines (Section 15087). A public notice was posted in the Sacramento Bee on June 15, 2022, and sent to individuals requesting information regarding the proposed project. All references used in the preparation of this SEIR, including the 2016 ARCF GRR Final EIS/EIR, have also been made available to the public. This distribution and public noticing ensured that all interested parties have an opportunity to provide written comments on the Draft Supplemental EIR consistent with State CEQA Guidelines.

Copies of the Draft Supplemental EIR were made available for review online at: http://cvfpb.ca.gov/public-notices.

1.6 Decisions Needed

As the CEQA lead agency, CVFPB will consider the information presented in this Supplemental EIR, comments received on this Supplemental EIR, and responses to the significant environmental issues raised in the review and consultation process, along with the entire administrative record (including the administrative record for the ARCF GRR Final EIS/EIR), when determining whether to certify this Supplemental EIR and approve the revised project.

This Supplemental EIR is also intended to be used by SAFCA, DWR, the Central Valley Regional Water Quality Control Board, (RWQCB), and the California State Lands Commission (SLC) as responsible agencies under CEQA. DWR and SAFCA are non-Federal partners to the project and will provide project funds and oversight. A Water Quality Certification under Section 401 of the Clean Water Act will be required, and RWQCB will consider this Supplemental EIR prior to issuing the certification. A State Lands Commission lease may be required prior to

constructing the project, in which case SLC will consider this Supplemental EIR prior to issuing the lease.

Chapter 2 PROPOSED PROJECT REFINEMENTS

This section describes the various levee improvement project components, features of levee improvements, borrow areas, staging areas, haul routes, and spoils disposal sites that comprise the proposed project or SREL Contract 4 Project. USACE has developed a more detailed engineering design for the SREL Contract project since the ARCF GRR EIR/EIS. When relevant, this new information has been added to the project description below for completeness and to provide the requisite detail for decision-making by CEQA responsible agencies. The proposed levee improvement areas are between Richards Boulevard and I Street in downtown Sacramento, near the Pioneer Bridge, at the northern end of the Little Pocket neighborhood, at Sump 132 in the Pocket neighborhood, and along SR-160 extending to approximately River Mile (RM) 45 in this contract. **Table 2-1** summarizes the proposed improvements by station. **Figure 2-1** through **Figure 2-5** illustrate the project improvements, boundaries, staging areas, and haul routes. The specific types of levee improvements considered for individual levee improvement sites (along with preferred improvements for each site) are discussed in detail below.

Table 2-1 Levee Improvement Summary

Type of Improvement	Location	Begin Station	End Station	Length (feet)
Levee Raise/Shallow Cutoff Wall	North of I Street Bridge	1000+00	1040+00	1,150
Jet Grout Cutoff Wall	Pioneer Bridge	1150+00	1150+50	50
Jet Grout Cutoff Wall	Westin Hotel to Casilada Way	1244+00	1250+00	630
Soil-Bentonite Cutoff Wall	Westin Hotel to Casilada Way	1250+70	1265+10	1,100
Jet Grout Cutoff Wall	Sump 132	1530+30	1534+15	400
Levee Raise	Bill Conlin Sports Complex	1675+00	1677+00	200
Shallow Cutoff Wall	Bill Conlin Sports Complex to Freeport Bridge	1677+00	1720+00	4,260

Type of Improvement	Location	Begin Station	End Station	Length (feet)
Utility Window Remediation – Inset Stability Berm	North of Cosumnes River Boulevard	1689+00	1690+00	100
Shallow Cutoff Wall	Freeport Bridge to Cliff's Marina	1730+50	1770+00	3,950
Flashboard Retrofit	Cliff's Marina	1770+20	1772+00	200
Jet Grout Cutoff Wall	Cliff's Marina	1770+20	1774+00	380
Seepage/Stability Berm	North Beach Lake Levee	1773+00	1779+00	520

Source: USACE 2022 as adapted by GEI, 2022

One potential borrow site will be located at the Sacramento Regional County Sanitation District (SRCSD) Regional Wastewater Treatment Plant, as part of the ongoing EchoWater Program, southeast of the SREL levee improvements. Material excavated for the treatment plant expansion will be stockpiled on or adjacent to the SCRSD site and made available to construct the levee improvements. Other commercial sources of borrow could also be used in addition to or instead of the SRCSD stockpile. All borrow material will be tested for contamination prior to use.

Potential staging areas have been identified adjacent to and primarily landside of the levee to maximize the efficient use and distribution of materials and equipment. Staging areas will be located along the landside and waterside toe of the levee where available, parallel to roads at the levee toe, and in nearby City parks and empty parcels. USACE will acquire temporary, or possibly permanent, access rights from landowners, in coordination with the City, as discussed and analyzed in the ARCF GRR Final EIS/EIR. The proposed levee improvement areas, potential staging areas, borrow site, and haul routes are hereinafter referred to as the "project site."

2.1 Proposed Types of Levee Improvements

2.1.1 Shallow Cutoff Walls and Levee Raises

Where the existing levee cross section does not meet the levee design requirements, shallow reinforced concrete cutoff walls, slope flattening, crown widening, and/or a levee raise is required. The levee geometry will be adjusted to meet the minimum standards. To construct a shallow cutoff wall, the bike path must be temporarily closed, then the work area is grubbed and stripped, a work platform is created, and a trench up to ten feet deep is prepared to anchor the shallow cutoff wall. A reinforced concrete wall is then constructed in this trench and extending up to one foot above the existing levee grade. The bike trail (landside) and ground surface

(waterside) will be raised to match grade with the top of the shallow cutoff wall to prevent introducing a tripping hazard to bike path users. Excavated and borrow material will be stockpiled at staging areas. Haul trucks or scrapers will bring borrow materials to the site, which will then be spread evenly and compacted.

In Reach G, south of the Freeport Water Tower, the top two-to-three feet of the levee crown is composed of railroad tracks, ballast, and gravel, which materials are too permeable to meet seepage criteria requirements. The proposed new shallow cutoff wall between approximate stations 1678+00 and 1766+00 would address this levee crown material deficiency.

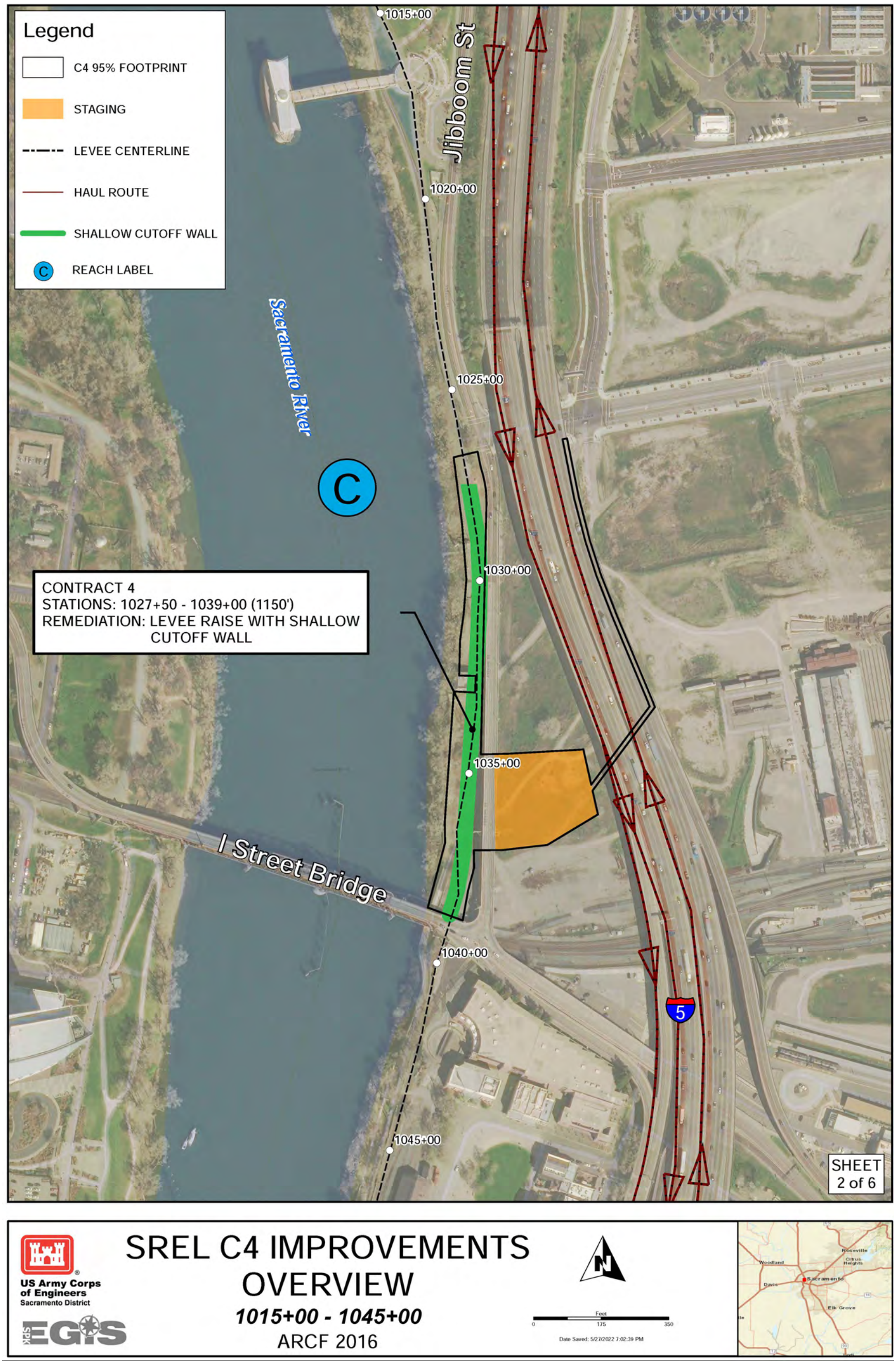


Figure 2-1 Proposed Levee Improvements in Reach C (Map 1 of 5)

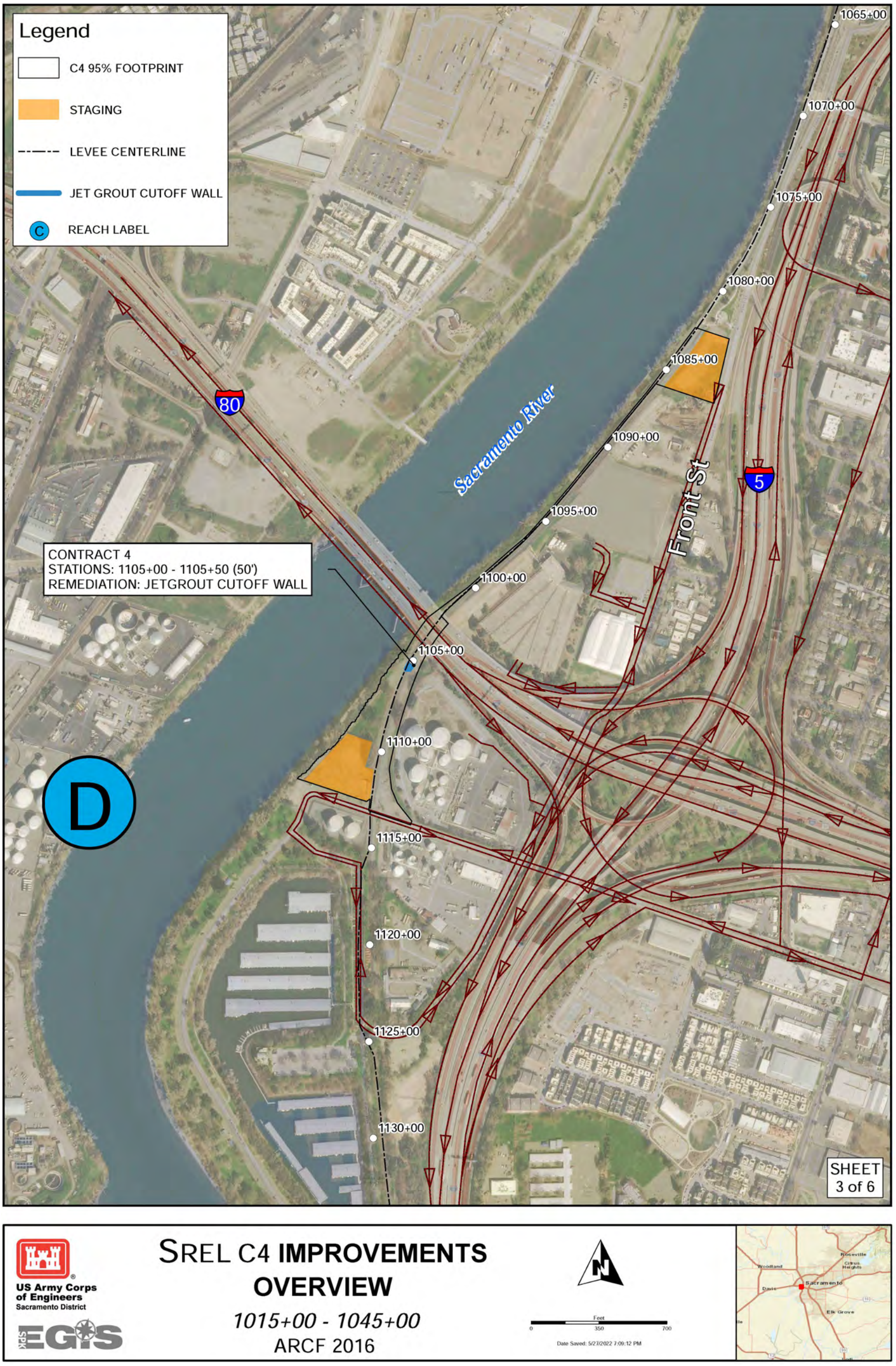


Figure 2-2 Proposed Levee Improvements in Reach D (Map 2 of 5)

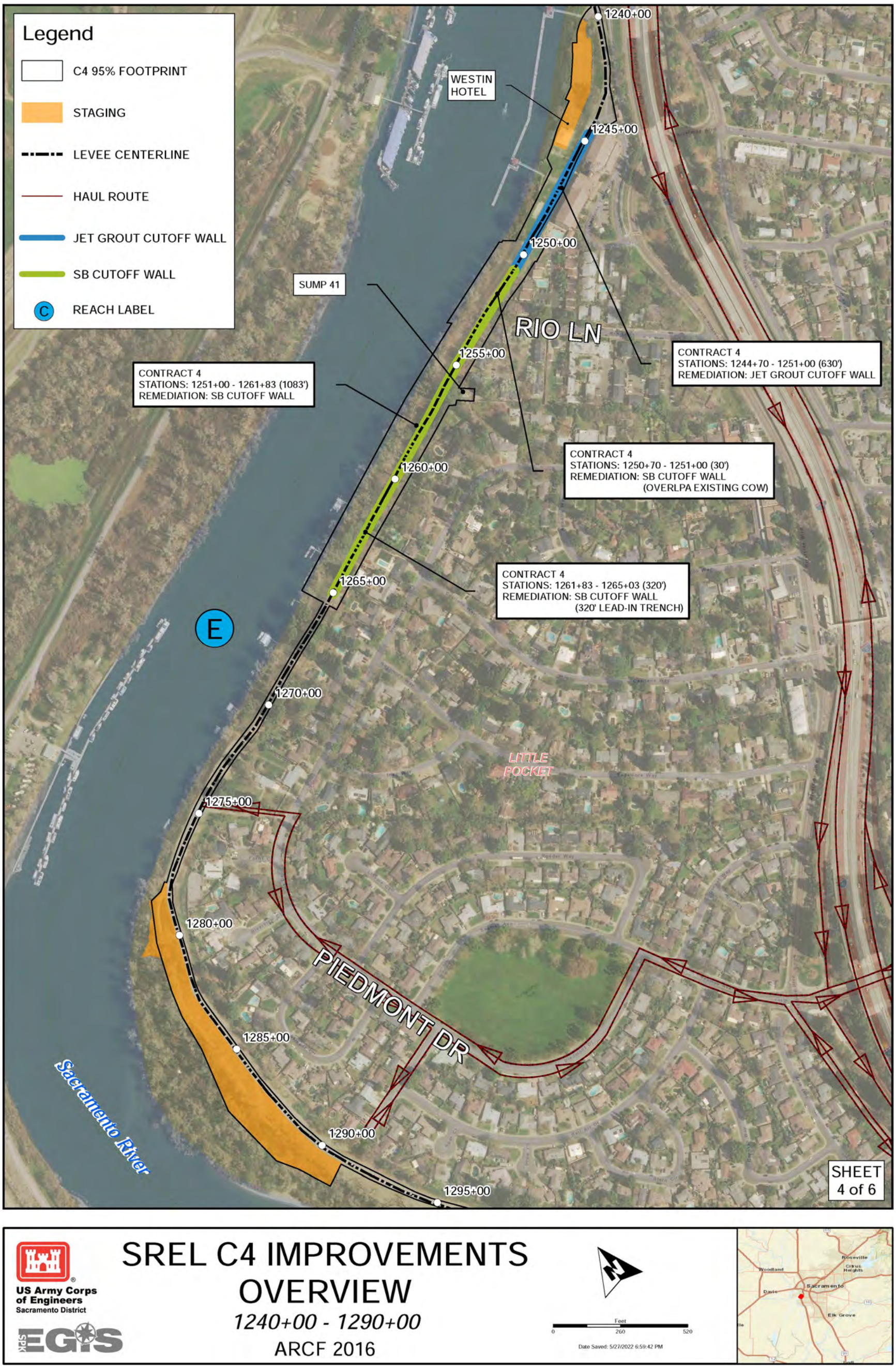


Figure 2-3 Proposed Levee Improvements in Reach E (Map 3 of 5)

Figure 2-4 Proposed Levee Improvements in Reach F (Map 4 of 5)

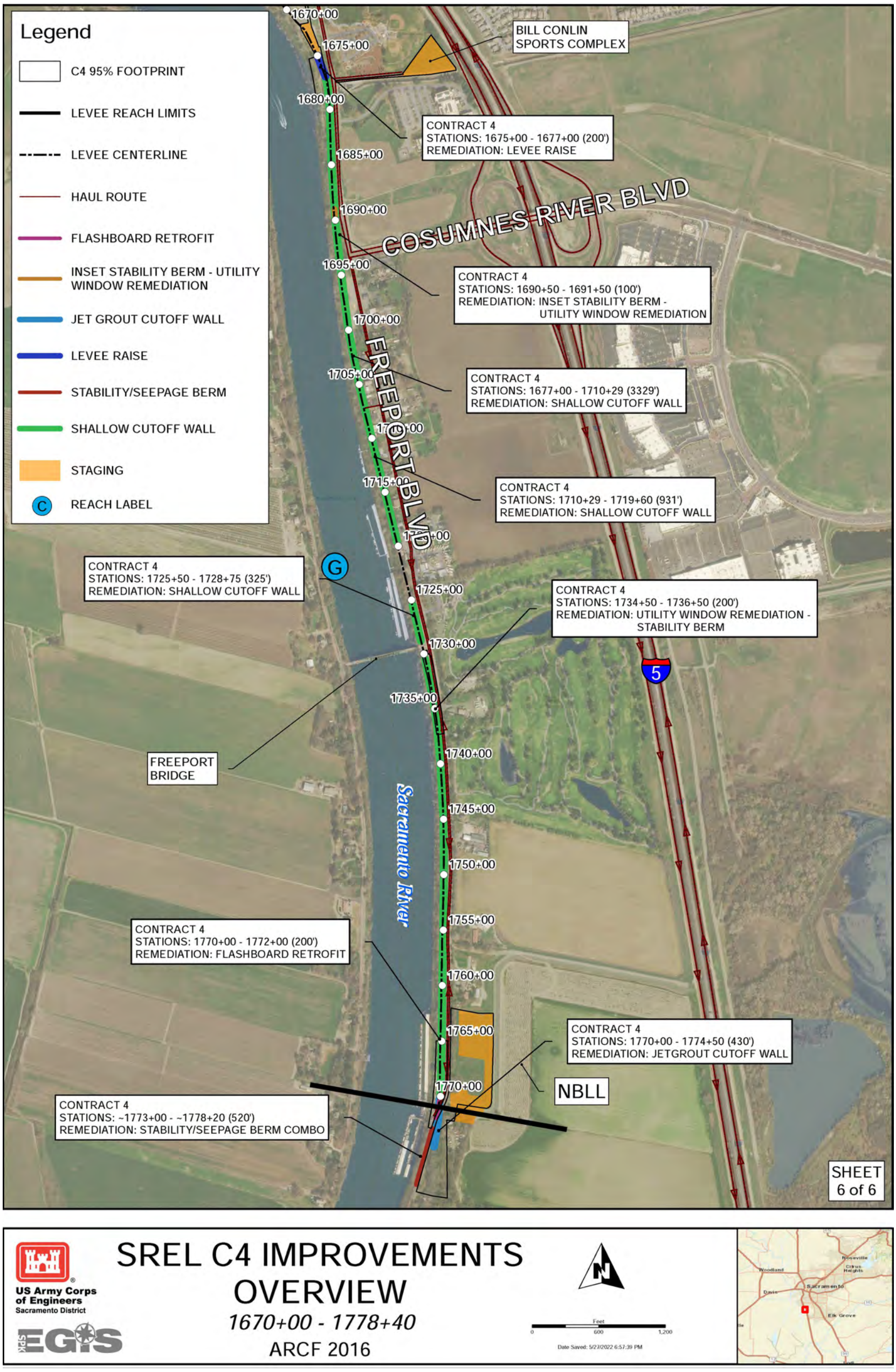


Figure 2-5 Proposed Levee Improvements in Reach G (Map 5 of 5)

2.1.2 Seepage/Stability Berm

A seepage/stability berm would be constructed in front and downstream of Cliff's Marina, overlapping with the new jet grout cutoff wall and the southern terminus of the North Beach Lake Levee (NBLL).

Stability berms and blankets address shallow foundation and/or levee embankment through- seepage. A stability berm or blanket is a prism of compacted soil that acts as a buttress to increase stability factors of safety and, in some cases, includes an inclined filter/drain zone placed on the landside slope of a levee to capture seepage that would otherwise exit on and potentially erode the unprotected levee slope. Typical stability berms are 10–15 feet high (depending on the height of the levee) and 10–25 feet wide and are considered in limited areas that do not have substantial right-of-way issues. Alternatively, the stability berm can be constructed within the existing levee in areas with constrained access along the landside levee toe. The inset stability berm would be constructed by excavating the landside levee slope, constructing the filter/drain zone, then rebuilding the levee slope to approximately the original grade with compacted fill. Stability berms and blankets would be constructed using engineered fill, with the fill placed in horizontal lifts consistent with USACE and CVFPB requirements for lift thickness and compaction densities. Each lift would be moisture-conditioned and compacted to the specified density using a suitable compactor, such as a tamping-foot or smooth-drum roller.

2.1.3 Existing Flood Wall and Flashboard Modification

The existing approximately 450-foot-long flood wall and flashboard that runs in front of Cliff's Marina would be raised to provide additional height to meet the hydraulic design criteria for the project. The existing flood wall consists of a T-shaped cross section approximately 4.5 feet wide and 5 feet tall. There is an existing toe drain parallel to the landside edge of the existing flood wall that discharges toward the landside toe into a small riprap lined area. The existing flashboard system is used only during flood events. It runs through the Cliff's Marina parking lot. The flashboard system consists of steel sleeves embedded in the ground with 4-inch by 6-inch boards placed between the posts to complete the wall.

The wall will be raised by approximately 0.8 feet by adding reinforced concrete. The existing toe drain needs to be improved including possible new steel pipes to replace the existing PVC and burying the drain outlets on the landside slope for better long-term performance. To meet the required height for the updated hydraulic design criteria additional 4-inch by 6-inch boards would be added to raise the height of the wall.

2.1.4 Municipal Drainage System Pipes

The pipe of one municipal drainage system (Sump 41 in the Little Pocket neighborhood) would need to be removed during installation of the required cutoff wall and replaced following cutoff wall completion. Temporary waterside access below the ordinary high-water mark of the river is required to replace the one existing steel outfall pipe (14" diameter) with a new steel pipe. Standby bypass pumping and piping is required during construction activities. The new pipe would tie into the existing waterside outfall structure.

2.1.5 Utility Window Remediation

Previous levee improvement work in the Project Area left gaps or "windows" in the cutoff wall to allow for utilities to pass through. At utility window locations, USACE would construct inset drained seepage/stability berms or jet-grout cutoff walls to prevent through-seepage along the utility conduits.

2.1.6 Cutoff Walls

Sandy or gravelly soils of higher permeability in the levee or levee foundation can transmit water via seepage during high-water stages. Cutoff walls are designed to reduce levee through-seepage and underseepage by providing a barrier of low-permeability material within the higher permeability materials in the levee and levee foundation. Cutoff walls are installed to depths sufficient to minimize seepage both through the levee and beneath it to meet or exceed USACE and State of California levee design criteria. The depths for cutoff walls necessary to limit underseepage at the design water surface elevation to gradients specified by USACE and the State are determined by geotechnical modeling and analyses. Cutoff walls for underseepage are generally installed to depths that will tie into existing lower permeability soil layers in the levee foundation below the permeable material. A sample design schematic of a cutoff wall installed along the levee centerline is shown in **Figure 2-6**.

Cutoff walls can be constructed by a number of methods to suit specific site conditions, required depth of treatment, and schedule requirements. The methods chosen for this project include conventional soil-bentonite (SB) mix, and jet grouting. For this project, cutoff walls will be constructed at the levee centerline. The required working area for construction depends on the method used. For conventional SB trench methods, the working platform must be at least 30- to 40-feet-wide for shallow cutoff walls, with deeper walls requiring a wider platform.

Conventional slurry cutoff walls are typically constructed using an excavator with a long-stick boom capable of digging a trench to a maximum depth of approximately 90 feet. Bentonite slurry is placed in the trench during trench excavation to prevent caving while the backfill material is mixed and placed. Excavated soil is then mixed with bentonite clay to achieve the required cutoff wall strength and permeability properties and is backfilled into the trench.

Jet grouting uses small diameter borings and high-velocity jets of air, water, and grout to progressively erode soil and replace it with a soil-cement mixture, moving upward from the desired depth of the wall. Jet grouted panels are overlapped to construct a subsurface wall.

Footprint and Impact Zone for Cutoff Walls

Construction of a conventional slurry cutoff wall through the center of the levee will require the existing levee to be degraded by one half of the levee height to provide for a working platform of sufficient width to accommodate equipment, and to reduce potential for developing cracks in the levee during cutoff wall installation. Construction impacts may be less where a smaller levee degrade is feasible to complete levee upgrades. A half levee degrade will still be above the ordinary high-water mark (OHWM). The lateral design boundary (i.e., limit of work) assumed in the Supplemental EIR is generally as follows:

- Assumed average levee height above natural grade varies between 16- to 20-feet-high

- Assumed average levee degrade excavation depth from top of levee varies between 8- to 10-feet-deep (equal to half levee height)
- Assumed average levee waterside levee slope varies between 2.5:1 to 3:1
- Assumed average levee landside levee slope is 2:1

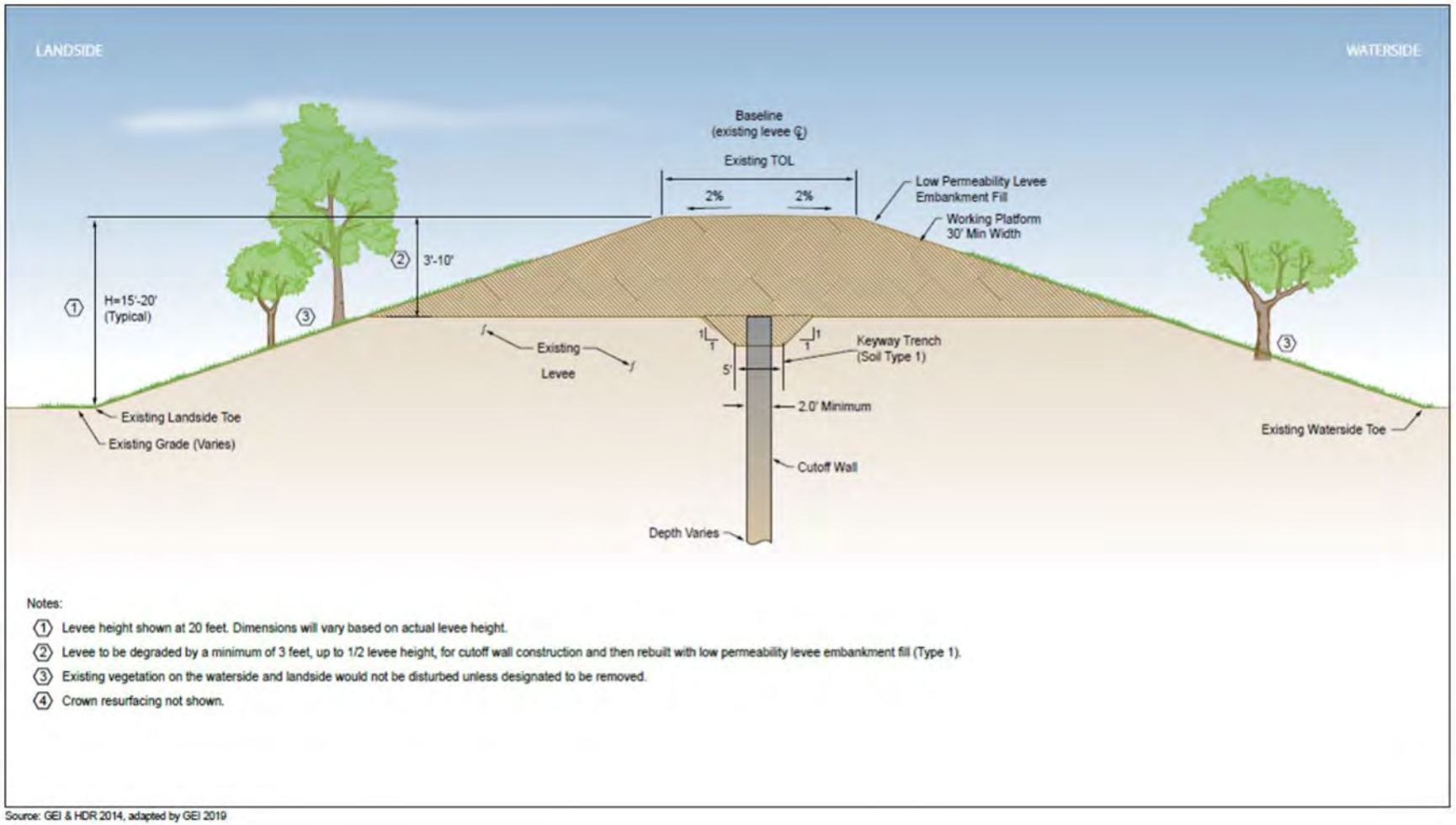
The impact corridor boundaries were calculated as follows:

- Levee crown width varies between 20 to 24 feet on average
- Projected horizontal width of waterside slope removal to 10 feet vertical depth: +25 feet (or 30 feet)
- Projected horizontal width of landside slope removal to 10 feet depth: +20 feet
- Total width of the top of degraded levee: 25+20+20 (or 24) = 65- to 69-feet-wide

Trimming and removing trees was determined based on their location relative to the impact corridor. If a tree could be trimmed while providing the necessary clearance for construction activities, trimming is recommended. Otherwise, trees within the impact corridor boundaries were identified for removal.

Cutoff wall construction to depths of up to 145 feet along the existing levee will be accomplished primarily with large, modified excavators. This equipment and the associated sequence of excavation backfill preparation, and placement of backfill into the slurry cutoff wall trench will require a work platform near the trench. A work platform will be established adjacent to the trench by partially degrading (cutting down) the top of the existing levee to provide adequate working width. Excavated soil will be hauled to a nearby area for mixing with bentonite and reintroduction in the trench. The cutoff wall backfill will likely consist of a soil-bentonite (SB) mixture.

At the conclusion of construction, the levee crowns will be rebuilt to their design height using appropriately conditioned soils. The reconstructed levee height could differ slightly from the preconstruction levee height along some segments of the levee that may have been affected by prior settlement or other changes after their initial construction, but the visual appearance of the levee will remain similar to the existing condition. Each lift will be moisture-conditioned and



Source: GEI & HDR 2014, adapted by GEI 2019

Figure 2-6 Typical Conventional Slurry Wall

compacted to the specified density using a suitable compactor, such as a tamping-foot or smooth-drum roller. The levee reconstruction will include either an imported low permeability core and reuse of the degraded levee material in the waterside and landside shells or a homogeneous section of imported low permeability material. After the levee is reconstructed, aggregate base or asphalt concrete will be placed on the levee crown patrol road, similar to existing conditions, and the disturbed slopes will be planted with approved vegetation.

2.1.7 Haul Routes, Proposed Borrow Site, and Disposal Site

To the extent practical, construction traffic will travel along highways, major streets, and the levee crown. Highways and major streets identified for Project access include I-5, Highway 160 (Freeport Boulevard), Riverside Boulevard, Seamas Avenue, Pocket Road, Cosumnes River Boulevard, Dwight Road, Laguna Boulevard, Richards Boulevard, Bannon Street, Jibboom Street, and North B Street. Potential local roads identified for construction traffic to the project site from the highways and major streets listed above are shown in **Figure 2-1** to **Figure 2-5**.

Borrow material will be obtained from the SRCSD Wastewater Treatment Plant, southeast of the project site, or from a permitted source within 30 miles of the project site at the contractor's discretion. If the SRCSD Wastewater Treatment Plant is used, borrow material will be transported to the project site via developed roads such as via Dwight Road, Laguna Boulevard, and I-5, possibly augmented by existing locally developed access roads through agricultural parcels. **Figure 2-1** through **Figure 2-5** illustrate potential haul routes. Not all of the routes shown will necessarily be used; final routes will be determined in coordination with the City, based on project construction schedules. Borrow site restoration requirements, if any, will be coordinated with SCRSD and may include grading and revegetating slopes. Other commercial sources of borrow could also be used in addition to or instead of the SRCSD stockpile.

The design does not preclude temporary stockpiling of earthen material on site. However, material excavated from the levee embankment degrade will likely not meet levee fill specifications, as assumed based on existing geotechnical data, and will be disposed of offsite. The aggregate surfacing from the levee crown may be reused if it meets specifications and if it is more cost effective for the Contractor to stockpile on site rather than disposing of it and buying new material. This could result in a relatively small stockpile of gravelly material, determined by the contractor.

The preliminary estimated borrow material and excess soil disposal requirements for construction of the proposed levee improvements are provided in **Table 2-2**.

Table 2-2 Preliminary Estimated Borrow Material and Excess Soil Disposal Requirements

Material Type	Quantity	Borrow/Disposal Source
Type 1 Levee Fill – Low Permeable	50,000 ecy	SRCSD Stockpile or Commercial Source
Excess Soils	52,000 bcy	Approved Off-Site Disposal
Aggregate/Concrete	6,000 cy	Commercial Source

Notes: ecy = embankment cubic yard, refers to volume after placement and compaction; cy = cubic yards; bcy = bank cubic yard refers to volume in-place before excavation; SRCSD = Sacramento Regional County Sanitation District
Source: Kleinfelder 2022

The Sacramento Railyards, north and east of the project site, has been preliminarily identified for disposal of excess soil. In lieu of the Railyards, materials not used onsite would be disposed of at an approved off-site disposal location. The Railyards Specific Plan Update, KP Medical Center, MLS Stadium, & Stormwater Outfall Subsequent EIR, SCH #2006032058 (Railyards SEIR) (October 2016), which analyzed soil hauling to the Railyards, is hereby incorporated by reference, and analysis from the Railyards SEIR is discussed in relevant topic sections related to spoil disposal. Some excavated material may be temporarily sidecast on the landside slope of the levee for the purpose of widening the working platform for cutoff wall installation. After the cutoff wall is constructed, the sidecast material will be disposed of off-site.

2.1.8 Potential Staging Areas

Staging can be used by the Contractor for temporary construction offices; testing laboratories; stockpiling of material and equipment; and storage and operation of slurry tanks, pumps, pipes, and other equipment for cutoff wall construction. Staging areas are generally accessible from the project on designated haul routes or from the levee crown road. The Contractor will be required to fence off the staging areas from adjacent residential areas and erect visual and noise screening measures to minimize impacts to the neighbors.

Staging area opportunities are relatively limited along most of the Sacramento River east levee due to the constraining nature of adjacent urban development. It is anticipated that several staging areas will be developed adjacent to and primarily landside of the levee to maximize the efficient use and distribution of materials and equipment, along parallel roads at the levee toe, and in nearby City parks and empty parcels. Due to space limitations in the project site, some staging areas located on the waterside will be subject to strict containment and spill prevention BMPs. An updated OHWM determination for the Sacramento River within the 13-mile Sacramento River study area of the GRR was signed on January 4, 2022. This new determination requires that staging areas and project components that were previously considered to be above the OHWM be reconsidered. Accordingly, the staging area on the waterside of the SREL at Chicory Bend in the Little Pocket (**Figure 2-3**) was reconsidered and has been determined to be partially below the OHWM, but not within the wetted channel of the Sacramento River.

For many cases, USACE will need to acquire temporary, and possibly permanent, access rights from landowners. Final selection of staging areas will be based on environmental and land use constraints, negotiations and coordination with the City and other landowners, acquisition of access rights, construction sequencing and schedules at each potential staging area, and contractor preferences. Tree trimming may be required at some staging areas, and up to approximately 10 trees could be removed at staging areas. Staging areas will be returned to pre-project conditions upon completion of levee improvements designated in the ARCF GRR Final EIS/EIR.

Bulk material silos, bentonite hydration facilities, and mixing facilities will be required for DMM and slurry wall construction. These facilities will be located near the landside or

waterside toe of slope (if a waterside bench is present), ideally within 2,000 feet but no farther than 5,000 feet from the point of use (5,000 feet is the maximum distance to pump slurry to the excavation or mixing equipment). These staging areas may be separate from material and equipment staging areas.

Figure 2-1 through **Figure 2-5** illustrate potential staging areas including, but not limited to, the following locations:

- Vacant lot at Jibboom Street and I Street;
- Vacant lot on north side of Broadway at Marina View Drive;
- South Parking Lot at Westin Hotel;
- Waterside of levee at Chicory Bend (Little Pocket);
- Sump 132 Facility, 7520 Pocket Road;
- Portion of Garcia Bend Park, including the boat ramp;
- Lot adjacent to Freeport Boulevard, across from Bill Conlin Sports Complex;
- Vacant lot at southeast corner of the Bill Conlin Sports Complex;
- Vacant lot southeast of intersection of Freeport Boulevard and Cosumnes River Boulevard;
- Highway shoulder on the east bank, Freeport Bridge; and
- Abandoned agricultural field adjacent to the North Beach Lake Levee at River Road.

As indicated previously, USACE may not need to use all the identified potential staging areas.

Portions of Garcia Bend Park will likely be closed during the construction period. USACE will coordinate with the City of Sacramento Parks and Recreation Department to ensure that construction is staged in a way to minimize adverse effects to the communities to the greatest extent practicable. Effects will include the use of the driveway between Pocket Road and the boat ramp parking lot for Contractor access to staging areas, use of all or a portion of the boat ramp parking lot for use as a staging area, and use of the levee access ramps for Contractor access to the work area. The boat ramp may be closed for the construction period.

USACE will return the park to pre-project conditions. Other recreational resources that will be affected during project construction include the Sacramento River Parkway bike trail.

2.1.9 Utility Relocations and Removals

SREL Contract 4 will affect existing below-grade utilities in the levee, primarily small-diameter electrical, communications, and irrigation conduits. Electrical and communication conduits are not considered high-hazard and will either be protected in place or replaced by the

utility owner. No closures are required for conduits, so the conduits only need comply with elevation and age criteria. All conduits identified in the design drawings to be replaced due to interference with project construction will be replaced by the Contractor. Conductors and communication lines will be installed by the utility owners after conduits have been modified. Irrigation lines located within the levee will be capped beyond the landside toe and removed within the levee prism during clearing and grubbing activities. **Table 2-3** summarizes below-grade utility modifications that will occur during construction of SREL Contract 4. A limited number of above-grade abandoned utility poles and associated overhead wires will also be removed and disposed of by the Contractor.

Utilities not being removed will be protected during construction. Utility owners will then replace their utilities to comply with levee design criteria and other standards after project construction is complete.

Levee improvements will include removing and disposing of utilities that are encountered during construction and are not permitted or were previously abandoned. A total of 17 individual below-grade utilities and utility groupings have been identified for removal. However, additional undocumented utilities may need to be addressed during construction. These utilities will be removed to the waterside toe and to 10 feet beyond the landside toe where feasible; in some cases, landside structures or right-of-way restrictions prevent removal to 10 feet beyond the levee toe.

SMUD owns 12kv overhead and underground electrical lines that run adjacent to and in the project footprint. These electrical lines will be protected in place and/or replaced. SMUD also operates and maintains a high-pressure gas pipeline which crosses the project site near Cosumnes River Boulevard and passes through the vicinity of the soil borrow area near the SRCSD Wastewater Treatment Plant. The pipeline will not be affected by construction, and if work is to occur within 100 feet of the pipeline location, the pipeline will need to be potholed to confirm the exact location.

Table 2-3 Summary of Utility Modifications and Removals

Station	Utility
1019+13.49	Fiber Optic Conduit
1020+30.15	Drainage Pipe
1020+32.27	Drainage Parallel Pipe
1021+32.93	Communication Parallel Pipe
1025+00	Telephone Conduit
1025+00	Abandoned Pipe
1025+86.99	Pipe
1027+03.38	Gas Parallel Pipe
1028+09.05	Gas Parallel Pipe
1028+67.42	Gas Parallel Pipe
1029+21.57	Gas Parallel Pipe

Station	Utility
1029+22.18	Gas Parallel Pipe
1032+99.30	Abandoned Pipe
1245+04.90	Irrigation
1246+38.73	Irrigation
1248+40.70	Irrigation
1249+10.40	Abandoned Pipe
1255+78.58	Drainage Parallel Pipe
1256+50	Discharge Pipe
1260+80.47	Electrical Conduit
1677+44	Telephone Conduit
1677+44	Telephone Conduit
1735+41.42	Sewer Pipe
1735+52.76	Electrical Conduit
1735+55.05	Abandoned Pipe
1768+59.04	Drainage Parallel Pipe
1772+00.00	Intake Pipe

2.1.10 Construction

General construction requirements, equipment, schedule, and details are provided below.

Levee repair construction work is planned to be completed in 2023, after receipt of all environmental clearances, permits, authorizations, and permissions. Construction will occur during daytime hours, generally between 7 a.m. and 7 p.m., Monday through Sunday. No construction is planned outside these hours in residential areas, and in the event that construction schedules were changed to include work outside these hours, construction will only be permitted at the distance required to reduce exterior noise levels below the threshold designated by city code.

Levee repairs will only be done during the non-flood season when river flows are substantially controlled by upstream releases at major reservoirs (Shasta, Oroville, New Bullards Bar, and Folsom), and the river stages are generally known. Furthermore, the Contractor is required to complete a Flood Contingency Plan. This plan includes the requirement that the Contractor must monitor forecasted river levels and partially reconstruct the levee to provide freeboard above a forecasted high-water stage if the river stage would approach or exceed the degraded top-of-levee surface. In addition, the height of degrade is limited (at least two thirds of the levee height is to remain in place at all times unless otherwise approved by USACE), and the limited degrade does not significantly reduce the level of flood protection during the non-flood season.

Improvements are anticipated to be implemented in a single construction season from April 2023 through November 2023 with vegetation and tree removal occurring over an approximately 3-week period between November 2022 and February 2023. Levee repair construction work will commence after receipt of all environmental clearances, permits, authorizations, and permissions. The anticipated construction sequence will include:

- *Vegetation and Encroachment Removal*: Trees and other encroachments that affect improvement areas will be trimmed or removed. These activities will take approximately 5 weeks and be completed between November 2022 and February 2023.

- *Mobilization*: Mobilization will include setting up construction offices and the slurry batch plant and transporting heavy earthmoving and mixing equipment to the site. These activities will take approximately 2 months and begin in March 2023, or earlier if weather permits.

- *Shallow Cutoff Walls and Levee Raises:* Floodwalls and levee raises will be constructed during a 5-month period between March 2023 and November 2023

- *Levee Degradation for Cutoff Wall Installation*: Levee degradation will begin after vegetation and encroachment removal and precede cutoff wall installation. Degradation will take approximately 1 to 1.5 months and will be completed in one operation.

- *Cutoff Wall Installation, including Utility Windows*: This activity will begin with constructing the work pad after a sufficient length of levee has been degraded and is available for construction. Assuming three cutoff walls (one conventional and two jet grout), construction will take approximately 5 months.

- *Utility Relocation*: Any required utility relocation will be conducted concurrently with levee degradation and reconstruction and will take approximately 1 to 1.5 months.

- *Levee Reconstruction*: Levee reconstruction will begin after enough length of cutoff wall has been completed to allow efficient reconstruction. Total time estimated for levee reconstruction is approximately 3 months, occurring intermittently between May and November 2023.

- *Site Restoration and Demobilization*: Upon completion of the main construction activities, the contractor will resurface the levee patrol road, revegetate disturbed areas, restore staging and borrow areas to their previous conditions, and demobilize from the site(s). Restoration activities are expected to take up to 4 months and will be completed by January 2024. Privately owned encroachments removed during construction will not be replaced by USACE.

To the greatest extent practical to minimize impacts and effects on the community, construction will be staged and sequenced in consideration of the appropriate stakeholders and applicable constraints: City, utility and service providers, biological resource construction work windows, and other environmental and land use/real estate constraints.

Erosion Control and Site Restoration

Temporary erosion/runoff best management control measures will be implemented during construction to minimize stormwater pollution resulting from potential erosion and sediment migration from the construction, borrow, and staging areas. These temporary control measures may include implementing construction staging in a manner that minimizes the amount of area disturbed at any one time; secondary containment for storage of fuel and oil; and the management of stockpiles and disturbed areas by means of earth berms, diversion ditches, straw wattles, straw bales, silt fences, gravel filters, mulching, revegetation, and temporary covers, as appropriate. Erosion and stormwater pollution control measures will be consistent with the Construction General Permit (National Pollution Discharge Elimination System [NPDES] permit) requirements and will be included in a Stormwater Pollution Prevention Plan (SWPPP).

After completion of construction activities, the temporary facilities will be demobilized and the site will be restored to pre-project conditions. Site restoration activities for areas disturbed during construction, including borrow areas and staging areas, may include regrading, reseeding, constructing permanent diversion ditches, using straw wattles and bales, applying straw mulch, and other measures deemed appropriate.

Construction Equipment

Contractor plant equipment could include construction office and equipment trailers, warehousing and equipment maintenance facilities, batch plant, grout pumps, and fuel pumps and fuel storage tanks. The construction office area will include security fencing and gates, double-wide trailers for Contractor office and storage, Engineer's field office, portable toilets, generators, parking areas, and laydown areas for miscellaneous construction equipment and supplies. Mobile construction equipment will depend on the selected contractor's planned operations. Typical equipment that may be used throughout the project is shown in **Table 2-4**.

Additional equipment will likely include utility equipment to install power lines, an air compressor, welding equipment, pumps and piping, communications and safety equipment, erosion control materials, miscellaneous equipment customary to the mechanical and electrical crafts, and vehicles used to deliver equipment and bulk materials (including soil, bentonite, and cement). It is expected that any concrete will be shipped to the site in ready-mix trucks.

Construction-Related Traffic

Personnel, equipment, and imported materials will reach the site via I-5 and numerous City streets such as Riverside Boulevard, Pocket Road, and other City and residential streets. The construction labor force is estimated to average approximately 50 to 60 persons over the approximately 1-year construction period. Peak staffing could be close to 100 depending on the contractor's schedule.

Approximately 60 to 70 trailer ("low-boy") truck round trips are anticipated to be required to transport the contractor's plant and equipment to the site during mobilization. A similar number of round trips will be needed to remove the equipment from the site as the work is completed.

Necessary aggregate base rock material will be obtained from a commercial sand and gravel operation, most likely in the Sacramento area. The construction contractor will select the specific supplier, based on suitability and pricing. Approximately 1,000 highway truck trips will be needed to bring the levee fill to the site from the borrow area. Up to 500 truckloads will be needed to bring dry bentonite, aggregate and asphalt, and other permanent materials such as geotextile fabric, erosion control materials, piping, and ancillary equipment to the site. In addition, approximately 1,000 highway truck loads will be required to dispose of surplus material from levee excavation (if hauled offsite), and 50 highway truckloads may be needed to carry demolition debris, construction debris, and other materials to a suitable landfill.

Table 2-4 Typical Construction Equipment that May Be Used

Equipment Type	Vegetation Encroachment Removal; Utility Relocation	Construction Mobilization; Cutoff Wall; Site Restoration and Demobilization
Street Sweepers	0	1
Chip Spreader	0	1
Air Compressor	0	2
Asphalt Paver	0	1
Post Hole Drill	0	2
Equipment Transport Trucks	0	19
Hydraulic Excavator	1	10
Front-End Loader	1	9
Backhoe	1	3
Pump		1
Bulldozer	1	7
Highway Dump Truck	5	3
Grader	1	3
Water Truck	0	2
Tamping Roller	0	8
Vibratory Smooth Wheel Compactor	0	2
Forklift	0	2
Crane		2
Truck-Mounted Crane	1	3
Concrete Pump		3
Concrete Saw		1
Hydro-Seed Truck	0	1
Welder		2

Source: Kleinfelder 2021

The primary construction corridor will include the existing levee corridor and local City and residential roads. Within the construction areas, the main sources of construction traffic will be hauling levee degrade material to and from a local staging area, installing the slurry cutoff walls, transporting material for the slurry cutoff walls (including borrow from borrow site), and transporting borrow material for levee embankment reconstruction.

Only some of the routes and access points will likely be used. Once the trucks access the levee, they will travel along the levee to conduct repair/improvement work. Trips will not necessarily be round-trip because trucks will likely access the levee at one location and exit at another.

Access to the project site from the south (from the borrow site) will likely be via Dwight Road, Laguna Boulevard, and I-5. From I-5, access will be via State Route (SR) 160 and Cosumnes River Boulevard, Seamas Avenue and Sutterville Road, or Richards Boulevard.

If haul trucks transport levee degrade materials to the Railyards for deposit and later use in backfill operations associated with the Railyards (City of Sacramento 2016), they will exit at I-5 north onto Richards Boulevard, travel east to Bannon Street or 7th Street, and then south to Railyards Boulevard, where the Railyards site is located. Other offsite bulk material disposal areas may include the Yolo County Landfill which will be accessed by exiting I-5 onto I-80 West, County Road 32A, County Road 105, and County Road 28H.

2.1.11 Operations and Maintenance

Agencies and organizations that currently have management responsibility for the Sacramento River east levee will continue to provide operations and maintenance (O&M) after SREL Contract 4 is completed. At the end of the project construction period, all project lands will be in public ownership and/or will be under a flood control easement. The City and DWR Maintenance Area 9 will continue their routine O&M responsibilities, as under existing conditions.

Regular O&M activities under SREL Contract 4 will consist of levee inspections, weed abatement, and removal of encroachments and high-hazard vegetation to ensure levee integrity and adequate levee access along the levee toe road. The patrol road will be used, as it is currently used, to access the length of the levee during these activities and during high-flow events for flood-fighting purposes. O&M activities will not require heavier or noisier equipment than under current conditions. O&M inspections will consist of a patrol vehicle traveling along the levee and small machinery for weed abatement such as mowers and weed whackers/trimmers. These activities will only occur periodically, as under existing conditions. O&M activities will not introduce substantial new land uses into the area.

Chapter 3 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

3.1 Introduction

3.1.1 Approach to Analysis

Each resource topic section includes a brief summary of the analysis of this topic in the ARCF GRR Final EIS/EIR. Supplemental information on environmental and regulatory setting is provided for particular resource topics, where necessary to support the supplemental impact analysis. Thresholds used to evaluate the significance of impacts are carried forward from the ARCF GRR Final EIS/EIR and are herein incorporated by reference, with updated thresholds identified as applicable. Only those thresholds requiring an updated analysis due to changes in the project, changes in circumstances, or new information are discussed. Under each resource, any significance criterion lacking an evaluation section remains unchanged from the ARCF GRR Final EIS/EIR, and previous analyses remain sufficient. For some impacts, mitigation measures identified in the ARCF GRR Final EIS/EIR may not apply to the SREL Contract 4 Project. For other impacts, additional or different mitigation measures are required to reduce effects of the project refinements described in the SREL Contract 4 Project. In either case, any proposed change in mitigation from the ARCF GRR Final EIS/EIR is identified.

O&M activities will be generally unchanged from those that currently occur under pre-project conditions. Levee encroachments and access will continue to be managed as necessary to maintain the integrity and safety of the newly modified levees. Therefore, because no changes are proposed, O&M activities will have no new or substantially more severe significant adverse effects that were not analyzed for the SREL Contract 4 Project. Therefore, the environmental effects of O&M activities are not discussed further in this Supplemental EIR.

Three new topic areas were added to the State CEQA Guidelines in 2018: energy, Tribal cultural resources (TCRs), and wildfire. These topic areas were not specifically addressed in the 2016 ARCF GRR Final EIS/EIR. These topic areas are addressed in this Supplemental EIR as follows; energy and wildfire are described in Section 3.1.2, “Resource Topics Not Discussed in Detail,” and TCRs are addressed in Section 3.7, “Cultural and Tribal Cultural Resources.”

Mitigation measures that are proposed to reduce significant impacts are unchanged from those included in the Supplemental EIR previously prepared for SREL Contract 3 (USACE and CVFPB 2021). These measures, which have already been adopted and included in the project and in the Mitigation Monitoring and Reporting Program (MMRP) for SREL Contract 3, represent minor updates, additions, and reformatting of measures previously included in the ARCF GRR Final EIS/EIR. All mitigation measures that are required to reduce impacts of the SREL Contract 4 project are included in this Supplemental EIR document. Marine engine standards identified in the ARCF GRR Final EIS/EIR do not apply to the activities included in the proposed project, because no in-water equipment will be used. The proposed project does not include material transport by barge or effects on the Yolo Shortline Railroad. Therefore, mitigation related to barge transportation and the Yolo Shortline Railroad in the ARCF GRR Final EIS/EIR do not apply to the proposed project.

3.1.2 Resource Topics Not Discussed in Detail

Some resources are not analyzed in this Supplemental EIR because environmental impacts from project refinements and additional project-related details will be negligible and will not create new or substantially more significant environmental effects that were not analyzed in the ARCF GRR Final EIS/EIR. Moreover, no new significant impacts (not disclosed in the ARCF GRR Final EIS/EIR), or a substantial increase in the severity of previously identified significant impacts (disclosed in the ARCF GRR Final EIS/EIR), will occur to these resources if the SREL Contract 4 Project is implemented. These resources are briefly described in this section.

Fisheries

Fisheries-related impacts identified in the ARCF GRR Final EIS/EIR are primarily associated with erosion protection and the resulting temporary loss of shaded riverine aquatic (SRA) habitat. Levee improvements to address seepage and stability issues (i.e., cutoff walls, levee raises, and seepage/stability berms) were determined to have no direct effect on native fish, because these measures would be constructed outside of the natural river channel. However, ground-disturbing activities associated with construction of levee improvements could cause erosion and soil disturbance, subsequently resulting in sediment transport and delivery to aquatic habitats, thereby adversely affecting fish physiology, behavior, and habitat. Impacts could also result from accidental spill of hazardous materials if water contamination occurs. These effects were determined to be potentially significant in the ARCF GRR Final EIS/EIR and reduced to less than significant with implementation of water quality BMPs identified in the ARCF GRR Final EIS/EIR and included in the SREL Contract 4 Project. Therefore, impacts related to water quality impacts and accidental spills do not differ from those described in the ARCF GRR Final EIS/EIR.

Direct injury or mortality of individual fish will not occur as a result of the SREL Contract 4 Project because there will be no in-water activity. Because construction activities are primarily limited to the levee and other areas away from the river, noise and vibration generated by construction activities are unlikely to disrupt essential behaviors (e.g., feeding, escape from predators, migration) to the extent that individuals will be displaced from preferred habitat and made more susceptible to mortality by predation. The SREL Contract 4 Project will not affect SRA habitat; tree removal and trimming required to implement the project will occur only on the top ½ to ⅓ of the water side, or on the landside of the levee. The SREL Contract 4 Project includes implementation of water quality BMPs as specified in the ARCF GRR Final EIS/EIR. Therefore, impacts related to fisheries do not differ from those described in the ARCF GRR Final EIS/EIR. Special-status fish species impacts are discussed in Section 3.5, “Special-Status Species.”

Hydrology and Hydraulics

The ARCF GRR Final EIS/EIR concluded that because the project primarily includes landside levee repairs that would not change in-channel geometry or characteristics, river hydraulics would not change. As a result, it was determined that the project would not substantially alter erosion or siltation in the system or increase the rate of surface runoff in a manner that would result in any flooding. It was also determined that the project would not affect

storm water drainage systems or create additional sources of runoff. Because the project involves fix-in-place improvements only, the footprint of the levee system would not substantially change. As a result, it was determined that the project would not add new structures or increase the flood risk to structures now located within a 100-year flood hazard area. Therefore, all effects on hydrology were determined to be less than significant.

The SREL Contract 4 Project will not change the footprint of the levee system or affect in-channel geometry or characteristics and does not include new impervious areas or structures that would impede or redirect flood flows. Therefore, hydrology and hydraulics impacts do not differ from those identified in the ARCF GRR Final EIS/EIR.

Land Use

The ARCF GRR Final EIS/EIR analysis found that many homes in the Little Pocket and Pocket-Greenhaven area back up to the levee with little or no land between the levee toe and the fence or backyard, and it was assumed that some acquisition of private property would be required for flood protection levee easements. All property acquisitions would be conducted in compliance with Federal and State relocation law requiring appropriate compensation. Therefore, this effect was determined to be less than significant in the ARCF GRR Final EIS/EIR.

The proposed land uses at the SRCSD borrow site, levee improvement areas, and Sacramento Railyards will be consistent with adopted County and City General Plan policies related to flood risk reduction, land use designations, and zoning codes that apply to each of these sites. The levee improvements and staging areas will be located near residential areas along the Sacramento River east levee, including the Little Pocket and Pocket-Greenhaven neighborhoods, where residential land uses are generally located along the landside toe of the levee. Construction of levee improvements will occur within the existing levee corridor, and there are no proposed activities that would create a physical barrier within an established community. Lands where staging and levee improvements will occur and part of the SRCSD borrow site are designated as Urban and Built-Up Land and Other Land. Although a portion of the SRCSD borrow site and the proposed staging area at the North Beach Lake Levee and River Road are classified as Farmland of Local Importance, the SREL Contract 4 Project will reduce or remove existing soil stockpiles from the borrow site, and the temporary use of the staging area will not include removal of topsoil or other changes that would preclude later agricultural use. There are no agricultural land uses within or in the vicinity of the SRCSD borrow site, and the staging area is not actively cultivated. Therefore, the use of the SRCSD borrow site and the North Beach Lake Levee staging area will not convert farmland to non-agricultural use, and agricultural and land use impacts do not differ from those identified in the ARCF GRR Final EIS/EIR.

Mineral Resources

The ARCF GRR Final EIS/EIR study area was classified as either Mineral Resource Zone (MRZ)-1 or MRZ-3, classifications which the ARCF GRR determined were not affected by State policies pertaining to the maintenance of access to regionally significant mineral deposits under the California Surface Mining and Reclamation Act. Therefore, the ARCF GRR Final EIS/EIR determined that no effect would occur.

For the SREL Contract 4 Project, the work areas, SRCSD borrow site, and railyards disposal area are classified as MRZ-1a (Dupras 1999). This classification is not considered to be a regionally important mineral resource extraction zone. The Sacramento County General Plan indicates there are no locally designated important mineral resources at any of the locations where project-related activities will occur (Sacramento County 2011). Therefore, mineral resources impacts do not differ from those described in the ARCF GRR Final EIS/EIR.

Population and Housing

The ARCF GRR Final EIS/EIR analysis found that much of the project site is located immediately adjacent to established communities within the City of Sacramento, and the acquisition of some private properties in established communities would be required. Because the project is partially set in an urban area that has been built out with no room for expansion, the project would not induce substantial population growth. Any disruptions to the community would be temporary and short-term during construction activities, and would be related to traffic congestion, noise, recreation, and leisure activities. Therefore, socioeconomic effects (including population and housing) were determined to be less than significant in the ARCF GRR Final EIS/EIR.

The SREL Contract 4 Project will not create any new developed land uses and will not remove any housing. The SREL Contract 4 Project will include construction over a single construction season, with an average labor force estimated to be about 80-100 people. Existing residents in the region who are employed in the construction industry will be sufficient to meet the demand for construction workers that will be generated by the project without inducing population growth. Therefore, socioeconomics and population impacts do not differ from those described in the ARCF GRR Final EIS/EIR.

Energy

The proposed project will be constructed using typical construction methods and will not include any activities identified as wasteful or having unusually high energy consumption. Operational activities and energy use will be similar to existing activities. This topic is not discussed further in this Supplemental EIR.

Wildfire

The project site is not located in or adjacent a State Responsibility Area or Very High Fire Hazard Severity Zone in which additional analysis of wildfire hazard would be called for under Appendix G of the State CEQA Guidelines. This topic is not discussed further in this Supplemental EIR.

3.2 Visual Resources

3.2.1 Environmental and Regulatory Setting

The environmental and regulatory settings in the ARCF GRR Final EIS/EIR are applicable to the analysis in this Supplemental EIR and are not repeated. Some additional site-specific conditions are described below.

Levee Improvements and Staging Areas

Staging areas are proposed in Garcia Bend Park and at the Bill Conlin Sports Complex. These parks are well-landscaped and maintained, and they provide visual relief from the intensive nature of surrounding urban and industrial development. Because the human elements inside the parks, such as picnic tables, pathways, sports fields, and boat launch ramps, fit into a park-like setting, the elements considered as a whole provide a high degree of vividness, intactness, and unity. Therefore, the overall visual quality in the parks is high. As a viewer group, people engaged in recreational activities generally have heightened awareness of their surroundings, are familiar with the scenic resources in the area, and are generally seeking an experience in a natural setting. Therefore, the viewer sensitivity from within parks, residences immediately adjacent to the parks, and the Sacramento River adjacent to the parks is also high.

Additional staging areas and levee improvement areas will be located along the levee and the waterside of the levee in the Little Pocket area, which is heavily urbanized with housing. Homes border the levee, but views of the Sacramento River are blocked by the intervening height of the levee. Residences adjacent to project-related work and staging areas have views of the local street, surrounding homes and associated landscaping, and the land side of the levee (which typically includes some mature shade trees and annual and perennial grasses). Although the vividness is moderate, the intactness and unity throughout the Little Pocket area is high; therefore, the visual quality is considered high.

Where the Sacramento River Parkway bike path has been officially designated and constructed, the levee crown is used by recreationists. Views from the crown consist of scenic images of the Sacramento River, tall green shade trees and other riparian vegetation on both sides of the river, and landscape trees and partial views of the backyards of residences landside of the levee. On the northern end of the project site, north of I Street, the landside views include an elevated viaduct carrying I-5 and vacant land partially developed with streets and other urban infrastructure. Boaters on the Sacramento River are also visible, as are scenic views of the boats docked on the west side of the river at Stan's Yolo Marina and the Sacramento Yacht Club. From the Little Pocket area, a mosaic of green and brown agricultural fields and suburban development is visible farther to the west. Boaters on the Sacramento River have similar views of the green riparian vegetation lining both banks, the water itself, and the marinas. Although the intactness is moderate, these views present a high degree of vividness and unity, and therefore the visual quality for recreationists on the river as well as the levee crown is considered high. The recreationists are also considered a sensitive viewer group.

SR-160 is a State-designated scenic highway south of its undercrossing of I-5. Work areas along SR-160 at the southern end of the project site are in an area of transition from suburban neighborhoods of Sacramento into agricultural regions of the Sacramento-San Joaquin Delta. Views along this stretch of SR-160 include trees lining the roadway, with scattered homes, businesses, and parking areas. I-5 is visible in the middle- to background in many areas.

Haul Routes

In addition to the above, residents in Little Pocket and Pocket-Greenhaven areas, including those along Riverside Boulevard, Seamas Avenue, Florin Road, and Pocket Road, will have views of heavy-duty haul trucks along roadways that will be transporting borrow materials

to the levee (see **Figure 2-1** through **Figure 2-5** in Chapter 2, "Proposed Project Refinements"). All of these roadways contain extensive landscaping consisting of turf grass, shrubs, and mature shade trees, along with residences and their associated landscaping. The views along these roadways present a high degree of vividness, intactness, and unity, and therefore are considered to be of high visual quality. These roadways are primarily traveled by local residents, along with some recreationists, both of which are considered sensitive viewer groups.

Borrow Site

The SRCSD borrow site is an active stockpile and borrow site, covered with green (in spring) and brown (in summer and fall) annual and perennial grasses. The land immediately surrounding the borrow site to the west, south, and east is also flat, vacant land covered with grasses. To the north on Glacier Way, industrial buildings, paved parking lots, and facilities associated with the wastewater treatment plant are present. A hedge planted with green shrubs and trees is present between the building on Glacier Way and the borrow site. The nearest sensitive viewers (0.35 mile south) consist of a farm complex with an associated residence on the west side of Laguna Station Road and a residential housing development south of Big Horn Boulevard and east of the Union Pacific Railroad tracks. Views of the borrow site from the farm complex are blocked by vegetation along Laguna Station Road and at the western end of Big Horn Boulevard. Views from the residences along Big Horn Boulevard (east of the Union Pacific Railroad tracks) are blocked by a high wall separating the housing development from the road, along with mature shade trees planted along the south side of the road. However, this portion of Big Horn Road has been landscaped on the southern side with green turf grass, shrubs, and shade trees, and a pedestrian path is present as well. Residents using this pedestrian path have expansive views to the north and northwest of vacant, rural land. The viewshed presents a low degree of intactness and unity, and a moderate degree of vividness. The overall visual quality is considered moderate.

Soil Disposal Site

Some of the levee soils that are removed as part of improvements may be deposited at the Railyards project area. The Railyards site has undergone extensive excavation and grading to remediate contaminated soil and would be undergoing future grading as part of proposed approved development. At the present time, the Railyards site is essentially a barren brownfield with abandoned industrial buildings. In lieu of the Railyards, materials not used onsite would be disposed of at legal off-site disposal location.

3.2.2 Environmental Impacts

Significance Criteria

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines. The proposed project would result in a potentially significant impact to visual resources if it would:

- Have a substantial adverse effect on a scenic vista

- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway
- Substantially degrade the existing visual character or quality of the site and its surroundings
- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area
- Conflict with applicable zoning and other regulations governing scenic quality

Impact Analysis

Damage to Scenic Resources within State- or County-Designated Scenic Highways

Several work and staging areas are located along the State- and County-designated portion of SR 160 south of the I-5 undercrossing. During construction activities, views will be affected by the presence of equipment and activities. Trees will also be removed, particularly at the North Beach Lake Levee, where a landside seepage/stability berm will be constructed. A shallow cutoff wall will be constructed on the waterside of the levee top along the railroad line on this segment of SR 160.However, after the construction season, the staging areas, berm, and other areas affected by construction will be graded and seeded with native vegetation, and the shallow cutoff wall along the rail line will be visually similar to the existing rail, ties, and ballast. These areas will be consistent with the overall visual character of this area, which includes a variety of vacant lands and commercial and industrial uses.

The SRCSD borrow site is located approximately 1 mile east of the State- and County-designated portion of SR 160 south of Freeport; however, due to the distance, intervening vegetation, and the presence of I-5, the borrow site is indistinguishable from the surrounding background. Therefore, use of the SRCSD borrow site will cause a less than significant adverse visual effect.

Temporary, short-term impacts during construction of improvements along SR 160 will be significant and unavoidable, with no feasible mitigation measures to reduce these impacts, consistent with the ARCF GRR Final EIS/EIR. Long-term impacts will be less than significant because the staging areas will be restored, and the seepage/stability berm, shallow cutoff wall, and other improvements will be visually similar to other features in the area.

Changes in Scenic Vistas and Existing Visual Character

Temporary impacts on visual character during construction will be significant due to the presence of equipment and activities including levee degrade and vegetation removal, as identified in the ARCF GRR Final EIS/EIR, with no feasible mitigation to reduce this effect. At the conclusion of construction, the levee crowns will be rebuilt to their design height using appropriately conditioned soils. The reconstructed levee height could differ slightly from the preconstruction levee height along some segments of the levee that may have been affected by prior settlement or other changes after their initial construction, but the visual appearance of the levee will remain similar to the existing condition. After the levee is reconstructed, the levee

crowns will be graded, and aggregate base or asphalt paving will be placed on the levee crown patrol road to match pre-construction conditions. Following construction, all temporary access ramps will be removed, and all disturbed levee slopes will be revegetated. All staging areas will be returned to pre-project conditions. In the cases where parks are used as staging areas, all turf grass, other vegetation, and any equipment that is affected during construction staging will be replaced so that the park is restored to pre-project conditions. Long-term impacts would therefore be less than significant.

Tree removal will primarily be limited to within the footprint for the levee improvements, with minimal additional removal. Approximately 2.75 acres of canopy (will be removed within the footprint of individual levee improvement locations. The trees that will be trimmed or removed are within or immediately adjacent to the levee improvement area, including access points (generally the top one third to one half of the levee, on either the land- or waterside of the levee).

Trimmed trees will have a temporary visual effect. Trees that are removed from within the top one third to one half of the levee will not be replaced, and this visual change will represent a significant impact on the visual resources of the project area. As stated in the ARCF GRR Final EIS/EIR, construction-related visual resources impacts were analyzed and determined to be a significant and unavoidable impact.

Haul trucks and equipment picking up borrow material at the SRCSD borrow site will operate approximately 0.35 mile north of residential housing on the south side of Bighorn Boulevard and approximately 0.75 mile west of residential housing on the east side of Franklin Boulevard. Views of the borrow site from both residential housing areas are blocked by high walls marking the boundaries of both housing developments and by trees planted along the median and on both the east and west sides of Franklin Boulevard and the south side of Big Horn Boulevard. Given the intervening distance and vegetation, borrow activities also will not be visible to motorists traveling on Franklin Boulevard.

Borrow activities will be visible, in the background, to residents using the pedestrian path on the south side of Big Horn Boulevard (east of the Union Pacific Railroad tracks), but this is consistent with existing operations at the SRCSD borrow site. Haul trucks will travel south on Dwight Road through a commercial area to Laguna Boulevard and will then travel west on Laguna Boulevard to access I-5. The north side of Laguna Boulevard consists of commercial uses. The south side of Laguna Boulevard consists of mixed residential housing and professional offices, with commercial uses near I-5.

Residences are set back from the roadway by an intervening Class I pedestrian/bicycle path, tall shade trees, a hedge, and a concrete wall. Laguna Boulevard is a six-lane arterial roadway that carries truck traffic. Haul trucks will also be present on I-5, which is designed to carry truck traffic. Other smaller local roadways will also experience haul truck trips to deliver levee soils from the SRCSD borrow site to levee segments where work will occur. Haul trucks on the smaller local roadways within individual residential neighborhoods will only be present on a short-term temporary basis, from a few weeks to a month, as construction proceeds in a linear fashion along the levee. Any project-related materials deposited at the Railyards site would be used for future site development already approved by the City of Sacramento. The Railyards

site currently consists of barren soil, and additional soil deposition from this project will be consistent with the existing visual condition. Thus, the project borrow and hauling activities will have a less-than-significant effect on visual character.

Create New Sources of Substantial Light or Glare

None of the project-related activities will include buildings or other facilities that would require permanent lighting, and therefore no new long-term sources of light or glare will be introduced into viewsheds. During construction of the SREL Contract 4 Project, staging areas will have lighting for the purposes of security of construction equipment and stored materials resulting in new sources of nighttime light that will be visible by neighboring residences and vehicles passing near the staging areas; however, these light sources will in some cases be adjacent to existing bright lights. Although the project site includes areas within the clear and approach/departure zones designated for the Clarksburg-Borges airport, nighttime security lighting will not include steady or flashing white, red, green, or amber lights aimed in a direction that they could affect aircraft in conflict with the Airport Land Use Plan (SACOG 1994). Therefore, this short-term temporary impact will be less than significant.

3.2.3 Mitigation Measures

The ARCF GRR Final EIS/EIR included visual resources mitigation related to erosion protection improvements (planting berms to replace understory vegetation) that does not apply to the impacts of the SREL Contract 4 Project because the SREL Contract 4 Project does not include removal of trees on the lower half of the waterside of the levee. There are no other feasible mitigation measures that can be adopted to avoid or minimize the significant impacts to visual resources from the revised project to a less-than-significant level.

The significant impact to visual resources will remain significant and unavoidable in the short term, as stated in the ARCF GRR Final EIS/EIR. Long term effects on visual resources will be less than significant.

3.3 Air Quality

3.3.1 Environmental and Regulatory Setting

The environmental and regulatory settings described in the ARCF GRR Final EIS/EIR are applicable to the analysis in this Supplemental EIR and therefore are not repeated. Some additional updated information is presented below.

Table 3-1 provides current Sacramento Valley Air Basin (SVAB) attainment status designated by U.S. Environmental Protection Agency (EPA) for six air pollutants of nationwide concern: particulate matter (PM), ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead.

PM is subdivided into two classes based on particle size: PM equal to or less than 10 micrometers in diameter (PM_{10}) and PM equal to or less than 2.5 micrometers in diameter ($PM_{2.5}$). An “attainment” designation for an area signifies that pollutant concentrations did not exceed the established standard. In contrast to attainment, a “nonattainment” designation

indicates that a pollutant concentration has exceeded the established standard. Nonattainment may differ in severity. To identify the severity of the problem and the extent of planning and actions required to meet the standard, nonattainment areas are assigned a classification that is commensurate with the severity of their air quality problem (e.g., moderate, serious, severe, extreme.

Table 3-1 Sacramento Valley Air Basin Attainment Status

Pollutant	Federal Attainment Status	State Attainment Status
1-hour Ozone	Severe Non-attainment	Serious Non-attainment
8-hour Ozone	Severe Non-attainment	Serious Non-attainment
24-hour PM_{10}	Attainment	Non-Attainment
Annual PM_{10}	Not Applicable	Non-Attainment
24-hour $PM_{2.5}$	Moderate Non-attainment	Not Applicable
Annual $PM_{2.5}$	Attainment	Non-attainment
1-hour Carbon Monoxide	Attainment	Attainment
8-hour Carbon Monoxide	Attainment	Attainment
1-hour Nitrogen Dioxide	Not Applicable	Attainment
Annual Nitrogen Dioxide	Attainment	Not Applicable
3-hour Sulfur Dioxide	Attainment	Not Applicable
24-hour Sulfur Dioxide	Attainment	Attainment
Annual Sulfur Dioxide	Attainment	Not Applicable
30-day Lead	Not Applicable	Attainment
Quarter Lead	Attainment	Not Applicable

Notes: PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less
Source: Sacramento Metropolitan Air Quality Management District 2020

3.3.2 Environmental Impacts

Significance Criteria

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines. The proposed project would result in a potentially significant impact to air quality if it would:

- Conflict with, or obstruct implementation of, the applicable air quality plan
- Violate any air quality standard or substantial contribution to existing or projected air quality violation
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a non-attainment area under National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards

- Expose sensitive receptors to substantial pollutant concentrations
- Create objectionable odors affecting a substantial number of people

Table 3-2 presents local air district significance thresholds used in this analysis, and **Table 3-3** presents General Conformity *de minimis* thresholds that apply to the project. The ARCF GRR Final EIS/EIR indicated project construction would occur over a longer timeline (10 years, compared to 5 years as currently proposed). Therefore, annual air emissions will be greater for the ARCF 2016 Project as a whole compared to the ARCF GRR Final EIS/EIR analysis. This document, therefore, includes a revised comparison to the General Conformity *de minimis* standards.

Table 3-2 Sacramento Metropolitan Air Quality Management District Thresholds of Significance for Construction

Pollutant	Threshold
Oxides of Nitrogen (NOx)	85 pounds per day
Respirable Particulate Matter (PM_{10})	Fugitive dust BACT/BMPs and 80 pounds per day
Fine Particulate Matter ($PM_{2.5}$)	Fugitive dust BACT/BMPs and 82 pounds per day

Notes: BACT = Best Available Control Technology; BMPs = Best Management Practices
Source: Sacramento Metropolitan Air Quality Management District 2015

Table 3-3 General Conformity *de minimis* Thresholds

Pollutant	Threshold (tons per year)
Carbon Monoxide (CO)	100
Oxides of Nitrogen (NOx)	25
Volatile Organic Compounds (VOC)/Reactive Organic Gases (ROG)	25
Respirable Particulate Matter (PM_{10})	100
Fine Particulate Matter ($PM_{2.5}$)	100

Sources: 40 CFR 93 Section 153 (b)(1); Sacramento Metropolitan Air Quality Management District 2020

Impact Analysis

The 2016 ARCF GRR Final EIS/EIR analysis found less-than-significant impacts related to consistency with air quality plans, fugitive dust, exposure of sensitive receptors to toxic air contaminants, and odors. The analysis in the 2016 ARCF GRR Final EIS/EIR adequately addresses the SREL Contract 4 project's impacts related to these topics, and they are not discussed further in this Supplemental EIR.

Adverse Effects on Air Quality from Construction Emissions

Air quality emissions will be generated by heavy equipment constructing the SREL Contract 4 project, hauling of material from the borrow source to the project area, construction worker trips, and other construction-related trips. There will be no change in O&M emissions

associated with the proposed project. Air emissions were modeled using SMAQMD's Road Construction Emissions Model version 8.1.0 (please refer to Appendix A for modeling data). The total estimated air emissions for the proposed project are presented in **Table 3-4** and will potentially exceed the SMAQMD thresholds for NOx. Previously adopted Mitigation Measures AIR-1, AIR-2, and AIR-3 will substantially reduce emissions, but not below the thresholds of significance. Therefore, previously adopted Mitigation Measure AIR-4 will be implemented to reduce this impact to a less-than-significant level through payment of mitigation fees.

Table 3-4 Emissions Estimates for the Proposed Project

Pollutant	Unmitigated/Mitigated (pounds per day)	Unmitigated/Mitigated (tons per year)	Significance Threshold
ROG	40.18/26.13	2.38/1.56	N/A
CO	360.68/466.64	21.84/28.16	N/A
NOx	**336.66/87.07**	19.91/5.05	85 pounds/day
PM_{10}	**86.25**/74.61	6.38/5.69	80 pounds/day and 14.6 tons/year
$PM_{2.5}$	28.93/18.33	1.98/1.35	82 pounds/day and 15 tons/year

Notes: Bold numbers indicate concentrations above thresholds.
CO = carbon monoxide; NOx = oxides of nitrogen; PM_{10} = particulate matter with aerodynamic diameter less than 10 microns; $PM_{2.5}$ = particulate matter with aerodynamic diameter less than 2.5 microns; ROG = reactive organic gases.
Sacramento Metropolitan Air Quality Management District (SMAQMD) considers construction activities unlikely to generate substantial quantities of CO (SMAQMD 2019).
CEQA significance thresholds for PM assume that fugitive dust Best Available Control Technology/Best Management Practices are implemented in accordance with SMAQMD guidance.

Table 3-5 presents combined emissions for the SREL Contract 4 project and the other components of the ARCF 2016 Project that are anticipated to be constructed during calendar year 2023, for comparison to General Conformity *de minimis* standards. For purposes of General Conformity (USACE has published a General Conformity Determination for the entire ARCF 2016 Project which can be accessed at: http://sacleveeupgrades.com/), the entire ARCF 2016 Project is considered a single action. As shown in **Table 3-5**, this impact would be significant. Implementing avoidance and minimization measures described in Mitigation Measures AIR-1, AIR-2, and AIR-3 will reduce emissions below the *de minimis standards* during the 2023 construction season, resulting in a less-than-significant impact after mitigation.

Avoidance and minimization measures will be implemented to reduce criteria pollutant emissions, and mitigation measures (including payment of fees) will be implemented to reduce air quality impacts to a less-than-significant level. The measures described below will reduce criteria pollutant emissions, diesel particulate emissions, and fugitive dust associated with construction activities. As a result, there will be no significant impacts to air quality in the region due to construction of the SREL Contract 4 project and all construction-related impacts will be less than significant. This action individually will not exceed Federal General Conformity *de minimis* thresholds after mitigation, but when considered with other ARCF 2016 Project features being constructed in 2023, the ARCF 2016 Project will exceed General Conformity thresholds after implementing avoidance and minimization measures described in Mitigation

Measures AIR-1, AIR-2, and AIR-3. Therefore, Mitigation Measure AIR-4 will be implemented by USACE to offset all NOx emissions of the ARCF 2016 Project, reducing the impact related to General Conformity *de minimis* standards to less than significant.

Table 3-5 2023 Emissions Estimates for the Entire ARCF 2016 Project

Project	ROG Unmitigated	NOx Unmitigated	PM_{10} Unmitigated	$PM_{2.5}$ Unmitigated	ROG Mitigated	NOx Mitigated
Sacramento River Erosion Contract 2	1.21	13.69	1.76	0.85	0.92	9.24
Lower American River Erosion Contract 3	1.24	21.82	1.85	0.75	0.75	7.93
Sacramento Weir	1.31	17.01	39.44	8.62	0.85	6.01
Sacramento River Seepage/Stability Contract 4 (Proposed Project)	2.38	19.91	6.38	1.98	1.56	5.05
Total ARCF 16 Project Emissions	6.14	**72.03**	49.43	12.20	4.08	**28.23**
General Conformity *de minimis* Thresholds	25	25	100	100	25	25

Notes: Bold numbers indicate concentrations above thresholds.
CO = carbon monoxide; NOx = oxides of nitrogen; PM_{10} = particulate matter with aerodynamic diameter less than 10 microns; $PM_{2.5}$ = particulate matter with aerodynamic diameter less than 2.5 microns; ROG = reactive organic gases.
Unmitigated and Mitigated data are presented in tons per year.

3.3.3 Mitigation Measures

The following mitigation measures have been previously adopted (USACE and CVFPB 2021).

Mitigation Measure AIR-1: Implement the Sacramento Metropolitan Air Quality Management District's Basic Construction Emission Control Practices.

SMAQMD requires that all projects, regardless of their significance, implement the following measures to minimize the generation of fugitive PM dust. The Basic Construction Emission Control Practices shall include measures to control fugitive PM dust pursuant to SMAQMD Rule 403, as well as measures to reduce construction-related exhaust emissions. The

Project Partners shall require contractors to comply with the basic construction emission control practices listed below for all construction-related activities occurring in SMAQMD jurisdiction.

- Water all exposed surfaces two times daily or more, as needed. Exposed surfaces include, but are not limited to levee crowns, soil piles, graded areas, unpaved parking areas, staging areas, and access roads.

- Cover, or suitably wet soils and other materials on, haul trucks transporting soil, sand, or other loose material on the site. Cover any haul trucks that travel along freeways or major roadways.

- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.

- Limit vehicle speed on unpaved roads to 15 miles per hour.

- Complete pavement of all roadways, driveways, sidewalks, and parking lots to be paved as soon as possible. In addition, lay building pads as soon as possible after grading unless seeding or soil binders are used.

- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes (required by CCR, Title 13, Sections 2449[d][3] and 2485). Provide clear signage that posts this requirement for workers at the entrances to the site.

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

Mitigation Measure AIR-2: Implement the Sacramento Metropolitan Air Quality Management District's Enhanced Fugitive PM Dust Control Practices.

SMAQMD recommends that construction projects that would exceed or contribute to the mass emissions threshold for PM10 implement the Enhanced Fugitive PM Dust Control Practices, as applicable to the project. Because the construction activities would involve substantial material movement activities and would be located in proximity of residential receptors, The Project Partners shall require construction contractors to implement the Enhanced Fugitive PM Dust Control Practices listed below, when feasible, to help reduce potential fugitive PM dust emissions.

Soil Disturbance Areas

- Water exposed soil with adequate frequency for continued moist soil. However, do not overwater to the extent that sediment flows off the site.

- Suspend excavation, grading, and/or demolition activity when wind speeds exceed 20 miles per hour.

- Install wind breaks (e.g., plant trees, solid fencing) on windward side(s) of construction areas.

- Plant vegetative ground cover (fast germinating native grass seed) in disturbed areas as soon as possible. Water appropriately until vegetation is established.

- Unpaved Roads (Entrained Road Dust)

- Install wheel washers for all exiting trucks or wash off all trucks and equipment leaving the site.

- Treat site accesses to a distance of 100 feet from the paved road with a 6- to 12-inch layer of wood chips, mulch, or gravel to reduce generation of road dust and road dust carryout onto public roads.

- Post a publicly visible sign with the telephone number and person to contact at USACE regarding dust complaints. This person will respond and take corrective action within 48 hours. The phone number of SMAQMD also will be visible to ensure compliance.

Mitigation Measure AIR-3: Require Lower Exhaust Emissions for Construction Equipment.

The Project Partners shall require contractors to use a fleet-wide average of 90 percent Tier 4 emissions vehicles for off-road construction equipment, and on-road haul trucks must be equipped with 2010 or newer engines. To demonstrate compliance with this requirement:

- The construction contractor shall submit to USACE and SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project.

- The inventory shall include the horsepower rating, engine model year, and projected hours of use for each piece of equipment. The construction contractor shall provide the anticipated construction timeline including start date, and name and phone number of the project manager, and on-site foreman. This information shall be submitted at least 4 business days prior to the use of subject heavy-duty off-road equipment. The SMAQMD Construction Mitigation Tool can be used to submit this information. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs.

- The construction contractor shall provide a plan for approval by USACE and SMAQMD demonstrating that the heavy-duty off-road vehicles (50 horsepower or more) to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project-wide fleet average of 90 percent Tier 4 emissions vehicles. This plan shall be submitted in conjunction with the equipment inventory. Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.

- SMAQMD's Construction Mitigation Tool can be used to identify an equipment fleet that achieves this reduction. The construction contractor shall ensure that emissions from all

off-road diesel-powered equipment used in the project area do not exceed 40 percent opacity for more than 3 minutes in any 1 hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately. Non-compliant equipment will be documented, and a summary provided monthly to USACE and SMAQMD. A visual survey of all in-operation equipment shall be made at least weekly. A monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed, as well as the dates of each survey.

- Use the Construction Mitigation Tool to track PM10 emissions and mileage traveled by on-road trucks, reporting results to USACE and SMAQMD on a monthly basis.

Mitigation Measure AIR-4: Use the Sacramento Metropolitan Air Quality Management District's Off-Site Mitigation Fee to Reduce NOx Emissions.

The Project Partners shall implement the measure listed below to reduce NOx construction-related emissions.

- Pursuant to air district thresholds of significance, if the projected construction-related emissions exceed the NOx threshold of significance, based on the equipment inventory and use, USACE shall contribute to SMAQMD's off-site mitigation fee program sufficiently to offset the amount by which the project's NOx emissions exceed the threshold. If emissions for the ARCF 2016 Project in any given year would exceed the *de minimis* threshold of 25 tons per year, USACE would enter into an agreement with SMAQMD to purchase offsets for all NOx emissions in any year that projected emissions would exceed the threshold. The determination of the estimated mitigation fees shall be conducted in coordination with SMAQMD before any ground disturbance occurs for any phase of project construction. (USACE anticipates purchasing offsets for NOx emissions in 2022 because the ARCF 2016 Project is forecast to exceed the *de minimis* threshold.) All mitigation fees shall be paid prior to the start of construction activity to allow SMAQMD to obtain emissions reductions for the proposed project. If there are changes to construction activities (e.g., equipment lists, increased equipment usage or schedules), USACE shall work with SMAQMD to ensure emission calculations and fees are adjusted appropriately.

Significance after Mitigation

The significant impact to air quality will be reduced to a less-than-significant level with implementation of Mitigation Measures AIR-1, AIR-2, AIR-3, and AIR-4 because the Project Partners and contractor will implement measures to reduce exhaust emissions and fugitive dust, and mitigation fees will be paid to offset emissions.

3.4 Vegetation and Wildlife

3.4.1 Environmental and Regulatory Setting

The environmental and regulatory settings described in the ARCF GRR Final EIS/EIR are applicable to the analysis in this Supplemental EIR and therefore are not repeated here. Some additional updated information is presented below.

Appendix B-1 includes figures showing land cover types and locations of sensitive biological resources within the project site, including staging areas. Though not shown in the figures, the haul routes are limited to existing roadways characterized as developed. Similarly, most of the SRCSD borrow site is barren and also characterized as developed, with highly disturbed grassland present on a small portion. The potential soil disposal site at the Railyards is not included in the land cover figures because it is analyzed separately in the Railyards SEIR (City of Sacramento 2016).

Levee Improvement and Utility Replacement Areas

Construction of levee raises and seepage/stability berms, and the levee degrade required to construct the cutoff wall through the levee centerline, may impact vegetation on the landside and waterside levee slopes. Replacement of utility pipes at Sump 41 may impact vegetation on the waterside levee slope. The herbaceous ground cover in these areas is typically dominated by non-native annual grasses, including ripgut brome (*Bromus diandrus*), soft chess (*B. hordeacous*), wild oat (*Avena fatua*), and Italian ryegrass (*Festuca perennis*). Trees are common throughout the project site, on the landside and waterside levee slopes and at the levee toes. Native trees in the levee improvement areas include Fremont's cottonwood (*Populus fremontii*), valley oak (*Quercus lobata*), interior live oak (*Q. wislizeni*), and northern California black walnut (*Juglans hindsii*). Non-native tree species are also present throughout the project site, notably tree of heaven (*Ailanthus altissima*) and black locust (*Robinia pseudoacacia*). Ornamental species typically occur landside of the levee slope, often in proximity to residences.

Staging Areas

Twelve staging areas have been identified waterside and landside of the levee. Most of the landside staging areas are dominated by ornamental landscaping, concrete, or parking areas, and several of the potential staging areas are within City parks.

Some staging areas also include non-native grassland and are bordered by or adjacent to oak woodland and Fremont cottonwood forest, such as the landside levee toe along the North Beach Lake Levee and waterside staging areas in the Little Pocket.

Haul Routes

Haul routes are primarily associated with developed roadways through residential and industrial areas that have limited biological resource value. The levee crown haul route is adjacent to riparian forest, oak woodland, and other relatively natural habitat that support a greater diversity of biological resources. A portion of the haul route from the SRCSD borrow site also passes through undeveloped grassland habitat within the SRCSD Bufferlands.

Borrow Site

Much of the SRCSD borrow site has been previously disturbed and is now barren of vegetation. Areas around the perimeter of and adjacent to the site support non-native grassland habitat that provides some value for wildlife species that occur in open grassland habitats and are tolerant of disturbance associated with the City's wastewater treatment facilities.

Soil Disposal Site

The Railyards disposal site has undergone extensive excavation and grading and is essentially barren soil. The site is surrounded by urban development and provides almost no biological resource habitat value.

Sensitive Habitats

Table 3-6 presents the acreage of each habitat type in the project site. A jurisdictional wetland delineation has been completed for a larger portion of the Sacramento River east levee, which includes the project site for the proposed project. The project site for the proposed project includes only one jurisdictional water of the United States, the Sacramento River. No wetlands located above the OHWM mark of the Sacramento River, or other streams or drainages, were identified. The project site for the proposed project includes 5.29 acres of riparian habitat, including Fremont Cottonwood Forest and Valley Oak Woodland/Trees habitat types that are considered forestland (as defined in California Public Resources Code [PRC] Section 12220[g]).

Table 3-6 Existing Habitat Types on the Project Site

Habitat	Acreage
Developed	7.31
Fremont Cottonwood Forest	3.75
Landscape	4.23
Valley Oak Woodland/Trees	1.54
Wild Oats Grassland	2.31
Total	**19.14**

Source: USACE 2022

3.4.2 Environmental Impacts

Significance Criteria

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines. The proposed project would result in a potentially significant impact to vegetation and wildlife if it would result in any of the following:

- Substantial loss, degradation, or fragmentation of any natural communities or wildlife habitat

- Substantial effects on a sensitive natural community, including Federally protected wetlands and other waters of the U.S., as defined by Section 404 of the Clean Water Act. (this threshold has been updated as described below)

- Substantial reduction in the quality or quantity of important habitat, or access to such habitat for wildlife species

- Substantial conflict with the American River Parkway Plan, Sacramento County Tree Preservation Ordinance, or the City of Sacramento Protection of Trees Ordinance

- Substantial adverse effects on native wood habitats in the American River Parkway, resulting in the loss of vegetation and wildlife

The following threshold has been updated to reflect the most current State CEQA Guidelines:

- Substantial adverse effect on State and Federally protected waters of the United States, including wetlands, through direct removal, filling, hydrological interruption, or other means

Impact Analysis

Adverse Effects on Riparian Habitat and Waters of the United States

Some levee improvement and staging areas are located within or adjacent to riparian habitat along the Sacramento River. Constructing the proposed project will require removing riparian vegetation within the levee degrade footprint, the top one third to one half of the levee. Approximately 2.75 acres of canopy will be removed to enable the construction of the proposed project. These tree and canopy acre estimates include both valley oak woodland riparian habitat, and additional native- and non-native landscaping and trees within other habitat types and could increase by up to 15 percent. Most of the trees that will be trimmed or removed are valley oaks (*Quercus lobata*), with smaller numbers of California black walnut (*Juglans hindsii*) and other species. This will be a significant impact.

Implementing Mitigation Measure VEG-1 will compensate for removing 2.75 canopy acres of riparian habitat at a 2:1 ratio by planting 5.5 acres of new riparian habitat at the Beach/Stone Lakes Mitigation Site (BSLMS). However, because it will take many years for compensation habitat to provide the value of habitat that will be removed, the short-term impact of the habitat loss will remain significant and unavoidable after mitigation.

Conflict with Tree Preservation Policies or Ordinances or Provisions of an Adopted Habitat Conservation Plan or Natural Community Conservation Plan

Implementation of flood protection activities by public agencies does not require a tree permit pursuant to the City of Sacramento Code. Therefore, there will be no conflict with the City of Sacramento tree preservation policy or ordinance. A habitat conservation planning effort coordinated with CDFW has been completed for the South Sacramento region, and the SRCSD borrow site is located in the plan area for the South Sacramento Habitat Conservation Plan (SSHCP). Using material at the existing SRCSD borrow site will not conflict with the plan

provisions. Therefore, the proposed project will cause no impact arising from conflict with an adopted Habitat Conservation Plan or Natural Community Conservation Plan.

3.4.3 Mitigation Measures

The following mitigation measures have been previously adopted (USACE and CVFPB 2021).

Mitigation Measure VEG-1: Compensate for Riparian Habitat Removal.

To compensate for riparian habitat removal, replacement habitat will be created in accordance with the 2013 ARCF GRR Fish and Wildlife Coordination Act Report. The mitigation will be implemented at the BSLMS or other USFWS-approved location.

Mitigation Measure GEO-1: Acquire Appropriate Regulatory Permits and Prepare and Implement a Storm Water Pollution Prevention Plan, Spill Prevention Control and Countermeasures Plan, and Associated Best Management Practices

Please refer to Section 3.8.3, below, for the full text of this mitigation measure.

Significance after Mitigation

Long-term significant impacts to vegetation and wildlife will be reduced to a less-than-significant level with implementation of Mitigation Measures VEG-1 and GEO-1, because the Project Partners and contractor will create new habitat to compensate for habitat loss resulting from the project and will implement BMPs to avoid potential impacts to waters and habitat related to material handling and spills. However, because it will take many years for compensation habitat to provide the value of habitat that will be removed, the short-term habitat loss impact will remain significant and unavoidable after mitigation. There is no feasible mitigation measure available as compensation habitat cannot be provided instantaneously that provides the value of mature and complex habitat that can only develop over many years.

3.5 Special-Status Species

3.5.1 Environmental and Regulatory Setting

The environmental and regulatory settings described in the ARCF GRR Final EIS/EIR are applicable to the analysis in this Supplemental EIR and therefore are not repeated here. Some additional updated information is presented below.

Appendix B-1 includes figures showing locations of elderberry (*Sambucus* sp.) within the project site, including staging areas. Though not shown in the figures, the haul routes are limited to existing roadways characterized as developed.

Special-status species evaluated for potential to occur in the study area for the proposed project were identified based on review of current U.S. Fish and Wildlife Service (USFWS) species lists (USFWS 2021a) (see Appendix B-2), resource databases and other information available from the National Marine Fisheries Service (NMFS), California Natural Diversity Database occurrences (CDFW 2022), and the California Native Plant Society online inventory

(CNPS 2022). Additional species addressed in the environmental analysis for projects in the vicinity or in local or State conservation planning efforts were also considered (SRCSD 2014; County of Sacramento 2011). USACE has reinitiated consultation on the ARCF 2016 Project, including the SREL Contract 4 activities, under ESA Section 7. USFWS have issued amended Biological Opinions (BOs) (USFWS 2021b, NMFS 2021).

A protocol-level special-status plant survey was conducted in the study area in August 2016. One special-status species, woolly rose-mallow (*Hibiscus lasiocarpos* var. *occidentalis*), was observed during the survey along the Sacramento River east levee. Five individuals of wooly rose mallow were observed at two locations along the river shoreline (see habitat and land cover figures in Appendix B-1), but these are not located within the project site for the proposed project.

Focused surveys of elderberry shrubs were conducted in 2017 and 2020 to evaluate potential impacts of the proposed project on valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*). Appendix B-1 contains maps illustrating the location of elderberry shrubs on and in the vicinity of the project site. No additional protocol-level special-status wildlife surveys have been conducted.

3.5.2 Environmental Impacts

Significance Criteria

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines. The proposed project would result in a potentially significant impact to special-status species if it would result in any of the following:

- Substantial direct or indirect reduction in growth, survival, or reproductive success of species listed or proposed for listing as threatened or endangered under the Federal or State ESA
- Substantial direct mortality, long-term habitat loss, or lowered reproductive success of Federally or State-listed threatened or endangered animal or plant species or candidates for Federal listing
- Direct or indirect reduction in the growth, survival, or reproductive success of substantial populations of Federal species of concern, State-listed endangered or threatened species, plant species listed by the California Native Plant Society (CNPS), or species of special concern or regionally important commercial or game species
- Adverse effect on a species' designated critical habitat

Impact Analysis

Adverse Effect on Special-Status Species: Plants

No special-status plants were located within the project site according to surveys conducted in 2016. However, due to the age of the surveys and the potential for changed

conditions between 2016 and the start of vegetation removal in late 2023 or construction in 2024, impacts to any special-status plants recently growing on the project site would be potentially significant. Mitigation Measure PLANT-1, which has been previously adopted, will reduce this impact to a less-than-significant level by requiring pre-construction surveys, and avoidance and buffers if special-status plant species are present.

Adverse Effect on Special-Status Species: Valley Elderberry Longhorn Beetle

There are numerous documented occurrences of valley elderberry longhorn beetle along the Sacramento River, and dozens of elderberry shrubs have been identified along the Sacramento River in the vicinity of the proposed project, including on the project site (shrub locations are illustrated in Appendix B-1). All shrubs that have been identified on the project site are located 5 feet or more from areas where ground will be disturbed and USACE intends to protect these shrubs in place.

Because elderberry is a fast-growing plant and focused surveys have not been completed on the entire project site for SREL Contract 4, for the purposes of impact analysis it is conservatively assumed that up to 5 elderberry shrubs may be removed during construction activities. These effects are less than the 163 stems greater than one inch identified in the 2015 BO for all SREL projects. Elderberry shrub removal will reduce available habitat and could result in direct mortality of valley elderberry longhorn beetle. In addition, construction activities near shrubs could impact valley elderberry longhorn beetles that may be present on the affected shrubs.

Implementing Mitigation Measure VELB-1 will reduce potentially significant effects to a less-than-significant level by avoiding and minimizing impacts on elderberry shrubs, transplanting elderberry shrubs that cannot be avoided, and compensating for any unavoidable impacts.

Adverse Effect on Special-Status Species: Burrowing Owl

Potentially suitable burrowing owl habitat is present adjacent to the SRCSD borrow site. Although the borrow site is actively used, portions of the area can remain undisturbed for extended periods and become suitable for the species. In addition, numerous burrowing owl occurrences have been documented at and adjacent to the wastewater treatment plant and surrounding SRCSD Bufferlands. Therefore, implementing the proposed project could result in destruction and/or disturbance of occupied burrows and will be a potentially significant impact.

Implementing Mitigation Measure BUOW-1 will reduce potentially significant effects to a less-than-significant level by conducting a habitat assessment and focused survey if evidence of burrowing owls is observed, consulting with CDFW and implementing impact avoidance and minimization measures if active burrows could be affected, minimizing disturbance adjacent to occupied burrows, and instructing construction personnel about the potential presence of burrowing owls and required avoidance and minimization measures.

Adverse Effect on Special-Status Species: Swainson's Hawk and Other Special-Status Birds

Trees along the Sacramento River east levee and adjacent narrow riparian corridor along the river support a number of active nest sites of Swainson's hawk. This corridor also provides suitable nesting and/or foraging habitat for other special-status birds, such as western yellow-billed cuckoo, white-tailed kite, and purple martin. Nesting habitat for Swainson's hawk, white-tailed kite, and purple martin occurs throughout the study area for the proposed project. The study area is outside the nesting range of western yellow-billed cuckoo, but transient individuals could use the area during migration.

Suitable habitat is primarily at and adjacent to the levee improvement and waterside staging areas. Tree removal to accommodate cutoff wall construction and staging area use, discussed in Section 3.4, "Vegetation and Wildlife," will reduce the amount of habitat available to these species and could destroy active nests, resulting in loss of eggs and young. In addition, noise and visual disturbance from construction activities could disturb nearby active nests, potentially resulting in nest failure. Implementing Mitigation Measure BIRD-1 will reduce potentially significant effects on special-status and other migratory birds to a less-than-significant level by minimizing removal of vegetation with active nests, implementing protective buffers around active nests, monitoring to ensure that birds and their young are not adversely affected by project activities, and compensating for riparian habitat removal.

Adverse Effect on Special-Status Species: Fish

Several special-status fish species may be present in the Sacramento River in the vicinity of the project site, including winter-, spring-, fall-, and late fall-run Chinook salmon; green sturgeon; Central Valley steelhead; and Delta smelt. Although all work will occur outside of the wetted area of the Sacramento River, some areas below the OWHM will be disturbed during construction. Work below the OHWM will occur when the area is dry. Habitat below the OHWM is designated under the ESA as critical habitat for Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*), Central Valley (CV) spring-run Chinook salmon (*O. tshawytscha*), and southern distinct population segment (sDPS) green sturgeon (*Acipenser medirostris*). Areas below the mean high-water mark are considered suitable habitat for delta smelt. Additionally, this habitat is designated as Essential Fish Habitat under the Magnuson Stevens Fishery Conservation Act for Pacific Salmon (Chinook) and areas below the mean high water mark are considered suitable habitat for delta smelt (*Hypomesus transpacificus*).

Work below the OHWM will not include removing any vegetation serving as shaded riverine aquatic habitat, but less than 1.5 acres of riparian vegetation below the OHWM that may provide juvenile foraging, refugia, spawning, and/or shallow water habitat for various life stages of special-status fish species, including willow scrub, will be removed. Work areas below the OHWM will be cleared and grubbed to implement stormwater BMPs, and less than 100 cy of fill will be placed on approximately 0.1 acre to replace unsuitable materials from the levee at this location. Portions of a waterside staging area at Chicory Bend in the Little Pocket are also partially below the OWHM. This staging area will be used for equipment storage and material laydown. This would require no clearing, grubbing, or stripping and no trees or shrubs will be removed. Therefore, no ground surface below the OHWM will be disturbed at this staging area.

As described in Section 2.1.9, "Construction," disturbed areas will be regraded and reseeded with native vegetation after construction is completed. Vegetation will be established in the impact area below the OHWM prior to rewetting of the area and will not result in spatial or temporary loss of habitat. Activity below the OHWM may be subject to additional requirements of the NMFS BO. Vegetation will also reduce any temporary increases in turbidity during the first rewetting of the construction area. This impact will be less than significant. Mitigation Measure FISH-1 identifies the in-water work window for the ARCF 2016 Project. Implementing Mitigation Measure FISH-1 will further reduce this less-than-significant impact.

Adverse Effect on Special-Status Species: Special-Status Bats

Several species of bat are identified by CDFW as species of special concern; therefore, impacts on these species are analyzed under CEQA only. Mature trees that may provide suitable roost cavities for pallid bat (*Antrozous pallidus*) and other trees with suitable foliage for roosting by western red bat (*Lasiurus blossevillii*) occur in and adjacent to staging areas and levee improvement areas. Most of the trees that will be removed provide few, if any, cavities for roosting pallid bats. However, mature valley oak trees that may provide high-quality pallid bat roosting habitat, and tree species that are favored by roosting red bats, will be removed. Although the likelihood is relatively low, it is possible this habitat would support a maternity colony; removal of a maternity colony could result in loss of a large number of individuals of special-status bats, potentially having a substantial adverse impact on the local population. Implementing Mitigation Measure BAT-1 will reduce potentially significant effects on roosting special-status bats to a less-than-significant level by implementing appropriate buffers around active roosts that could be affected by project activities.

3.5.3 Mitigation Measures

The following mitigation measures have been previously adopted (USACE and CVFPB 2021).

Mitigation Measure PLANT-1: Implement Measures to Protect Special-Status Plants

The Project Partners will implement the following measures, to avoid and minimize effects on special-status plants:

- Preconstruction surveys will be conducted by a qualified botanist in suitable habitat to determine the presence of any special status plants. Surveys would be conducted at an appropriate time of year during which the species are likely to be detected, which would likely be during the blooming period.
- If special status plant species are found during preconstruction surveys, the habitat will be marked or fenced as an avoidance area during construction. A buffer of 25 feet will be established. If a buffer of 25 feet is not possible, the next maximum possible distance will be fenced off as a buffer.
- If special-status plant species cannot be avoided during construction, USACE and CVFPB will coordinate with the resource agencies to determine additional appropriate mitigation measures.

Mitigation Measure VELB-1: Implement Current USFWS Avoidance, Minimization, and Compensation Measures for Valley Elderberry Longhorn Beetle.

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

- Fencing. All areas to be avoided during construction activities would be fenced and/or flagged as close to construction limits as feasible.
- Avoidance area. To the extent feasible, activities that may damage or kill an elderberry shrub (e.g., trenching, paving, etc.) would be avoided within 20 feet from the drip-line of the shrub.
- Worker education. A qualified biologist would provide training for all contractors, work crews, and any onsite personnel on the status of valley elderberry longhorn beetle, its host plant and habitat, the need to avoid damaging elderberry shrubs, and the possible penalties for noncompliance.
- Construction monitoring. A qualified biologist would monitor the work area at appropriate intervals to assure that all avoidance and minimization measures are implemented
- Timing. To the extent feasible, activities within 165 feet of an elderberry shrub would be conducted outside of the valley elderberry longhorn beetle flight season (March to July).
- Trimming. To the extent feasible, elderberry shrub trimming would occur between November and February and avoid the removal of any branches or stems greater than or equal to 1-inch in diameter.
- Chemical Usage. Herbicides would not be used within the drip-line, and insecticides would not be used within 100 feet of an elderberry shrub. All chemicals would be applied using a backpack sprayer or similar direct application method.
- Mowing. Mechanical weed removal within the drip-line of elderberry shrubs would be limited to the season when adults are not active (August to February) and would avoid damaging the shrub.
- Transplanting. To the extent feasible, elderberry shrubs would be transplanted when the shrubs are dormant (November through the first 2 weeks in February) and after they have lost their leaves. Exit-hole surveys will be completed immediately before transplanting. A qualified biologist would be on-site for the duration of transplanting activities to assure compliance with avoidance and minimization measures and other conservation measures.
- Compensation. Effects would be compensated at ratios ranging from 1:1 to 3:1, depending on the compensation approach and circumstances of the affected shrubs. Affected area would be re- vegetated with appropriate native plants.

Mitigation Measure BUOW-1: Implement Measures to Protect Burrowing Owl.

The Project Partners would implement the following measures to reduce effects on burrowing owl:

- Prior to the implementation of construction, surveys would be conducted to determine the presence of burrows or signs of burrowing owl at the SRCSD borrow site. A habitat assessment and any proceeding surveys would be conducted in accordance with Appendix D of the Staff Report on Burrowing Owl Mitigation (CDFG 2012).

- If burrowing owls are observed, coordination with the California Department of Fish and Wildlife (CDFW) would be initiated to determine the appropriate actions to take or any additional avoidance and minimization measures that may need to occur. These measures may include creating a protective buffer around occupied burrows during the duration of the breeding/juvenile rearing season and biological monitoring of active burrows to ensure that construction activities do not result in adverse effects on nesting burrowing owls.

- If potential burrows are present, all on-site construction personnel would be instructed on the potential presence of burrowing owls, identification of these owls and their habitat, and the importance of minimizing impacts on burrowing owls and their habitat.

Mitigation Measure BIRD-1: Implement Measures to Protect Nesting Migratory Birds.

USACE would implement the following measures to minimize potential effects on active nests of Swainson's hawk, white-tailed kite, purple martin, and other migratory birds:

- Before on-site project activities begin, all construction personnel would participate in a worker environmental awareness program. A qualified biologist would inform all construction personnel about the life history of Swainson's hawk and the importance of nest sites.

- For Swainson's hawk, follow the survey guidelines for the Swainson's Hawk Technical Advisory Committee 2000. If active nests are found within 0.5 miles of construction activities, consult with CDFW on further action including buffer areas, mitigation and monitoring.

- For purple martin and white-tailed kite, a survey would also be conducted for active nests within 500 feet of construction activities. For all other migratory birds, the survey would cover active nests within 100 feet of construction activities. These surveys could be conducted concurrent with Swainson's hawk surveys, so long as one survey is conducted no more than 48 hours from the initiation of project activities. If the biologist determines that the area surveyed does not contain any active nests, construction activities, including removing or pruning trees and shrubs, the project can commence.

- For any active migratory bird nest found, a protective buffer would be established and implemented until the nest is no longer active. The size of the buffer would be determined based on the species, nest stage, type, and intensity of project disturbance in the nest vicinity, presence of visual buffers, and other variables that may affect

susceptibility of the nest to disturbance. A qualified biologist would monitor the nest during project activities to confirm effectiveness of the buffer and adjust the buffer as needed to ensure project activities do not adversely affect behavior of adults or young.

- Tree and shrub removal and other clearing, grading, and construction activities that remove vegetation would not be conducted during the nesting season (generally February 15 to August 31, depending on the species and environmental conditions for any given year). If construction activities that require tree and shrub removal occur during the nesting season, USACE and CVFPB would consult with USFWS and CDFW to determine the appropriate measures to implement to avoid adverse effects.

Mitigation Measure BAT-1: Implement Measures to Protect Maternity Roosts of Special-Status Bats.

The Project Partners will implement the following measures to avoid and minimize effects on special-status bats:

- Wherever feasible, USACE will conduct construction activities outside of the pupping season for bats (generally April 1 to August 31).

- USACE or its designated environmental personnel will specify which trees slated for removal contain suitable bat roosting habitat. Trees indicated for removal that are not identified as suitable bat habitat can be removed using normal methods.

- Live trees that are indicated to contain roosting habitat shall be removed in a two-phase process. The first day, under the supervision of the biological monitor, remove limbs and branches that do not contain cavities, cracks, crevices, or deep bark fissures that can provide roosting habitat. On the second day remove the remainder of tree by gently lowering the tree to the ground, under the supervision of the biological monitor and leave material undisturbed for 48-hours. If it is not feasible to remove a tree using the two-phased approach, limbs containing habitat features should be removed and gently lowered to the ground in a location where they are not likely to be crushed or disturbed by the felling of the tree and left undisturbed for the next 48-hours.

- Standing dead trees or snags with habitat features should be removed over a single day by gently lowering the tree or snag to the ground. The tree or snag should be left undisturbed on the site for the next 48-hours.

- For trees containing suitable bat roosting habitat that will be trimmed, trimming shall be conducted in the presence of a biological monitor. If trimming results in the removal of vegetation that contains potential bat habitat, vegetation should be gently lowered to the ground and left near the tree for 48-hours prior to removal, if feasible. If the vegetation cannot be left for 48-hours, the biological monitor shall survey the vegetation for presence of bats. If any bats are found within the vegetation, the vegetation must be left for 48-hours (or CDFW should be called for guidance regarding relocation of the bat dependent on urgency for removal).

- If removal of trees must occur during the bat pupping season, within 30 days of tree removal activities, all trees to be removed will be surveyed by a qualified biological

monitor for the presence of features that may function as special-status bat maternity roosting habitat. Trees that do not contain potential special-status maternity roosting habitat may be removed. For trees that contain suitable special-status bat maternity roosting habitat, surveys for active maternity roosts shall be conducted by the designated biological monitor in trees designated for removal. The surveys shall be conducted from dusk until dark.

- If any special-status species bat maternity roost is located, appropriate buffers must be established by clearly marking the buffer area. The buffer area must be a minimum of 100 feet outside the tree containing the maternity roost. No contract activities shall commence within the buffer areas until the end of pupping season (September 1st) or the biological monitor confirms that the maternity roost is no longer active.

- If construction activities must occur within the buffer, the biological monitor must monitor activities either continuously or periodically during the work, which will be determined by the biological monitor. The biological monitor would be empowered to stop activities that, in their opinion, would cause unanticipated adverse effects on specials status bats. If construction activities are stopped, the biological monitor would inform USACE, and CDFW would be consulted to determine appropriate measures to implement to avoid adverse effects.

Mitigation Measure FISH-1: Implement Limits for In-Water Work.

The Project Partners would implement the following measure to reduce effects on special-status fish:

- In-water construction activities (i.e., work below the OHWM) will be limited to the work window of July 1 to October 31. The in-water work window could be extended with NMFS approval.

Significance after Mitigation

The significant impact to special-status species will be reduced to a less-than-significant level with implementation of Mitigation Measures PLANT-1, VELB-1, BUOW-1, BIRD-1, and BAT-1, because the Project Partners and contractor will conduct surveys and use buffering and avoidance measures to avoid potential impacts to special-status species. Impacts to special-status fish species will be less than significant without mitigation and will be further reduced by implementing Mitigation Measure FISH-1.

3.6 Climate Change

3.6.1 Environmental and Regulatory Setting

The environmental and regulatory settings in the ARCF GRR Final EIS/EIR are applicable to the analysis in this Supplemental EIR and are not repeated. Some additional updated information is presented below.

Warming of the climate system is now considered to be unequivocal, with global surface temperature increasing approximately 1.53 degrees Fahrenheit over the last 140 years (IPCC

2013). The causes of this warming have been identified as both natural processes and human actions. The Intergovernmental Panel on Climate Change concluded that variations in natural phenomena, such as solar radiation and volcanoes, produced most of the warming from preindustrial times to 1950 and had a small cooling effect afterward. However, since 1950, increasing greenhouse gas (GHG) concentrations resulting from human activity, such as fossil fuel burning and deforestation, have been determined with 95 percent certainty to be responsible for most of the observed temperature increase (IPCC 2013).

During this period of increased global warming, many other changes have occurred or are predicted to occur in other natural systems. Sea levels have risen; precipitation patterns throughout the world have shifted, with some areas becoming wetter and others drier; snowlines can rise, resulting in changes to the snowpack, runoff, and water storage; drought and wildfire risks have increased; and numerous other conditions have been observed. Although it is difficult to prove a definitive cause-and-effect relationship between global warming and other observed changes to natural systems, there is a high level of confidence in the scientific community that these changes are a direct result of increased global temperatures caused by the increased presence of GHGs in the atmosphere (IPCC 2013).

According to the City of Sacramento Climate Action Plan (City of Sacramento 2012), climate change is expected to affect the Sacramento region in the following ways:

- Variable precipitation patterns, with the possibility of reduced average rainfall
- Reduced snowpack and snowline at higher elevations
- Earlier, hotter, more frequent, and longer heat waves
- More frequent and extreme storm events and associated flood risk
- Diminished air quality
- Levee failure induced by sea level rise, leading to critical infrastructure damage in the Sacramento-San Joaquin Delta (Delta)
- Increased pressure on water supplies and diminished water quality
- Increased climate-related illnesses (from factors such as extreme heat, air quality, and disease-bearing vectors)
- Loss of natural habitat and agricultural productivity
- Compromised energy supply and security

3.6.2 Environmental Impacts

Significance Criteria

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines. The proposed project would result in a significant impact to climate change if it would:

- Conflict with an applicable plan adopted for the purpose of reducing GHG emissions. SMAQMD has local jurisdiction over the project site. In October 2014, the SMAQMD adopted a resolution that recommends GHG thresholds of significance as follows:
    - Construction phase of projects (for stationary and land development projects): 1,100 metric tons of carbon dioxide equivalent (CO_2e) per year
    - Operational phase of land development projects: 1,100 metric tons of CO_2e per year
    - Operational phase of stationary source projects: 10,000 direct metric tons of CO_2e per year
- Generate GHG gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- SMAQMD recommends that GHG emissions from construction activities be quantified and disclosed, a determination regarding the significance of these GHG emissions be made based on a threshold determined by the lead agency, and BMPs be incorporated to reduce GHG emissions during construction, as feasible and applicable.

Impact Analysis

Extreme drought conditions brought on by climate change could have considerable effects on groundwater levels and cutoff wall installation could worsen these effects. Please refer to Section 3.10, "Water Quality and Groundwater Resources," for a discussion of potential project effects on groundwater levels.

Temporary, Short-Term Generation of Greenhouse Gas Emissions

The SREL Contract 4 project will emit an estimated 5,067 metric tons of CO_2e during project construction in 2023. This exceeds the threshold of 1,100 metric tons of CO_2e recommended by SMAQMD for construction phases and applied by USACE to this analysis and will be a significant impact. Implementing Mitigation Measure GHG-1 will reduce construction-related GHG emissions to a less-than-significant level through efficient operation of construction equipment engines, enhanced emissions reductions for equipment used during construction, minimization of equipment idling when not in use, and purchasing carbon offset credits. Therefore, with implementation of Mitigation Measure GHG-1 to reduce GHG emissions and purchase offset credits, the project will not make a cumulatively considerable incremental contribution to cumulative GHG emissions and global climate change.

Conflict with an Applicable GHG Emissions Reduction Plan and Effects of Climate Change

The intent, purpose, and function of the SREL Contract 4 project aligns with the goals of the Assembly Bill (AB) 32 Scoping Plan to protect against the detrimental effects of climate change. It is not anticipated that the SREL Contract 4 project will improve the Sacramento River east levee and provide improved flood protection to the densely populated City of Sacramento, City of Elk Grove, and some unincorporated Sacramento County areas. Therefore, the SREL Contract 4 project is an adaptive measure against the potential effects of climate change (i.e.,

increased flooding frequency, magnitude, and duration). The climate change assessment contained in the 2018 Safeguarding California Plan, California's Climate Adaptation Strategy (CAS) identified floods (among heat waves, wildfires, and droughts) as likely being one of the earliest climate change effects experienced in California (CNRA 2018). The Updated AB 32 Scoping Plan cites the need to buffer from the increasing effects of climate change, including floods (CARB 2017). Therefore, in addition to reducing GHG emissions, which is the primary goal of the Scoping Plan, it is also critical to implement actions and projects that will prevent, avoid, and minimize the detrimental effects of climate change. These types of projects would also help avoid reconstruction and repair expenditures, losses and disruptions to economic activities, and effects on local residents from a flood event. Although the project will include new temporary, short-term GHG emissions during construction, these emissions will be mitigated to a less-than-significant level with implementation of Mitigation Measure GHG-1, and the project will thus not conflict with plans for reducing GHG emissions. Because the project will be consistent with the goals of the 2018 CAS and the 2017 AB 32 Scoping Plan to protect against the detrimental effects of climate change without impeding current economic growth, the SREL Contract 4 Project will have a less-than-significant effect.

3.6.3 Mitigation Measures

The following mitigation measure has been previously adopted (USACE and CVFPB 2021).

Mitigation Measure GHG-1: Implement GHG Reduction Measures

Measures that would be implemented to reduce the project's contribution from generation of GHGs are as follows:

- Encourage and provide carpools, shuttle vans, transit passes, and/or secure bicycle parking for construction worker commutes.
- Recycle at least 75 percent of construction waste and demolition debris.
- Purchase at least 20 percent of the building materials and imported soil from sources within 100 miles of the project site.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to no more than 3 minutes (5-minute limit is required by the State's airborne toxics control measure [Title 13, sections 2449(d)(3) and 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site.
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.
- Use equipment with new technologies (repowered engines, electric drive trains).
- Perform on-site material hauling with trucks equipped with on-road engines (if determined to be less emissive than the off-road engines).

- Use a CARB-approved low carbon fuel for construction equipment. (NOx emissions from the use of low carbon fuel must be reviewed and increases mitigated.)

- Purchase GHG offset for program-wide GHG emissions (direct emissions plus indirect emissions from on-road haul trucks plus commute vehicles) exceeding SMAQMD significance thresholds applicable at the time of construction. Carbon offset credits will be purchased from SMAQMD-approved programs.

Significance after Mitigation

The significant impact related to GHG emissions will be reduced to a less-than-significant level with implementation of Mitigation Measure GHG-1, because the Project Partners and contractor will take actions to reduce project emissions of GHGs and purchase offsets for GHG emissions in excess of SMAQMD thresholds.

3.7 Cultural and Tribal Cultural Resources

3.7.1 Environmental and Regulatory Setting

The environmental and regulatory settings in the ARCF GRR Final EIS/EIR are applicable to the analysis in this Supplemental EIR and are not repeated. Some additional updated and site-specific conditions are described below.

The area in which cultural resources are identified and in which potential effects on historic properties (those cultural resources determined to be eligible for listing on the National Register of Historic Places [NRHP]) are analyzed is called the Area of Potential Effects (APE). The APE for the SREL Contract 4 project includes the project footprint (the area where any ground-disturbance will occur), such as levee improvement areas (levee raising, shallow cutoff wall and cutoff wall installation, and utility window remediation), and staging areas. An additional surrounding area (typically extending about 20 – 40 feet beyond the footprint) is included in the APE to account for buried resources that may extend outside the project footprint. This also includes the area in which built-environment resources could be affected physically, including through vibration. The boundary of the additional area surrounding the project footprint is generally limited by existing developed areas such as housing with fenced yards. No permanent substantial visual or auditory changes will occur as a result of project implementation; therefore, no area of indirect effect (the area in which changes in the visual or auditory setting may occur) has been identified. The vertical extent of the project APE is variable but will extend from the levee crown to a maximum depth of up to 145 feet below ground surface for excavation for cutoff walls.

The APE for the SREL Contract 4 project contains numerous remains of past human activity ranging from Native American sites to flood control structures and may contain Native American human interments. Such materials can be found at many locations on the landscape. USACE has consulted with the State Historic Preservation Officer (SHPO) and other parties and as a result has executed a Programmatic Agreement (PA). The PA establishes the process USACE shall follow to comply with Section 106 of the National Historic Preservation Act (NHPA), taking into consideration the views of the signatory and concurring parties and interested Native American Tribes. The PA stipulates time frames and document review

procedures; delineation of project APEs; development of a Historic Properties Management Plan (HPMP) to guide identification, evaluation, and findings of effect; Historic Property Treatment Plans (HPTPs) to identify treatment for Historic Properties that will be adversely affected; a process to guide limited geotechnical investigations; Native American consultation procedures; and other processes and implementation procedures.

Surveys and Investigations

Efforts to identify Historic Properties in the project APE since the ARCF GRR Final EIS/EIR was prepared include records searches, archival research, intensive field surveys by archaeologists and architectural historians, initiation of Native American consultation, and a geoarchaeological sensitivity assessment and geoarchaeological exploratory excavation of selected areas in the APE. Historic Properties are considered historical resources for the purposes of CEQA..

Records Search

Contracted archaeologists conducted record searches at the North Central Information Center (NCIC) for the ARCF phases, including the SREL Contract 4 project APE in October 2019, November 2021, and March 2022. The records searches included the following sources:

- NRHP-listed properties (NPS 1997) and updates
- California Inventory of Historic Resources (State of California 1976 and updates)
- California Points of Historical Interest (State of California 1992 and updates)
- California Department of Transportation (Caltrans) Bridge Inventory (Caltrans 1989, 2000, and 2004)
- Historic Maps
- California Historical Landmarks (State of California 1996 and updates)
- Directory of Properties in the Historic Resources Inventory (State of California 2006)
- Gold Districts of California (Clark 1970)
- California Gold Camps (Gudde 1975)
- California Place Names (Gudde 1969)
- Historic Spots in California (Hoover et al. 1966 and 1990)

In addition, GEI conducted archival research to acquire background information and to identify historic trends and people associated with resources in the project area. Due to Covid-19 restrictions affecting physical access to repositories, much of the research was conducted online.

Field Surveys

In October 2021, February 2022, and March 2022, contract archaeologists conducted intensive pedestrian archaeological surveys (survey transects spaced no more than 10 meters apart) of the SREL Contract 4 project APE. Much of the APE along the Sacramento River consists of fill material used during levee construction and O&M. Archival research was not able to conclusively determine the source material for the levee fill. On much of the water side of the levee, conditions consisted of heavily vegetated areas, areas of riprap, and paved areas. On the land side of the levee, most of the areas have been landscaped or altered by modern development. On January 21, and March 22, 2022, GEI architectural historians conducted a survey of the APE to record built environment resources more than 45 years old. Sixteen resources were recorded as part of the survey

Geoarchaeological Excavation

Geoarchaeological exploratory trenching was conducted under the direct supervision of geoarchaeologist James Mayer, PhD, RPA, at three locations in the APE between April 19 and 21, 2021. These three locations were considered to be potentially sensitive for the presence of buried archaeological resources based on the geoarchaeological sensitivity assessment and Native American consultation. No artifacts, archaeological features, or archaeological deposits were encountered at any of the three locations where excavation was conducted.

Native American Consultation

Native American Consultation Conducted by USACE

USACE is the lead Federal agency responsible for compliance with Section 106 of the NHPA and has conducted all consultations with Native American Tribes and interested parties according to the PA and HPMP developed for the ARCF 2016 Project. Several Native American Tribes and interested parties were contacted during development of the PA and provided with general information about the ARCF 2016 Project. Consultations specifically related to the proposed project are a continuation of the ongoing process.

Native American Tribes identified in the PA have been contacted and provided a description of the SREL Contract 4 project. Letters describing the SREL Contract 4 project and containing maps of the APE were mailed to consulting Native American Tribes on January 6, 2021.

Native American consultation conducted by USACE is on-going, including discussions with UAIC regarding best practices during construction and monitoring arrangements.

Native American Consultation Conducted by the Sacramento Area Flood Control Agency

SAFCA also has consulted with local Native American Tribes as part of CEQA compliance related to Sacramento River east levee improvements (SAFCA was the CEQA lead agency in 2015). In March 2015, SAFCA conducted a tour of portions of the Sacramento River east levee for the interested tribes. Native American representatives who attended the tour included Marcos Guerrero (UAIC), Kyle Dutschke (Ione Band of Miwok Indians), Melissa

Baring (Ione Band of Miwok Indians), Antonio Ruiz, Jr. (Wilton Rancheria), Kara Perry (Shingle Springs Band of Miwok Indians), and Daniel Fonseca (Shingle Springs Band of Miwok Indians).

UAIC has provided SAFCA and USACE with a sensitivity map of the ARCF 2016 Project site which illustrated general areas that the Tribe feels are sensitive for Native American resources, such as cultural landscapes.

On August 28, 2015, SAFCA conducted a field review of SAFCA's Sacramento River east levee project footprint with representatives of UAIC, USACE, and contract archaeologists. In October 2015, SAFCA conducted a follow-up field review of selected portions of the Sacramento River east levee project footprint with representatives of UAIC and contracted archaeologists.

In September 2015, the Native American Heritage Commission (NAHC) sent an updated list of Native American contacts for SAFCA's Sacramento River east levee APE and also the updated results of a search of their Sacred Lands File. The NAHC indicated that no sacred sites were identified as a result of their Sacred Lands File search, although UAIC has indicated that records of sacred sites have been sent to the NAHC. However, following the discovery of human remains on the ground surface during a surface inspection along the SREL by representatives of UAIC on May 25, 2016, the NAHC designated UAIC as the Most Likely Descendant (MLD) for the SREL Contract 3 project.

UAIC has continued to consult with SAFCA and its contractor. UAIC has identified three locations as culturally sensitive areas within the project APE. These resources are described below under, "Identified Cultural Resources."

Native American Consultation Conducted by the CVFPB

CVFPB, as the CEQA lead agency, is continuing to conduct consultation with culturally affiliated Native American Tribes under the California Natural Resource Agency Tribal Coordination Policy. The California Natural Resources Agency adopted the California Natural Resource Agency Final Tribal Coordination Policy on November 20, 2012, which was developed in response to Governor Brown's September 19, 2011 Executive Order B-10-11. CVFPB has adopted this Policy. As such, Native American consultation will be conducted in accordance with the Policy adopted by CVFPB. The purpose of the Policy is to ensure effective, meaningful, and mutually beneficial government-to-government consultation, communication, and coordination between CVFPB and tribal entities relative to activities under CVFPB's jurisdiction that may affect tribal communities. CVFPB will contact the Native American contacts, including those already identified by the NAHC, in an effort to identify cultural resources important to Native Americans, including Tribal Cultural Resources as defined in California PRC 21074, which may be present in the project area.

Identified Cultural Resources

Based on the results of the records search and archival research, field surveys, Native American consultation, and geoarchaeological excavation, the following cultural resources were identified within the APE for the SREL Contract 4 project.

Archaeological Resources

Site CA-SAC-46 was originally recorded in 1934 by Heizer, within the unincorporated community of Freeport, as an indigenous mound measuring approximately 100 yards in diameter that had been levelled during construction activities. The site was revisited in 1959 by Sacramento State University, when it was excavated and described as being in "fairly good condition." The Sacramento State excavations found "possible house pits" and "possible artifacts," but the overall site survey record is light on details. They did however note that the possibility of destruction of the site was "none," as the area had posted signs indicating it was privately owned. However, by the time of a pedestrian survey in 1978 (no material seen on the surface), and testing program conducted by FWARG in 1990, the site had virtually disappeared and that if "any portion of the site remains, it likely has no integrity due to substantial disturbance form historic-era and modern development activities." ESA's survey of the site, in 2018, revealed no cultural material. GEI's most recent survey, in 2022, did not record any evidence of the site. It is likely that whatever remained of the site by the time of the FWARG subsurface testing in 1990 was extremely limited in extent and integrity. As no cultural material has been recorded from the site in more than 40 years and, given the increased infrastructure development on and near the original site location, it is likely that CA-SAC-46 was destroyed.

Site CA-SAC-48 was originally recorded in 1934 by Heizer as an indigenous mound measuring 50 yards in diameter that had been scraped off and built over. A subsequent survey in 1974 by Johnson claimed to have "observed" the site, but a 2000 survey by FWARG did not find any archaeological material at the site's location, noting that a barn on the site seen by Heizer no longer existed. A survey of the site in 2018 by ESA did not record any cultural material at the site or in the vicinity. GEI's recent survey, in 2022, did not record any evidence of the site. As with CA-SAC-46, this site has not revealed any cultural materials for decades, possibly since just after Heizer recorded it nearly 90 years ago. And, just as with CA-SAC-46, given the increased infrastructure development on and near the original site location in this part of Freeport, it is likely that CA-SAC-48 was destroyed.

Native American-Identified Sensitive Locations

During consultation, UAIC provided a confidential map illustrating areas of concern, which include portions of the APE for the SREL Contract 4 project. These areas of concern were not characterized as archaeological sites, but rather as areas identified by UAIC with an elevated sensitivity for the presence of resources important to the Tribe. UAIC has identified three areas within or encompassing portions of the SREL Contract 4 project APE that the Tribe considers to be sensitive. The UAIC-identified sensitive areas could potentially encompass additional unknown buried resources. One of the areas identified by UAIC as a sensitive area (not a recorded site) was the subject of geoarchaeological excavation (described above). The UAIC-identified areas are confidential. Native American consultation is ongoing, in accordance with the requirements of the PA. These locations have not been evaluated for NRHP or CRHR eligibility due to a lack of information about the nature of the resources.

Tribal Cultural Resources

One Tribal Cultural Landscape (TCL) (P-34-005225) was identified that includes the entire APE as well as the broader landscape surrounding the Sacramento River. P-34-005225 – Sacramento River Tribal Cultural Landscape. The Sacramento River TCL encompasses both banks of the lower Sacramento River from just south of Knights Landing in Sutter and Yolo counties in the north to Sherman Island in the Delta in the south. The character-defining elements of this landscape, according to the site record form, are the waterways, tule habitat, fisheries, and other wildlife. This site has previously been recommended to be eligible for listing on the NRHP; however, the identified resource attributes of this site consist entirely of natural resources such as waterways and natural habitat. Formal evaluation of this resource is beyond the scope of the current phase, so for the purpose of this analysis it is considered eligible for the NRHP.

Built-Environment Resources

Sixteen historic-era built-environment resources are located in the SREL Contract 4 project APE. Of these resources, 5 have been previously determined eligible for the NHRP (Walnut Grove Branch Line of the SPRR, Old Sacramento Historic District, SREL Units 115 and 117, and Sacramento's Buried Cultural Landscape). These resources are considered historic properties under Section 106 and historical resources for the purposes of CEQA. Three of the 16 resources in the APE were previously determined ineligible (Jibboom Street, Cliff's Marina, North Beach Lake Levee, and the Pocket Canal). Seven additional historic-era built environment resources in the APE were evaluated as part of the SREL Contract 4 project and recommended ineligible. These recommendations are awaiting concurrence from SHPO (Navigation Obstruction 18/19, UPRR Segment, Freeport Tree Row, Sump nos. 1-3, and Sump 41). The 16 resources are discussed in more detail below.

Walnut Grove Branch Line of the SPRR (P-34-001497/CA-SAC-1093H)

A segment of the Walnut Grove Branch Line of the SPRR (also known as Sacramento Southern Railroad, P-34-001093/CA-SAC-1093H) is in the APE just east of Cliff's Marina.

The line was evaluated for NRHP eligibility in 1991and recommended as eligible at the local level of significance under Criterion A for its association with the development of agriculture in the Delta region and local Delta communities. It was also recommended eligible under Criterion C, as embodying distinctive characteristics of the methods employed in dredging and levee construction during a short timeframe (PAR 1992). In 1991, the SHPO concurred with the finding. The Historic Property was assigned a California Historical Resources Status Code (Status Code) of 2S2 (Individual Property Determined Eligible for NRHP by a Consensus Through Section 106; Listed in the California Register of Historical Resources [CRHR]). In subsequent years, portions of the railroad were revisited and reassessed as part of the Section 106 process. In 2006, as part of a Reclamation undertaking, the railroad was recommended as being eligible under NRHP Criterion A and C. SHPO concurred with Reclamation's findings (OHP 2022). The property is also considered a historical resource for the purposes of CEQA.

Jibboom Street Overhead / Bridge 24C006 (P-34-001374)

The Jibboom Street Overhead (also known as Bridge 24C006) is an approach for the I Street Bridge. The bridge was previously recommended as eligible, but in 2004, the California Department of Transportation determined it ineligible for the NRHP and the CRHR, individually and as part of a potential historic district (Caltrans 2004). It is considered a historical resource for the purposes of CEQA.

Cliff's Marina (P-34-001611/CA-SAC-960)

Cliff's Marina is located south of the Freeport Bridge on the east side of the Sacramento River. The resource consists of a bait shop in addition to some docks, piers, and structures to house boats on the river. In 2006, SHPO determined the Cliff's Marina was ineligible for the NRHP (OHP 2022). The property also does not meet CRHR eligibility requirements and is not considered a historical resource for the purposes of CEQA.

Pocket Canal

The Pocket Canal is located between Pocket Road and the Sacramento River East Levee. The Pocket Canal was previously evaluated and recommended as ineligible for the NRHP and SHPO concurred with the finding in 2019 (GEI 2019; Polanco 2019). The resource is also not eligible for the CRHR and is not considered a historical resource for the purposes of CEQA.

Old Sacramento Historic District (P-34-002378)

A portion of the Old Sacramento Historic District (and Pony Express Terminal) is in the APE. The Old Sacramento Historic District is associated with the early development of Sacramento and was listed in the NRHP and CRHR in 1965 (OHP 2022). The district is also a historical resource for the purposes of CEQA.

SREL Unit 115 (P-34-002143)

Levee Unit 115 (SREL south of Sutterville Road) was inventoried and evaluated for NRHP significance in 2017. The property was recommended as eligible for the NRHP at the national level of significance as a contributor to a larger district (the SRFCP) within the context of flood management. The levee unit was determined eligible for the NRHP by a consensus determination (DWR 2017; OHP 2022). It is also considered a historical resource for the purposes of CEQA.

SREL Unit 117

Levee Unit 117 (SREL Tower Bridge to Sutterville Road) was inventoried and evaluated in 2017. It was recommended as eligible for the NRHP at the national level of significance as a contributor to the SRFCP within the context of flood management. The levee unit was determined eligible by a consensus determination (OHP 2022). It is also considered a historical resource under CEQA.

North Beach Lake Levee (Morrison/Union House Levees [P-34-001363])

The North Beach Lake Levee, also known as the Morrison/Union House Creeks and Levees, extends roughly east from SREL Unit 115 toward Interstate 5 and further north. The levee was determined ineligible for the NRHP by Consensus in 2011 (OHP 2022). It is also not considered a historical resource for the purposes of CEQA.

Sacramento's Buried Cultural Landscape (P-34-002358)

Sacramento's Buried Cultural Landscape (also known as Sacramento Raised Streets/Hollow Sidewalks Historic District) is a below ground/buried historic landscape. It consists of Gold Rush-era trash scatters, and infrastructure including architectural features, engineering structures, hearths, a water conveyance system, and landscape architecture. The resource was determined NRHP-eligible as a historic district in 2011 (OHP 2022). It is eligible under Criterion C as a representation of an important engineering feat and an early flood control measure. It is considered a historical resource under CEQA.

Navigation Obstruction 18/19 (P-34-000859/CA-SAC-658H)

The resource is located on the east bank of the Sacramento River, just north of the I Street Bridge. It consists of roughly 518 pilings and a retaining wall. It does not appear to meet NRHP or CRHR criteria because of a lack of historical significance and integrity. It is also not a historical resource for the purposes of CEQA.

UPRR Segment (P-34-000505/CA-SAC-478)

The UPRR segment is just south of the American River Railroad Bridge in the City of Sacramento. This segment of the UPRR is part of the Transcontinental Railroad. It has undergone modifications and upgrades and does not appear to meet NRHP criteria because of a lack of integrity. It is also not eligible for the CRHR and is not considered a historical resource per CEQA.

Freeport Tree Row (P-34-002104)

The tree row extends mostly along the east and west shoulders of State Route 160. It does not appear to meet NRHP criteria because of a lack of historical significance. It is also not eligible for the CRHR and is not considered a historical resource for the purposes of CEQA.

Sump no. 1

Sump 1 is located just south of the Freeport Bridge, adjacent to SREL Unit 115. The resource is a metal-framed structure with a metal pipe extending into the Sacramento River It does not appear to be eligible for the NRHP or the CRHR due to a lack of historical significance. It is also not considered a historical resource per CEQA.

Sump no. 2

Sump no. 2 is located along the Sacramento River and It consists of wood-framed structure with a pipe. . The sump does not appear to meet NRHP or CRHR criteria because of a lack of historical significance. It is also not considered a historical resource per CEQA.

Sump no. 3

Sump no. 3 is a wood-frame structure with a pipe located on the banks of the Sacramento River. It does not appear to be eligible for the NRHP or the CRHR due to a lack of historical significance. It is also not considered a historical resource per CEQA.

Sump 41

Sump 41 consists of a buried metal outflow pipe that extends to the east bank of the Sacramento River in the Little Pocket Neighborhood. The resource does not appear to meet NRHP or CRHR eligibility because of a lack of historical significance. It is also not considered a historical resource per CEQA.

3.7.2 Environmental Impacts

Significance Criteria

Any adverse effects on cultural resources that are listed or eligible for listing in the NRHP (i.e., historic properties) are considered to be significant. Under Section 106 of the NHPA, effects to historic properties are considered to be adverse if they:

- Alter, directly or indirectly, any of the characteristics of a cultural resource that qualify that resource for the NRHP so that the integrity of the resource's location, design, setting, materials, workmanship, feeling, or association is diminished
- Cause a substantial adverse change in the significance of a historic property through the physical demolition, destruction, relocation, or alteration of the historic property of its immediate surroundings such that the significance of the resource would be materially impaired

Under California law, effects to a historical resource or unique archaeological resource are considered to be significant if they:

- Materially impair the significance of a historical resource or unique archaeological resource
- Require the demolition of a historical resource

Two additional thresholds are considered in this analysis. The project was determined to result in a significant effect related to hydrology and water quality if it would do any of the following:

- Disturb any human remains, including those interred outside of formal cemeteries

- Result in a substantially adverse change in the significance of a Tribal Cultural Resource (as defined in California PRC Section 21074 and above)

Methodology

For those resources that are eligible or recommended to be eligible for listing in the NRHP/CRHR, analysis of the impact or likely impacts was based on an assessment of the changes to the historical resource that would result from implementing the SREL Contract 4 Project. In making a determination of the impacts to the historical resource s, consideration was given to:

- Destruction or physical changes to character-defining features the historical resource
- Changes to the setting of the historical resource that contribute to its historical significance
- The temporary or permanent nature of changes to the historical resource including and its visual, atmospheric, or audible elements

The existing aspects of integrity that are retained by the historical resource and allow it to convey its historical significance. An assessment of impacts for the purposes of this Supplemental EIR is made only for those resources determined to be eligible or recommended to be eligible for listing in the NRHP/CRHR. Resources that have been determined to be eligible for listing in the NRHP, are listed in the NRHP, or are recommended to be eligible for listing are referred to as Historic Properties and are considered historical resources under CEQA. Resources that have been found or recommended to be ineligible for listing in the NRHP/CRHR are not considered further in this Supplemental EIR. Similarly, because isolated artifacts are generally not considered to be potentially eligible for listing in the NRHP and because an assessment of effects for the purposes of this Supplemental EIR is made only for those resources determined to be eligible for listing in the NRHP or that are listed in the NRHP, isolated artifacts are not considered to be Historic Properties and an assessment of effects on those resources is not necessary. Therefore, isolated artifacts are not considered further in this Supplemental EIR.

This evaluation of potential impacts on cultural resources is based on detailed information compiled since the ARCF GRR Final EIS/EIR was prepared, as described above under “Environmental and Regulatory Setting.” The impacts analysis considered the following factors related to the SREL Contract 4 project: project elements, including construction of levee improvements, utility window improvements, stability berms, staging areas, and potential effect mechanisms; the area that will be temporarily and permanently disturbed; known or potential locations of cultural resources, including locations identified by culturally affiliated Native Americans as cultural landscapes; and Traditional Cultural Properties, sacred sites, or other sensitive resources. In particular, the significance of each affect was evaluated in terms of its potential effect on resources that are eligible or recommended eligible for listing in the NRHP/CRHR. The mitigation identified in the ARCF GRR Final EIS/EIR for potential impacts to cultural resources included implementing stipulations of the ARCF PA. Where feasible, more specific measures are identified below to reduce adverse effects. Where there are uncertainties about resource boundaries, eligibility for listing, and project effects, processes for determining

boundaries, eligibility, and effects stipulated in the PA and associated HPMP will be implemented.

Impact Analysis

Damage to or Destruction of Built-Environment Historic Properties

Sixteen historic-era built-environment resources have been identified and evaluated for historical significance, as discussed in Section 3.7.1. Five of these historic-era resources (Walnut Grove Branch Line of the SPRR, Old Sacramento Historic District, SREL Units 115 and 117, and Sacramento's Buried Cultural Landscape) were determined to be Historic Properties and are therefore considered historical resources under CEQA. A portion of the track on the Walnut Grove Branch Line would be removed, but the alterations would not affect the overall design and engineering of the railroad tracks, and the activities will occur on an approximately 1-mile span of the 33-mile-long alignment. Project activities would take place in the vicinity of the Old Sacramento Historic District but would not directly impact the district, its contributing resources, or its general setting. Portions of the Sacramento River east levee (Units 115 and 117) will be enhanced and stabilized by the proposed project. When originally constructed, the levee was designed to be periodically maintained and strengthened, which was the purpose of the SRFCP. The proposed modifications will not alter the character-defining features or the integrity of the Sacramento River east levee, which includes its overall design and form. In addition, the materials, workmanship, and general physical characteristics that convey the significance of the levee will remain in place. The levee will continue to serve its intended purpose within the context of flood control. The proposed activities will occur outside the boundary of Sacramento's Buried Cultural Landscape and would not directly or indirectly impact the historic district. Sacramento's Buried Cultural Landscape would retain its integrity and ability to convey its historical significance upon completion of the project. Therefore, the project will have a less-than-significant impact on historical resources.

Damage to or Destruction of Known Precontact-period Archaeological Sites and Tribal Cultural Resources

Levee improvement activities will include substantial ground disturbance, such as excavation, soil removal, trenching, construction of earthen berms, levee crown degradation and reconstruction for cutoff wall installation and levee raises, grading, and use of staging areas. However, no precontact period archaeological sites are known to be located in or adjacent to areas where ground disturbing construction would occur Therefore, earth-moving activities will not result in damage to or destruction of known precontact-period archaeological sites and Native American-identified Tribal Cultural Resources.

The Sacramento River Tribal Cultural Landscape is assumed to be eligible for the NRHP and CRHR based on the recommendation included in the original site record form. The only attributes described for this resource are elements of natural environment such as waterways and natural habitats. Because the project will not significantly affect the natural environment composing this resource and is not changing the environment, setting, or integrity of this resource, the Sacramento River Tribal Cultural Landscape will not be adversely affected by implementation of this project and no mitigation is required.

Potential Damage to or Destruction of Previously Undiscovered Archaeological Sites or Tribal Cultural Resources

Cultural resources investigations have identified archaeological resources and potential Tribal Cultural Resources in the APE. Based on available information, other areas in the APE are also potentially sensitive for unknown buried archaeological resources and Tribal Cultural Resources and there remains the possibility that previously unknown archaeological resources or Tribal Cultural Resources could be discovered during project construction and inadvertently damaged. Implementing Mitigation Measure CR-2, CR-3, CR-4, and CR-5 will reduce the potential for a significant effect resulting from inadvertent damage to or destruction of presently undocumented archaeological resources and Tribal Cultural Resources to a less-than-significant level, because these measures require that if archaeological resources or Tribal Cultural Resources are discovered prior to or during project-related construction activities, appropriate treatment and protection measures must be implemented.

Damage to or Destruction of Human Remains during Construction

The APE and vicinity are known to contain significant precontact archaeological sites, including sites with human burials. Native American human remains could be encountered during earth-moving activities associated with the proposed project. This is a potentially significant effect. Implementing Mitigation Measure CR-6 will reduce the potential for a significant effect resulting from inadvertent damage to or destruction of presently undocumented human remains to a less-than-significant level because it requires that if human remains are discovered during project-related construction activities, disturbances in the area of the find must be halted and appropriate treatment and protection measures must be implemented, all in consultation with the NAHC, MLD, and landowners, in compliance with California Health and Safety Code Section 7050 et seq. and California PRC Section 5097.9 et seq.

3.7.3 Mitigation Measures

The following mitigation measures have been previously adopted (USACE and CVFPB 2021).

Mitigation Measure CR-1: Resolve Adverse Effects through Programmatic Agreement and Historic Properties Treatment Plan (HPTP).

For Historic Properties which would be adversely affected by implementation of the project (pending concurrence of eligibility and finding of effect in the ARCF PA consultation process), USACE shall consult with the SHPO and interested Native American Tribes in accordance with the ARCF PA and associated HPMP to develop a HPTP. The HPTP shall specify measures that will be implemented to resolve the adverse effects to the Historic Properties and shall constitute mitigation for the effects to these resources. USACE shall implement the terms described in the HPTP.

Mitigation Measure CR-2: Prepare an Archaeological Discovery Plan and an Archaeological Monitoring Plan.

In accordance with the procedures described in Section 9.2 of the ARCF HPMP, a discovery plan shall be prepared and included in the construction contractor's specifications. The discovery plan shall specify what actions are required to be taken by the contractor in the event of an archaeological discovery and describe what actions the Project Partners may take in the event of a discovery.

In accordance with the procedures described in Section 9.3.9 of the ARCF HPMP, an archaeological monitoring plan shall be developed for the project. This plan shall identify the locations of known Historic Properties as well as sensitive areas designated for archaeological monitoring and shall include methods and procedures for monitoring and the procedures to be followed in the event of a discovery of archaeological materials.

Mitigation Measure CR-3: Conduct Cultural Resources Awareness Training.

In accordance with the procedures described in Section 9.1 of the ARCF HPMP, the Project Partners shall require the contractor to provide a cultural resources and tribal cultural resources sensitivity and awareness training program for all personnel involved in project construction, including field consultants and construction workers. The training shall be developed in coordination with an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology (36 CFR Part 61), as well as culturally affiliated Native American tribes. The Project Partners may invite Native American representatives from interested culturally affiliated Native American tribes to participate. The training shall be conducted before any project-related construction activities begin in the APE and shall include relevant information regarding sensitive cultural resources and Tribal Cultural Resources, including applicable regulations, protocols for avoidance, and consequences of violating Federal and State laws and regulations.

The training shall also describe appropriate avoidance and impact minimization measures for cultural resources and Tribal Cultural Resources that could be located in the APE and shall outline what to do and who to contact if any potential cultural resources or Tribal Cultural Resources are encountered. The training shall emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and shall discuss appropriate behaviors and responsive actions, consistent with Native American tribal values.

Mitigation Measure CR-4: Implement Procedures for Inadvertent Discovery of Cultural Material.

If an inadvertent discovery of cultural materials (e.g., unusual amounts of shell, animal bone, any human remains, bottle glass, ceramics, and building remains); Tribal Cultural Resources; sacred sites; or landscapes is made at any time during project-related construction activities, USACE in consultation with CVFPB and other interested parties, shall develop appropriate protection and avoidance measures where feasible. These procedures shall be developed in accordance with the ARCF PA and HPMP, which specifies procedures for post-

review discoveries. Additional measures, such as development of HPTPs prepared in accordance with the PA and HPMP, may be necessary if avoidance or protection is not possible.

Mitigation Measure CR-5: In the Event that Tribal Cultural Resources are Discovered Prior to or During Construction, Implement Procedures to Evaluate Tribal Cultural Resources and Implement Avoidance and Minimization Measures to Avoid Significant Adverse Effects.

California Native American Tribes that are traditionally and culturally affiliated with the geographic area in which the project is located may have expertise concerning their Tribal Cultural Resources (California PRC Section 21080.3.1). As was done during Supplemental EIR preparation, culturally affiliated Tribes shall be further consulted concerning Tribal Cultural Resources that may be impacted, if these types of resources are discovered prior to or during construction. Further consultation with culturally affiliated Tribes shall focus on identifying measures to avoid or minimize impacts on any such resources discovered during construction. If Tribal Cultural Resources are identified in the APE prior to or during construction, the following performance standards shall be met before proceeding with construction and associated activities that may result in damage to or destruction of Tribal Cultural Resources:

- Each identified Tribal Cultural Resource will be evaluated for CRHR eligibility through application of established eligibility criteria (CCR 15064.636), in consultation with interested Native American Tribes.

- If a Tribal Cultural Resource is determined to be eligible for listing on the CRHR, USACE, in consultation with CVFPB, will avoid damaging the Tribal Cultural Resource in accordance with California PRC Section 21084.3, if feasible. If CVFPB determines that the project may cause a substantial adverse change to a Tribal Cultural Resource, and measures are not otherwise identified in the consultation process, the following are examples of mitigation steps capable of avoiding or substantially lessening potential significant impacts to a Tribal Cultural Resource or alternatives that would avoid significant impacts to a Tribal Cultural Resource. These measures may be considered to avoid or minimize significant impacts and constitute the standard by which an impact specifically address inadvertent discovery of human remains may be reached:

    i. Avoid and preserve resources in place, including, but not limited to, planning construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

    ii. Treat the resource with culturally appropriate dignity, taking into account the Tribal cultural values and meaning of the resource, including, but not limited to, the following:

        a. Protect the cultural character and integrity of the resource.

        b. Protect the traditional use of the resource.

        c. Protect the confidentiality of the resource.

d. Establish permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or using the resources or places.

e. Protect the resource.

Mitigation Measure CR-6: Implement Procedures for Inadvertent Discovery of Human Remains.

To minimize adverse effects from encountering human remains during construction, the Project Partners shall implement the following measures.

In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, CVFPB shall consult with USACE, and USACE shall immediately halt potentially damaging excavation in the area of the burial and notify the Sacramento County Coroner and a professional archaeologist to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48-hours of receiving notice of a discovery on private or State lands (California Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (California Health and Safety Code Section 7050[c]). After the coroner's findings have been made, the archaeologist and the NAHC-designated MLD, in consultation with the landowner, shall determine the ultimate treatment and disposition of the remains.

Upon the discovery of Native American human remains, the Project Partners shall require that all construction work must stop within 100 feet of the discovery until consultation with the MLD has taken place. The MLD shall have 48-hours to complete a site inspection and make recommendations to the landowner after being granted access to the site. A range of possible treatments for the remains, including nondestructive removal and analysis, preservation in place, relinquishment of the remains and associated items to the descendants, or other culturally appropriate treatment may be discussed. California PRC Section 5097.98(b)(2) suggests that the concerned parties may mutually agree to extend discussions beyond the initial 48-hours to allow for the discovery of additional remains. The following is a list of site protection measures that CVFPB shall employ:

- Record the site with the NAHC or the appropriate Information Center
- Record a document with the county in which the property is located

If agreed to by the MLD and the landowner, CVFPB or CVFPB's authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance, if the NAHC is unable to identify an MLD, or if the MLD fails to make a recommendation within 48-hours after being granted access to the site. CVFPB or CVFPB's authorized representative may also reinter the remains in a location not subject to further disturbance, if CVFPB rejects the recommendation of the MLD and mediation by the NAHC fails to provide measures acceptable to CVFPB. CVFPB shall implement mitigation for the protection of the burial remains.

Construction work in the vicinity of the burials shall not resume until the mitigation is completed.

Significance after Mitigation

Although Mitigation Measure CR-1 has been previously adopted, no known resources would be significantly impacted by project construction. Significant impacts related to previously undiscovered cultural and tribal resources or potential discovery of human remains will be reduced to a less-than-significant level with implementation of Mitigation Measures CR-2 through CR-6, which prescribe processes for addressing the potential to affect previously unknown resources.

3.8 Geological Resources

3.8.1 Environmental and Regulatory Setting

The environmental and regulatory settings in the ARCF GRR Final EIS/EIR are applicable to the analysis in this Supplemental EIR and are not repeated.

3.8.2 Environmental Impacts

Significance Criteria

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines. The proposed project would result in a potentially significant impact to geologic resources if they would expose people or structures to substantial effects involving:

- Rupture of a known earthquake fault, strong seismic shaking, or seismic-related ground failure, including liquefaction
- Landslides, substantial soil erosion, or permanent loss of topsoil
- Locating the project on an unstable geologic unit, or on a geologic unit that would become unstable as a result of the project and/or
- Locating the project on expansive soil, as defined in the Uniform Building Code

One additional threshold is considered in this analysis. The Society of Vertebrate Paleontology (1995, 1996), a national scientific organization of professional vertebrate paleontologists, has established standard guidelines that outline acceptable professional practices in the conduct of paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, specimen preparation, analysis, and curation. Most practicing professional paleontologists in the nation adhere to the Society of Vertebrate Paleontology assessment, mitigation, and monitoring requirements, as specifically spelled out in its standard guidelines.

The proposed project was determined to result in a significant effect related to paleontological resources if it would:

- Directly or indirectly destroy a unique paleontological resource or geologic feature

For the purposes of this analysis, a unique resource or site is one that is considered significant under professional paleontological standards. An individual vertebrate fossil specimen may be considered unique or significant if it is identifiable and well preserved, and it meets one of the following criteria:

- A type specimen (i.e., the individual from which a species or subspecies has been described)
- A member of a rare species
- A species that is part of a diverse assemblage (i.e., a site where more than one fossil has been discovered) wherein other species are also identifiable, and important information regarding life history of individuals can be drawn
- A skeletal element different from, or a specimen more complete than, those now available for its species or
- A complete specimen (i.e., all or substantially all of the entire skeleton is present)

The value or importance of different fossil groups varies depending on the age and depositional environment of the rock unit that contains the fossils, their rarity, the extent to which they have already been identified and documented, and the ability to recover similar materials under more controlled conditions (such as for a research project). Identifiable vertebrate marine and terrestrial fossils are generally considered scientifically important because they are relatively rare.

Impact Analysis

Potential Temporary, Short-Term Construction-Related Erosion

The proposed SRCSD borrow site is an active stockpile, and borrow removal will be consistent with existing conditions. Storage and reuse of excess materials excavated from the levee and deposited at the Sacramento Railyards will be governed by the Railyards EIRs (City of Sacramento 2007 and 2016), which found that with implementation of a SWPPP and appropriate BMPs designed to control erosion, erosion effects will be less than significant. Levee improvements and staging area activities will occur between April and October when rainfall is the least likely and stream flows are lowest. However, these activities will result in the temporary and short-term disturbance of soil and could expose disturbed areas waterside of the levee to storm events. Rainfall of sufficient intensity could dislodge soil particles from the soil surface and generate runoff and localized erosion. Excessive erosion could decrease levee stability and cause sediment deposition in lower energy portions of the channel, which could affect flow patterns in the river. In addition, soil disturbance during the summer could result in substantial loss of topsoil because of wind erosion. These impacts are potentially significant.

Implementation of Mitigation Measure GEO-1 will reduce potentially significant temporary, short-term construction-related erosion impacts to a less-than-significant level by requiring preparation and implementation of a SWPPP with appropriate BMPs such as source

control and revegetation to reduce erosion and maintain surface water quality conditions in adjacent receiving waters, and implementation of a Spill Prevention Control and Countermeasures Plan (SPCCP) to prevent discharge of oil into navigable waters.

Potential to Directly or Indirectly Destroy a Unique Paleontological Resource or Site

Most of the levee reconstruction, all of the staging areas, and the SRCSD borrow site are located in Holocene-age rock formations, which are considered to be of low paleontological sensitivity. Holocene deposits contain only the remains of extant, modern taxa (if any resources are present), which are not considered "unique" paleontological resources.

Based on detailed geologic mapping prepared by Fugro William Lettis & Associates, Inc. (2010: Figure 4 and Plate 1), there is a potential that installing deep cutoff walls could encounter the Modesto Formation at depths of approximately 10 to 80 feet below mean sea level and the Riverbank Formation at depths of approximately 60 to 70 feet below mean sea level. Because numerous vertebrate fossils have been recovered from these formations in northern and central California, including at least nine different localities from Sacramento County, these formations are considered to be paleontologically sensitive.

However, installing cutoff walls limits the extent of below-ground disturbance at the depths where these formations might be encountered to a very small area. Therefore, potential to encounter a unique paleontological resource is very low, and this impact is less than significant.

3.8.3 Mitigation Measures

The following mitigation measure has been previously adopted (USACE and CVFPB 2021).

Mitigation Measure GEO-1: Acquire Appropriate Regulatory Permits and Prepare and Implement a Storm Water Pollution Prevention Plan, Spill Prevention Control and Countermeasures Plan, and Associated Best Management Practices

Prior to the start of earth-moving activities, the Project Partners will obtain coverage under the State Water Resources Control Board (SWRCB) NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ), including preparation and submittal of a project-specific SWPPP at the time the NOI to discharge is filed. The SWPPP would identify and specify the following:

- The use of an effective combination of robust erosion and sediment control BMPs and construction techniques that would reduce the potential for runoff and the release, mobilization, and exposure of pollutants, including legacy sources of mercury from project-related construction sites. These may include but would not be limited to temporary erosion control and soil stabilization measures, sedimentation ponds, inlet protection, perforated riser pipes, check dams, and silt fences.

- The implementation of approved local plans, non-stormwater management controls, permanent post-construction BMPs, and inspection and maintenance responsibilities.

- The pollutants that are likely to be used during construction that could be present in stormwater drainage and non-stormwater discharges, including fuels, lubricants, and other types of materials used for equipment operation.

- The means of waste disposal.

- Spill prevention and contingency measures, including measures to prevent or clean up spills of hazardous waste and of hazardous materials used for equipment operation, and emergency procedures for responding to spills.

- Personnel training requirements and procedures that would be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP.

- The appropriate personnel responsible for supervisory duties related to implementation of the SWPPP.

Where applicable, BMPs identified in the SWPPP would be in place throughout all site work and construction/demolition activities and would be used in all subsequent site development activities. BMPs may include, but are not limited to, such measures as those listed below:

- Conduct earthwork during low-flow periods (July 1 to November 30).

- To the extent possible, stage construction equipment and materials on the landside of the levee in areas that have already been disturbed.

- Minimize ground and vegetation disturbance during project construction by establishing designated equipment staging areas, ingress and egress corridors, spoils disposal and soil stockpile areas, and equipment exclusion zones prior to the commencement of any grading operations.

- Stockpile soil on the landside of the levee reaches, and install sediment barriers (e.g., silt fences, fiber rolls, and straw bales) around the base of stockpiles to intercept runoff and sediment during storm events. If necessary, cover stockpiles with geotextile fabric to provide further protection against wind and water erosion.

- Install sediment barriers on graded or otherwise disturbed slopes as needed to prevent sediment from leaving the project site and entering nearby surface waters.

- Install plant materials to stabilize cut and fill slopes and other disturbed areas once construction is complete. Plant materials could include an erosion control seed mixture or shrub and tree container stock. Temporary structural BMPs, such as sediment barriers, erosion control blankets, mulch, and mulch tackifier, could be installed as needed to stabilize disturbed areas until vegetation becomes established.

- Conduct water quality tests specifically for increases in turbidity and sedimentation caused by construction activities.

- A copy of the approved SWPPP will be maintained and available at all times on the construction site.

- The Project Partners will also prepare and implement an SPCCP. An SPCCP is intended to prevent any discharge of oil into navigable water or adjoining shorelines. The contractor would develop and implement an SPCCP to minimize the potential for adverse effects from spills of hazardous, toxic, or petroleum substances during construction and operation activities. The SPCCP would be completed before any construction activities begin. Implementation of this measure would comply with State and Federal water quality regulations. The SPCCP would describe spill sources and spill pathways in addition to the actions that would be taken in the event of a spill (e.g., an oil spill from engine refueling would be immediately cleaned up with oil absorbents). The SPCCP would outline descriptions of containments facilities and practices such as double walled tanks, containment berms, emergency shut-offs, drip pans, fueling procedures, and spill response kits. It would also describe how and when employees are trained in proper handling procedure and spill prevention and response procedures.

Significance after Mitigation

The significant impact related to geological resources will be reduced to a less-than-significant level with implementation of Mitigation Measure GEO-1, because the Project Partners and contractor will implement BMPs to prevent erosion.

3.9 Hazardous Wastes and Materials

3.9.1 Environmental and Regulatory Setting

The environmental and regulatory settings in the ARCF GRR Final EIS/EIR are applicable to the analysis in this Supplemental EIR and are not repeated. Some additional updated information is presented below.

A Phase I Environmental Site Assessment (Phase I ESA) was conducted for portions of the project site (HDR 2019). The Phase I ESA included a visual inspection of the project site for the proposed project, a review of environmental data bases and regulatory agency records, and a review of historical data sources. The Phase I ESA identified several Recognized Environmental Conditions, but none that are likely to affect the Contract 4 project site based on their location and the available data.

Excess soil not in exceedance of the project-specific action levels from the project may be transported to the Railyards for future use at the Railyards project site. Historic activities at the Railyards involved on-site disposals, spills, and other releases of hazardous chemical products and items containing hazardous substances that resulted in soil and groundwater contamination. The contaminated soil contained metals (primarily lead), petroleum hydrocarbons, volatile organic compounds, and asbestos. The metals, petroleum hydrocarbons, and voluntary organic compounds ultimately led to degradation of shallow groundwater underlying the site. Most of the contaminated soils have been remediated, and groundwater remediation is ongoing. Restrictions are in place that govern the types of future lands uses at the Railyards to ensure future human health and safety. (City of Sacramento 2016.) A portion of the

project site near I Street overlaps with the Railyards project site, and ground disturbance in this area will be subject to the requirements identified in the Railyards Projects Soil & Groundwater Management Plan (Stantec 2015).

Schools

The Camellia Waldorf School is located at 7450 Pocket Road, approximately 850 feet from work areas associated with Sump 132.

Airports and Airstrips

Sacramento Executive Airport is located approximately 1.3 miles east of work areas in the Little Pocket area. The project site is not located within or adjacent to any of the airport safety zones. (Sacramento Area Council of Governments [SACOG] 1999:39.)

The Borges-Clarksburg Airport is located immediately across the Sacramento River from the work areas associated with the seepage/stability berm immediately south of Cliff's Marina. Work areas will be located within the airport/s clear and approach/departure zones, as well as the airport's overflight zone. The Airport Land Use Plan prohibits use of steady or flashing white, red, green, or amber lights towards aircraft, uses that would cause sunlight to reflect toward aircraft, or uses that would generate smoke, attract birds, generate electrical interference, or hazardous storage facilities in the clear and approach/departure zones. The SRCSD borrow site is located just outside, and to the east of, the airport's overflight zone. (SACOG 1994:3, 21.)

Wildland Fire Hazards

Staging and levee improvement areas are located within a generally developed and urbanized area. However, riparian vegetation is present within the levees along the Sacramento River. Vegetation is also present on the north and east sides of the proposed SRCSD borrow site, in the vicinity of Laguna Creek. According to the California Department of Forestry and Fire Protection (CAL FIRE), staging and levee improvement areas and the borrow site are in a local responsibility area and are not within a very high fire hazard severity zone (CAL FIRE 2007, 2008).

3.9.2 Environmental Impacts

Significance Criteria

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines. A significant impact related to hazards and hazardous materials would occur if the proposed project would result in any of the following:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment
- Emit hazardous emissions or involve the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school

- Be located on a site that 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 or

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency excavation plan

One additional threshold is considered in this analysis. The project was determined to result in a significant effect related to wildland fire hazards if it would:

- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or residences are intermixed with wildlands.

Impact Analysis

Handling of Hazardous Materials within 0.25 Mile of a School

The Camellia Waldorf School is located less than 0.25 mile from the work area at Sump 132, as well as haul routes staging areas. Therefore, small quantities of hazardous materials such as fuels, oils, and lubricants will be used and stored within 0.25 mile of this school. None of these materials are classified as acutely hazardous. Construction contractors will be required to use, store, and transport hazardous materials in compliance with Federal, State, and local regulations during project construction activities. Thus, the use of these materials during construction will not represent a safety hazard for persons who attend or are employed in either of the above-listed schools. Furthermore, given the temporary nature and short duration of work at each construction segment and each staging area as each reach of the levee improvements are implemented, the proposed project is not expected to result in hazardous air emissions (i.e., TACs) in excess of screening levels. (For a detailed discussion and evaluation of TAC effects, see Section 3.3, “Air Quality.”) Therefore, these project elements will have a less-than-significant effect.

Possible Exposure of People and the Environment to Existing Hazardous Materials, Including Cortese-listed Sites

Excess soil from the project may be transported and deposited at the Sacramento Railyards for use at the Railyards project site. Most of the contaminated soil at the Railyards has been remediated, although groundwater remediation is ongoing (City of Sacramento 2016). Deposition of excess soil from the proposed project at the Railyards site will simply involve dumping of loaded haul trucks in areas of the Railyards that are permitted to receive imported fill. A portion of the project site overlaps with the Railyards Site. Ground disturbing activities in that area will be required to implement soil and groundwater handling conditions in compliance with the Railyards Projects Soil & Groundwater Management Plan (Stantec 2015).

With the exception of the railyards, the Phase I ESAs did not identify other Recognized Environmental Conditions on or near the project site. Nevertheless, there is a potential that earthmoving activities associated with project activities could encounter contaminated soil or groundwater, and/or underground utility infrastructure containing hazardous substances, which

could possibly expose people or the environment to hazardous materials. Implementation of Mitigation Measure HAZ-1 will reduce the potentially significant effect associated with possible exposure to hazardous materials to a less-than-significant level because USACE will require testing and investigation to identify and address contaminated sites prior to construction.

Interfere with Emergency Response or Evacuation

The project site extends along the Sacramento River. As a result, levee improvements and associated staging will be located at the perimeter of developed areas and along the edges of vast agricultural areas, and will be unlikely to interfere with emergency response or evacuation. Similarly, activities at the SRCSD borrow site are located away from transportation routes and will not interfere with emergency response or evacuation. Partial closure of SR-160 during construction would potentially delay emergency response or evacuation efforts in the vicinity of the community of Freeport. This potentially significant impact will be reduced to a less-than-significant level with implementation of Mitigation Measure TR-1, because traffic controls related to the partial road closures will include plans to prioritize emergency vehicles and evacuees.

Possible Creation of Wildland Fire Hazards

The proposed project will be primarily implemented in locations along the Sacramento River and in adjacent and nearby urbanized areas, as well as agricultural areas. CAL FIRE (2007, 2008) has determined that the areas where project-related activities will occur are not within a very high fire hazard severity zone or a State Responsibility Area. The project will have a less-than-significant effect.

3.9.3 Mitigation Measures

The following mitigation measures have been previously adopted (USACE and CVFPB 2021).

Mitigation Measure HAZ-1: Conduct Phase II Investigations as Needed

The Project Partners would require that Project Areas be tested for contaminants prior to construction. Any hazardous materials found would be disposed of in accordance with all Federal, State, and local regulations at an approved disposal site. Where construction activities would occur in close proximity to sites identified as Recognized Environmental Conditions in the Phase I ESA (HDR 2019), a Phase II site investigation should also be conducted.

Mitigation Measure TR-1: Prepare and Implement a Traffic Control and Road Maintenance Plan

Please refer to Section 3.13.3 for the full text of this mitigation measure.

Significance after Mitigation

The significant impact related to hazardous wastes and materials will be reduced to a less-than-significant level with implementation of Mitigation Measure HAZ-1, because the

Project Partner sand contractor will test for contaminants, investigate sites with Recognized Environmental Conditions, and handle and dispose of hazardous materials in accordance with regulations. The significant impact related to emergency response and evacuation will be reduced to a less-than-significant level with implementation of Mitigation Measure TR-1 because traffic controls related to the partial road closures will include plans to prioritize emergency vehicles and evacuees.

3.10 Water Quality and Groundwater Resources

3.10.1 Environmental and Regulatory Setting

The environmental and regulatory settings in the ARCF GRR Final EIS/EIR are applicable to the analysis in this Supplemental EIR and are not repeated. Some additional updated information is presented below. Floodplain hydraulics and floodplain delineation maps can be found in the Hydraulic Report – Appendix C Attachment B of the ARCF GRR Final EIS/EIR.

Waterside portions of the area where the proposed project will be implemented are mapped as Zone AE by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps. AE areas are designated as having a 1 percent probability of annual flooding. All landside areas are designated as Zone X due to the presence of levees that reduce flood risk (map panels 06067C170H and 06067C0285H) (FEMA 2021). According to the California Geological Survey, the project site is not mapped in an area where tsunami or seiche are likely to occur (DOC 2021). The project site is in the Sacramento Hydrologic Basin Planning Area and the Sacramento Delta Hydrologic Unit (510.00) and Florin Hydrologic Subarea (519.12), as designated by the Central Valley RWQCB. In accordance with Clean Water Act (CWA) Section 303, water quality standards for this basin are contained in the Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin (Basin Plan). Stormwater runoff from the project site is received by the Sacramento River and other local drainages.

The Sacramento River south of the I Street Bridge is within the legal boundary of the Delta (secondary zone). Surface water quality in the hydrologic region is generally good, although possible sources of contamination that can affect water quality include turbidity; pesticides and fertilizers from agricultural runoff; water temperature exceedances; and toxic heavy metals, such as mercury, copper, zinc, and cadmium from historic mining activities. **Table 3-7** provides the current CWA Section 303(d) listings of impaired water bodies for the Sacramento River upstream of I Street and for the Delta, including progress on Total Maximum Daily Loads.

Designated beneficial uses for the Sacramento River south of the “I” Street Bridge (i.e., the Delta) consist of municipal and domestic supply, agricultural irrigation and stock watering, industrial processing and service supply, recreation (water contact and non-contact), commercial and sport fishing, warm and cold freshwater habitat, warm and cold migration, warm spawning habitat, wildlife habitat, and navigation (CVRWQCB 2019).

The groundwater basin underlying the Sacramento River east levee is defined by the Sacramento County Water Agency as the Central Basin. DWR defines the project vicinity as

falling within the South American Subbasin (5-021.65) (DWR 2016). This basin is designated as a High Priority basin under DWR's Sustainable Groundwater Management Act (DWR 2019). The groundwater level is approximately 10 feet below the landside ground elevation (El. 8 to 10), although it does vary seasonally.

Table 3-7 Section 303(d)-Listed Pollutants in the Project Area

Pollutant/Stressor	Potential Sources	TMDL Status
Bifenthrin	Source unknown	Unknown
Indicator Bacteria	Source unknown	Unknown
Pyrethroids	Source unknown	Unknown
Chlordane	Source unknown	Unknown
Chlorpyrifos	Agriculture; urban runoff/storm sewers	TMDL in place (2007)
DDT	Agriculture	Unknown
Diazinon	Agriculture; urban runoff/storm sewers	TMDL in place (2008)
Dieldrin	Source unknown	Unknown
Invasive Species	Source unknown	Unknown
Group A pesticides	Agriculture	Unknown
Mercury	Abandoned mines	Unknown
PCBs	Source unknown	Unknown
Unknown toxicity	Source unknown	Unknown

Notes: Includes Sacramento River – Knights Landing to Delta and Delta Waterways Northern Portion. DDT = dichlorodiphenyltrichloroethane; TMDL = total maximum daily load; PCBs = polychlorinated biphenyls
Source: State Water Resources Control Board 2019

3.10.2 Environmental Impacts

Significance Criteria

An effect pertaining to surface water quality and groundwater quality and resources was considered significant under CEQA if it would result in any of the following environmental effects, which are based on professional practice, Federal guidelines, and State CEQA Guidelines Appendix G (14 CCR 15000 et seq.):

- Violate water quality standards or waste discharge requirements
- Substantially deplete groundwater supplies or interfere substantially with ground water recharge such that the project may impede sustainable groundwater management of the basin
- Substantially degrade water quality
- Alter regional or local flows resulting in substantial increases in erosion or sedimentation

One additional threshold is considered in this analysis. The project was determined to result in a significant effect related to water quality and groundwater if it would:

- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan

Impact Analysis

Violate Any Water Quality Standards or Waste Discharge Requirements or Otherwise Substantially Degrade Surface or Groundwater Quality, Result in Substantial Erosion or Siltation On- or Offsite, or Conflict with or Obstruct Implementation of a Water Quality Control Plan or Sustainable Groundwater Management Plan.

Potential dewatering to facilitate construction activities (e.g., removing groundwater that may fill trenches dug for cutoff wall construction) could result in erosion and/or release of sediment into surface or groundwater. Excavation could extend to a depth that will expose the water table, creating an immediate and direct path to groundwater that could allow contaminants to enter the groundwater system and indirectly affect water quality. Soil that is displaced during jet grouting will be piped into drying beds or containment cells with impermeable liners located in the staging area for later disposal. Damage to these drying beds could release sediment into surface or groundwater. Lastly, earthmoving activities associated with overall project construction could result in erosion or siltation.

Construction activities, including use of waterside staging areas, will employ heavy equipment, cranes, compactors, and other construction equipment that uses potentially harmful products such as fuels, lubricants, hydraulic fluids, and coolants, all of which can be toxic to fish and other aquatic organisms. This equipment could be a direct source of contamination if safe equipment and construction practices are not properly followed. An accidental spill or inadvertent discharge from such equipment could directly affect the water quality of the river or water body in the vicinity of the project site, or groundwater, and indirectly affect regional water quality of the river or water body. This impact will be potentially significant.

Implementation of Mitigation Measures GEO-1 and HWQ-1 will reduce potentially significant temporary, short-term construction-related erosion impacts and the potential release of contaminants to surface or groundwater during construction to a less-than-significant level with mitigation by requiring compliance with BMPs to reduce erosion and sediment transport, and treating dewatering effluent as required by permits.

Substantially Decrease Groundwater Supplies or Interfere Substantially with Groundwater Recharge Such That the Project May Impede Sustainable Groundwater Management of the Basin

There will be no groundwater production wells installed as part of the project nor will the project use any existing wells. Slurry cutoff walls have potential to hydraulically reduce Sacramento River water seeping into the shallow aquifer landside of the Sacramento River east levee. The cutoff walls will cause lower static (non-pumping) groundwater levels landside of the levee when the direction of groundwater flow is away from the river (i.e., losing conditions). If a

substantial drop in groundwater levels were to occur, the yield of nearby wells could decrease, or pumping costs of those wells could increase.

Cutoff walls could also partially isolate the wells from the river and reduce the effective volume of the aquifer from which water can be withdrawn. For this to occur, the following conditions would have to be created: 1) the cutoff wall would have to be deep enough to intersect the water-bearing zone tapped by the well, and 2) the cone of depression produced by the well would have to be large enough to reach the cutoff wall. However, because cutoff walls are already present along the Sacramento River east levee, the addition of adjacent, discontinuous cutoff walls is not expected to reduce local groundwater well water surface elevations. A groundwater level model developed for the Southport Sacramento River Early Implementation Project (ICF International 2013), which is across the river from the project site, indicated that the average effect of a cutoff wall was a small decrease in static groundwater levels (i.e., a maximum of 1.5 feet). The estimated effects vary seasonally, and groundwater levels landside of the levee would be lower during the winter and spring, especially during periods of high river stage. The cutoff walls would cause slightly higher groundwater levels during the summer and fall because the gradient for flow tends to be toward the river during periods of low stage. The average water level decrease would be much lower than the maximum decrease, because high stage events have short durations, and effects would be smallest during the irrigation season. Thus, only minor (if any) groundwater level reductions would occur with installation of cutoff walls for the proposed project, and this will be a less-than-significant impact.

Extreme drought conditions brought on by climate change could have considerable effects on groundwater levels and cutoff wall installation could also affect groundwater flow. Investigating data on 170 domestic wells near SREL reveal an average well depth of 116 feet with a minimum well depth of 60 feet (California Department of Water Resources 2020). With a maximum cutoff wall depth of 145 feet, the proposed project will not magnify existing impacts on groundwater in the area. This impact will be less than significant.

Create or Contribute Runoff Water Which Would Exceed the Capacity of Existing or Planned Stormwater Drainage Systems or Provide Substantial Additional Sources of Polluter Runoff

The levee improvements and utility window remediations proposed as part of the project will not change the drainage pattern of the project area, and do not include creation of substantial new pavement or impervious surfaces. The proposed project will therefore not create new runoff water compared to existing conditions. This impact will be less than significant.

Risk Release of Pollutants Due to Project Inundation in Flood Hazard, Tsunami, or Seiche Zones

The possibility of a seiche (a standing wave in an inland body of water) occurring at the project site is low because the geometry of the adjacent river and distance to seismic sources generally are not conducive to the occurrence of a seiche. The project area also is not within a mapped tsunami hazard zone (DOC 2021). Levee improvements will not be constructed during the typical flood season (i.e., November through February) and will not reduce the flood protection for adjacent areas; therefore, potential increase in the risk of pollutant release due to

project site inundation will be avoided. Additionally, the project will include improvements to the levee system to minimize the risk of levee failure and project site inundation. Therefore, the proposed project will have a less-than-significant effect.

3.10.3 Mitigation Measures

The following mitigation measures have been previously adopted (USACE and CVFPB 2021).

Mitigation Measure: Implement Mitigation Measure GEO-1: Acquire Appropriate Regulatory Permits and Prepare and Implement a Storm Water Pollution Prevention Plan, Spill Prevention Control and Countermeasures Plan.

Please refer to Section 3.8.3 for the full text of this mitigation measure.

Mitigation Measure HWQ-1: Obtain Appropriate Discharge and Dewatering Permit and Implement Provisions for Dewatering

Before discharging any dewatered effluent to surface water, the Project Partners will obtain a Low Threat Discharge and Dewatering NPDES permit or an Individual Permit from the Central Valley RWQCB if the dewatering is not covered under the RWQCB's NPDES Construction General Permit. The dewatering permit will include water quality monitoring to adhere to the effluent and receiving water quality criteria outlined in the permit. As part of the permit, the permittee will design and implement measures as necessary to meet the discharge limits identified in the relevant permit. For example, if dewatering is needed during the construction of a cutoff wall, the dewatering permit would require treatment or proper disposal of the water prior to discharge if it is contaminated. These measures will represent the best available technology that is economically achievable to achieve maximum sediment removal .

Measures could include retaining dewatering effluent until particulate matter has settled before it is discharged, use of infiltration areas, and other BMPs. Final selection of water quality control measures will be subject to approval by the Central Valley RWQCB. USACE will verify that coverage under the appropriate NPDES permit has been obtained before allowing dewatering activities to begin. USACE or its authorized agent will perform routine inspections of the construction area to verify that the water quality control measures are properly implemented and maintained. USACE will notify its contractors immediately if there is a non-compliance issue and will require compliance.

Significance after Mitigation

The significant impact related to water quality and groundwater resources will be reduced to a less-than-significant level with implementation of Mitigation Measures GEO-1 and HWQ-1 because the Project Partners and contractor will implement BMPs to reduce erosion and sediment transport, and treat dewatering effluent as required by permits.

3.11 Noise

3.11.1 Environmental and Regulatory Setting

The environmental and regulatory settings in the ARCF GRR Final EIS/EIR are applicable to the analysis in this Supplemental EIR and therefore are not repeated here. Some additional site-specific conditions are described below.

Land uses adjacent to the individual work areas consist of residences, schools, playgrounds, parks, offices, industrial land uses, and agricultural. Land uses defined by Federal, State, and local regulations as noise-sensitive vary slightly, but typically include schools, hospitals, rest homes, places of worship, long- term care facilities, mental care facilities, residences, convalescent (nursing) homes, hotels, certain parks, and other similar land uses. The noise-sensitive land uses that are closest to the project work areas are residential properties less than 50 feet of the levees, staging areas, and haul routes. The primary existing noise source in these residential areas consists of vehicular traffic on adjacent roadways.

Noise-level Measurements

Ambient noise levels near existing noise-sensitive uses were measured at various locations in the proposed levee improvements area. Short-term (15-minute) measurements of ambient noise levels were conducted on Thursday, September 11, 2014, at 12 locations. The existing noise environment was dominated by local and distant traffic sources and natural sources (e.g., wind and birds). Measured ambient noise levels at the noise-sensitive land uses closest to the levee improvements area ranged between 42 to 68 A-weighted decibels (dBA) equivalent sound level (Leq).

Existing traffic noise on most major haul routes in the Little Pocket and Pocket-Greenhaven neighborhoods was estimated for most major haul routes (see **Figure 2-1** through **Figure 2-5** in Chapter 2, “Proposed Project Refinements”) based on the existing traffic volumes. The location of the 60 decibels (dB) 1-hour Leq contour ranges from 15 to 1,632 feet from the centerline of project area roadways. Traffic noise levels 100 feet from the centerline of representative neighborhood haul routes range from 48 to 78 dB Leq. The 100-foot distance is a representative distance from the roadway centerline to adjoining noise-sensitive uses, such as residences, based on the width of the public rights-of-way (approximately 80 feet) of the roadways.

Existing Vibration Environment

The existing vibration environment in the proposed levee improvement area, like the noise environment, is dominated by transportation-related vibration from roads, highways, and the Union Pacific railroad tracks crossing the Sacramento River at I Street. Heavy truck traffic can generate groundborne vibration, which varies considerably depending on vehicle type, weight, and pavement conditions. If the vibration level in a residence reaches 85 vibration decibels (VdB), most people would be strongly annoyed by the vibration (FTA 2006). The background vibration level in residential areas is usually 50 VdB or lower, well below the 80-VdB vibration effect criteria for residences and buildings where people sleep (FTA 2006).

3.11.2 Environmental Impacts

Significance Criteria

An effect pertaining to noise and vibration is considered significant under CEQA if it would result in any of the following environmental effects, which are based on Appendix G in the State CEQA Guidelines:

- A substantial temporary or permanent increase in ambient noise levels in the study area above the existing levels
- Exposure of sensitive receptors to excessive noise levels (those levels that exceed the Sacramento County noise ordinance, as discussed above) or
- Exposure of sensitive receptors or structures to groundborne vibration

Impact Analysis

Potential Increase in Ambient Noise Levels or Exposure of Sensitive Receptors to Excessive Noise

The project will generate construction noise from equipment operating at each work location, and from the transport of construction workers, construction materials, and equipment to and from each work location. The construction noise impact discussion in the ARCF GRR Final EIS/EIR adequately addresses the noise impacts that will occur from levee improvements. The analysis in this Supplemental EIR therefore discusses the noise effects related to haul truck traffic using the specific haul routes identified in **Figure 2-1** through **Figure 2-5** in Chapter 2, "Proposed Project Refinements." Project-related construction noise was estimated using the Federal Highway Administration Roadway Construction Noise Model (FHWA and U.S. Department of Transportation 2006). Haul truck traffic on local access streets that are not typically used as through traffic or haul routes will cause maximum sound levels of 56–57 dBA Leq. This represents an increase above the City of Sacramento, City of Elk Grove, and Sacramento County's daytime limits of 55 dBA Leq at the closest residential uses.

Measured ambient noise levels at residential properties near the levee improvements area were approximately 42 to 68 dBA Leq[h] (1-hour equivalent sound level), during the daytime hours (7 a.m. to 7 p.m.). The lowest measured ambient noise level of 42 dBA Leq[h] was conservatively assumed to be the existing ambient noise level for all of the closest noise-sensitive land uses for purposes of this analysis. The noise level generated by project-related construction traffic will be 56 to 57 dBA Leq. Therefore, the construction-related noise levels at the closest residential uses will exceed the ambient noise level by approximately 14 to 15 dB.

Implementing Mitigation Measure NOI-1 will reduce significant impacts related to construction noise and construction traffic noise to a less-than-significant level by requiring a noise control plan and actions to reduce the effects of construction. These actions could include scheduling louder activities for daytime hours, using less noisy equipment where available, and locating and routing activities to minimize effects on sensitive receptors.

Potential Exposure of Sensitive Receptors to Excessive Vibration

Project-related construction vibration levels were calculated using the Federal Transit Administration (FTA) guideline based on the 50 feet distance of the nearest sensitive land use. For purposes of this analysis, movement of loaded haul trucks was conservatively considered to produce a vibration level of approximately 86 VdB (0.076-inch per second peak particle velocity [PPV] at a distance of 25 feet [FTA 2006; Caltrans 2004]). Assuming a maximum construction vibration level of 86 VdB at 25 feet, with an attenuation rate of 9 VdB per doubling of distance, the construction vibration level at the closest sensitive uses will be approximately 77 VdB (0.02 inch per second PPV). This vibration level is below the FTA threshold of 0.2-inch per second PPV for structural damage. However, this vibration level is above the FTA threshold of 72 VdB for human annoyance and will be perceptible. This vibration level is considered to be a temporary significant impact. Implementing Mitigation Measure NOI-1 will reduce significant impacts related to construction-related vibration to a less-than-significant level by requiring a vibration control plan and actions to reduce the effects of construction. These actions could include locating and routing activities to minimize effects on sensitive receptors, pre- and post-construction surveys, and vibration monitoring.

3.11.3 Mitigation Measures

The following mitigation measure has been previously adopted and incorporates additional actions which were added following construction of SREL Contract 1 in 2020 (USACE and CVFPB 2021).

Mitigation Measure NOI-1: Implement Measures to Reduce Construction Noise and Vibration Effects

The Project Partners would require construction contractors to implement measures at each work site to avoid and minimize construction noise and vibration effects on sensitive receptors. Prior to the start of construction, the construction contractor will prepare a noise control plan to identify feasible measures to reduce construction noise, when necessary. The measures in the plan would apply to construction activities within 500 feet of a sensitive receptor, including, but not limited to, residences. These measures may include, but are not limited to, the following:

- Provide written notice to residents within 1,000 feet of the construction zone, advising them of the estimated construction schedule. This written notice would be provided within 1 week to 1 month of the start of construction at that location.

- Display notices with information including, but not limited to, contractor contact telephone number(s) and proposed construction dates and times in a conspicuous manner, such as on construction site fences.

- Schedule the loudest and most intrusive construction activities during daytime hours (7:00 a.m. to 7:00 p.m.) Monday through Friday, when feasible.

- Require that construction equipment be equipped with factory-installed muffling devices, and that all equipment be operated and maintained in good working order to minimize noise generation.
- Locate stationary noise-generating equipment as far as practicable from sensitive receptors.
- Limit unnecessary engine idling (i.e., more than 5 minutes) as required by State air quality regulations.
- Employ equipment that is specifically designed for low noise emission levels, when feasible.
- Employ equipment that is powered by electric or natural gas engines, as opposed to those powered by gasoline fuel or diesel, when feasible.
- If the construction zone is within 500 feet of a sensitive receptor, place temporary barriers between stationary noise equipment and noise sensitive receptors to block noise transmission, when feasible, or take advantage of existing barrier features, such as existing terrain or structures, when feasible.
- If the construction zone is within 500 feet of a sensitive receptor, prohibit use of backup alarms and provide an alternate warning system, such as a flagman or radar-based alarm that is compliant with State and Federal worker safety regulations.
- Locate construction staging areas as far as practicable from sensitive receptors.
- Design haul routes to avoid sensitive receptors, to the extent practical.
- To the extent feasible and practicable, the primary construction contractors would employ vibration-reducing construction practices such that vibration from construction complies with applicable noise-level rules and regulations that apply to the work, including the vibration standards established for construction vibration-sources by the applicable agencies (City of Sacramento and Sacramento County), depending on the jurisdictional location of the affected receptor(s), and the California Department of Transportation's (Caltrans) Transportation and Construction Vibration Guidance Manual, which identifies maximum vibration levels of 0.2 to 0.5-inch per second Peak Particle Velocity (PPV) for minimizing damage to structures. Project construction specifications would require the contractor to limit vibrations to less than 0.2-inch per second PPV, and less than 72 VdB within 50 feet at any building. If construction would occur within 50 feet of any occupied building, the contractor would prepare a vibration control plan prior to construction. The plan would include measures to limit vibration, including but not limited to the following:
    - Numerical thresholds above which the contractor would be required to document vibration sources and implement measures to reduce vibration, and above which work would be required to stop for consideration of alternative construction methods.
    - Avoid vibratory rollers and packers near sensitive areas to the maximum extent practicable.

- Route heavily loaded trucks away from residential streets, if possible. If no alternatives are available, select streets with the fewest homes.

- A voluntary pre- and post-construction survey would be conducted to assess the existing condition of structures prior to construction and potential architectural/structural damage induced by levee construction vibration at each structure within 100 feet of construction activities, including staging areas. The survey would include visual inspection of the structures that could be affected and documentation of structures by means of photographs and video. This documentation would be reviewed with the individual owners prior to any construction activities. Post-construction monitoring of structures would be performed to identify (and repair, if necessary) damage, if any, from construction activities. Any construction-related damage would be documented with photographs and video. This documentation would be reviewed with the individual property owners.

- Place vibration monitoring equipment in lines approximately parallel to the levee alignment at intervals not to exceed 200 feet along the construction limits, including active staging areas. Vibration monitors will be operational at all times during the performance of construction activities. The contractor will monitor and record vibrations continuously.

Significance after Mitigation

The significant impacts related to noise and vibration will be reduced to a less-than-significant level with implementation of Mitigation Measure NOI-1 because the Project Partners will require a noise control plan, vibration control plan, and actions to reduce the effects of construction. These actions could include scheduling louder activities for daytime hours, using less noisy equipment where available, and locating and routing activities to minimize effects on sensitive receptors.

3.12 Recreation

3.12.1 Environmental and Regulatory Setting

The environmental and regulatory settings in the ARCF GRR Final EIS/EIR are applicable to the analysis in this Supplemental EIR and are not repeated. Some additional site-specific conditions are described below.

Sacramento River Parkway

The Sacramento River Parkway extends along a large portion of the length of the Sacramento River east levee where improvements are proposed. Developed portions of the parkway accommodate pedestrians and bicyclists and provide access to the Sacramento River. Where trail segments have not been officially designated or constructed, some portions of the levee crown in the improvements area are used as a pedestrian/bicycle path.

Excursion Train

California State Parks operates the Sacramento Southern Railroad Excursion Train. The train departs from the Central Pacific Railroad Freight Depot in Old Sacramento (Front Street, between J and K Streets) and travels approximately 3 miles along the Sacramento River east levee crown, within the levee improvements area, to a turnaround location at Land Park. The excursion train operates 53 days annually, with a total of 534 round trips, and attracts nearly 80,000 riders (California State Railroad Museum 2017).

City of Sacramento Parks and Recreation Facilities

Several public parks are located in the levee improvements area. Garcia Bend Park can also be accessed from the Sacramento River Parkway. **Table 3-8** lists public parks located in the levee improvement area.

Sacramento River Marinas and Boating Facilities

Cliff's Marina is located on the Sacramento River, adjacent to areas where levee improvements are proposed. The Freeport Marina is located along a segment of SR-160 that will be used as a haul route. These marinas provide boat docking facilities. The Sacramento Yacht Club and the Sherwood Harbor Marina are located on the west bank of the river, across from staging and work areas at the north end of the Little Pocket neighborhood, and Stan's Yolo Marina is also located on the east bank of the river, a short distance upstream from Sump 132. The Broderick Boat Ramp is a public facility located on the west bank of the river, across from work areas along Jibboom Street.

Table 3-8 Parks and Recreational Facilities in or Near the Project Site

Facility	Location	Features
Charter Pointe Park 610 Cutting Way	Approximately 0.1-mile northeast of Sump 132	4.9-acre park with picnic areas and a playground; connects to the Pocket Canal Parkway
Garcia Bend Park[1] 7654 Pocket Rd.	Southern Pocket	18.9-acre park with a boat launch, four group picnic areas, three soccer fields, tennis courts, and playgrounds
Conlin Youth Sports Complex 7895 Freeport Blvd.	Along SR 160 north of Freeport	20.13-acre park with ballfields, a basketball court, playground, concessions, picnic areas, soccer field, and a dog park
Renfree Park 54 Cache River Circle	Approximately 0.25 mile east of Sump 132	6.9-acre park with two soccer fields, picnic areas, and a playground
Stan's Yolo Marina 31070 S. River Rd.	West side of Sacramento River a short distance upstream of Sump 132	25-boat slip marina and launch ramp

Bahnfleth Park 959 Seamas Ave.	Central Little Pocket	6.2-acre park with two picnic areas and one soccer field
Sacramento Yacht Club 3365 S. River Rd.	West side of Sacramento River at north end of the Little Pocket	100-boat slip marina with fuel dock, restaurant, clubhouse, and laundry
Sherwood Harbor Marina and RV Park 3505 S. River Rd.	West side of Sacramento River opposite work areas in the Little Pocket	130-boat slip marina and 44-space recreational vehicle park with fuel dock, laundry, and convenience store
Cliff's Marina 8651 River Rd.	Along SR 160 south of Freeport	120-boat slip marina
Freeport Marina 8250 Freeport Blvd.	Along SR 160 near Freeport bridge	134-boat slip marina

Notes: [1] All or a portion of the City park is proposed to be used as a staging area.
Sources: City of Sacramento 2017, Division of Boating and Waterways 2022, and GEI Consultants, Inc. 2022

Bicycle Facilities

The approximately 4.8-mile Pocket Canal Parkway bike trail is a Class I (off-street) trail that begins at the southern end of Pocket Road, adjacent to Sump 132. The bike trail parallels the Pocket Canal through the Pocket Area. From Sump 132, the bike trail travels north to Florin Road, then turns west and ends at Down River Court. An eastern branch of the trail extends from Portuguese Park to Greenhaven Drive.

In addition to the Sacramento River Parkway bike path and Pocket Canal Parkway bike trail mentioned above, designated Class II and Class III (i.e., on-street rights-of-way recommended for bicycle travel that also provide shared-use with motor vehicles or pedestrian traffic) bicycle facilities currently exist throughout the Pocket area.

3.12.2 Environmental Impacts

Significance Criteria

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines. Adverse effects on recreation would be considered significant if implementation of the proposed project would result in any of the following:

- Eliminate or substantially restrict or reduce the availability, access, or quality of existing recreational sites or opportunities in the project area;
- Cause substantial long-term disruption in the use of an existing recreation facility or activity; or
- Result in inconsistencies or non-compliance with regional planning documents related to recreation.

Impact Analysis

Temporary Changes to Recreational Opportunities During Project Construction Activities

Garcia Bend Park has been identified as a staging area for SREL Contract 4. Staging will remove access to some parking areas and to the Garcia Bend boat launch during construction between March and November 2023. Other nearby city parks and boat launch facilities, including Miller Park marina and Cliff's Marina may have access limited intermittently while construction activities are taking place.

Bicycle trails along the Sacramento River Parkway bike path and on-street bicycle routes will require temporary closures and/or detours to accommodate material transport along haul routes and construction. Temporary closure of bicycle and recreational facilities will have a significant effect. Implementation of Mitigation Measure REC-1 will reduce significant temporary, short-term effects on bicycle and recreational facilities resulting from construction activities by preparing and implementing bicycle and pedestrian detours, providing public information regarding detours and alternative access routes to public recreational facilities, and repairing or reconstructing construction-related damage to pre-project conditions. Long-term impacts would be less than significant because construction-related interruptions to recreational opportunities would cease, and facilities would be reconstructed to pre-project conditions.

3.12.3 Mitigation Measures

The following mitigation measure has been previously adopted (USACE and CVFPB 2021).

Mitigation Measure REC-1: Implement Bicycle and Pedestrian Detours, Provide Construction Period Information on Facility Closures, and Coordinate with the City of Sacramento to Repair of Damage to Bicycle Facilities

The Project Partners will implement the following measures to reduce temporary, short-term construction effects on recreation facilities in the Project Area:

- Provide marked detours for all bike trails and on-street bicycle routes that are temporarily closed during construction. Detours should be developed in consultation with the City of Sacramento Bicycle and Pedestrian Coordinator at least 10 days before the start of construction activities, as applicable. Post signs that clearly indicate closure routes at major entry points for bicycle trails, post information signs to notify motorists to share the road with bicyclists where necessary and provide a contact number to call for questions or concerns.

- Post signs at major entry points for parks and recreation facilities, and boat ramps clearly indicating closures and estimated duration of closures. Information signs would notify the public of alternate parks and recreation sites, including boat launch ramps, and provide a contact number to call for questions or concerns.

- Upon completion of levee improvements, coordinate with the City of Sacramento to restore access and repair any construction-related damage to recreational facilities to pre-project conditions.

Significance after Mitigation

The short-term significant impact related to recreation will be reduced with implementation of Mitigation Measure REC-1, because the Project Partners will require the contractor to prepare and implement bicycle and pedestrian detours, provide public information regarding detours and alternative access routes to public recreational facilities, and repair or reconstruct construction-related damage to pre-project conditions. However, temporary construction-related impacts on recreation will remain significant and unavoidable as presented in the ARCF GRR EIS/EIR.

3.13 Transportation and Circulation

3.13.1 Environmental and Regulatory Setting

The environmental and regulatory settings in the ARCF GRR Final EIS/EIR are applicable to the analysis in this Supplemental EIR and are not repeated.

3.13.2 Environmental Impacts

Significance Criteria

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines. Adverse effects on transportation would be considered significant if implementation of the proposed project would result in any of the following:

- Substantially increase traffic in relation to existing traffic load and capacity of the roadway system
- Substantially disrupt the flow of traffic
- Expose people to significant public safety hazards resulting from construction activities on or near the public road system
- Reduce the supply of parking spaces sufficiently to increase demand above supply
- Cause substantial deterioration of the physical condition of nearby roadways
- Result in inadequate emergency access
- Disrupt railroad services for a significant amount of time

In addition to the significance criteria identified in the ARCF GRR Final EIS/EIR, this Supplemental EIR considers thresholds of significance based on recent changes to the State CEQA Guidelines. The project was determined to result in a significant effect related to transportation and circulation if it would:

- Conflict or be inconsistent with State CEQA Guidelines Section 15064.3, subdivision (b) related to increases to vehicle miles traveled.

- Conflict with a program, plan, or ordinance related to the performance or safety of alternative modes of transportation.

This analysis used the recommended screening criterion from the Institute of Transportation Engineers (ITE) (1988) for assessing the effects of construction projects that create temporary traffic increases. To account for the large percentage of heavy trucks associated with typical construction projects, ITE recommends a threshold level of 50 or more new peak-direction truck trips during the peak-hour. Therefore, a project would cause a substantial increase in traffic, in relation to the existing traffic load and capacity of the street system, and significant effect related to traffic if it would result in 50 or more new truck trips during the a.m. or p.m. peak hours. This is considered an "industry standard" and is the most current guidance.

To assess the effect of truck trips generated by project construction, a heavy-vehicle factor known as a passenger car equivalent (PCE) value was applied to the project-generated truck traffic. This heavy-vehicle factor was used to account for the additional space occupied, reduced speed, and reduced maneuverability associated with having these vehicles, rather than standard automobiles, on the roadway. A PCE value of 2.0 was applied to the construction equipment truck trip generation estimates, as recommended by the Highway Capacity Manual 2000 (Transportation Research Board 2000).

Therefore, the proposed project would cause a substantial increase in traffic in relation to the existing traffic load and capacity of the street system, and result in a significant effect related to traffic, if it would result in 100 or more new vehicle trips during the a.m. or p.m. peak hours.

Methodology

Truck trips for the project were estimated based on soil material volumes for borrow and disposal, and the volume of other materials and supplies (i.e., bentonite, aggregate). Construction worker trips were estimated based on the peak number of 100 workers and assigned to morning and afternoon peak hours. The number of trucks from one hour to another of the day might slightly vary, depending on the access and restrictions onsite. However, this analysis assumes that construction trucks would operate throughout the day for a total of 10 hours, exporting and importing materials from and to the project area. Therefore, truck trips were evenly distributed throughout the day (during the 10-hour construction work window) to determine hourly haul truck volumes for the assigned route segments. Construction worker commute trips were only applied to peak hours in the morning and in the afternoon, assuming worker trips would occur once in the morning to get to the project area and once in the afternoon to leave the project area.

Because the sequence of activities and improvements has not been finalized, daily truck trips were conservatively estimated based on the durations of activities (i.e., transporting borrow material from the proposed borrow site at SRCSD, and disposal material), assuming overlap of borrow and disposal activities. For impacts to local roadways, this analysis assumes one-way circulation to and from work sites, and division of trips among up to four simultaneous work areas, as described in Section 2.1.6, "Construction." The analysis also separately considers borrow site trips for roadways between the proposed borrow site at SRCSD and I-5.

Impact Analysis

Conflict with a Program, Plan, or Ordinance: Exceed Level of Service or Conflict with Vehicle- Miles-Traveled Standards

Level of service (LOS) and vehicle miles traveled (VMT) standards are typically used to evaluate long-term (operational) traffic effects resulting from residential, employment-generating, industrial, and institutional development projects. However, the project does not involve land use development, and long-term operation of the proposed levee improvements will require a similar level of maintenance and monitoring as under current conditions. Therefore, LOS standards and VMT thresholds were not used in this analysis. Instead, this analysis focuses on construction-related traffic effects and the effects of implementing the project on existing roadways. Because the project will not result in substantial changes to operations as compared to current conditions, the project will have no effect on long-term operational LOS or VMT.

Increase in Traffic Volumes or Decrease in Capacity along Designated Roadways in the Project Area

Implementing the proposed project will require hauling of construction equipment/materials and transporting construction workers to and from the project area along major highways and over local surface streets. Many of the construction-generated trips will involve slow-moving trucks, which will further affect highway traffic. Construction-generated traffic will temporarily increase the daily and peak-hour traffic along specified routes, including residential streets. Several staging areas (see **Figure 2-1** through **Figure 2-5** in Chapter 2, "Proposed Project Refinements") will be developed adjacent to the levee to maximize the efficient use and distribution of materials and equipment. Staging areas will be located along the landside and waterside toe of the levee where available, along parallel roads at the levee toe, and in nearby parks and empty parcels. The levee improvement area will be reconstructed with imported material, potentially from an existing stockpile at the proposed SCRSD borrow site.

Construction trucks that will be used for activities associated with levee improvements, including transporting material from the SRCSD borrow site or other commercial sources of borrow within 30 miles, drop off of all materials to the site from the supplier, and soil deposition at either the Railyards or a commercially available disposal site, will result in up to 850 truck round-trips per day (i.e., approximately 1,700 equivalent vehicle round trips per day, assuming a PCE value of 2.0) to import or remove the required materials. These estimates conservatively assume short and overlapping durations of the various construction activities identified in the construction sequencing in Chapter 2, "Proposed Project Refinements." Additionally, levee improvement activities will require a maximum of 100 construction workers per day during the most active construction periods. Thus, commuting by construction workers will result in a worst-case scenario of approximately 160 total daily trips (assuming two trips per day by each worker: one trip inbound to the levee reconstruction sites in the morning and one trip outbound at the end of the day) to area roadways shown in **Figure 2-1** through **Figure 2-5** (see Chapter 2, "Proposed Project Refinements").

In total, levee reconstruction activities (during the peak construction month in which most phases overlap) may result in as many as approximately 1,860 equivalent vehicle round

trips per day distributed over levee improvements area roadways. This analysis assumes one-way circulation and from work sites, and separately identifies borrow site trips and other trips (soil disposal, other materials and equipment). Based on the estimated number of truck trips per day and these assumptions, the project-related increase in traffic volumes along the affected roadways will add up to 95 vehicles per hour for local roadways used as haul routes. This level of traffic activity would potentially degrade traffic operations along the roadways used by haul trucks. The project-related increase in traffic volumes along the affected roadways in the vicinity of the proposed SRCSD borrow site will be up to 50 trucks per hour. This level of traffic activity will not degrade traffic operations along the roadways used by haul trucks in the vicinity of the potential SRCSD borrow site. However, construction-related traffic volumes along I-5 northbound and southbound will increase by up to 190 vehicles per hour. This level of traffic increase would potentially degrade traffic operations below the applicable threshold.

Construction-related traffic could also delay or temporarily obstruct the movement of emergency vehicles. As explained in the ARCF GRR Final EIS/EIR, construction related traffic impacts were analyzed and determined to be significant. Furthermore, construction will also require temporary lane closures and traffic controls on some project area roadways, including SR 160, with up to half of the available roadway being closed at one time. Implementing Mitigation Measure TR-1 will reduce the potentially significant effect associated with an increase in traffic volumes and reduction in roadway capacity, because a traffic control plan that includes measures to minimize traffic congestion and provide acceptable traffic flow to the maximum extent feasible will be prepared and implemented. As part of the traffic patrol plan, USACE or its contractor will also provide public notice in advance of closures and detours/routes and will require the provision of detour signs indicating the location of alternate routes that could be used by bicyclists or pedestrians. However, as described in the ARCF GRR Final EIS/EIR, this temporary construction impact will remain significant and unavoidable. Long-term impacts on traffic volumes would be less than significant.

Conflict with a Program, Plan, or Ordinance: Decreased Performance or Safety of Alternative Modes of Transportation

Although most of the proposed levee improvement activities will occur within the project footprint, temporary road closures will be needed in some areas, including portions of SR 160, which could interfere with pedestrians and cyclists along these roads. Also, pedestrian and bicycle trails along the levee crowns and at various locations along the Sacramento River Parkway will be closed during project-related activities. Implementing Mitigation Measure TR-1 will reduce the short-term significant effect associated with alternative modes of transportation to a less-than-significant level because USACE will provide public notice in advance of closures and detours/routes and will require the provision of detour signs indicating the location of alternate routes that could be used by bicyclists or pedestrians.

Increased Hazards Due to a Design Feature or Incompatible Uses

The combination of the high volume of slow-moving, heavy-duty truck traffic on local roadways in the levee improvement area; workers entering and exiting construction sites; periodic road and lane closures associated with construction traffic; and potential damage to pavement will increase traffic hazards on local roadways during the construction period,

resulting in a short-term significant impact. Implementing Mitigation Measure TR-1 will reduce the potentially significant effect associated with increased hazards due to a design feature or incompatible uses to a less-than-significant level because a construction traffic control and road maintenance plan will be prepared and implemented.

3.13.3 Mitigation Measures

The following mitigation measure has been previously adopted (USACE and CVFPB 2021), but incorporates a change to acknowledge effects to the state highway system on SR 160 as well as I-5.

Mitigation Measure TR-1: Prepare and Implement a Traffic Control and Road Maintenance Plan

Before the start of project-related construction activities, the Project Partners would require the contractor to prepare a Traffic Control and Road Maintenance Plan. This plan would describe the methods of traffic control to be used during construction. All on-street construction traffic would be required to comply with the local jurisdiction's standard construction specifications. The items listed below would be included in the plan and as terms of the construction contracts:

- Follow the standard construction specifications of affected jurisdictions and obtain the appropriate encroachment permits, if required. Incorporate the conditions of the encroachment permit into the construction contract. Encroachment permit conditions would be enforced by the agency that issues the encroachment permit.

- Provide adequate parking for construction trucks, equipment, and construction workers within the designated staging areas throughout the construction period. If inadequate space for parking is available at a given work site, the construction contractor would provide an off-site staging area and as needed, coordinate the daily transport of construction vehicles, equipment, and personnel to and from the work site.

- Proposed lane closures would be coordinated with the appropriate jurisdiction and be minimized to the extent possible during the morning and evening peak traffic periods. Construction specifications would limit lane closures during commuting hours where feasible, and lane closures would be kept as short as possible. If a road must be closed, detour routes and/or temporary roads would be made to accommodate traffic flows. Signs would be provided to direct traffic through detours.

- Post signs providing advance notice of upcoming construction activities at least 1 week in advance so that motorists are able to avoid traveling through affected areas during these times.

- Provide bicycle detours to allow for continued use by bicycle commuters. Maintain safe pedestrian and bicyclist access around the construction areas at all times. Construction areas would be secured as required by the applicable jurisdiction to prevent pedestrians and bicyclists from entering the work site, and all stationary equipment should be located as far away as possible from areas where bicyclists and pedestrians are present.

- Notify (by means such as physical signage, internet postings, letters, or telephone calls) and consult with emergency service providers to inform them of construction activities, maintain emergency access, and facilitate the passage of emergency vehicles on city streets during construction activities. Emergency vehicle access would be made available at all times.

- The construction contractor would document pre- and post- construction conditions on roadways used during construction. This information would be used to assess damage to roadways used during construction. The contractor would repair all potholes, fractures, or other damages.

- Comply with Caltrans requirements by submitting this Traffic Control and Road Maintenance Plan to Caltrans for review to traffic controls and cover points of access from the State highway system (SR 160 and I-5) for haul trucks and other construction equipment.

Significance after Mitigation

The significant short-term impact related to transportation will be reduced with implementation of Mitigation Measure TR-1 because the Project Partners or contractor will prepare a traffic control plan that includes measures to minimize traffic congestion and provide acceptable traffic flow to the maximum extent feasible, and implement the measures identified in the plan. However, the short-term transportation impact will remain significant and unavoidable because there are no other feasible mitigation measures that can be employed to reduce the number of trucks and truck trips necessary to construct the project.

3.14 Public Utilities and Service Systems

3.14.1 Environmental and Regulatory Setting

The environmental and regulatory settings in the ARCF GRR Final EIS/EIR are applicable to the analysis in this Supplemental EIR and are not repeated.

3.14.2 Environmental Impacts

Significance Criteria

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines. Adverse effects on public utilities and services would be considered significant if the proposed project would result in any of the following:

- Require the construction or expansion of any utility systems due to project implementation

- Disruption or significantly diminished quality of the public utilities and services for an extended period of time

- Create an increased need for new fire protection, police protection, or ambulance services or significantly affect existing emergency response times or facilities

- Create damage to public utility and service facilities, pipelines, conduits, or power lines or

- Create inconsistencies or non-compliance with regional planning documents

Impact Analysis

Potential Disruption of Utility Service

USACE has identified utilities that will be relocated or removed as part of the proposed project in Section 2.1.5, "Utility Relocations and Removals." Protection measures and temporary bypasses may be required for some of the utilities to be relocated. Any required utility relocation will be conducted concurrent with the proposed construction activities. Although steps will be taken to minimize potential effects to utilities, project construction activities (including grading and excavation) could inadvertently damage identified and unidentified utility infrastructure and facilities. In addition, required relocation of existing utilities could result in interruptions in service. Furthermore, the extent and intensity of proposed construction activities could affect service providers' abilities to quickly repair damage and/or restore interrupted service. Implementation of Mitigation Measure UTL-1 will reduce the potentially significant effect associated with disruption of utility service to a less-than-significant level, because USACE will coordinate with utility service providers and consumers to minimize utility interruptions to the maximum extent feasible, and a response plan to address service interruptions will be prepared and implemented to streamline response and shorten the potential duration of outages.

3.14.3 Mitigation Measures

Mitigation Measure UTL-1: Verify Utility Locations, Coordinate with Affected Utility Owners/Providers, Prepare and Implement a Response Plan, and Conduct Worker Training with Respect to Accidental Utility Damage

The Project Partners will implement the measures listed below before construction begins to avoid and minimize potential damage to utilities, infrastructure, and service disruptions during construction.

- Coordinate with applicable utility and service providers to implement orderly relocation of utilities that need to be removed or relocated.

- Provide notification of any potential interruptions in service to the appropriate agencies and affected landowners.

- Verify through field surveys and the use of the Underground Service Alert services the locations of buried utilities in the Project Area, including natural gas, petroleum, and sewer pipelines. Any buried utility lines would be clearly marked in the area of construction (e.g., in the field) and on the construction specifications in advance of any earthmoving activities.

- Before the start of construction, prepare and implement a response plan that addresses potential accidental damage to a utility line. The plan would identify chain-of-command rules for notification of authorities and appropriate actions and responsibilities regarding

the safety of the public and workers. A component of the response plan would include worker education training in response to such situations.

- Stage utility relocations during project construction to minimize interruptions in service.
- Communicate construction activities with first responders to avoid response delays due to construction detours.

Significance after Mitigation

The significant impact related to public utilities and service systems will be reduced to a less-than-significant level with implementation of Mitigation Measure UTL-1, because the Project Partners will coordinate with utility service providers and consumers to minimize utility interruptions to the maximum extent feasible, and a response plan to address service interruptions will be prepared and implemented to streamline response and shorten the potential duration of outages.

Chapter 4 CUMULATIVE AND GROWTH-INDUCING EFFECTS

CEQA requires the consideration of cumulative effects of the proposed project, combined with the effects of other past, present, and probable future projects. The State CEQA Guidelines define cumulative effects as "two or more individual effects which, when considered together, compound or increase other environmental impacts" (State CEQA Guidelines Section 15355).

The cumulative effects of the overall ARCF 2016 Project were analyzed in the ARCF GRR Final EIS/EIR (USACE, 2016). The cumulative analysis in the EIS/EIR is incorporated by reference. The cumulative analysis in the Final EIS/EIR was thorough in geographic scope, but the temporal scope of the analysis in the EIS/EIR covered a 10-year period rather than the shorter construction period, and the project-level details related to construction sequencing and phasing were not yet known. Therefore, for the purposes of the proposed project, the temporal scope of the cumulative effects analysis in this Supplemental EIR provides additional, focused cumulative impact analysis by considering past projects that continue to affect the project area in 2022 and projects that will be under construction in 2023 concurrent with the proposed project (SREL Contract 4 as revised).

4.1 Cumulative Projects

4.1.1 Projects Contributing to Potential Cumulative Effects

This section briefly describes other similar or related projects, focusing on flood-risk reduction and habitat restoration projects that have similar effect mechanisms and affect similar resources as will the proposed project. Although the ARCF GRR Final EIS/EIR identified several of these projects in the cumulative scenario, the descriptions in this section include additional activities, updated project information, and updated timing and schedule information. Past and present activities have contributed on a cumulative basis to the existing environment within the project area via various mechanisms, such as the following:

- Population growth and associated development of socioeconomic resources and infrastructure
- Conversion of natural vegetation to agricultural and developed land uses, and subsequent conversion or restoration of some agricultural lands to developed or natural lands
- Alteration of riverine hydrologic and geomorphic processes by flood management, water supply management, and other activities
- Introduction of nonnative plant and animal species

Several major past, present, and probable future projects are considered in this focused cumulative effects analysis, including regional projects for which USACE has provided approval since the Final EIS/EIR was completed or is in the process of considering Section 408 permission. For elements of these projects proposed for future implementation, the construction timing and sequencing is highly variable and may depend on uncertain funding sources. However, each of these past, present, and probable future projects must be considered in the context of environmental effects from the proposed project to properly evaluate the cumulative effects with these other similar projects on the environment.

Lower American River Common Features Project

Congressional authorizations in WRDA 1996 and WRDA 1999 enabled USACE, CVFPB, and SAFCA to undertake various improvements to the levees along the north and south banks of the American River, as well as the east bank of the Sacramento River. Under WRDA 1996, this involved the construction of 26 miles of slurry walls along the left and right banks of the American River. The WRDA 1999 authorization included a variety of additional levee improvements, such as levee raises and levee widening improvements, to ensure that the levees could pass an emergency release of 160,000 cubic feet per second. The WRDA 1996 and 1999 projects were completed in 2016, with mitigation site monitoring ongoing.

American River Watershed Common Features 2016 Project

The greater ARCF 2016 Project is scheduled for construction from 2019 through 2024. The project involves constructing levee improvements along the American and Sacramento River levees as well as proposed improvements to the Natomas East Main Drainage Canal (NEMDC) east levee and Magpie Creek (SAFCA previously completed improvements as an early implementation action in 2018). The levee improvements scheduled for implementation include constructing cutoff walls, erosion protection, seepage and stability berms, relief wells, levee raises, and a small stretch of new levee. In addition, USACE intends to widen the Sacramento Weir. The project will also involve constructing a number of mitigation sites in the area.

In addition to the improvements that are part of the SREL Contract 4 proposed project, the ARCF 2016 Project includes:

- Construction of a seepage and stability berm along Front Street (completed in 2019)

- Additional improvements to the Sacramento River east levee between downtown Sacramento and Freeport (planned for 2020-2023)
- Erosion protection on the American River (planned for 2021-2023)
- Erosion protection on the Sacramento River (planned for 2022-2025)
- Improvements to the "East Side Tributaries, including the Magpie Creek Diversion Channel, the east bank of the Natomas East Main Drainage Canal (NEMDC)/Steelhead Creek. Pleasant Grove Creek Canal, and Dry, Robla, and Arcade Creeks (planned for 2022)
- Widening the Sacramento Weir and Bypass, located along the north edge of the City of West Sacramento in Yolo County (planned for 2021-2024)

American River Watershed Common Features Natomas Basin Project

In 2007, the Natomas Levee Improvement Project was authorized as an early-implementation project initiated by SAFCA to provide flood protection to the Natomas Basin as quickly as possible. These projects consist of improvements to the perimeter levee system of the Natomas Basin in Sutter and Sacramento Counties, as well as associated landscape and irrigation/drainage infrastructure modifications. SAFCA, DWR, CVFPB, and USACE have initiated this effort with the aim of incorporating the Landside Improvements Project and the Natomas Levee Improvement Project into the Federally authorized ARCF 2016 Project. Construction of this early implementation project was completed in 2013. In 2014, the Natomas Basin Project was authorized by Section 7002 of Water Resources Reform and Development Act of 2014 (Public Law 113-121). Reach A is scheduled for construction in 2022-2024, and Reaches E, F, and G are scheduled for construction in 2023 and 2024.

Local Funding Mechanisms for Comprehensive Flood Control Improvements for the Sacramento Area

SAFCA created a new assessment district ("CCAD2") to replace the existing Consolidated Capital Assessment District and updated the existing development impact fee to provide the local share of the cost of constructing and maintaining flood-risk reduction improvements and related environmental mitigation and floodplain habitat restoration along the American and Sacramento Rivers and their tributaries in the Sacramento metropolitan area. The program includes the projects necessary to provide at least a 100-year level of flood protection for developed areas in Sacramento's major flood plains as quickly as possible; achieve the State's 200-year flood protection standard for these areas within the timeframe mandated by the Legislature; and improve the resiliency, robustness, and structural integrity of the flood control system over time so that the system can safely contain flood events larger than a 200-year flood. The program includes Yolo and Sacramento Bypass system improvements, levee modernization, and Lower Sacramento River erosion control. The Updated Local Funding Mechanisms Final Subsequent Program EIR was certified, and the project was adopted in April 2016 (SAFCA 2016).

Sacramento River Bank Protection Project

The mission of SRBPP is to repair bank erosion and minimize the risk of flooding along the Sacramento River by evaluating riverside levees and rehabilitating sections of the levees, if necessary. Section 203 of the Flood Control Act of 1960 was the original authority for SRBPP, giving USACE authorization to implement rehabilitation of 430,000 linear feet (lf) of levee. Authority to rehabilitate an additional 405,000 lf of levee was added by the 1974 Water Resources Development Act. In 2007, the Water Resources Development Act, Pub. L. 110-114, § 3031, 121 Stat. 1113 (2007) (WRDA 2007) added 80,000 lf to SRBPP as a supplement to the 1974 legislation. USACE would release a Post Authorization Change Report (PACR), including an EIS, to address the implementation of this latest authorization within economically justified sub-basins on sites chosen based upon the Site Selection and Implementation Process.

West Sacramento General Reevaluation Report

The West Sacramento Project General Reevaluation Report (WSPGRR) report determined the Federal interest in reducing the flood risk within the West Sacramento project area. The purpose of the WSPGRR is to bring the 50 miles of perimeter levees surrounding West Sacramento into compliance with applicable Federal and State standards for levees protecting urban areas. Proposed levee improvements would address: (1) seepage, (2) stability, (3) overtopping, and (4) erosion concerns along the West Sacramento levee system. Potential measures to address these concerns would include: (1) seepage cutoff walls, (2) stability berms, (3) seepage berms, (4) levee raises, 5) floodwalls, (6) relief wells, (7) sheet pile walls, (8) jet grouting, and (9) bank protection. The WSPGRR was authorized in WRDA 2016, and in the Fiscal Year 2019 work plan received initial funding to begin preconstruction design. However, under the West Sacramento Area Flood Control Agency Early Implementation Program, three levee segments have already been completed: a small segment along the Sacramento River adjacent to the I Street Bridge, a stretch along the Sacramento River in the northern portion of the city near the neighborhood of Bryte, and the south levee of the Sacramento Bypass. One levee segment, the Southport setback levee, is currently under construction as part of the local effort, which includes all of the proposed levee improvements to the Sacramento River in the West Sacramento south basin. Construction and construction traffic effects of this project have the potential to contribute to cumulative impacts with the proposed project.

Central Valley Flood Protection Plan

The Central Valley Flood Management Planning (CVFMP) Program is one of several programs managed by DWR under FloodSAFE California, a multifaceted initiative launched in 2006 to improve integrated flood management in the Central Valley, including the North Sacramento Streams and Sacramento River east levee (proposed project) Improvement areas. The CVFMP Program addresses State flood management planning activities in the Central Valley. The Central Valley Flood Protection Plan (CVFPP) is one of several documents adopted by CVFPB to meet the requirements of flood legislation passed in 2007 and, specifically, the Central Valley Flood Protection Act of 2008. DWR adopted the updated CVFPP in 2017, with a focus on Sacramento and San Joaquin Watershed Basin-Wide Feasibility Studies (BWFS), Regional Flood Management Planning, and the Central Valley Flood System Conservation Strategy. Results of these efforts would support implementation of future CVFPP actions. The CVFPP contains a broad plan for flood management system improvements, and ongoing

planning studies, engineering, feasibility studies, designs, funding, and partnering are required to better define, and incrementally fund and implement, these elements over the next 20 to 25 years. Although most CVFPP projects are not well-defined and would be implemented substantially later than the proposed project, it is important to consider the long-term aspects of the CVFPP in conjunction with the proposed project. The CVFPP will be reviewed and updated again later in 2022 as needed.

The Sacramento BWFS indicates that the following improvements to the Yolo Bypass flood control system could be made and therefore are considered as future projects: constructing a setback levee in the Lower Elkhorn Basin on the east side of the Upper Yolo Bypass and on the north side of the Sacramento Bypass (discussed separately in further detail below), widening the Freemont Weir and the Sacramento Weir, widening the Upper Yolo Bypass by constructing setback levees along the east side of the Bypass in the Upper Elkhorn Basin, constructing fix-in-place improvements to the existing levees in various locations along the west and east sides of the Upper Yolo Bypass, widening the Upper Yolo Bypass by constructing setback levees north of Willow Slough and north of Putah Creek on the west side of the Bypass, adding a tie-in to the Stockton Deep Water Ship Channel and channel closure gates, and constructing a floodwall on the west side of the Sacramento River at Rio Vista. Additional actions contemplated under the Sacramento BWFS include the following: extending the life of the Cache Creek Settling Basin by expanding it to the north, degrading the step levees at the north end of Liberty Island, widening the Lower Yolo Bypass by constructing a setback levee on the west side of the Bypass near the north end of Little Egbert Tract, degrading the existing levees along the Stockton Deep Water Ship Channel along the west side of Prospect Island, degrading the existing levees on the northern and southern ends of Little Egbert Tract, removing the Yolo Shortline Railroad tracks and crossing over the Yolo Bypass near the Interstate 80 overcrossing, and raising and strengthening the levees along the entire west side of the Lower Yolo Bypass (DWR 2016).

Lower Elkhorn Basin Levee Setback Project

The Lower Elkhorn Basin Levee Setback (LEBLS) project encompasses a portion of the Phase I implementation of Yolo Bypass System Improvements pursuant to DWR's Sacramento BWFS and therefore is focused on levees in the Lower Elkhorn Basin and the Sacramento Bypass. Consistent with the Sacramento BWFS, the LEBLS project is intended to reduce flooding in the Lower Sacramento River Basin by increasing the capacity of the Yolo Bypass. This increased capacity would be accomplished by constructing a setback levee on the north side of the Sacramento Bypass as an early implementation action for the ARCF 2016 Project, and constructing a setback levee in the Lower Elkhorn Basin on the east side of the Yolo Bypass.

The LEBLS project includes implementing a project mitigation strategy designed to avoid, minimize, reduce, and mitigate impacts on sensitive habitats and special-status species caused by the project, in a manner that optimally protects the natural environment, especially riparian habitat and stream channels suitable for native plants, wildlife habitat, agricultural lands, and public recreation. Construction of the LEBLS project will continue in 2022, with the main phase of construction planned to be completed by mid-2024. Construction effects of the LEBLS project have the potential to contribute to cumulative impacts with the proposed project.

Folsom Dam Safety and Flood Damage Reduction Project

The Folsom Dam Safety and Flood Damage Reduction Project addressed the dam safety hydrologic risk at Folsom Dam and improved flood protection to the Sacramento area. Several activities associated the project included: the Folsom Dam Auxiliary Spillway, static upgrades to Dike 4, Mormon Island Auxiliary Dam (MIAD) modifications, and seismic upgrades (piers and tendons) to the Main Concrete Dam. The project was completed in fall 2017.

Folsom Dam Water Control Manual Update

The Folsom Dam Water Control Manual (WCM) is being updated to reflect authorized changes to the flood management and dam safety operations at Folsom Dam to reduce flood risk in the Sacramento area. The WCM Update would utilize existing and authorized physical features of the dam and reservoir, specifically the recently completed auxiliary spillway. Along with evaluating operational changes to utilize the additional capabilities created by the auxiliary spillway, the WCM Update would assess the use of available technologies to enhance the flood risk management performance of Folsom Dam to include a refinement of the basin wetness parameters and the use of real time forecasting.

Further, the WCM Update would evaluate options for the inclusion of creditable flood control transfer space in Folsom Reservoir in conjunction with Union Valley, Hell Hole, and French Meadows Reservoirs (also referred to as Variable Space Storage). The study would result in an Engineering Report as well as a Water Control Manual implementing the recommendations of the analysis.

Folsom Dam Raise

Construction of the Folsom Dam Raise project followed completion of the Folsom Dam Safety and Flood Damage Reduction Project and the WCM projects. The Dam Raise project includes raising the Right- and Left-Wing Dams, Mormon Island Auxiliary Dam, and Dikes 1-8 around Folsom Reservoir by 3.5 feet with a mix of earthen raises and floodwalls. The Dam Raise project also includes the three emergency spillway gates and three ecosystem restoration projects (automation of the temperature control shutters at Folsom Dam and restoration of the Bushy and Woodlake sites downstream). Similar to the ARCF 2016 Project, the Folsom Dam Raise Project was fully funded by the Bipartisan Budget Act of 2018. Construction to raise Dike 8 by 3.5 feet was completed in 2020. Dikes 1-7, the Main Dam, the Left Wing Dam, the Right Wing Dam and the Mormon Island Auxiliary Dam are currently in design, with supplemental environmental documentation expected to be completed in May 2022. Construction at these facilities is planned for 2023. Construction and construction traffic effects of the Folsom Dam Raise project have the potential to contribute to cumulative impacts with the proposed project.

SAC 5 Corridor Enhancement Project

Caltrans is constructing the SAC 5 Corridor Enhancement Project on I-5 from 1.1 mile south of Elk Grove Boulevard to the American River Viaduct. The project will rehabilitate pavement and other related assets, construct 23 miles of new High Occupancy Vehicle lanes, install new fiber optic lines, and extend the I-5 northbound #1 lane to improve merging. The project includes rehabilitating 67 lane miles of mainline and all ramps/connectors. The project

also includes adding auxiliary lanes and extending acceleration and deceleration lanes. Project construction requires lane closures on I-5 and is expected to continue through December 2022.

Sacramento/Yolo Integrated Corridor Management

Caltrans is constructing the Sacramento/Yolo Integrated Corridor Management (ICM) on Interstate 80 (I-80) from Enterprise Boulevard in the City of West Sacramento to Folsom Boulevard in the City of Folsom on Hwy 50. The purpose of this project is to improve safety, more efficiently manage traffic operations, reduce congestion, and decrease peak hours of delay. This project proposes to implement ICM, also known as Connected Corridor, by installing Transportation Management System (TMS) and Intelligent Transportation Systems (ITS) elements. Construction is scheduled to begin July 15, 2021.

US Highway 50 Multimodal Corridor Enhancement and Rehabilitation Project

Caltrans is constructing the US Highway 50 Multimodal Corridor Enhancement and Rehabilitation Project will construct High Occupancy Vehicle (HOV) lanes and rehabilitate pavement on US 50 from the US 50/I-5 Interchange to the US 50/Watt Avenue Interchange for a total of 15 lane miles. The purpose of this project is to reduce congestion and replace the existing Portland Cement Concrete (PCC) pavement, reduce maintenance crew's exposure to live traffic, and reduce maintenance expenditures. Construction is scheduled to occur between April 2020 and December 2024.

Bridge District Specific Plan

The Bridge District Specific Plan, formerly the Triangle Plan, was adopted in 1993 and significantly updated in 2009 (City of West Sacramento 2009). The intent of the Bridge District Specific Plan was to provide a framework for development of a well-planned, waterfront-orientated urban district for the City of West Sacramento, along the west bank of the Sacramento River. A number of housing complexes have been built, as well as other riverfront recreational improvements, and the Barn, a local event space and beer garden along the Sacramento River just south of Raley Field. Ongoing development includes additional housing units currently under construction. Construction, road construction, and construction traffic associated with the Bridge District have the potential to contribute to cumulative impacts with the proposed project.

Sacramento Railyards Project

The Railyards is located just north of Downtown Sacramento and south of the River District and once served as the western terminus of the 1860s Transcontinental Railroad, the largest locomotive repair and maintenance facility west of the Mississippi River. Today, the Railyards continue to house a major transportation hub and the City of Sacramento has proposed to redevelop the area into a mixed- use, transit-oriented development. The historic 244-acre Southern Pacific site would be transformed into a dynamic, urban environment featuring a state-of-the-art mass transit hub that would serve residents, workers, and visitors. In October 2016, the City Council approved planning entitlement for the Sacramento Railyards. The project includes housing units, retail space, office space, a medical campus, hotels, parks, and a soccer stadium (City of Sacramento 2016). Construction, road construction, and construction traffic associated

with the Railyards project have the potential to contribute to cumulative impacts with the proposed project.

Delta Shores Development Project

Delta Shores is an approximately 800-acre master planned development that will include an estimated 1.3 million square feet of planned retail and commercial uses, and an estimated 5,200 residential units at different housing densities. A majority of the Delta Shores land is located east of I-5, north and south of Cosumnes River Boulevard, east of Freeport Boulevard and north of the SRCSD Wastewater Treatment Plant Bufferlands. The Beach Lake Levee (operated and maintained by SAFCA) is adjacent to a portion of the Delta Shores southern property line (east of I-5). Approximately 100 acres of the Delta Shores land is located on the west side of I-5 and adjacent to the Sacramento River east levee. In the Delta Shores lands west of I-5, medium- and high-density residential housing will be developed on the north side of Cosumnes River Boulevard while medium- and low-density residential housing will be developed on the south side of Cosumnes River Boulevard. Neighborhood parks are programmed east of and adjacent to Freeport Boulevard.

Cosumnes River Boulevard was recently extended by approximately 3.5 miles (from Franklin Boulevard to Freeport Boulevard), and a new I-5 interchange was constructed to provide regional connectivity from Hwy 99 to I-5 as well as allow access for future Delta Shores residential and commercial development. The Cosumnes River Boulevard extension and I-5 interchange improvements were completed in 2015. Construction on the regional shopping center located in the SE quadrant of the I-5 interchange and Cosumnes River Boulevard began in 2016, and the regional shopping center opened in 2017. Additional improvements anticipated to commence construction in 2021 include infrastructure and roadway construction north of Cosumnes River Boulevard, and additional commercial construction north and south of Cosumnes River Boulevard on the east side of I-5. Construction traffic associated with 2022 improvements at Delta Shores have the potential to contribute to cumulative impacts with the proposed project. It is anticipated that additional infrastructure and home construction will occur on the east and west sides of I-5 in future years.

4.2 Cumulative Effects

4.2.1 Visual Resources

Project-related activities will be occurring on and alongside SR 160 and will be visible from this designated State- and County-designated scenic highway from Freeport south to the County line. The southwestern end of the Delta Shores project would also be visible from SR 160. However, development within the Delta Shores project is required to follow the City of Sacramento design guidelines regarding form, color, texture, mass, landscaping, and signage, as well as the Delta Shores Planned Unit Development Guidelines approved by the City of Sacramento, which are specifically designed to ensure that new development is aesthetically pleasing and blends with the surrounding landscape (City of Sacramento 2008). Therefore, there would be no significant cumulative impact related to damage to scenic resources within a State- or County-designated scenic highway, and the project will not result in a cumulatively considerable incremental contribution to a significant cumulative effect.

Construction crews, equipment, and haul trucks will be visible to residents adjacent to local streets, and staging areas, and to residences adjacent to the work sites. In addition, construction will be visible to recreationists where portions of parks are used as staging areas, and potentially along portions of the Sacrament River Parkway bicycle and pedestrian trail. However, construction will be temporary in nature, and because construction will proceed along the levee in a linear fashion, the views of construction crews, equipment, and haul trucks would be of short duration, and related projects would not generally be visible from the same locations as the proposed project. At the completion of construction activities, the levees, staging areas, and borrow sites for both the proposed project and the related levee projects would look the same or substantially similar to existing conditions. However, construction of multiple projects along the waterways in the Sacramento region would result in a cumulative impact to visual resources due to the removal of vegetation along these waterways and disturbance from construction activities. As noted in the ARCF GRR Final EIS/EIR, cumulative impacts to visual resources were analyzed and determined to be significant and unavoidable while construction is ongoing, and there are no feasible mitigation measures that can be implemented to reduce this cumulative impact to a less-than-significant level.

4.2.2 Air Quality

Air quality is inherently a cumulative effect because existing air quality is a result of past and present projects. Ambient air quality standards are violated or approach nonattainment levels because of past activities, and increasing emissions-generating activity across the region may jeopardize attainment (SMAQMD 2020). The Federal attainment status in the SVAB for pollutants of concern is shown in **Table 3-1**. Several other construction projects are expected to occur simultaneously in the SVAB during the planned construction period for the proposed project. The related projects have the potential to generate construction-related emissions that individually exceed SMAQMD's threshold of significance. However, all construction projects in the SMAQMD, including the proposed project are required to offset emissions that have the potential to negatively affect air quality in the SVAB through implementation of SMAQMD emissions reductions practices. In addition, many offset projects create long-term, permanent emissions reductions (which result in a benefit).

Furthermore, the proposed project is part of the larger ARCF 2016 Project, which has been determined to meet the requirements of general conformity with the provisions of the Clean Air Act (CAA) through payment of fees to offset NOx emissions. As discussed in Section 3.3, "Air Quality," the proposed project without mitigation would result in a cumulatively considerable incremental contribution to a significant cumulative effect related to regional air quality; however, the proposed project's contribution will be mitigated through implementation of mitigation measures described in Section 3.3. Therefore, with mitigation, the proposed project's incremental contribution to the significant cumulative effect related to regional air quality is less than considerable and therefore is less than significant.

With respect to localized air pollutants such as CO, TACs, and odors, the proposed project and the related projects would generate these pollutants only during construction, and they would be temporary and short term. Some of the related projects may generate concentrations of these pollutants at levels that exceed relevant thresholds. However, the related projects include CEQA/NEPA documents containing mitigation measures that must be

implemented to reduce individual project emissions. As discussed in Section 3.3, the proposed project will not generate CO, TACs, or odors at levels that represent a health hazard. Therefore, the proposed project will not result in a cumulatively considerable incremental contribution to a significant cumulative effect related to generation of CO or TACs during construction.

4.2.3 Vegetation and Wildlife

Project implementation has the potential to contribute to the loss or degradation of sensitive habitats, including riparian, waters of the United States, and waters of the State, and forestland. Similar potential for adverse effects on habitats would be associated with the flood-risk reduction projects, including future ARCF 2016 projects proposed along the Sacramento River east levee and the American River, and removal of high-hazard vegetation by levee maintaining agencies in the Sacramento area and surrounding region. Such projects would generally continue to contribute to the loss or degradation of sensitive habitats and forestland. Most potential adverse effects of the proposed project and the related levee projects would be associated with construction disturbances of habitats, but permanent loss of habitat would also result from some of the individual levee improvement projects and the development projects. Implementation of mitigation measures described in Section 3.4, "Vegetation and Wildlife," will reduce or avoid the effects of the proposed project in accordance with the requirements of the Federal ESA and CESA and other regulatory programs that protect habitats, such as CWA Sections 401 and 404. Because the proposed project's temporary impacts will be significant and unavoidable, they could combine with similar impacts from similar projects constructed in 2023, of which there are several. Therefore, the proposed project will result in a cumulatively considerable incremental contribution to significant cumulative biological effects related to the temporary effects of vegetation loss in 2023 and continuing until proposed mitigation results in more mature and complex replacement vegetation. As described in Section 3.4, there are no feasible mitigation measures available to reduce the project's impact to less than significant, or below a cumulatively considerable level on a short-term basis. The proposed project, however, would not result in a cumulatively considerable incremental contribution to significant cumulative effects on biological resources on a long-term basis as permanent loss or degradation of sensitive habitats or loss of forestland would not occur once mitigation plantings become established over time.

4.2.4 Special-Status Species

Project implementation has the potential to adversely affect special-status species (valley elderberry longhorn beetle host plants, Swainson's hawk, other nesting birds, plants, and bats). Similar potential for adverse effects on special-status species and their habitats would be associated with the flood-risk reduction projects, including future ARCF 2016 Project components proposed along the Sacramento River east levee and the American River, and removal of high-hazard vegetation by levee maintaining agencies in the Sacramento area and surrounding region. Such projects would generally continue to adversely affect special-status species. Most potential adverse effects of the proposed project and the related levee projects related to wildlife would be associated with construction disturbances of wildlife and their habitats, but permanent loss of habitat would also result from some of the individual levee improvement projects and the development projects. These adverse effects could contribute to species declines and losses of habitat that have led to the need to protect these species under the

Federal ESA and California Endangered Species Act (CESA). Implementation of Mitigation Measures described in Section 3.5, "Special-Status Species," will reduce or avoid the effects of the proposed project in accordance with the requirements of the Federal ESA and CESA. Therefore, the proposed project will not result in a cumulatively considerable incremental contribution to significant cumulative adverse effects on special-status species.

4.2.5 Climate Change

Climate change as related to GHG emissions is inherently cumulative. Though significance thresholds can be developed by air districts and State and Federal regulatory agencies, these thresholds and their related goals are intended to address GHG emissions at a cumulative and even a global level. Therefore, the analysis presented in Section 3.6, "Climate Change," includes the analysis of both the project and cumulative effects. The proposed project and the related projects would result in the generation of GHGs, in proportion to the size of each individual project, amount and time of operation of construction equipment, and distances traveled. The proposed project and the related projects that would generate GHG emissions in excess of threshold levels would implement the mitigation measures identified in their respective CEQA/NEPA documents and adopted to reduce emissions and/or purchase carbon offsets. Furthermore, the proposed project will be consistent with Statewide climate change adaptation strategies. Therefore, the proposed project will not result in a cumulatively considerable incremental contribution to a significant cumulative effect related to climate change.

4.2.6 Cultural Resources

Implementation of the proposed project; other flood-risk reduction projects, including the ARCF 2016 Project components proposed along the Sacramento River east levee and the American River, and other projects considered in this cumulative analysis, have the potential to contribute to the loss or degradation of known and unrecorded archaeological resources, known precontact-period Cultural Landscapes, known and unknown human remains, and known and unknown historic-period archaeological resources.

Most potential effects of the proposed project and other related projects to cultural resources would be associated with construction disturbances of archaeological sites, precontact Cultural Landscapes, and human remains. These effects could contribute to the loss of intact cultural resources and human remains in the Sacramento region.

Implementation of the mitigation measures presented in Section 3.7, "Cultural and Tribal Cultural Resources," will reduce or avoid the effects of the project on known resources and on unknown archaeological resources and human remains that could potentially be discovered during project construction. Therefore, the project will not make a cumulatively considerable incremental contribution to a significant cumulative effect on cultural resources.

4.2.7 Geological Resources

Construction activities associated with the proposed project and most of the related projects, including the levee projects and the Delta Shores development project, would involve extensive grading and earthmoving activities, thereby exposing soil to erosion from wind in summer and from rainfall during storm events. If uncontrolled, suspended sediment from

stormwater runoff could enter adjacent water bodies and result in increased turbidity. However, the proposed project along with each related project that would disturb 1 acre of land or more are required by law to comply with the Construction General Permit from the State Water Resources Control Board, which require preparation of a SWPPP and implementation of erosion control BMPs. Therefore, there would be no significant cumulative effect related to construction-related erosion, and the project will not result in a cumulatively considerable incremental contribution to a significant cumulative effect.

If not addressed, seepage-related levee failures could contribute significant volumes of sediment and material to the stream channels, which could alter flow patterns and potentially destabilize other levees outside the project site. However, the proposed project and most if not all of the related projects would implement seepage control measures that would reduce the risk of levee failure. Therefore, the proposed project and the related projects would not cumulatively increase the risk of levee failure. The proposed project's effects would be cumulatively beneficial by reducing flood risk and the attendant major erosion that would occur.

All proposed project improvements, as well as improvements proposed as part of the related levee projects, would be designed based on the results of detailed geotechnical engineering studies and required to comply with standard engineering practices for levee design. In addition to compliance with CVFPB standards, levee design and construction must be in accordance with EM 1110-2-1913 Design and Construction of Levees (USACE 2000), the primary Federal standards applicable to levee improvements. In addition, ER 1110-2-806, Earthquake Design and Evaluation for Civil Works Projects (USACE 2016), will also apply to project design and construction. Therefore, the design and construction of all levee modifications will meet or exceed applicable design standards for static and dynamic stability, seismic ground shaking, liquefaction, subsidence, seepage, and expansive soils. The related development projects must comply with the California Building Standards Code, which incorporates specific requirements for engineering and construction that are designed to reduce damage from seismic ground shaking, liquefaction, subsidence, seepage, and expansive soils to the maximum extent feasible. Therefore, the proposed project will not result in a cumulatively considerable incremental contribution to a significant cumulative effect related to seismicity and soils.

The proposed project and most of the related projects would entail earthmoving activities in the Riverbank and/or Modesto Formations, which are considered paleontologically sensitive. While some of the related projects, such as the CVFPP, NLIP, and the Delta Shores projects, contain mitigation measures to protect paleontological resources, the other related projects may not. Therefore, some of the related projects may result in significant effects to unique paleontological resources. Future ARCF 2016 Project components proposed along the Sacramento River east levee and the American River will also take place in the Riverbank Formation. However, the presence of unique paleontological resources is site-specific, and a low probability exists that any project, including the proposed project, would encounter unique, scientifically important fossils. Therefore, the proposed project will not result in a cumulatively considerable incremental contribution to a significant cumulative effect related to damage to or destruction of unique paleontological resources.

Hazardous Wastes and Materials

Construction of the proposed project and the related projects would include handling small quantities of hazardous materials used in construction equipment (e.g., fuels, oils, lubricants) and during construction activities. The storage, use, disposal, and transport of hazardous materials are extensively regulated by various Federal, State, and local agencies. Permits are required for the use, handling, and storage of these materials, and compliance with appropriate regulatory agency standards agencies is also required to avoid releases of hazardous waste. Construction companies that handle hazardous substances for the proposed project and all related projects are required by law to implement and comply with these existing regulations. Effects related to the release of the quantities of these materials used for construction would be localized to the area where the materials are being used and would not be additive to other hazardous materials-related effects associated with the project site. None of the materials would be acutely hazardous, and nor would they be used in quantities that pose a hazard to schools within 0.25 mile of construction sites. Thus, the project will not result in a cumulatively considerable incremental contribution to a significant cumulative effect related to the potential for accidental spills of materials used during construction activities or handling of hazardous materials within 0.25 mile of a school.

Project implementation could result in exposure to existing hazardous materials sites or from accidental rupture of petroleum or natural gas pipelines during construction activities. It is unknown whether any of the cumulative project sites contain existing hazards materials. However, mitigation measures identified in Section 3.9, “Hazardous Wastes and Materials,” will minimize potential exposure to unknown hazards and hazardous materials during construction of the proposed project. Therefore, the proposed project will not result in a cumulatively considerable incremental contribution to a significant cumulative effect related to existing hazardous materials.

The project would include temporary construction activities within the clear zone and the approach/departure zone for the Clarksburg- Borges airport. The temporary project construction activities would not conflict with the land use regulations for the airport safety zones, and the other related projects would not include changes within these zones. There would be no significant cumulative impact.

Wildland fire represents a hazard particularly during the hot, dry summer and fall in the Central Valley. Most of the related projects, including future levee and development projects, would be implemented in urbanized areas, similar to the proposed project, with a relatively low risk of wildland fire. Therefore, there would be no significant cumulative impact related to wildland fire risk, and the proposed project will not result in a cumulatively considerable incremental contribution to a significant cumulative effect related to wildland fire hazards.

4.2.8 Water Quality and Groundwater Resources

A majority of the levee projects, including the proposed project, involve subsurface geotechnical work to repair levees in place and, consequently, there would be no adverse effects on flooding but beneficial effects from reduced flood risks . Some projects, such as the West Sacramento GRR and the SRBPP, include levee raises, floodwalls, and bank protection. The West Sacramento GRR, the balance of the ARCF 2016 Project components, and the Lower

Elkhorn Basin Levee Setback Project, include construction of new setback levees. Dewatering of the construction area (e.g., removing groundwater that may fill trenches dug for cutoff wall construction) could result in the release of contaminants to surface or groundwater. The related projects considered in this cumulative analysis could also result in adverse water quality effects from construction dewatering. However, the proposed project and the related projects are required by law to comply with Central Valley RWQCB regulations that require a dewatering permit and to implement Central Valley RWQCB measures designed to reduce adverse water quality effects from construction dewatering. Therefore, the proposed project will not result in a cumulatively considerable incremental contribution related to degradation of water quality or groundwater resources from project construction activities, including construction-related dewatering.

4.2.9 Noise

. A cumulative effect might occur if construction activities associated with any of the related project(s) were to occur within 500 feet of the proposed project's construction activities, and also, if the construction activities of other projects were to occur at the same time or overlap at some point during the construction activities of the proposed project. Construction of a portion of the shopping center at Delta Shores, east of I-5, began in 2016 and is ongoing. However, at its closest point, this portion of the Delta Shores project area is more than 1,500 feet east of the project site. There is currently no scheduled date for construction of homes and parks on the west side of I-5 at Delta Shores. Therefore, the Delta Shores project is located too far away to combine with the proposed project's construction noise or vibration effects. Furthermore, although any of the related projects could require construction that exceeds the respective local City or County noise ordinances, the proposed project will limit noise-generating activities to the hours when the City of Sacramento exempts construction noise. Therefore, the proposed project will not result in a cumulatively considerable incremental contribution to a significant cumulative effect related to construction equipment or traffic noise levels in excess of standards established in the local general plan or noise ordinance or in other applicable local, State, or Federal standards.

4.2.10 Recreation

The proposed project, along with the related projects, may result in temporary closure of recreational facilities (including closures of some parks for more than one year), potential damage to recreational facilities, and temporary diminishment of recreational experiences at nearby parks during construction. Implementation of mitigation measures described in Section 3.12, "Recreation," will reduce the proposed project's effects to a less-than-significant level. Because of the temporary nature of the construction effects and the likelihood that any access restrictions or degradation of the quality of recreational experiences will last for approximately 3 to 6 months in any location, the proposed project's effects on local recreation are not anticipated to overlap with effects of other related projects. The nearby Delta Shores development project includes internal parks for use by residents. Consequently, cumulative effects related to recreation resources would be less than significant, and the proposed project will not result in a cumulatively considerable incremental contribution to a significant cumulative effect related to short-term temporary changes in recreational opportunities during project construction activities.

4.2.11 Transportation and Circulation

The majority of traffic effects related to the proposed project will occur on or west of I-5, in the vicinity of the project site. The SAC 5 Corridor Enhancement Project is scheduled to be completed in December 2022, before construction of the proposed project begins. The Delta Shores project (in addition to other construction projects in the Sacramento metropolitan area) would also affect traffic volumes and capacity on I-5 in the vicinity of the project site and potentially other proposed haul routes shown in **Figure 2-1** through **Figure 2-5** (see Chapter 2. "Proposed Project Refinements"). Other levee projects would occur at locations that are relatively distant. There are no known projects that would affect the local haul routes shown in **Figure 2-1** through **Figure 2-5** in Chapter 2, "Proposed Project Refinements." Potentially significant traffic effects are only expected to occur for 6–8 months during the project construction period, and Mitigation Measure TR-1, described in Section 3.13, "Transportation and Circulation," includes a traffic control and road maintenance plan to reduce the proposed project's impact. Other cumulative projects would likely implement similar traffic control plans, and the temporary increases in trips and vehicles on roadways during construction would be small relative to the number of vehicles traveling on these roadways, particularly I-5. Cumulative effects related to congestion would be less than significant.

Mitigation Measure TR-1, described in Section 3.13, "Transportation and Circulation," includes a traffic control and road maintenance plan to reduce the proposed project's impact. This mitigation measure requires emergency service providers be notified in advance of road closures and detours and requires emergency access to be maintained. Although other major construction projects would also implement traffic control plans specifically designed to provide appropriate emergency access, traffic controls could cause delays during the morning and evening peak commute hours, which could disrupt emergency response times in the vicinity of the construction sites. Thus, as disclosed in the ARCF GRR Final EIS/EIR, the proposed project could result in a cumulatively considerable incremental contribution to a significant cumulative effect related to emergency vehicle access or response times temporarily during construction activities.

Bicycle and pedestrian paths affected by the proposed project will be primarily west of I-5, in the vicinity of the construction activities and along potential haul routes. As part of Mitigation Measure TR-1, the proposed project will provide detours to maintain safe pedestrian and bicyclist access around the construction areas at all times. In general, major construction projects (including the SAC 5 Corridor Enhancement and Delta Shores) would also implement traffic control plans specifically designed to provide continued safe routes for alternative modes of transportation during construction. Therefore, the proposed project will not generate a cumulatively considerable incremental contribution to a significant cumulative effect related to performance or safety of alternative modes of transportation.

4.2.12 Public Utilities and Service Systems

The proposed project, future ARCF 2016 Project components along the Sacramento River east levee and the American River, and all other related levee projects, in addition to Delta Shores and other development projects, could temporarily disrupt utility service as a result of inadvertent damage to existing utility equipment, facilities, and infrastructure. However, any

utility and service system effects would be geographically isolated, short in duration, and occur on a project-by-project basis. Thus, these disruptions would not combine to form cumulative effects. Therefore, the proposed project will not result in a cumulatively considerable incremental contribution to a significant cumulative effect related to potential disruption of utility services.

4.3 Growth-Inducing Effects

Because the proposed project will not involve construction of housing, the action will not directly induce growth. Project-related construction activities will generate temporary and short-term employment, but these construction jobs are anticipated to be filled from the existing local employment pool and will not indirectly result in a population increase or induce growth by creating permanent new jobs. Furthermore, the project will not involve constructing businesses or extending roadways or other infrastructure that could indirectly induce population growth. Consequently, the proposed project will not induce growth leading to changes in land use patterns, population densities, or related impacts on environmental resources.

Levee improvements will benefit areas identified for future growth anticipated in the vicinity of the Sacramento River east levee in the City of Sacramento. Local land use decisions are within the jurisdiction of the City of Sacramento, which has adopted a general plan consistent with State law. The City of Sacramento 2035 General Plan (City of Sacramento 2015) provides an overall framework for growth and development in the City. The City of Sacramento 2013–2021 Housing Element (City of Sacramento 2013) of the City General Plan identifies vacant parcels zoned for multifamily dwelling units in the vicinity of Riverside Boulevard and 43rd Avenue, and vacant parcels zoned for single-family dwelling units are identified within the Pocket and Little Pocket areas in the vicinity of Pocket Road.

The levee improvements will increase the levee's resistance to erosion, provide better overall levee stability and reliability, and provide additional flood protection for growth anticipated in the City's General Plan. Growth throughout the project area has already been planned for as part of the City of Sacramento 2035 General Plan (City of Sacramento 2015). The proposed project will not allow additional growth to occur other than what has already been planned, nor will it change the locations where this growth is planned to occur. Consequently, implementation of the proposed project will not affect current and/or projected population growth patterns within the City of Sacramento as already evaluated and planned for in the City General Plan and, therefore, will not be growth-inducing. The proposed project will mitigate flood risks by improving levees to meet engineering standards associated with the National Flood Insurance Program; it will not alter protection for the 100-year event nor does it transfer any such risk to other areas. The proposed project will not directly or indirectly support development in the base floodplain.

4.4 Irreversible and Irretrievable Commitment of Resources

The discussion of irreversible and irretrievable commitments of resources in the ARCF GRR Final EIS/EIR adequately describes the effects of the proposed project.

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Part 2

Draft Supplemental Environmental Assessment

American River Watershed Common Features
Water Resources Development Act of 2016 California
Sacramento River East Levee Contract 4

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June 15, 2022

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
APE	Area of Potential Effects
ARB	California Air Resources Board
ARCF GRR	American River Watershed Common Features General Reevaluation Report
BACT	Best Available Control Technology
Basin Plan	Sacramento River Basin and the San Joaquin River Basin
BMPs	Best Management Practices
BSLMS	Beach/Stone Lakes Mitigation Site
BSSCP	Bentonite Slurry Spill Contingency Plan
CAA	Clean Air Act
Caltrans	California Department of Transportation
CB	cement-bentonite
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
City	City of Sacramento
CO	carbon monoxide
CO2	carbon dioxide
CO2e	carbon dioxide equivalent
County	County of Sacramento
CRHR	California Register of Historical Resources
CSUS	California State University, Sacramento
CVFMP	Central Valley Flood Management Planning
CVFPB	Central Valley Flood Protection Board
CVFPP	Central Valley Flood Protection Plan
CWA	Clean Water Act
cy	cubic yards
dB	decibels
dBA	A-weighted decibels
DEIS/DEIR	Draft EIS/EIR
Delta	Sacramento-San Joaquin Delta
DMM	deep soil mixing

DWR	California Department of Water Resources
EA/EIR	Environmental Assessment/Environmental Impact Report
EFH	Essential Fish Habitat
EIP	early implementation project
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
EM	Engineering Manual
EO	Executive Order
EPA	Environmental Protection Agency
ER	Engineering Regulation
ESA	Endangered Species Act
ESUs	evolutionarily significant units
ETL	Engineering Technical Letter
Farmland	Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
FCR	fire-cracked rock
EIS/EIR	Final EIS/EIR
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FTA	Federal Transit Administration
GEI	GEI Consultants, Inc.
GHG	Greenhouse gas
HMMAMP	Habitat Mitigation, Monitoring, and Adaptive Management Plan
HPMP	Historic Properties Management Plan
Interstate 5	
IDM	investigation-derived material
ITE	Institute of Transportation Engineers
Leq	equivalent sound level
Leq[h]	1-hour equivalent sound level
LOS	level of service
MIAD	Mormon Island Auxiliary Dam
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant
MRZ	Mineral Resource Zone
NAAQS	National Ambient Air Quality Standards
NBLL	North Beach Lake Levee
NCIC	North Central Information Center
NEMDC	Natomas East Main Drainage Canal
NEPA	National Environmental Policy Act

NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO2	nitrogen dioxide
NOX	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O&M	operations and maintenance
OHWM	ordinary high-water mark
PA	Programmatic Agreement
PCE	passenger car equivalent
PG&E	Pacific Gas and Electric Company
Phase I ESA	Phase I Environmental Site Assessment
PM	particulate matter
PM10	PM equal to or less than 10 micrometers in diameter
PM2.5	PM equal to or less than 2.5 micrometers in diameter
PPV	peak particle velocity
RECs	Recognized Environmental Conditions
Reclamation	U.S. Bureau of Reclamation
RPA	Registered Professional Archaeologist
RWQCB	Regional Water Quality Control Board
SAFCA	Sacramento Area Flood Control Agency
SB	soil-bentonite
SCB	soil-cement-bentonite
SHPO	State Historic Preservation Officer
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO2	sulfur dioxide
SPCCP	Spill Prevention Control and Countermeasures Plan
SPRR	Southern Pacific Railroad Company
SRA	shaded riverine aquatic
SRBPP	Sacramento Riverbank Protection Project
SRCSD	Sacramento Regional County Sanitation District (also known as Echowater)
SRFCP	Sacramento River Flood Control Project
SSHCP	South Sacramento Habitat Conservation Plan
SSO	Seepage, Stability, and Overtopping
SVAB	Sacramento Valley Air Basin
SWPPP	Stormwater Pollution Prevention Plan

SWRCB	State Water Resources Control Board
TACs	toxic air contaminants
UAIC	United Auburn Indian Community of the Auburn Rancheria
UCB	University of California, Berkeley
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VdB	vibration decibels
VMT	vehicle miles traveled
VOCs	volatile organic compounds
WCM	Water Control Manual
WRDA	Water Resources Development Act
WSAFCA	West Sacramento Area Flood Control Agency
WSLIP	West Sacramento Levee Improvements Program
YSAQMD	Yolo-Solano Air Quality Management District

CHAPTER 1 INTRODUCTION

1.1 Summary

The Sacramento metropolitan area is one of the most at-risk regions for flooding in the United States. The American River Watershed Common Features (ARCF) Project, originally authorized in the Water Resources Development Act (WRDA) of 1996, was conceived to provide a portfolio of flood risk reduction measures to address seepage and stability issues along the Lower American River and the Sacramento River north of its confluence with the Lower American River (forming the western border of the Natomas Basin near the City of Sacramento, California). Storms in 1997 stressed the flood risk management system and revealed significant problems, necessitating that the U.S. Army Corps of Engineers (USACE) reevaluate flood risk and as such completed the 2016 ARCF General Re-evaluation Report (ARCF GRR) which determined that seepage, stability and overtopping protection measures were needed along the Sacramento River, the east bank of the Natomas East Main Drainage Canal, and Arcade Creek. Additionally, overtopping protection measures were needed along the Magpie Creek Diversion Channel, and erosion protection measures were needed along the American River and Sacramento River. These improvements are collectively referred to as the ARCF 2016 Project and potential impacts to the human environment resulting from the Project were analyzed in the 2016 ARCF General Reevaluation Report Final Environmental Impact Statement/Environmental Impact Report (ARCF GRR FEIS/FEIR). The specific contracts associated with the ARCF 2016 Project and their relationship to the ARCF GRR FEIS/FEIR are outlined in Figure 1-1. A map of the geographical areas of coverage of the supplemental NEPA documents can be seen in Figure 1-2.

The ARCF GRR EIS/EIR analyzed the general impacts of staging areas, haul routes, borrow site, and spoils disposal, but deferred specific details until contract specific designs were complete. Since authorization USACE has identified specific staging areas, haul routes, borrow sites, and potential spoils disposal areas, as well as seepage, stability, and overtopping improvements and locations, as project designs have been refined and finalized. Therefore, this Supplemental Environmental Assessment (EA) for the Sacramento River East Levee Project tiers off the 2016 ARCF GRR EIS/EIR ensuring that resource impacts are commensurate in magnitude and scale.

Sacramento River East Levee (SREL) Contract 4 is the fourth of four contracts within the ARCF program that addresses seepage, stability, and overtopping concerns along 14 miles of the Sacramento River east levee between Sacramento and Freeport, California (Figure 1-3). Since the completion of the GRR EIS/EIR in 2016, designs have progressed detailing the specific levee improvements and environmental impacts of SREL Contract 4. Detailed analysis of SREL Contracts 1-3 was presented in three SEAs/SEIRs, dated November 2019, September 2020, and October 2021, respectively. A stability berm was constructed as a part of the Reach D Contract 1 Project in 2019. The SEA/Initial Study (IS) for Reach D Contract 1 was completed in 2018. An SEA for the associated Beach Stone Lakes Mitigation Site was completed in July 2019. Information presented in the GRR EIS/EIR and the SEAs is incorporated by reference. The ARCF Project documents are available at http://sacleveeupgrades.com/

The elements of SREL Contract 4 not detailed in the GRR EIS/EIR are analyzed in this Supplemental EA. Contract 4 extends the construction footprint described in the GRR EIS/EIR by approximately 800 feet downstream along the SREL. These design updates include: 1) 2.2 miles of shallow cutoff wall; 2) a seepage/stability berm tying into the Morrison Creek North Beach Lake Levee (NBLL); 3) existing flood wall and flashboard modification 4) utility window remediation; 5) work below the ordinary high-water mark (OHWM); 6) partial, temporary closure of Garcia Bend Park; 7) additional haul routes; and 8) six additional staging areas. These actions are henceforth referred to as the Proposed Action.

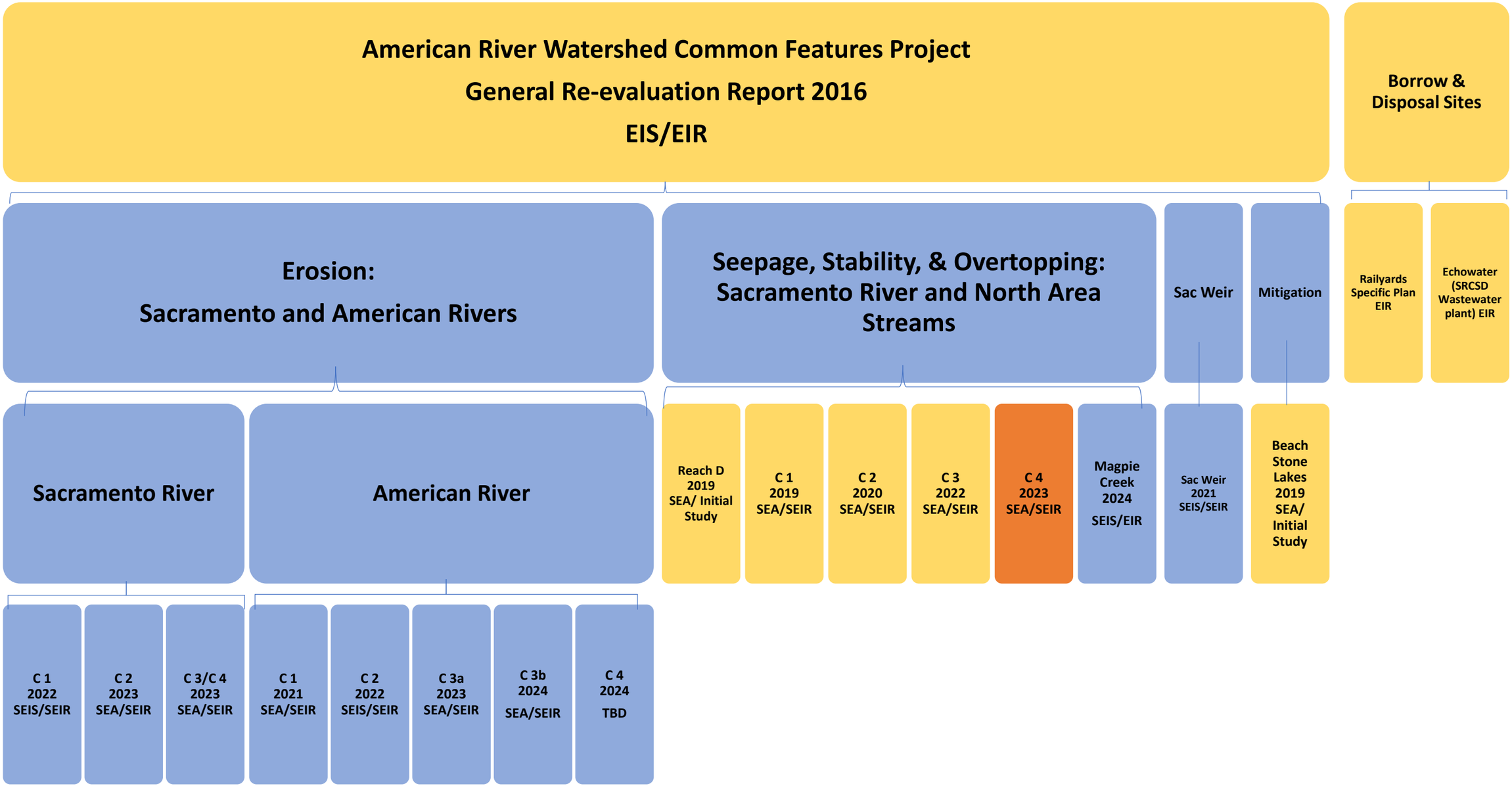

Figure 1-1 Overview of National Environmental Policy Act (NEPA)/California Environmental Quality Act (CEQA) documents prepared for the ARCF Project. This Supplemental EA is highlighted in orange. Yellow signifies completed NEPA documents that are direct predecessors to this SEA because the scope of the Proposed Action in this SEA excludes the actions analyzed in these predecessor SEAs. Blue signifies NEPA reports prepared for erosion contracts not directly related to Contract 4. ARCF documents are available at http://sacleveeupgrades.com/ .

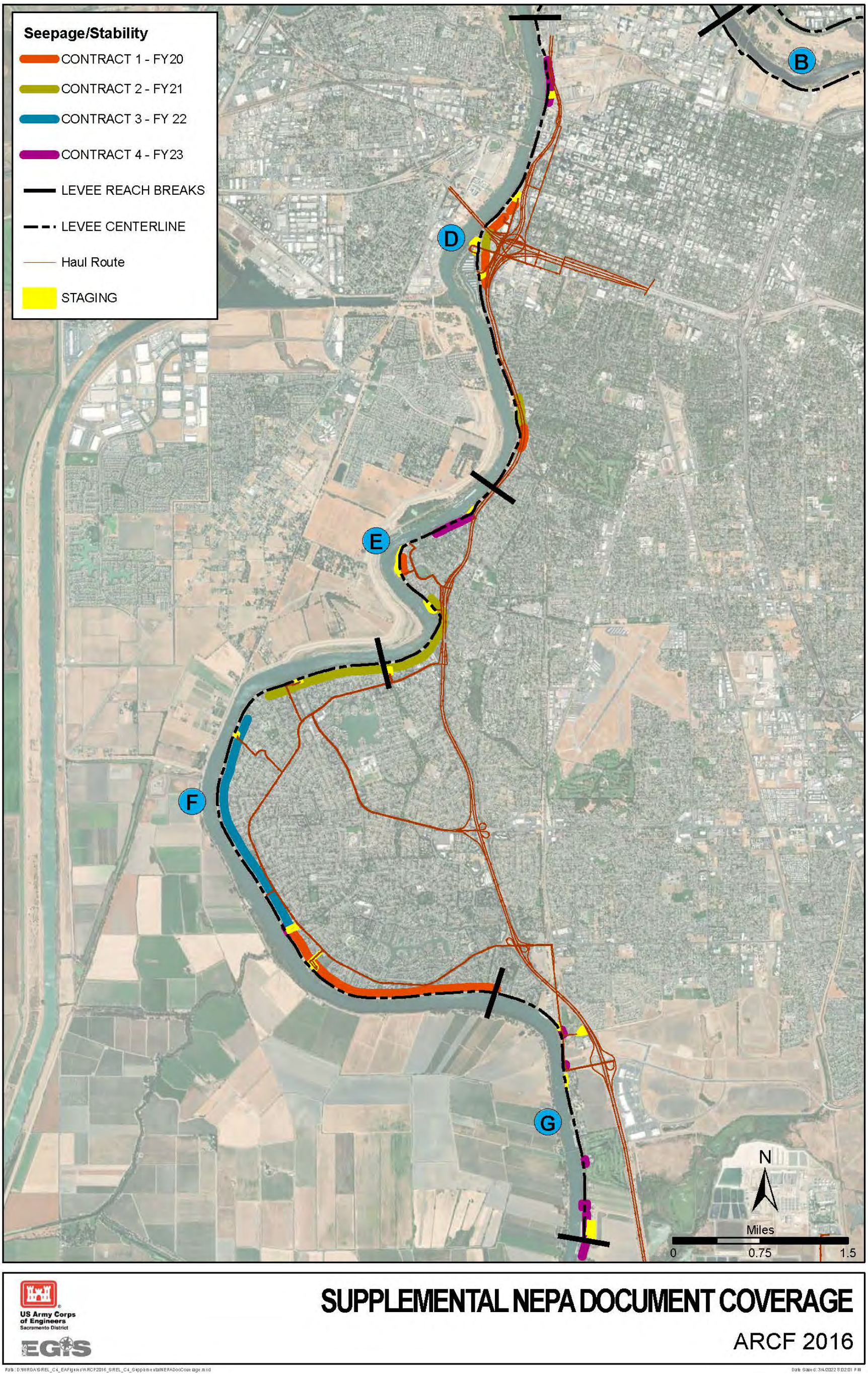

Figure 1-2. Previous supplemental NEPA documentation coverage for SREL improvement locations, haul routes, and staging areas.

1.2 Project Location

The Project Area is in the City of Sacramento (City), California along the east bank of the Sacramento River. Figure 1-3 illustrates the project vicinity. The Project Area includes the SREL from the Freeport Water Tower to 800 feet downstream of the NBLL tie-in with the SREL; two utility window remediation locations between Consumnes River Boulevard and Freeport, CA; Garcia Bend Park; two additional haul routes on Jibboom Street and Cosumnes River Boulevard; and six additional staging areas located at:

- Vacant lot at Jibboom Street and I Street;
- South Parking lot at Westin Hotel;
- Lot adjacent to Freeport Boulevard, across from Bill Conlin Sports Complex;
- Vacant lot south of intersection of Freeport Boulevard and Cosumnes River Boulevard;
- Highway shoulder on the east bank, Freeport Bridge; and the
- North Beach Lake Levee at River Road.

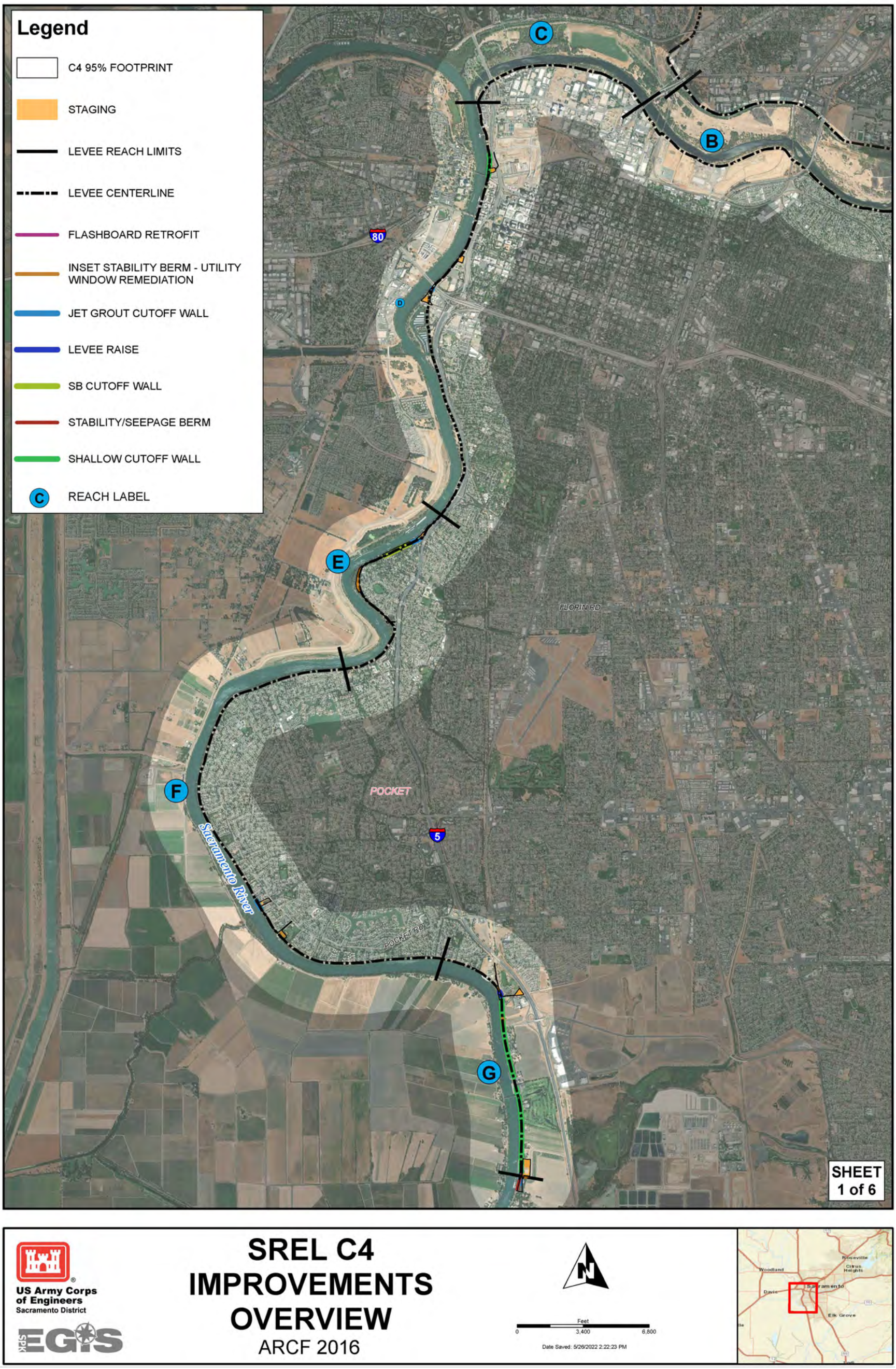

Figure 1-3 Project Vicinity and Overview of Proposed Improvements

1.3 Authority

SREL Contract 4 is part of a portfolio of measures comprising the ARCF Project designed to help alleviate flood risk in the Sacramento Region. The ARCF Project was authorized Section 101(a)(1)(A) of the Water Resources Development Act (WRDA) of 1996 (Public Law 104-303), as amended by Section 366 of WRDA 1999 (Public Law 106-53), Section 129 of the Energy and Water Development Appropriations Act, 2004 (Public Law 108-137), and Section 130 of the Energy and Water Development and Related Agencies Appropriations Act, 2008 (Division C of Public Law 110-161); by Section 7002(2) of the Water Resources Reform and Development Act of 2014 (Public Law 113-121), and by WRDA 2016 (Public Law 114-322), also known as the Water Infrastructure Improvements for the Nations Act (WIIN Act). In July 2018, Congress granted USACE construction funding to complete urgent flood control projects under the Bipartisan Budget Act of 2018 (Public Law 115-123).

1.4 Background and Need for Action

The pre-construction engineering and design process has refined the initial designs described in the 2016 ARCF EIS/EIR. Additional geotechnical and utility investigations have highlighted the need for a seepage/stability berm and shallow cutoff wall in addition to the originally-planned levee raise to properly address the seepage, stability, and overtopping concerns defined in the 2016 ARCF EIS/EIR. However, the residential neighborhoods adjacent to the SREL offer limited space to stage levee improvement construction activities and limited levee access points for construction equipment. Cutoff wall material produced in batch plants located at staging areas can only be pumped a short distance, limiting staging area options and necessitating the use of vacant lots in residential areas.

1.5 Project Purpose

The purpose of the Proposed Action is to reduce the flood risk associated with levee failure or overtopping along the SREL. The Sacramento metropolitan area is one of the most at-risk areas for flooding in the United States. High water flows in the Sacramento River would stress the network of levees protecting central and southern Sacramento to the point that levees could fail. The consequences of such a levee failure would be severe, with some urban areas subject to floodwaters up to 20 feet deep.

1.6 Project Need

SREL Contract 4 is a part of the larger ARCF 2016 project that specifically reduces the risk of levee failure related to through-seepage and under-seepage, levee stability, and overtopping. Through-seepage and under-seepage of water in the levee increase instability and the likelihood of levee failure. Constructing cutoff walls would reduce these risks and strengthen the levee in the Project Area. Levee geometry also needs to be improved. Overly steep levee slopes, particularly in the case of a levee constructed with unsuitable materials over a porous foundation, significantly increase the risk of instability. The height of the SREL also needs to be increased in one area to meet the hydraulic design criteria for the project.

As it specifically relates to the Proposed Action, staging areas near the Contract 4 worksite are needed for storing equipment, materials, and to provide a place for the contractor's temporary offices. Sump pipe removals are needed to be able to excavate and install the slurry cutoff walls. Sump pipes would be replaced during construction with new pipes. Some important regional roads, such as State Route 160, would need temporarily lane closures with traffic control to construct levee improvements.

1.7 Purpose of the Supplemental Environmental Assessment

The Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (NEPA) (40 CFR 1500-1508) and USACE's Procedures for Implementing NEPA (ER 200-2-2) specify that supplemental NEPA analyses are required if: (i) [USACE] makes substantial changes in the Proposed Action that are relevant to environmental concerns; or (ii) there are significant new circumstances or information relevant to environmental concerns and bearing on the Proposed Action or its impacts.

The ARCF GRR EIS/EIR analyzed the general design and impacts of levee improvements along the SREL, including impacts from staging areas, haul routes, borrow sites, and disposal sites. The completion of the SREL Contract 4 final engineering design has triggered a need to analyze updated SREL Project features for potential environmental effects. The new elements of SREL Contract 4 not detailed in the GRR EIS/EIR are analyzed in this Supplemental EA as the Proposed Action (Section 2.3).

The authorized project included construction of 9 miles of slurry cutoff wall to address seepage and stability concerns, 2.5 miles of geotextile stabilized slopes and 2 miles of slope flattening to address stability concerns, and less than 1 mile of levee raise to address overtopping concerns. Additional geotechnical testing has led to project modifications that are within the authorized scope and cost. The top of levee was found to be composed of permeable railroad ballast material that would provide adequate protection from seepage concerns. This includes two miles of seepage cutoff wall work to address infiltration concerns from the top of the levee. At the end of Reach G near NBLL (Figure 2-7) additional geotechnical testing and data review recommended levee protection be extended downstream of the intersection between SREL and NBLL. This seepage/stability berm extends the construction footprint described in the GRR EIS/EIR by 800 feet downstream along the SREL (Figure 2-7).

This Supplemental SEA describes the environmental conditions of the portions of SREL Contract 4 that are in addition to the project work described as Alternative 2 in the ARCF 2016 GRR EIS/EIR and in the SEAs prepared for Reach D Contract 1, Beach Stone Lake Mitigation Site, SREL Contract 1, SREL Contract 2, and SREL Contract 3. This SEA evaluates the anticipated environmental effects of the Proposed Action and the No Action Alternative and identifies measures to avoid or reduce any adverse environmental effects of the Proposed Action to a less-than-significant level, where practicable. This SEA has been prepared in accordance with the requirements of NEPA. This SEA fully discloses the reasonably foreseeable environmental effects of the Proposed Action to the public.

A 45-day public review will take place from June 15, 2022, until August 1, 2022 alongside the State of California, California Environmental Quality Act (CEQA) DEIR prepared by the Central Valley Flood Protection Board (CVFPB) and Sacramento Area Flood Control Agency (SAFCA). Public comments and responses to all comments received will be incorporated as part of the Final SEA in the appendix entitled 'Public Comments and Responses'. A virtual public meeting held jointly with the project partners, CVFPB and SAFCA, will be held during the comment period on the evening of July 13, 2022. The meeting details will be announced on USACE's website at www.sacleveeupgrades.com.

Written comments regarding the Draft SEA must be directed to the name and address below via postal mail or email by no later than 5:00 p.m. on August 1, 2022:

Public Affairs Officer
USACE Sacramento District
1325 J Street -- Room 1513
Sacramento, CA 95814
ARCF_SRELC4@usace.army.mil

1.8 Related Documents

The Proposed Action is a component of the larger ARCF effort in the Sacramento region. USACE and the CVFPB jointly published the ARCF GRR Draft EIS/EIR in March 2015, in accordance with the requirements of NEPA and CEQA (SCH No. 2005072046). The Draft EIS/EIR analyzed the impacts of the recommended flood risk reduction measures within the delineated study area of the ARCF GRR. The Final EIS/EIR was issued in May 2016. The Record of Decision for the ARCF GRR was signed by the Assistant Secretary of the Army (Civil Works) on August 29, 2016. The ARCF GRR was authorized by Congress in December 2016. This EA supplements the ARCF GRR EIS/EIR. ARCF documents are available at http://sacleveeupgrades.com/ .

Documents which relate to the environmental review contained in this SEA include:

- December 2015 (revised May 2016), American River Watershed Common Features General Reevaluation Report, Final Environmental Impact Statement/Environmental Impact Report
- August 2016, Record of Decision on ARCF GRR 2015 FEIS/EIR signed by Assistant Secretary of the Army (Civil Works), Jo-Ellen Darcy
- February 2019, Final Supplemental Environmental Assessment/Initial Study, ARCF Seepage Stability Berm, Reach D Contract 1
- June 2019, Final Supplemental Environmental Assessment/Initial Study, ARCF 2016 Project Beach Stone Lakes Mitigation Site.

- November 2019, Supplemental Environmental Assessment/Environmental Impact Report American River Watershed Common Features, Water Resources Development Act of 2016 Project, Sacramento River East Levee Contract 1.
- October 2020, Supplemental Environmental Assessment/Environmental Impact Report American River Watershed Common Features, Water Resources Development Act of 2016 Project, Sacramento River East Levee Contract 2.
- October 2021, Supplemental Environmental Impact Report/Supplemental Environmental Assessment American River Watershed Common Features, Water Resources Development Act of 2016 Project, Sacramento River East Levee Contract 3.

1.9 Decision Needed

The District Engineer, Commander of the Sacramento District, must decide whether the Proposed Action qualifies for a Finding of No Significant Impact (FONSI) under NEPA guidelines, or whether a Supplemental EIS must be prepared.

CHAPTER 2 ALTERNATIVES

2.1 Alternatives Considered and Not Carried Forward

During selection of the proposed final improvements for SREL Contract 4, two alternative designs were considered. A cutoff wall was proposed to improve the levee segment tying into NBLL. This area was not analyzed in the GRR EIS/EIR and represents the 800-foot extension of the ARCF project footprint. However, further geotechnical analysis showed that a seepage/stability berm in this location would meet engineering criteria without causing a significant closure to State Route 160. Thus, a seepage/stability berm was chosen in combination with a jet grout cutoff wall after considering cost-effectiveness, disturbance area, traffic impacts, impact to local residents and businesses, and right-of-way availability. Secondly, levee geometry improvements were discussed in lieu of running the shallow cutoff wall south from the Freeport Water Tower to Cliff's Marina. The shallow cutoff wall became the selected alternative because it would cause the fewest impacts to the existing railroad tracks, which is a historic property. The shallow cutoff wall is also the lowest cost alternative.

2.2 No Action Alternative

The No Action Alternative is 'Alternative 2 – Improve Levees and Widen the Sacramento Weir and Bypass' –from the 2016 GRR EIS/EIR[1] (Figure 2-1), as well as authorized

[1] At the conclusion of construction, the levee prism would be rebuilt to its design height and slope, using appropriately conditioned soils. The reconstructed levee height and slopes could differ slightly from the preconstruction levee height along some segments of the levee that may have settled, or experienced minor changes since construction, but the visual appearance of the levee after completion of improvements would remain similar to its existing profile.

project features from SREL Contract 1, 2 and 3. This includes (1) installation of cutoff walls to address seepage concerns; (2) slope reshaping to address stability concerns; and (3) less than one mile of levee raise. It also includes bank protection/launchable rock trench measures to address erosion, which are addressed under separate erosion contracts. The description of these measures can be found in Section 2.3.2 of the GRR EIS/EIR. Table 2-1 provides a summary of the proposed improvements covered under the No Action Alternative and the Proposed Action for SREL Contract 4.

The proposed levee improvement areas (Figure 1-3) are in Reaches D, E, F, and G as defined in the ARCF GRR. Previously analyzed haul routes are described in Section 2.3.3 and previously analyzed staging areas in Section 2.3.4 in the SREL Contract 1 and 2 SEA/EIRs and in Section 2.2 of the SREL Contract 3 SEIR/SEA. Previously analyzed haul routes in the Project Area may be used again for SREL Contract 4. Types of cutoff wall include conventional open trench soil-bentonite, covered in Section 2.3.2 of the 2016 GRR EIS/EIR, and jet grout methods, covered in Section 2.3.1 of the SREL Contract 2 SEA/EIR.

All avoidance, minimization, and mitigation measures from the ARCF GRR EIS/EIR and SREL Contract 1, 2, and 3 Supplemental EA/EIRs are still applicable to the No Action Alternative. Furthermore, the additional mitigation measures adopted in SREL Contract 1, 2, and 3 Supplemental EA/EIRs are incorporated by reference to this Supplemental EA and apply to all activities in SREL Contract 4.

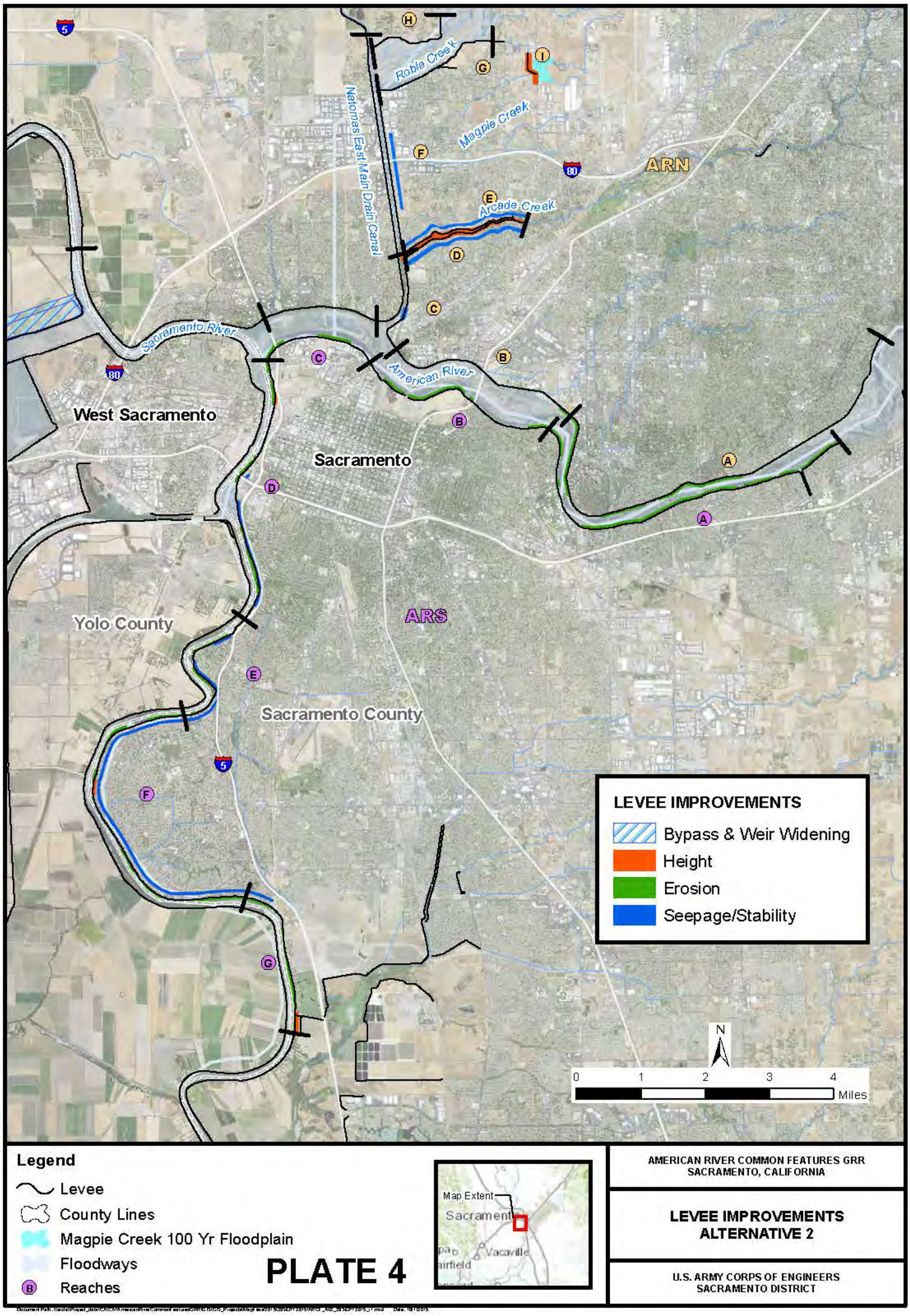

Figure 2-1 The No Action Alternative is 'Alternative 2 – Improve Levees and Widen the Sacramento Weir and Bypass' – from the 2016 GRR EIS/EIR.

Table 2-1 Levee Improvements Summary. The No Action is in regular text and the additional elements of the Proposed Action are in bold text.

Type of Improvement	ARCF Reach ID	Begin Station	End Station	Length (feet)
Levee Raise with Shallow Cutoff Wall	**D**	**1027+50**	**1050+00**	**1150**
Jet Grout Cutoff Wall	D	1150+00	1150+50	50
Jet Grout Cutoff Wall	E	1244+00	1250+00	630
Soil-bentonite Cutoff Wall	E	1250+70	1265+10	1100
Jet Grout Cutoff Wall	F	1530+30	1534+15	400
Levee Raise	G	1675+00	1677+00	200
Shallow Cutoff Wall	**G**	**1677+00**	**1720+00**	**4260**
Utility Window Remediation – Inset Stability Berm	**G**	**1689+00**	**1690+00**	**100**
Shallow Cutoff Wall	**G**	**1730+50**	**1770+00**	**3950**
Flashboard Retrofit	**G**	**1770+20**	**1772+00**	**200**
Jet Grout Cutoff Wall	N/A	1770+20	1774+00	380
Seepage/Stability Berm	**N/A[2]**	**1773+00**	**1779+00**	**520**

2.3 Proposed Action

The Proposed Action includes two miles of shallow cutoff walls; a seepage/stability berm tying into North Beach Lake Levee (NBLL); utility window remediation (shown in Figure 2-7); work below the OHWM; the temporary, partial closure of Garcia Bend Park (Figure 2-6); additional haul routes; and six additional staging areas (Figure 2-3 through Figure 2-7). ARCF GRR EIS/EIR could not fully analyze these activities because design of the SREL Contract 4 element of the project had not begun.

[2] This work area extends approximately 600 feet beyond the ARCF GRR's limits. Due to this it is referred to as 'Reach NBLL'.

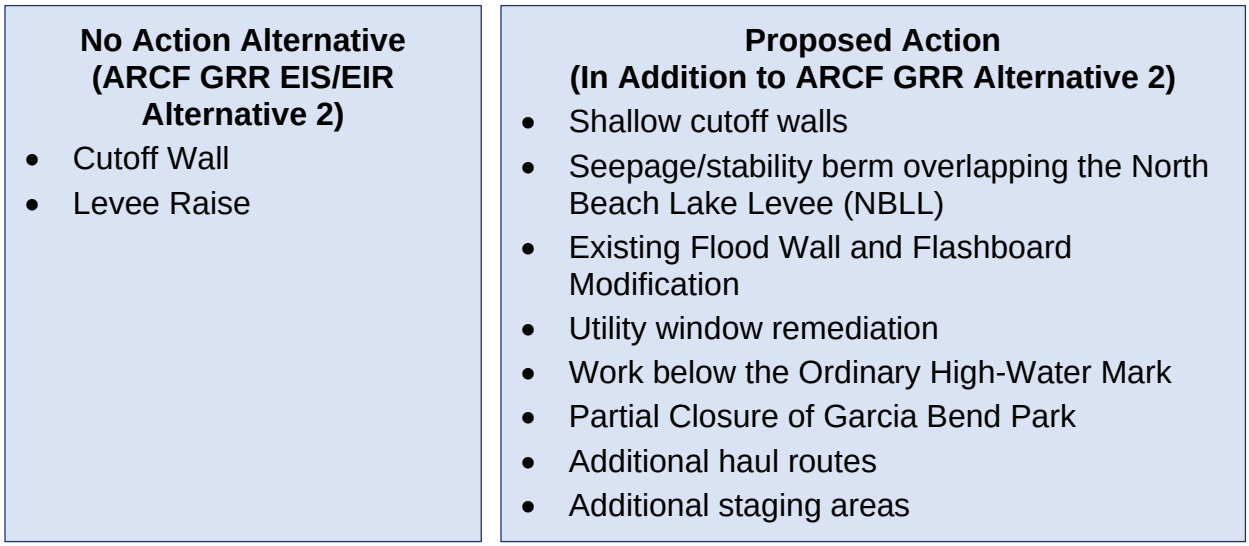

Figure 2-2 Comparison of the No Action Alternative and the Proposed Action
Under the No Action Alternative, the SREL Contract 4 levee improvements would be constructed only as described in the ARCF GRR EIS/EIR.

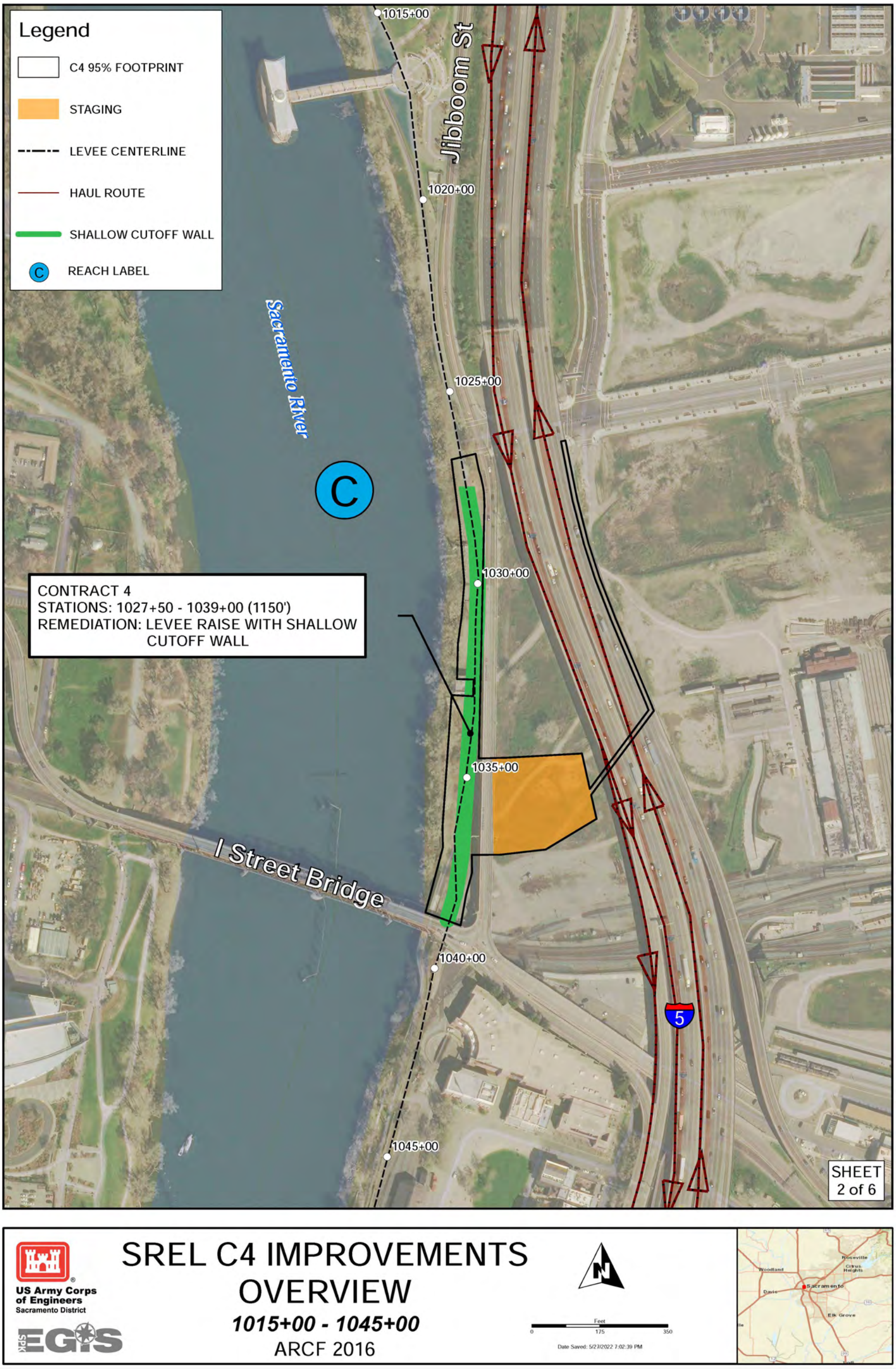

Figure 2-3 Proposed Improvements (Map 1 of 5)

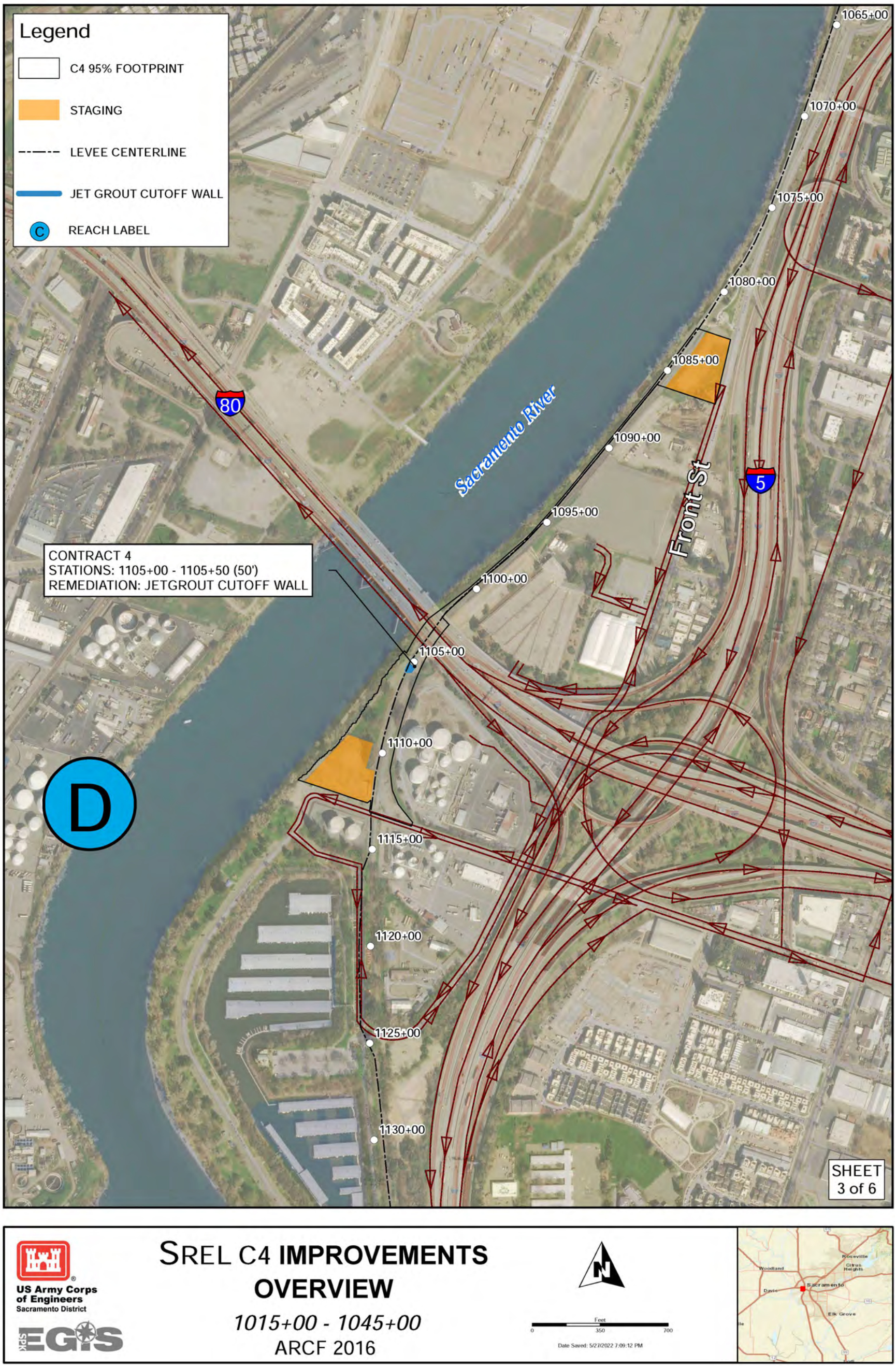

Figure 2-4 Proposed Improvements (Map 2 of 5)

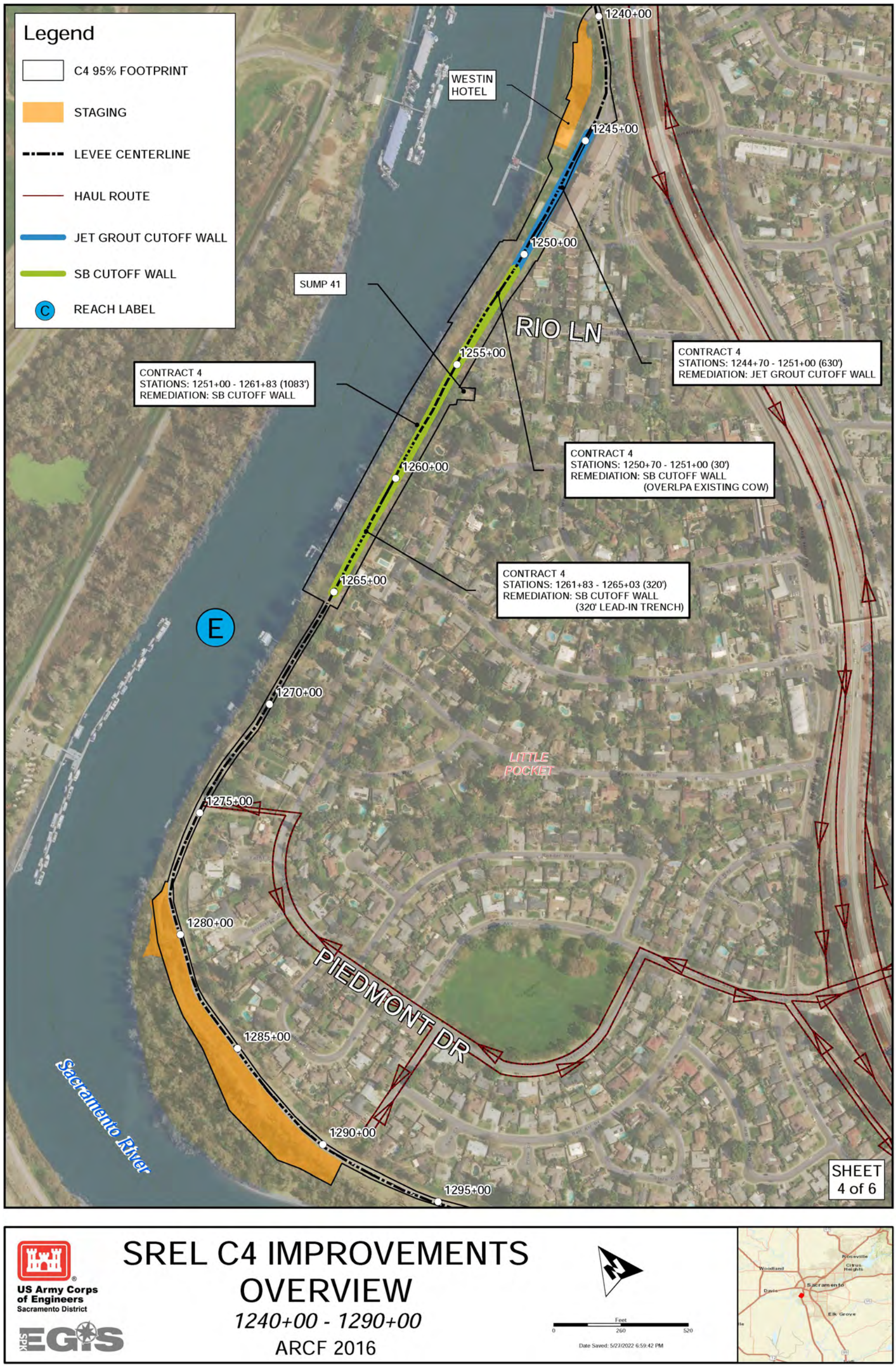

Figure 2-5 Proposed Improvements (Map 3 of 5)

Figure 2-6 Proposed Improvements (Map 4 of 5)

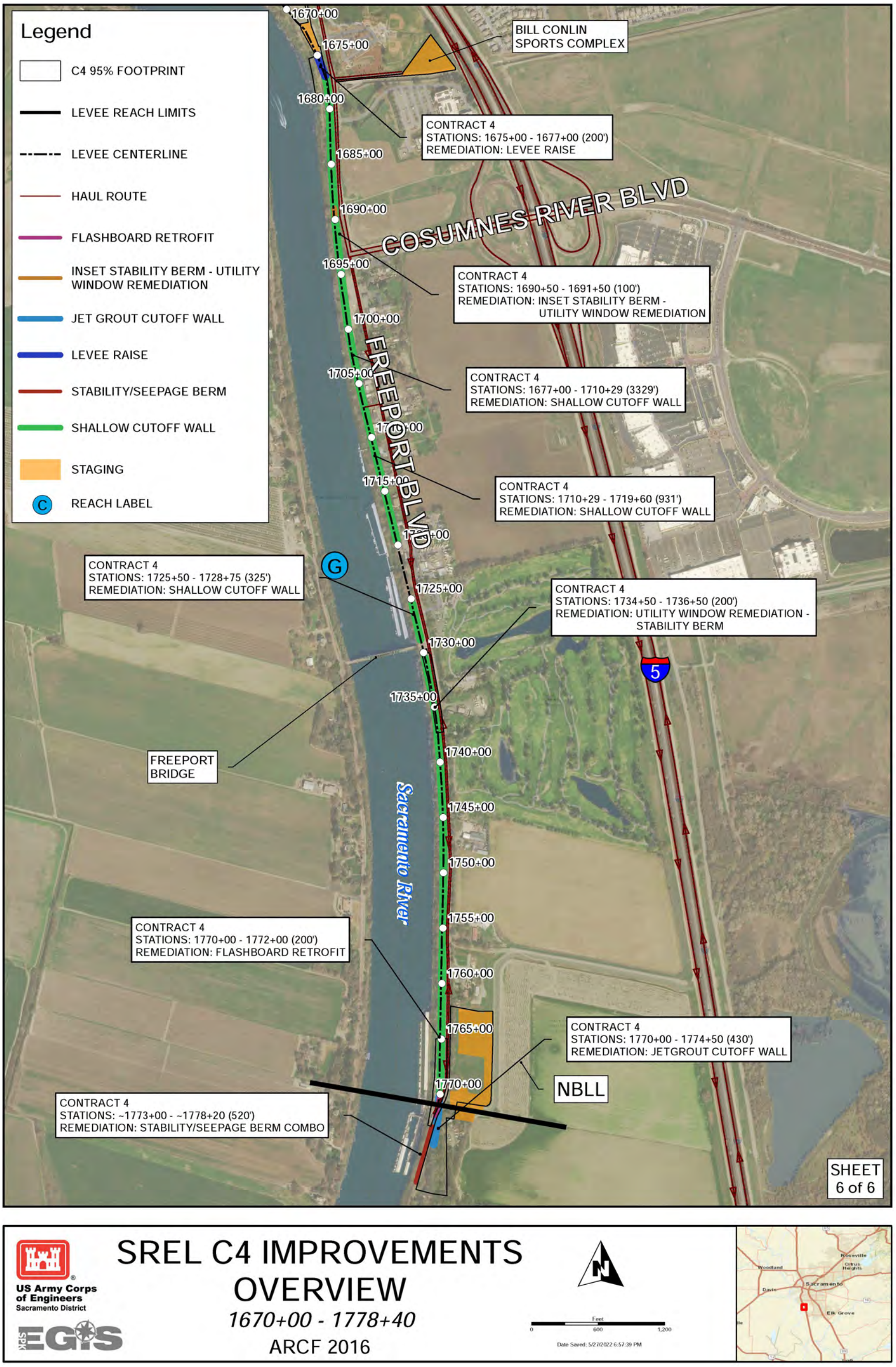

Figure 2-7 Proposed Improvements (Map 5 of 5).

Shallow Cutoff Walls

Shallow reinforced concrete cutoff walls are proposed to address seepage and freeboard concerns. This includes increasing the height of the levee approximately 2.6 feet in Reach C (see Figure 2-8). In Reach G, south of the Freeport Water Tower, the top two to three feet of the levee crown is composed of railroad ballast and gravel which have too high a permeability to meet seepage criteria requirements. The proposed cutoff wall here, between approximate stations 1678+00 and 1766+00, would address this levee crown material deficiency. To construct the cutoff wall any bike paths would be temporarily closed, the work area would be grubbed and stripped, a work platform would be created, and a trench up to ten feet deep would be prepared. A reinforced concrete wall is then constructed in this trench and overlain with levee embankment fill. Where bike trails are present the finished ground surface will match the surrounding grade to prevent introducing a tripping hazard to bike path users.

Figure 2-8. A view of the proposed shallow cutoff wall location in Reach A. The bike path would be raised approximately two feet.

Figure 2-9. Existing flood wall at Cliff's Marina on the SREL.

Seepage/stability berm overlapping with North Beach Lake Levee

A 600-foot-long seepage/stability berm would be constructed in front of and downstream of Cliff's Marina, overlapping with the new jet grout cutoff wall and the southern terminus of the NBLL. This work extends the footprint of the GRR EIS/EIR by 800 feet downstream of the NBLL along the SREL. The proposed site of the seepage/stability berm is in a rural area one mile south the community of Freeport, CA. This reach of the Sacramento River has residences, businesses, farms, and vineyards on the landside and a narrow riparian corridor on the waterside. The habitat consists of open, oak woodland and a fallow agricultural field with roadside oak woodland and a dense exotic shrub understory.

Stability berms and blankets address shallow foundation and/or levee embankment through- seepage. A stability berm or blanket is a prism of compacted soil that acts as a buttress to increase stability factors of safety and, in some cases, includes an inclined filter/drain zone placed on the landside slope of a levee to capture seepage that would otherwise exit on and potentially erode the unprotected levee slope. Typical stability berms are 10–15 feet high (depending on the height of the levee) and 10–25 feet wide and are considered in limited areas that do not have substantial right-of-way issues. Alternatively, the stability berm can be constructed within the existing levee in areas with constrained access along the landside levee toe. The inset stability berm would be constructed by excavating the landside

levee slope, constructing the filter/drain zone, then rebuilding the levee slope to approximately the original grade with compacted fill. Stability berms and blankets would be constructed using engineered fill, with the fill placed in horizontal lifts consistent with USACE and CVFPB requirements for lift thickness and compaction densities. Each lift would be moisture-conditioned and compacted to the specified density using a suitable compactor, such as a tamping-foot or smooth-drum roller.

Existing Flood Wall and Flashboard Modification

The existing approximately 450-foot-long flood wall (Figure 2-9) and flashboard that runs in front of Cliff's Marina, starting at station 1766+00, would be raised to provide additional height to meet the hydraulic design criteria for the project. The existing flood wall consists of a T-shaped cross section approximately 4.5 feet wide and 5 feet tall. There is an existing toe drain parallel to the landside edge of the existing flood wall that discharges toward the landside toe into a small riprap lined area. The existing flashboard system is used only during flood events. It runs through the Cliff's Marina parking lot. The flashboard system consists of steel sleeves embedded in the ground with 4-inch by 6-inch boards placed between the posts to complete the wall.

Hydraulic design criteria indicates that the wall may need to be raised by approximately 0.8 feet by adding reinforced concrete. The existing toe drain needs to be improved including possible new steel pipes to replace the existing PVC and burying the drain outlets on the landside slope for better long-term performance. To meet the required height for the updated hydraulic design criteria additional 4-inch by 6-inch boards would be added to raise the height of the wall.

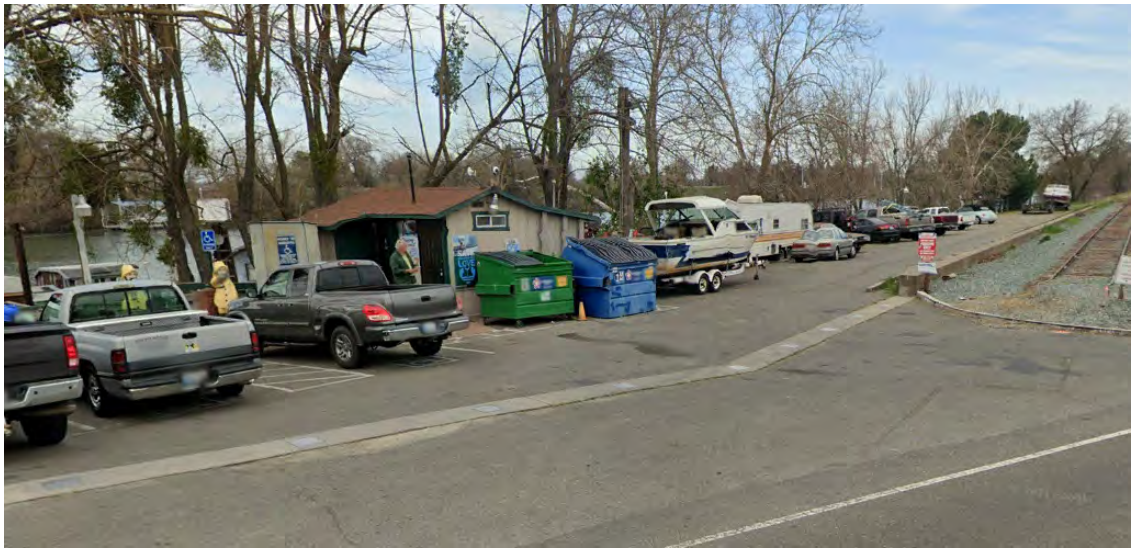

Figure 2-10. Existing flashboard at Cliff's Marina on the SREL. The concrete foundation and steel sleeves can be seen running through the parking lot. Steel posts are placed in the sleeves and boards are added to function as a temporary flood wall during flood events. Source: Google Earth.

Utility Window Remediation

Previous levee improvement work in the Project Area left windows or gaps in the cutoff wall to allow for utilities to pass through. SREL Contract 4 would remedy one utility window by insetting seepage/stability berms within the 'window'. The drained berm would capture any seepage which may flow along the edges of the utility pipes and safely discharge it on the landside of the levee.

Work Below the Ordinary High-Water Mark (OHWM)

Temporary impacts below the OHWM are expected in some areas. An updated OHWM determination for the Sacramento River within the 13-mile Sacramento River study area of the GRR was signed on January 4, 2022. The following OHWM elevations (NAVD88) were determined at these transects: 18 feet at river mile 47.4, 21 feet at river mile 51.8, 22 feet at river mile 54.5, and 24 feet at river mile 57.1. This new determination requires that staging areas and project components that were previously considered to be above the OHWM be reconsidered.

In Reach E, limited space on the landside of the levee necessitates side cast material would be temporarily stored below the OHWM. In Reach G, it is anticipated that the Contractor would use the existing bench at the top of the riverbank to facilitate equipment access for earthwork activities. In addition, the staging area at Chicory Bend in the Little Pocket (Figure 2-5) is partially below the OHWM. There would be no permanent placement of fill or excavation.

Partial, Temporary Closure of Garcia Bend Park

Due to limited space for staging areas in the vicinity of the SREL contracts some city parks and boat ramps may be needed for storing and moving contractor's construction equipment and supplies and would be closed or subject to limited access for multiple years and left in an unrestored condition between contracts. SREL Contract 4 includes the temporary use of Garcia Bend Park's boat ramp and boat ramp parking lot during the construction period. This includes exclusive use by the Contractor of the driveway between Pocket Road and the boat ramp parking lot for vehicle and equipment access to staging areas, use of all or a portion of the boat ramp parking lot as a staging area, and use of the levee access ramps for Contractor access to the work area. The boat ramp would be closed for the construction season. USACE would coordinate with the City of Sacramento Parks and Recreation Department to ensure that construction is staged in a way that minimizes adverse effects to communities to the greatest extent practicable. The soccer field and tennis courts would not be impacted CVFPB and USACE would return all City parks to pre-project conditions upon completion of project construction.

Additional Haul Routes

Figure 2-3 through Figure 2-7 illustrate potential haul routes. Not all the routes shown would necessarily be used; final routes would be determined in coordination with the City, based on project construction schedules. Jibboom Street, Cosumnes River Boulevard, and Freeport Boulevard/SR 160 are potential haul routes that were not previously analyzed for SREL Contracts 1-3.

Additional Staging Areas

Six potential new staging areas (shown in Figure 2-3 through Figure 2-7) are available to the contractor in addition to those previously analyzed for SREL Contracts 1-3. These include:

- Vacant lot at Jibboom Street and I Street;
- South Parking lot at Westin Hotel;
- Lot adjacent to Freeport Boulevard, across from Bill Conlin Sports Complex;
- Vacant lot south of intersection of Freeport Boulevard and Cosumnes River Boulevard;
- Highway shoulder on the east bank, Freeport Bridge; and the
- Abandoned agricultural field adjacent to the North Beach Lake Levee at River Road.

CHAPTER 3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Introduction

The proposed alternative in the ARCF GRR EIS/EIR, Alternative 2 – Improve Levees and Widen the Sacramento Weir and Bypass along with the Proposed Action described in the SREL Contracts 1-3 SEA/EIRs is the No Action Alternative for purposes of this SEA. The environmental effects of the No Action Alternative are fully discussed in the ARCF GRR EIS/EIR and SEA/EIRs. The potentially affected environment for this Proposed Action, referred to as the 'Project Area', includes approximately 800 feet of levee tying into and south of NBLL, three utility window remediation locations, Garcia Bend Park, two additional haul routes on Jibboom Street and Cosumnes River Boulevard, and six additional staging areas.

3.1.1 Avoidance, Minimization, and Mitigation Measures

All avoidance, minimization, and mitigation measures from the ARCF GRR EIS/EIR are applicable to both the No Action Alternative and Proposed Action of this Supplemental EA. Furthermore, the additional mitigation measures adopted in SREL Contracts 1-3 Supplemental EAs/SEIRs are incorporated by reference into the actions analyzed in this Supplemental EA and apply to all activities in SREL Contract 4. These documents can be viewed at http://sacleveeupgrades.com/.

3.1.2 Regulatory Setting

The Affected Environment and Environmental Consequences Sections of the ARCF GRR EIS/EIR and SREL Contracts 1-3 SEA/EIRs sufficiently characterize the regulatory setting for the Proposed Action.

3.1.3 Summary of Affected Environment and Environmental Consequences

Table 3-1 summarizes the environmental consequences of both the Proposed Action and the No Action Alternative. This information is discussed in more detail later on in this Chapter.

Table 3-1. Summary of Environmental Consequences of the No Action Alternative and the Proposed Action

Resource	No Action Alternative (ARCF GRR EIS/EIR)	Proposed Action	Numerical Impact of Proposed Action (if any)	Mitigation (ARCF GRR EIS/EIR)	Mitigation (Proposed Action)
Visual Resources	Significant	Less than Significant	-	To minimize visual impacts trees would be left in place on the waterside lower third of the levee. On the landside of the levee visual resources cannot be mitigated. Disturbed areas would be reseeded with native grasses.	Lighting will be shielded or directed. Additional mitigation measures listed in Section 3.15.6 of ARCF GRR EIS/EIR and in the SREL Contract 1 & 2 SEA/EIRs.
Air Quality	Less than Significant with Mitigation	Less than Significant with Mitigation	-	Implementation of SMAQMD's Basic Construction Emission Control Practices and other BMPs, as listed in Section 3.11.6 in the GRR EIS/EIR.	Implement dust control measures during project construction. Develop and Implement a Plan for Enhanced On-Site Exhaust Controls. Additional mitigation measures listed in Section 3.11.6 of ARCF GRR EIS/EIR and in the SREL Contract 1 & 2 SEA/EIRs.
Vegetation and Wildlife	Significant Short-term / Less than Significant with Mitigation Long-Term	Less than Significant with Mitigation	2.75 acres of riparian woodland and 5 elderberry shrubs.	Beach Stone Lakes Mitigation Site	Conservation measures in the USFWS BO will be followed. Surveys for migratory birds will be done if vegetation is removed during nesting season. Environmental awareness training will occur if vegetation is removed during nesting season. Additional mitigation measures listed in Section 3.6.6 of the ARCF GRR EIS/EIR and in the SREL Contract 1 & 2 SEA/EIRs.

Fisheries	Less than Significant with Mitigation	Less than Significant with Mitigation	-	Best Management Practices (BMPs) would be implemented to address turbidity and are discussed in Section 3.5.6.	Conditions of the NMFS BO will be followed. Additional mitigation measures listed in Section 3.7.6 of the ARCF GRR EIS/EIR and SREL Contract 2 SEA/SEIR.
Special Status Species	Less than Significant with Mitigation	Less than Significant with Mitigation	VELB: Up to 5 shrubs Cuckoo: 2.75 acres of riparian habitat	Mitigation per the terms of the Biological Opinions. Replace habitat for species either on-site or in close proximity to lost habitat. Implement BMPs discussed in Section 3.5.6 and conservation measures in the BOs during construction to prevent mortality.	Compensatory mitigation at the Beach Stone Lakes Mitigation Site. Follow recommendations in the 2017 USFWS Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle. Additional mitigation measures listed in Section 3.8.6 of the ARCF GRR EIS/EIR and in the SREL Contract 1-3 SEA/EIRs.
Cultural Resources	Significant	Less than Significant with Mitigation	-	Preparation and implementation of a Programmatic Agreement, Historic Properties Management Plan, and Historic Properties Treatment Plans.	Resolve Adverse Effects through a Programmatic Agreement and Historic Properties Treatment Plan. Prepare an Archaeological Discovery Plan and an Archaeological Monitoring Plan. Conduct Cultural Resources Awareness Training. Implement Procedures for Discovery of Cultural Material.

Transportation and Circulation	Significant	No New Significant Impact (Impact is disclosed in the GRR EIS/EIR)	-	Preparation of a Traffic Control and Road Management Plan and other BMPs listed in Section 3.10.6.	Include signs along affected pedestrian and bike pathways announcing scheduled closures. Place signal personnel at intersections of construction vehicle pathways and active bike and pedestrian pathways. Assess damages to roadways and damages to railroad crossing. Additional mitigation measures listed in Section 3.10.6 of the ARCF GRR EIS/EIR and in the SREL Contract 1 & 2 SEA/EIRs.
Climate Change	Less than Significant with Mitigation	Less than Significant with Mitigation	-	Implementation of SMAQMD's Basic Construction Emission Control Practices and other BMPs, as listed in Section 3.12.6.	Mitigation measures listed in Section 3.12.6 of the ARCF GRR EIS/EIR and in the SREL Contract 1 & 2 SEA/EIRs.
Recreation	Significant	No New Significant Impact (Impact disclosed in the GRR EIS/EIR)	Garcia Bend Park Boat Ramp and Boat Parking Lot, Sacramento River Bike Path, Westin Hotel Parking Lot, Cliff's Marina Parking Lot	Notification and coordination with recreation users and bike groups. Flaggers, signage, detours, and fencing to notify and control recreation access and traffic around construction sites.	Closure of paved trails would be noticed 14 days in advance. Provide marked detours for all bike trails and on-street bicycle routes that would be temporarily closed during construction. Provide traffic control in areas where recreational traffic would intersect with construction vehicles. Coordinate with the City of Sacramento and Sacramento County to restore access and repair any construction-related damage to recreational facilities to pre-project conditions. Additional mitigation measures listed in Section 3.14.6 of the ARCF GRR EIS/EIR and the SREL Contract 1 & 2 SEA/EIRs.

Hydrology and Water Quality	Less than Significant with Mitigation	Less than Significant with Mitigation	-	Preparation of a Stormwater Pollution Protection Plan, Spill Prevention Control and Countermeasures Plan, and a Bentonite Slurry Spill Contingency Plan. Implementation of BMPs listed in Section 3.5.6.	Follow conditions listed in the ARCF Programmatic CWA Section 401 Water Quality Certification and Order. Additional mitigation measures listed in Sections 3.4.6 and 3.5.6 of the ARCF GRR EIS/EIR and the SREL Contract 1 & 2 SEA/EIRs.
Noise and Vibration	Less than Significant with Mitigation	Less than Significant with Mitigation	-	Coordination with local residents, compliance with noise ordinances, and other BMPs, as listed in Section 3.13.6.	Voluntary pre-construction surveys for residents. Employ vibration-reducing construction practices so that vibration from construction would comply with applicable noise-level rules and regulations. Additional mitigation measures listed in Section 3.13.6 of the ARCF GRR EIS/EIR and in the SREL Contract 3 SEA.
Public Utilities and Service Systems	Less than Significant	Less than Significant with Mitigation	-	Notification of potential interruptions would be provided to the appropriate agencies and to landowners.	Coordinate with applicable utility and service providers to implement the orderly relocation of utilities that need to be removed or relocated. Additional mitigation measures listed in Section 3.16.6 of the ARCF GRR EIS/EIR.
Geological Resources	Less than Significant with Mitigation	Resource unaffected by action	-	Minimize ground disturbances, install sediment barriers, reseed sites when work is complete, Additional mitigation measures are identified in Section 3.2.6	-

Hazardous Wastes and Materials	Less than Significant with Mitigation	Less than Significant with Mitigation	-	Project areas would be tested for contaminants by the non-Federal sponsor prior to construction, and any materials found would be disposed of in accordance with all Federal, State, and local regulations at an approved disposal site. If construction activities would occur in close proximity to sites listed in the existing conditions section, a Phase II ESA should also be conducted.	Adoption of the Railyards Soil Management Plan
Land Use	Less than Significant with Mitigation	Resource unaffected by action	-	-	-
Socioeconomics, Population, and Environmental Justice	Less than Significant	Less than Significant	-	Federal Relocation Act compliance.	-

3.1.4 Resources Not Discussed in Detail

The following resources were eliminated from further analysis in this SEA because the effects of the Proposed Action on these resources would be negligible, or the project refinements that constitute the Proposed Action would not create additional impacts to these resources: air quality; hydrology and hydraulics; land use; mineral resources; socioeconomics, population, and environmental justice; climate change; geological resources; public utilities and service systems; and cultural resources. These resources and their previous analyses are shown in Table 3-1.

Table 3-2 Resources not discussed in detail in this document and where to find previous analyses.

Resource	Section of 2016 ARCF GRR EIS/EIR	Section of 2019 SREL Contract 1 SEA/EIR	Section of 2020 SREL Contract 2 SEA/EIR
Hydrology and Hydraulics	3.4	3.1.2	3.1.2
Land Use	3.3	3.1.2	3.1.2
Mineral Resources	3.2	3.8	3.8
Climate Change	3.12	3.6	3.6
Geological Resources	3.2	3.8	3.8
Cultural Resources	3.9	3.7	3.7

3.2 Visual Resources

3.2.1 Existing Conditions

The environmental and regulatory framework described in Section 3.15 of the ARCF GRR EIS/EIR covering Visual Resources is generally applicable to the analysis in this Supplemental EA and therefore is not repeated here. Some additional site-specific details are included below.

A seepage/stability berm is proposed on the southern terminus of the North Beach Lake Levee, in front of Cliff's Marina in a rural area one mile south the community of Freeport, CA. This reach of the Sacramento River has residences, businesses, farms, and vineyards on the landside and a narrow riparian corridor on the waterside.

Staging areas are proposed at Garcia Bend Park and at parking lots serving the Sacramento River Parkway. These recreational areas are well-landscaped and maintained; they provide visual relief from the surrounding suburban development. Three other additional staging areas consist of vacant lots and roadside shoulders comprised mainly of gravel and bare earth. One of these staging areas is proposed landside of the North Beach Lake Levee across from Cliff's Marina. This staging area now supports native and exotic grass and herbaceous species. Alternative 2 of the ARCF GRR EIS/EIR states that temporary impacts to recreation sites along the Sacramento River from project construction and staging would occur.

Jibboom Street and Cosumnes River Boulevard are arterial streets in areas with no residences in the Project Area. Jibboom Street services hotels, restaurants, Matsui Waterfront Park, and the SMUD Museum of Science and Curiosity. Cosumnes River Boulevard is surrounded by undeveloped fields.

3.2.2 Environmental Effects

No Action Alternative

Under the No Action Alternative, the SREL Contract 4 levee improvements are deemed to exist, constructed as described in the SREL seepage, stability, and overtopping sections of Alternative 2 of the ARCF GRR EIS/EIR as well as the relevant project refinements analyzed in the SEAs/SEIRs for SREL Contracts 1-3, including vegetation removal, presence of equipment, haul routes, and creation of staging areas. Effects to Visual Resources would be as described and considered in these prior NEPA reports.

Proposed Action

The proposed levee raise in Reach A is short (under 2 feet high) and would not block viewsheds. The inclusion of a shallow cutoff wall requires fewer trees to be removed on the levee slope than a full levee raise, reducing adverse impacts to visual resources compared to a full levee raise. The shallow cutoff wall in Reach G requires only a partial degrade of the waterside of the levee for construction, while leaving the existing historic railroad tracks undisturbed, resulting in only a minor change the visual character of the levee.

The seepage/stability berm would permanently fill in low areas between State Route 160, NBLL, and abandoned rail line. This would require the removal of approximately 20 trees. The ARCF GRR EIS/EIR stated that long-term visual effects of levee improvements would be significant and unavoidable. No feasible mitigation measures were identified.

The existing flood wall and flashboard modification will be raised 6-inch or less. The flashboard modification is only deployed during flood events.

The utility window remediation and replacement of municipal drainage system pipes would require the removal of up to five individual, native and exotic shrubs and five trees. The area of pipe replacement would be seeded with a native grass mix following construction. These minor changes would not permanently affect the visual character of the area in the immediate vicinity of the sump system.

The extended closure of Garcia Bend Park as a staging area in multiple contracts would result in reduced aesthetic value during construction. No tree removal is planned.

The additional staging areas would require the trimming of approximately 10 trees. These staging areas may also need to be grubbed, stripped, and leveled. Following construction, all temporary access ramps would be removed, and all disturbed levee slopes would be revegetated. All staging areas would be returned to pre-project conditions. The total tree removal for SREL Contract 4 would not exceed the 750 trees estimated to be removed for all the SREL contracts in the GRR EIS/EIR. Overall, additional construction-related visual impacts likely to occur during

performance of SREL Contract 4 would only marginally change the effects to visual resources previously forecast in the ARCF GRR EIS/EIR, which determined them to be significant at the program level, primarily due to tree removal altering the visual character of the project area.

The additional haul routes are on existing roadways and will not alter their visual appearance.

3.2.3 Avoidance, Minimization, and Mitigation Measures

Section 3.15 'Visual Resources' of the GRR EIS/EIR states that significant effects to visual resources during construction cannot be avoided and cannot be mitigated. Performance of SREL Contract 4, as now finalized, would not change this assessment.

3.3 Air Quality

3.3.1 Existing Conditions

The environmental and regulatory framework described in Section 3.11 'Air Quality' of the ARCF GRR EIS/EIR, with updates in Section 3.3 'Air Quality' of the SREL 1-3 SEAs/SEIRs, remains applicable to the analysis in this Supplemental EA and therefore is not repeated here.

3.3.2 Environmental Effects

No Action Alternative

The No Action Alternative includes air quality emissions generated by heavy equipment to construct SREL Contract 4, including hauling of material from the borrow source to the project area, construction worker trips, and other construction-related trips. The total estimated air emissions for SREL Contract 4 combined with all other ARCF contracts in the same calendar years would potentially exceed the Sacramento Metropolitan Air Quality Management District (SMAQMD) thresholds for NOx and PM10. Avoidance and minimization measures identified as Mitigation Measures AIR-1, AIR-2, and AIR-3 in the SREL Contract 2 SEA/EIR would substantially reduce emissions. Mitigation measures AIR-4 and AIR-5 would be implemented to reduce this impact to a less-than-significant level by obtaining emission offsets.

The Federal Clean Air Act (CAA) sets National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The General Conformity Rules established *de minimis* thresholds to screen projects for the potential to impose significant adverse air quality effects. This applies to the entire ARCF project. The 2021 ARCF General Conformity Determination states that USACE would first reduce emissions through construction best management practices (BMPs) and equipment controls; however, it is expected that the ARCF project would exceed the *de minimis* threshold for NOx emission in the 2023 construction year. USACE proposes to obtain emission offsets in cooperation with applicable air districts to mitigate for this impact.

Proposed Action

The shallow cutoff walls, seepage/stability berm, existing flood wall and flashboard modification, and utility window remediation proposed for SREL Contract 4 are not described in the ARCF GRR EIS/EIR. These methods are new ways of achieving the same seepage, stability, and overtopping solutions stated in the GRR/EIS/EIR. The GRR EIS/EIR Record of Decision specified that total SREL seepage, stability, and overtopping (SSO) improvements would include "nine miles of slurry cutoff walls" and "raise one mile of levee." SREL Contract 4 is the final SSO contract, resulting in a total of 8.9 miles of seepage improvements and 0.4 miles of levee raise constructed for all SREL SSO contracts. Thus, the total length of improvements would be 0.1 miles less than those stated in the GRR EIS/EIR, resulting in air quality impacts marginally less than those stated in the ARCF GRR EIS/EIR.

3.3.3 Avoidance, Minimization, and Mitigation Measures

Mitigation measures described in the Section 3.11 'Air Quality' of the ARCF GRR EIS/EIR with updates in Section 3.3 'Air Quality' in the SREL 1-3 SEAs/SEIRs would be sufficient to ensure adverse impacts from the Proposed Action are not greater than those stated in the ARCF GRR EIS/EIR.

3.4 Vegetation and Wildlife

3.4.1 Existing Conditions

The environmental and regulatory framework described in Section 3.6 'Vegetation and Wildlife' of the ARCF GRR EIS/EIR is generally applicable to the analysis in this Supplemental EA and therefore is not repeated here. Detailed habitat maps are included in Appendix C of the ARCF GRR EIS/EIR. Some site-specific conditions are described below.

The proposed site of the seepage/stability berm consists of open, oak woodland and a fallow agricultural field with roadside oak woodland and a dense exotic shrub understory. The proposed staging area on the waterside of the SREL at Chicory Bend in the Little Pocket (Figure 2-5) is comprised of a compacted dirt pullout/turnaround surrounded by riparian cottonwood forest used by levee maintenance and inspection personnel.

3.4.2 Environmental Effects

No Action Alternative

The ARCF GRR EIS/EIR estimated 150 acres of riparian habitat impact, including removal of 750 trees for the Sacramento River East Levee contracts. Most of the trees that would be trimmed or removed in the Contract 4 area of the ARCF GRR are valley oaks (*Quercus lobata*) and Fremont's cottonwood (*Populus fremontii*), with smaller numbers of California black walnut (*Juglans hindsii*) and other species. SREL Reach D Contract 1, SREL Contracts 1-3 have removed a total of 263 trees thus far. The removal of riparian habitat would be mitigated at a 2:1 ratio by planting new riparian habitat at the Beach-Stone Lakes Mitigation Site (BSLMS).

Proposed Action

SREL Contract 4, including the proposed action, would remove a total of approximately 160 trees. The seepage/stability berm would permanently fill in low areas between State Route 160, NBLL, and a historic railroad right-of-way. This would require the removal of approximately 20 trees. The ground surface area below the OHWM that may be temporarily impacted is approximately 1.5 acres.

There is no anticipated need to remove any city park trees as a part of the Proposed Action. The other staging areas would require the trimming of approximately 20 trees and the removal of up to ten trees. These staging areas may also need to be grubbed, stripped, and leveled to be used as functional staging areas. The removal of riparian habitat would be mitigated at a 2:1 ratio by planting new riparian habitat at the BSLMS.

Shrub and tree removal are considered a short-term significant impact in Section 3.6 of the ARCF GRR EIS/EIR, because it would take many years for the replacement trees and shrubs to establish to the value of those removed. However, once the replacement trees are established, the long-term impact would be less than significant. There would be no impact to shady riverine aquatic (SRA) habitat nor work in the Sacramento River that would affect fish species. Overall, the Proposed Action would not bring cumulative SREL tree removal to more than the 750 trees states in the GRR EIS/EIR. The Proposed Action's effect on vegetation and wildlife would be less than significant with mitigation.

3.4.3 Avoidance, Minimization, and Mitigation Measures

The Fish and Wildlife Coordination Act of March 1934, as amended, allows the United States Fish and Wildlife Service (USFWS) to assess impacts of proposed projects and make recommendations to reduce those impacts. A Coordination Act Report (CAR) was included in the 2016 ARCF GRR Final EIS/EIR as Appendix A and recommends USACE compensate for the loss of oak woodland, riparian forest, riparian scrub-shrub and emergent wetland from project construction at a ratio of 2:1. Riparian habitat is being mitigated at a 2:1 ratio, in accordance with the 2021 ARCF BO, which aligns with the USFWS Coordination Act Report's recommendation.

Mitigation measures described in Section 3.6 of the ARCF GRR EIS/EIR with updates in Section 3.4 in the SREL 1-3 SEAs/SEIRs are sufficient to ensure that adverse impacts to vegetation and wildlife from the Proposed Action are not greater than those stated in the ARCF GRR EIS/EIR.

3.5 Federal Special-Status Species

3.5.1 Existing Conditions

The environmental and regulatory framework described in Section 3.8 of the ARCF GRR EIS/EIR is generally applicable to the analysis in this Supplemental EA and therefore is not repeated here. Detailed habitat maps are included in Appendix C of the ARCF GRR EIS/EIR. Appendix B-2 includes tables providing updated information on each special-status plant, fish,

and wildlife species that was evaluated. The staging area on the waterside of the SREL at Chicory Bend in the Little Pocket (Figure 2-5) is the only staging area that is partially below the OHWM. It consists of a compacted dirt pullout/turnround surrounded by riparian cottonwood forest used by levee maintenance and inspection personnel.

3.5.2 Environmental Effects

No Action Alternative

Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)

Up to five elderberry shrubs located within the ground disturbance limits for Contract 4 may need to be transplanted to the Beach-Stone Lakes Mitigation Site.

Federally listed and Migratory Birds

The SREL riparian corridor provides suitable stopover and potential foraging habitat for the Federally-listed western yellow-billed cuckoo (*Coccyzus americanus*). While the Project Area is outside the nesting range of yellow-billed cuckoo, transient individuals could use the area during migration, and it provides nesting, stopover, and forage opportunities for other migratory birds. As stated in the ARCF GRR EIS/EIR approximately 750 trees would be removed for all SREL contracts, including Contract 4.

Federally listed Fish Species

The ARCF GRR EIS/EIR considered impacts from erosion repair work but did not consider a potential need for work below the OHWM for SREL seepage, stability, and overtopping contracts.

Proposed Action

Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)

No additional elderberry shrubs are expected to be impacted by the Proposed Action. Impacts to the valley elderberry longhorn beetle would be less than significant with mitigation, as stated in the GRR EIS/EIR.

Federally listed and Migratory Birds

SREL Contract 4 does not impact critical habitat for any terrestrial species, however, the SREL riparian corridor provides suitable stopover and potential foraging habitat for the Federally listed western yellow-billed cuckoo (*Coccyzus americanus*). While the Project Area is outside the nesting range of yellow-billed cuckoo, transient individuals could use the area during migration, and it provides nesting, stopover, and forage opportunities for other migratory birds. Tree removal to install the NBLL seepage/stability berm and to accommodate staging area use and levee access routes, discussed in Section 3.6, would reduce the amount of habitat available to these species and could destroy active nests of migratory birds. In addition, noise and visual disturbance from construction activities could disturb nearby active nests, potentially resulting in

nest failure. Implementing Mitigation measures described in the Section 3.8 'Special Status Species' of the ARCF GRR EIS/EIR would reduce potentially significant effects on special-status and other migratory birds to a less-than-significant level by minimizing removal of vegetation with active nests, implementing protective buffers around active nests, monitoring to ensure that birds and their young are not adversely affected by project activities, and compensating for riparian habitat removal.

Federally listed Fish Species

The Proposed Action involves no impact to shaded riverine aquatic (SRA) habitat nor work in the wetted channel and therefore no direct effects to fish species are anticipated. However, areas below the OHWM are still designated critical habitat for Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*), Central Valley (CV) spring-run Chinook salmon (*O. tshawytscha*), and southern distinct population segment (sDPS) green sturgeon (*Acipenser medirostris*) by the National Marine Fisheries Service. Additionally, this habitat is designated as Essential Fish Habitat under the Magnuson Stevens Fishery Conservation Act for Pacific Salmon (Chinook). Areas below the mean high water (MHW) are considered suitable habitat for delta smelt *(Hypomesus transpacificus*).

The soil bentonite cutoff wall in Reach E and the shallow cutoff wall in Reach G would disturb approximately 1.5 acres of ground surface area below the OHWM. The band from the Mean High Water (MHW) line to 3 meters below the Mean Low Low Water (MLLW) line is considered habitat for the Federally listed delta smelt. No ground surface below the MHW line is expected to be impacted. There would be no work in the Sacramento River and mitigation measures would ensure that impacts to fish species is less than significant.

The staging area on the waterside of the SREL at Chicory Bend in the Little Pocket (Figure 2-5) is partially below the OHWM. This staging area would be used for equipment storage and material laydown. This would require no tree removal below the OHWM.

3.5.3 Avoidance, Minimization, and Mitigation Measures

Mitigation measures described in the Section 3.7 'Fisheries' and 3.8 'Special Status Species' of the ARCF GRR EIS/EIR are sufficient to ensure adverse impacts from the Proposed Action are less than significant with mitigation, as stated in the ARCF GRR EIS/EIR . The following change has been made to a mitigation measure since completion of the ARCF GRR EIS/EIR:

In-water construction activities (i.e., work below the OHWM) would be limited to the work window of July 1 through October 31, as stated in the USFWS and National Marine Fisheries Service (NMFS) Biological Opinions. The in-water work window could be extended with NMFS approval.

3.6 Hazardous Wastes and Materials

3.6.1 Existing Conditions

The environmental and regulatory framework described in Section 3.17 of the ARCF GRR EIS/EIR and Section 3.9 of the SREL Contract 1 & 2 SEA/EIRs is generally applicable to the analysis in this Supplemental EA and therefore is not repeated here.

A Phase I Environmental Site Assessment (ESA) (HDR 2019) was conducted for the SREL north of the Freeport Regional Water Facility. The results of this Phase I are summarized in Section 3.9 the SREL Contract 1 SEA/EIR Preliminary results from the State Water Resources Control Board's GeoTracker (April 2022) identified four known sites but indicate there is not any significant contamination in the area. Three of the four sites are completed leaking underground storage tank (LUST) cleanup sites, and one site is a cleanup program site that was closed in 2019. A Phase I ESA is in process for the southern portion of SREL Contract 4, from the Freeport Regional Water Facility to the proposed site of the NBLL seepage/stability berm. This Phase I ESA includes a visual inspection of the Project Area for the Proposed Action, a review of environmental data bases and regulatory agency records, and a review of historical data sources. The Phase I ESA will provide more information regarding the nature and extent of any existing or residual environmental contamination at or near the project site to guide work around these sites. Additionally the Phase I ESA will allow for the non-Federal sponsor to secure lands for the project that are free of potential hazardous, toxic and radioactive waste (HTRW). Following USACE regulation sand law it is the non-Federal sponsor's responsibility to provide lands free of contaminants for the project.

3.6.2 Environmental Effects

No Action Alternative

A Phase I Environmental Site Assessment (Phase I ESA) was conducted for portions of the project site (HDR 2017). The Phase I ESA included a visual inspection of the project site for the proposed project, a review of environmental data bases and regulatory agency records, and a review of historical data sources. The Phase I ESA identified several Recognized Environmental Conditions, but none that are likely to affect the Contract 4 project site based on their location and the available data.

Proposed Action

A portion of the project site near I Street overlaps with the Railyards project site, and ground disturbance in this area would be subject to the requirements identified in the Railyards Projects Soil & Groundwater Management Plan (Stantec 2015).

During construction there is a potential for hazardous materials such as fuels, oils, lubricants or paints to be accidentally spilled or released into the environment. Prior to construction, a hazardous materials management plan would be prepared and implemented. The plan would include measures to reduce the potential for spills of toxic chemicals and other

hazardous materials during construction. The plan would also describe a specific protocol for the proper handling and disposal of these hazardous materials, as well as contingency procedures to follow in the event of an accidental spill. The implementation of environmental commitments, including a storm water pollution prevention plan (SWPPP) and implementation of avoidance, minimization, and mitigation measures, would ensure that the risk of accidental spills and releases into the environment would be minimal. As a result, construction of the project is not expected to result in any adverse effects due to HTRW.

There is the potential that known, or previously undocumented hazardous materials could be encountered at project sites. Excavation and construction activities at or near areas of currently unrecorded soil or groundwater contamination could result in the exposure of construction workers, the general public, and the environment to hazardous materials such as petroleum hydrocarbons, pesticides, fertilizers, contaminated debris, or elevated levels of other chemicals that could be hazardous. Any hazardous substance encountered during construction would be removed and properly disposed of by a licensed contractor in accordance with Federal, State, and local regulations. The implementation of avoidance, minimization, and mitigation measures discussed below results in an insignificant effect of HTRW on the human environmental resulting from the Project.

3.6.3 Avoidance, Minimization, and Mitigation Measures

A portion of the project site overlaps with the Railyards Site. Ground disturbing activities in that area would be required to implement handling conditions in compliance with the Railyards Projects Soil & Groundwater Management Plan (Stantec 2015).

No hazardous materials would be stored below the OHWM. Mitigation measures described in the Section 3.17 ‘Hazardous Wastes and Materials’ of the ARCF GRR EIS/EIR would be sufficient to ensure adverse impacts from the Proposed Action are not greater than those stated in the ARCF GRR EIS/EIR.

3.7 Water Quality and Groundwater Resources

3.7.1 Existing Conditions

The environmental and regulatory framework and existing conditions described in Section 3.5 ‘Water Quality and Groundwater Resources’ of the ARCF GRR EIS/EIR are generally applicable to the analysis in this Supplemental EA and therefore are not repeated here.

3.7.2 Environmental Effects

No Action Alternative

The ARCF GRR EIS/EIR evaluated the effects of an accidental spill or inadvertent discharge from project equipment that could directly affect the water quality of the river or water body in the Project Area, or groundwater, and indirectly affect regional water quality. Implementation of BMPs, avoidance measures, and mitigation measures to compensate for potential adverse effects of Alternative 2 of the ARCF GRR EIS/EIR (equipment operation;

liquids storage; acquiring appropriate regulatory permits; preparing and implementing a SWPPP, Spill Prevention Control and Countermeasures Plan; Slurry Spill Contingency Plan; obtaining appropriate Discharge and Dewatering Permits and complying with BMPs to reduce erosion and sediment transport and treating dewatering water leaving the project site) would reduce significant temporary, short-term construction-related sediment and contaminant discharges to receiving waters during construction to less than significant.

Proposed Action

The use of staging areas, hauling materials along the waterside levee maintenance road, and the temporary side cast of levee material requires work below the OHWM. Work below the OHWM was not considered for seepage, stability, and overtopping improvements on the Sacramento River in the ARCF GRR EIS/EIR. Staging areas would be used for the temporary storage of vehicles, equipment, and materials. No batch plants would be operated and no hazardous materials would be stored below the OHWM. Site topography would be restored to its original condition when construction is completed.

3.7.3 Avoidance, Minimization, and Mitigation Measures

All work below the OHWM requires a water quality certification pursuant to Section 401 of the Clean Water Act (CWA). A programmatic Water Quality Certification from the Central Valley Regional Water Quality Control Board (CVRWQCB) was signed on July 13, 2021; USACE would request authorization from the CVRWQCB to start construction under the Programmatic General Permit, Report Type 3 Commencement of Construction, for the Proposed Action prior to construction. The additional activities of the Proposed Action are equivalent to those described for Alternative 2 in the GRR EIS/EIR. Thus, a consistency review, including a CWA Section 404(b)(1) analysis (Appendix E of the GRR EIS/EIR), was conducted to ensure that the ARCF Project would cause no net loss of functions or values to State and Federally protected waters. Mitigation measures set forth in the ARCF GRR EIS/EIR (referred to as GEO-1 and as WATERS-1 in the SREL Contract 1 and 2 SEAs/SEIRs) would reduce sedimentation discharge concerns to a negligible level. These existing mitigation measures ensure that the Proposed Action's adverse effects on Water Quality and Groundwater Resources would be less than significant, as stated in the GRR EIS/EIR.

3.8 Noise and Vibration

3.8.1 Existing Conditions

The environmental and regulatory framework described in Section 3.13 of the ARCF GRR EIS/EIR and Section 3.11 of the SREL Contract 1-3 SEA/EIRs is generally applicable to the analysis in this Supplemental EA and therefore is not repeated here.

3.8.2 Environmental Effects

The No Action Alternative and the Proposed Action would generate equivalent construction noise and vibration from equipment operating at each work location, and from the transport of construction workers, construction materials, and equipment to and from each work

location. The construction noise impact discussion in the ARCF GRR Final EIS/EIR adequately addresses the noise and vibration impacts that would occur from levee improvements, including the minor additional activities contemplated as part of the Proposed Action. The anticipated noise and vibration effects anticipated from the construction of Contract 4 levee work would fall within those disclosed in the ARCF GRR Final EIS/EIR. No new sensitive receptors were identified despite the reach extension beyond the GRR EIS/EIR footprint by 800 feet (Reach NBLL).

3.8.3 Avoidance, Minimization, and Mitigation Measures

Because no measurable difference in the level of noise and vibration is anticipated whether the activities comprising the No Action Alternative are conducted or the activities that comprise the Proposed Action are conducted, this section does not include a 'No Action Alternative' subsection or a 'Proposed Action' subsection. Lessons learned from SREL Contract 1 (completed in 2020) have led to improvements to Mitigation Measure NOI-1 that was discussed in the SREL Contracts 1-2 SEAs/SEIRs (Implement Measures to Reduce Construction Noise and Vibration Effects.). The improved measures are outlined below.

Mitigation Measure NOI-1: Implement Measures to Reduce Construction Noise and Vibration Effects

USACE would require construction contractors to implement measures at each work site to avoid and minimize construction noise and vibration effects on sensitive receptors. Prior to the start of construction, the construction contractor would prepare a noise control plan to identify feasible measures to reduce construction noise, when necessary. The measures in the plan would apply to construction activities within 500 feet of a sensitive receptor, including, but not limited to, residences. These measures may include, but are not limited to, the following:

- Provide written notice to residents within 1,000 feet of the construction zone, advising them of the estimated construction schedule. This written notice would be provided within 1 week to 1 month of the start of construction at that location.
- Display notices with information including, but not limited to, contractor contact telephone number(s) and proposed construction dates and times in a conspicuous manner, such as on construction site fences.
- Schedule the loudest and most intrusive construction activities during daytime hours (7:00 a.m. to 7:00 p.m.) Monday through Friday, when feasible.
- Require that construction equipment be equipped with factory-installed muffling devices, and that all equipment be operated and maintained in good working order to minimize noise generation.
- Locate stationary noise-generating equipment as far as practicable from sensitive receptors.
- Limit unnecessary engine idling (i.e., more than 5 minutes) as required by State air quality regulations.

- Employ equipment that is specifically designed for low noise emission levels, when feasible.
- Employ equipment that is powered by electric or natural gas engines, as opposed to those powered by gasoline fuel or diesel, when feasible.
- If the construction zone is within 500 feet of a sensitive receptor, place temporary barriers between stationary noise equipment and noise sensitive receptors to block noise transmission, when feasible, or take advantage of existing barrier features, such as existing terrain or structures, when feasible.
- If the construction zone is within 500 feet of a sensitive receptor, prohibit use of backup alarms and provide an alternate warning system, such as a flagman or radar-based alarm that is compliant with State and Federal worker safety regulations.
- Locate construction staging areas as far as practicable from sensitive receptors.
- Design haul routes to avoid sensitive receptors, to the extent practical.
- To the extent feasible and practicable, the primary construction contractors would employ vibration-reducing construction practices such that vibration from construction complies with applicable noise-level rules and regulations that apply to the work, including the vibration standards established for construction vibration-sources by the applicable agencies (City of Sacramento and Sacramento County), depending on the jurisdictional location of the affected receptor(s), and the California Department of Transportation's (Caltrans) Transportation and Construction Vibration Guidance Manual, which identifies maximum vibration levels of 0.2 to 0.5-inch per second Peak Particle Velocity (PPV) for minimizing damage to structures. Project construction specifications would require the contractor to limit vibrations to less than 0.2-inch per second PPV, and less than 72 VdB within 50 feet at any building. If construction would occur within 50 feet of any occupied building, the contractor would prepare a vibration control plan prior to construction. The plan would include measures to limit vibration, including but not limited to the following:
    - Numerical thresholds above which the contractor would be required to document vibration sources and implement measures to reduce vibration, and above which work would be required to stop for consideration of alternative construction methods.
    - Avoid vibratory rollers and packers near sensitive areas to the maximum extent practicable.
    - Route heavily loaded trucks away from residential streets, if possible. If no alternatives are available, select streets with the fewest homes.
    - A voluntary pre- and post-construction survey would be conducted to assess the existing condition of structures prior to construction and potential architectural/structural damage induced by levee construction vibration at each structure within 100 feet of construction activities, including staging areas. The survey would include visual inspection of the structures that could be affected and documentation of structures by means of photographs and video. This documentation

would be reviewed with the individual owners prior to any construction activities. Post-construction surveys of structures would be performed to identify (and repair, if necessary) damage, if any, from construction activities. Any construction-related damage would be documented with photographs and video. This documentation would be reviewed with the individual property owners.

- Place vibration monitoring equipment in lines approximately parallel to the levee alignment at intervals not to exceed 200 feet along the construction limits, including active staging areas. Vibration monitors would be operational at all times during the performance of construction activities. The contractor would monitor and record vibrations continuously.

3.9 Recreation

3.9.1 Existing Conditions

The environmental and regulatory framework described in Section 3.14 of the ARCF GRR EIS/EIR is generally applicable to the analysis in this Supplemental EA and therefore is not repeated here.

3.9.2 Environmental Effects

No Action Alternative

Contract 4 construction is scheduled during summer months when parks and trails are at peak use. Recreational access to Garcia Bend Park, including use of boat ramps, may be prohibited during construction and parking areas would be closed to allow for the staging of equipment and other construction activities, reducing available parking.

Bicycle trails along the Sacramento River Parkway bike path and on-street bicycle routes would be subject to temporary closures and/or detours to accommodate material transport along haul routes and construction. Temporary closure of bicycle and recreational facilities would have a significant, although temporary, adverse effect on regional recreation. The construction of levee raises would not have a permanent impact on recreational trails.

As stated in the ARCF GRR EIS/EIR, SREL Contract 4 construction would cause short-term significant adverse effects to recreation, but implementation of mitigation measures, including bicycle and pedestrian detours, providing public information regarding detours and alternative access routes to public recreational facilities, and repairing any construction-related damage to these parks would prevent any long-term effects by returning the parks and trails to their pre-construction usage.

Proposed Action

The effects of the Proposed Action on recreational resources during the period of construction are not expected to be measurably different than the effects of the No Action Alternative. Levee raises would result in recreational paths being raised up to one foot with the levee, but the path location would not change substantially. The closure of city parks and boat

ramps for staging areas for multiple years was not explicitly identified in the GRR EIS/EIR. Garcia Bend Park has since been identified as a staging area for SREL Contracts 2-4. Access to Cliff's Marina may temporarily be changed to allow for existing flood wall and flashboard modifications. The boat dock at the Westin Hotel would remain open. The effect on recreation of extended park and park facilities closures is temporal and not anticipated to be more severe than the 'significant' impact determination disclosed in the ARCF GRR EIS/EIR.

3.9.3 Avoidance, Minimization, and Mitigation Measures

Mitigation measures described in the GRR EIS/EIR and SREL Contract 1-3 SEAs/SEIRs would reduce impacts to recreation but, as stated in Section 3.14 'Recreation' of the GRR EIS/EIR, impacts would still be significant because of the duration of construction and the absence of alternative nearby recreation facilities during construction. However, no adverse long-term effects to recreation are anticipated because the area would be returned to pre-construction conditions once the project is completed.

3.10 Transportation and Circulation

3.10.1 Existing Conditions

The environmental and regulatory framework described in Section 3.10 of the ARCF GRR EIS/EIR is generally applicable to the analysis in this Supplemental EA and therefore is not repeated here.

Jibboom Street and Cosumnes River Boulevard are arterial streets in areas with no permanent residents in the Project Area. Jibboom Street services hotels, restaurants, Matsui Waterfront Park, and the SMUD Museum of Science and Curiosity. Cosumnes River Boulevard is surrounded by undeveloped fields, agriculture, and the office of the California Park & Recreation Society. At the south end of the Project Area, Freeport Boulevard runs parallel to the levee before becoming State Route 160/River Road (SR 160) and running atop the levee. SR 160 in this area is a rural two-lane road used to access the town of Freeport and many small Delta towns south of the project.

3.10.2 Environmental Effects

No Action Alternative

Section 3.10 of the ARCF GRR EIS/EIR states that the project would result in a substantial increase in traffic on local roadways associated with truck haul trips during construction activities. In addition, traffic controls would cause or contribute to temporary substantial increases in traffic levels on roadways as traffic is detoured or slowed. Traffic controls could cause delays during the morning and evening peak commute hours. Pedestrian and bicycle trails would require detours and/or temporary closures. These effects were determined to be significant. Mitigation measures, such as a Traffic Control and Road Maintenance Plan and notifications regarding roadway lane and pedestrian/bicycle path closures and detours were identified. It was determined that the temporary increase in construction traffic on public roadways would be a significant and unavoidable effect.

Proposed Action

One lane of SR 160 would need to be temporarily closed to construct the NBLL seepage/stability berm. Furthermore, new haul routes on Jibboom Street and Cosumnes River Boulevard would be used in addition to previously-identified access points and haul routes analyzed in the SREL Contract 1-3 SEA/EIRs. Following the completion of SREL Contract 4, temporary levee access ramps would be removed and restored to pre-construction condition. As noted in the ARCF GRR EIS/EIR, traffic controls would cause or contribute to substantial temporary increases in traffic levels on roadways (such as SR 160) as traffic is detoured, slowed, or disrupted by lane closures. Traffic controls could cause delays during the morning and evening peak commute hours, which could disrupt emergency response times in the vicinity of the construction site.

Jibboom Street and Cosumnes River Boulevard would be used for the hauling of construction equipment/materials and transporting construction workers to and from the project area. Construction-generated traffic would temporarily increase the daily and peak-hour traffic and could also delay or temporarily obstruct the movement of emergency vehicles. USACE and CVFPB would provide public notice in advance of closures and detours/routes and would require the provision of detour signs indicating the location of alternate routes that could be used by bicyclists or pedestrians. As noted in the ARCF GRR EIS/EIR, construction related traffic impacts were analyzed and determined to be significant at the program level primarily due to the duration and number of haul trips and the limited options for haul routes and access points of construction in an urban environment.

3.10.3 Avoidance, Minimization, and Mitigation Measures

Mitigation measures described in the Section 3.10 ‘Transportation and Circulation’ of the ARCF GRR EIS/EIR are sufficient to ensure adverse impacts from the Proposed Action would not exceed those stated in the ARCF GRR EIS/EIR.

3.11 Fisheries (Non-listed Species)

3.11.1 Existing Conditions

The environmental and regulatory framework described in Section 3.7 of the ARCF GRR EIS/EIR is applicable to the analysis in this Supplemental EA and is included by reference here.

3.11.2 Environmental Effects

No Action Alternative

Fisheries-related impacts identified in the ARCF GRR EIS/EIR are primarily associated with erosion protection and the resulting temporal loss of SRA habitat. Levee improvements to address seepage, stability, and overtopping issues (i.e., cutoff walls, berms, levee raise) were determined to have no direct effect on native fish, because these measures would be constructed outside of the natural river channel. However, ground-disturbing activities associated with construction of levee improvements could cause erosion and soil disturbance, resulting in

sediment transport and delivery to aquatic habitats that could adversely affecting fish physiology, behavior, and habitat. Impacts could also result from accidental spills of hazardous materials if water contamination occurs.

Proposed Action

Work below the OHWM including the use of staging areas, hauling along the waterside levee maintenance road, and the side cast of levee material could disrupt native fish by temporarily increasing local noise and turbidity, causing fish to move away from the area that might be providing habitat and cover. As some juvenile species utilize near shore habitat for cover, the increase of noise and turbidity may cause juveniles to move away from shore and into the river channel increasing their risk of predation. Work may disturb soils below the OHWM, but outside the wetted channel, potentially leading to increases in turbidity and sedimentation in the near shore aquatic habitat. Approximately 1.5 acres of ground surface area below the OHWM may be temporarily impacted.

Due to the small, temporary nature of disturbance below the OHWM, th adverse effects of the Proposed Action are anticipated to be less than significant with implementation of FISH-1 and water quality BMPs previously described in the ARCF GRR EIS/EIR and SREL Contract 2 SEA/SEIR and would not be greater than those described in the ARCF GRR EIS/EIR and the Contract 2 SEA/SEIR.

3.11.3 Avoidance, Minimization, and Mitigation Measures

Mitigation measures described in the Section 3.7 ‘Fisheries’ of the ARCF GRR EIS/EIR are sufficient to ensure adverse impacts from the Proposed Action would not exceed those stated in the ARCF GRR EIS/EIR.

3.12 Public Utilities and Service Systems

3.12.1 Existing Conditions

The environmental and regulatory framework described in Section 3.16 of the ARCF GRR EIS/EIR is generally applicable to the analysis in this Supplemental EA and therefore is not repeated here.

Utility window remediation (construction of small, drained seepage/stability berms to close these windows) would occur at two locations on the SREL in Reach G, south of the Freeport Water Tower adjacent to Freeport Boulevard.

Sump 41, located at the northern end of the Pocket, and Sump 132, located in the South Pocket at the end of the Pocket Canal, consist of a landside pumping station and outfall pipes extending into the Sacramento River.

3.12.2 Environmental Effects

No Action Alternative and *Proposed Action*

The relocation or removal of utilities may cause temporary disruption in service. Protection measures and temporary bypasses described in Section 3.16.6 of the GRR EIS/EIR may be required for some of the utilities to be relocated. No difference in potential effects is expected between the activities of the No Action Alternative and the activities constituting the Proposed Action.

3.12.3 Avoidance, Minimization, and Mitigation Measures

Mitigation measures described in the Section 3.16 'Public Utilities and Service Systems' of the ARCF GRR EIS/EIR are sufficient to ensure adverse impacts to public utilities and service systems from the Proposed Action would not exceed those stated in the ARCF GRR EIS/EIR.

3.13 Socioeconomic, Population, and Environmental Justice

3.13.1 Existing Conditions

The environmental and regulatory framework described in Section 3.18 of the ARCF GRR EIS/EIR is generally applicable to the analysis in this Supplemental EA and therefore is not repeated here.

The Westin Sacramento Hotel is located on the Sacramento River atop the SREL in a dense residential neighborhood in ARCF Reach E. Cliff's Marina is located just south of the town of Freeport in ARCF Reach G in a rural, agricultural area.

3.13.2 Environmental Effects

No Action Alternative

Section 3.18 of the ARCF GRR EIS/EIR states: "The construction of the project does not change or prevent access to large business complexes or communities." The construction of SREL Contract 4 would cause a temporary disturbance to the Westin Sacramento Hotel and Cliff's Marina. One of the parking lots at the Westin Hotel would be used as staging areas and construction of a cutoff wall along the levee crown would be a disturbance to hotel and restaurant guests. However, access to the Westin Hotel, Cliff's marina, and their docks would remain open throughout construction.

The GRR Final EIS/EIR determined that the project would not have disproportionate adverse effects to any low-income or minority population. This individual action that is part of the larger project is also anticipated to not have disproportionate adverse effects. A small homeless population resides along the SREL and the Proposed Action may cause temporary displacement of people and their property. To ensure the safety of all those involved, USACE, CVFPB, and the construction contractor would work with the City and County of Sacramento and the City of Sacramento's Police Department to notify and remove people living in the

construction area. This action would not be disproportionate and would only be enacted in areas of active construction.

Proposed Action

The Proposed Action would cause the temporary closure of one parking lot at the Westin Hotel for use as a staging area. For Cliff's Marina, modifications to the existing flood wall and flashboard may temporarily change access and reduce available parking. Access to these businesses would not be restricted, however, noise, vibration, traffic, and dust from levee construction and staging would disturb customers.

3.13.3 Avoidance, Minimization, and Mitigation Measures

Construction and staging would be planned in a way to reduce impact to businesses to the greatest extent feasible. Mitigation measures for air quality, recreation, noise and vibration, and transportation and circulation are applicable here. in the Section 3.18 'Socioeconomic, Population, and Environmental Justice' of the ARCF GRR EIS/EIR states that mitigation for relocation of people and their homes would be compensated under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. This would be sufficient to ensure adverse impacts from the Proposed Action are less than significant, as stated in the ARCF GRR EIS/EIR.

CHAPTER 4 CUMULATIVE IMPACTS

NEPA requires the consideration of cumulative effects of the proposed action, combined with the effects of other projects. NEPA defines a cumulative effect as an effect on the environment that results from the incremental effect of an action when combined with other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions (40 C.F.R. § 1508.1).

The cumulative effects of the overall ARCF 2016 Project were covered in Section 4.1 of the 2016 ARCF GRR EIS/EIR. The thorough cumulative analysis in the EIS/EIR is incorporated by reference. But the temporal scope of the analysis was necessarily vague in the EIS/EIR; therefore, for the purposes of the proposed project, the temporal scope of the cumulative effects analysis in this SEA provides additional, focused cumulative impact analysis by considering past projects that continue to affect the project area in 2022 and projects that will be under construction in 2023 concurrent with SREL Contract 4 as revised.

4.1 Past, Present, and Reasonably Foreseeable Future Projects

This section briefly describes other projects in the Sacramento area. Consideration of each of these projects is necessary to evaluate the cumulative effects of the proposed project on environmental resources in the area. The ARCF GRR EIS/EIR was completed in 2016, thus several new projects are discussed here.

Projects included in the ARCF GRR EIS/EIR:

Lower American River Common Features Project

Congressional authorizations in WRDA 1996 and WRDA 1999 enabled USACE, CVFPB, and SAFCA to undertake various improvements to the levees along the north and south banks of the American River, as well as the east bank of the Sacramento River. Under WRDA 1996, this involved the construction of 26 miles of slurry walls along the left and right banks of the American River. The WRDA 1999 authorization included a variety of additional levee improvements, such as levee raises and levee widening improvements, to ensure that the levees could pass an emergency release of 160,000 cubic feet per second. The WRDA 1996 and 1999 projects were completed in 2016, with mitigation site monitoring ongoing.

American River Watershed Common Features 2016 Project

The greater ARCF 2016 Project is scheduled for construction from 2019 through 2024. The project involves constructing levee improvements along the American and Sacramento River levees as well as proposed improvements to the Natomas East Main Drainage Canal (NEMDC) east levee and Magpie Creek (SAFCA previously completed improvements as an early implementation action in 2018). The levee improvements scheduled for implementation include constructing cutoff walls, erosion protection, seepage and stability berms, relief wells, levee raises, and a small stretch of new levee. In addition, USACE intends to widen the Sacramento Weir. The project will also involve constructing a number of mitigation sites in the area.

In addition to the improvements that are part of the SREL Contract 4 proposed project, the ARCF 2016 Project includes:

- Construction of a seepage and stability berm along Front Street (completed in 2019)
- Additional improvements to the Sacramento River east levee between downtown Sacramento and Freeport (planned for 2020-2023)
- Erosion protection on the American River (planned for 2021-2023)
- Erosion protection on the Sacramento River (planned for 2022-2025)
- Improvements to the "East Side Tributaries, including the Magpie Creek Diversion Channel, the east bank of the Natomas East Main Drainage Canal (NEMDC)/Steelhead Creek. Pleasant Grove Creek Canal, and Dry, Robla, and Arcade Creeks (planned for 2022)
- Widening the Sacramento Weir and Bypass, located along the north edge of the City of West Sacramento in Yolo County (planned for 2021-2024)

American River Watershed Common Features Natomas Basin Project

In 2007, the Natomas Levee Improvement Project was authorized as an early-implementation project initiated by SAFCA to provide flood protection to the Natomas Basin as quickly as possible. These projects consist of improvements to the perimeter levee system of the Natomas Basin in Sutter and Sacramento Counties, as well as associated landscape and irrigation/drainage infrastructure modifications. SAFCA, DWR, CVFPB, and USACE have initiated this effort with the aim of incorporating the Landside Improvements Project and the Natomas Levee Improvement Project into the Federally authorized ARCF 2016 Project. Construction of this early implementation project was completed in 2013. In 2014, the Natomas Basin Project was authorized by Section 7002 of Water Resources Reform and Development Act of 2014 (Public Law 113-121). Reach A is scheduled for construction in 2022-2024, and Reaches E, F, and G are scheduled for construction in 2023 and 2024.

Sacramento River Bank Protection Project

The mission of SRBPP is to repair bank erosion and minimize the risk of flooding along the Sacramento River by evaluating riverside levees and rehabilitating sections of the levees, if necessary. Section 203 of the Flood Control Act of 1960 was the original authority for SRBPP, giving USACE authorization to implement rehabilitation of 430,000 linear feet (lf) of levee. Authority to rehabilitate an additional 405,000 lf of levee was added by the 1974 Water Resources Development Act. In 2007, the Water Resources Development Act, Pub. L. 110-114, § 3031, 121 Stat. 1113 (2007) (WRDA 2007) added 80,000 lf to SRBPP as a supplement to the 1974 legislation. USACE would release a Post Authorization Change Report (PACR), including an EIS, to address the implementation of this latest authorization within economically justified sub-basins on sites chosen based upon the Site Selection and Implementation Process.

West Sacramento General Reevaluation Report

The West Sacramento Project General Reevaluation Report (WSPGRR) report determined the Federal interest in reducing the flood risk within the West Sacramento project area. The purpose of the WSPGRR is to bring the 50 miles of perimeter levees surrounding West Sacramento into compliance with applicable Federal and State standards for levees protecting urban areas. Proposed levee improvements would address: (1) seepage, (2) stability, (3) overtopping, and (4) erosion concerns along the West Sacramento levee system. Potential measures to address these concerns would include: (1) seepage cutoff walls, (2) stability berms, (3) seepage berms, (4) levee raises, 5) floodwalls, (6) relief wells, (7) sheet pile walls, (8) jet grouting, and (9) bank protection. The WSPGRR was authorized in WRDA 2016, and in the Fiscal Year 2019 work plan received initial funding to begin preconstruction design. However, under the West Sacramento Area Flood Control Agency Early Implementation Program, three levee segments have already been completed: a small segment along the Sacramento River adjacent to the I Street Bridge, a stretch along the Sacramento River in the northern portion of the city near the neighborhood of Bryte, and the south levee of the Sacramento Bypass. One levee segment, the Southport setback levee, is currently under construction as part of the local effort, which includes all of the proposed levee improvements to the Sacramento River in the West Sacramento south basin. Construction and construction traffic effects of this project have the potential to contribute to cumulative impacts with the proposed project.

Folsom Dam Safety and Flood Damage Reduction Project

The Folsom Dam Safety and Flood Damage Reduction Project addressed the dam safety hydrologic risk at Folsom Dam and improved flood protection to the Sacramento area. Several activities associated the project included: the Folsom Dam Auxiliary Spillway, static upgrades to Dike 4, Mormon Island Auxiliary Dam (MIAD) modifications, and seismic upgrades (piers and tendons) to the Main Concrete Dam. The project was completed in fall 2017.

Folsom Dam Water Control Manual Update

The Folsom Dam Water Control Manual was completed and signed in 2019. The Manual was being updated to reflect authorized changes to the flood management and dam safety operations at Folsom Dam to reduce flood risk in the Sacramento area. The WCM Update utilized existing and authorized physical features of the dam and reservoir, specifically the recently completed auxiliary spillway. Along with evaluating operational changes to utilize the additional capabilities created by the auxiliary spillway, the WCM Update assessed the use of available technologies to enhance the flood risk management performance of Folsom Dam to include a refinement of the basin wetness parameters and the use of real time forecasting.

Further, the WCM Update evaluated options for the inclusion of creditable flood control transfer space in Folsom Reservoir in conjunction with Union Valley, Hell Hole, and French Meadows Reservoirs (also referred to as Variable Space Storage).

Folsom Dam Raise

Construction of the Folsom Dam Raise project followed completion of the Folsom Dam Safety and Flood Damage Reduction Project and the WCM projects. The Dam Raise project includes raising the Right- and Left-Wing Dams, Mormon Island Auxiliary Dam, and Dikes 1-8 around Folsom Reservoir by 3.5 feet with a mix of earthen raises and floodwalls. The Dam Raise project also includes the three emergency spillway gates and three ecosystem restoration projects (automation of the temperature control shutters at Folsom Dam and restoration of the Bushy and Woodlake sites downstream). Similar to the ARCF 2016 Project, the Folsom Dam Raise Project was fully funded by the Bipartisan Budget Act of 2018. Construction to raise Dike 8 by 3.5 feet was completed in 2020. Dikes 1-7, the Main Dam, the Left Wing Dam, the Right Wing Dam and the Mormon Island Auxiliary Dam are currently in design, with supplemental environmental documentation expected to be completed in May 2022. Construction at these facilities is planned for 2023. Construction and construction traffic effects of the Folsom Dam Raise project have the potential to contribute to cumulative impacts with the proposed project.

Projects not included in the ARCF GRR EIS/EIR:

Local Funding Mechanisms for Comprehensive Flood Control Improvements for the Sacramento Area

SAFCA created a new assessment district ("CCAD2") to replace the existing Consolidated Capital Assessment District and updated the existing development impact fee to provide the local share of the cost of constructing and maintaining flood-risk reduction improvements and related environmental mitigation and floodplain habitat restoration along the American and Sacramento Rivers and their tributaries in the Sacramento metropolitan area. The program includes the projects necessary to provide at least a 100-year level of flood protection for developed areas in Sacramento's major flood plains as quickly as possible; achieve the State's 200-year flood protection standard for these areas within the timeframe mandated by the Legislature; and improve the resiliency, robustness, and structural integrity of the flood control system over time so that the system can safely contain flood events larger than a 200-year flood. The program includes Yolo and Sacramento Bypass system improvements, levee modernization, and Lower Sacramento River erosion control. The Updated Local Funding Mechanisms Final Subsequent Program EIR was certified, and the project was adopted in April 2016 (SAFCA 2016).

Lower Elkhorn Basin Levee Setback Project

The Lower Elkhorn Basin Levee Setback (LEBLS) project encompasses a portion of the Phase I implementation of Yolo Bypass System Improvements pursuant to DWR's Sacramento BWFS and therefore is focused on levees in the Lower Elkhorn Basin and the Sacramento Bypass. Consistent with the Sacramento BWFS, the LEBLS project is intended to reduce flooding in the Lower Sacramento River Basin by increasing the capacity of the Yolo Bypass. This increased capacity would be accomplished by constructing a setback levee on the north side of the Sacramento Bypass as an early implementation action for the ARCF 2016 Project, and constructing a setback levee in the Lower Elkhorn Basin on the east side of the Yolo Bypass.

The LEBLS project includes implementing a project mitigation strategy designed to avoid, minimize, reduce, and mitigate impacts on sensitive habitats and special-status species caused by the project, in a manner that optimally protects the natural environment, especially riparian habitat and stream channels suitable for native plants, wildlife habitat, agricultural lands, and public recreation. Construction of the LEBLS project will continue in 2022, with the main phase of construction planned to be completed by mid-2024. Construction effects of the LEBLS project have the potential to contribute to cumulative impacts with the proposed project.

SAC 5 Corridor Enhancement Project

Caltrans is constructing the SAC 5 Corridor Enhancement Project on I-5 from 1.1 mile south of Elk Grove Boulevard to the American River Viaduct. The project will rehabilitate pavement and other related assets, construct 23 miles of new High Occupancy Vehicle lanes, install new fiber optic lines, and extend the I-5 northbound #1 lane to improve merging. The project includes rehabilitating 67 lane miles of mainline and all ramps/connectors. The project also includes adding auxiliary lanes and extending acceleration and deceleration lanes. Project construction requires lane closures on I-5 and is expected to continue through December 2022.

Sacramento/Yolo Integrated Corridor Management

Caltrans is constructing the Sacramento/Yolo Integrated Corridor Management (ICM) on Interstate 80 (I-80) from Enterprise Boulevard in the City of West Sacramento to Folsom Boulevard in the City of Folsom on Hwy 50. The purpose of this project is to improve safety, more efficiently manage traffic operations, reduce congestion, and decrease peak hours of delay. This project proposes to implement ICM, also known as Connected Corridor, by installing Transportation Management System (TMS) and Intelligent Transportation Systems (ITS) elements. Construction is scheduled to begin July 15, 2021.

US Highway 50 Multimodal Corridor Enhancement and Rehabilitation Project

Caltrans is constructing the US Highway 50 Multimodal Corridor Enhancement and Rehabilitation Project will construct High Occupancy Vehicle (HOV) lanes and rehabilitate pavement on US 50 from the US 50/I-5 Interchange to the US 50/Watt Avenue Interchange for a total of 15 lane miles. The purpose of this project is to reduce congestion and replace the existing Portland Cement Concrete (PCC) pavement, reduce maintenance crew's exposure to live traffic, and reduce maintenance expenditures. Construction is scheduled to occur between April 2020 and December 2024.

Bridge District Specific Plan

The Bridge District Specific Plan, formerly the Triangle Plan, was adopted in 1993 and significantly updated in 2009 (City of West Sacramento 2009). The intent of the Bridge District Specific Plan was to provide a framework for development of a well-planned, waterfront-orientated urban district for the City of West Sacramento, along the west bank of the Sacramento River. A number of housing complexes have been built, as well as other riverfront recreational improvements, and the Barn, a local event space and beer garden along the Sacramento River just south of Raley Field. Ongoing development includes additional housing units currently

under construction. Construction, road construction, and construction traffic associated with the Bridge District have the potential to contribute to cumulative impacts with the proposed project.

Sacramento Railyards Project

The Railyards is located just north of Downtown Sacramento and south of the River District and once served as the western terminus of the 1860s Transcontinental Railroad, the largest locomotive repair and maintenance facility west of the Mississippi River. Today, the Railyards continue to house a major transportation hub and the City of Sacramento has proposed to redevelop the area into a mixed- use, transit-oriented development. The historic 244-acre Southern Pacific site would be transformed into a dynamic, urban environment featuring a state-of-the-art mass transit hub that would serve residents, workers, and visitors. In October 2016, the City Council approved planning entitlement for the Sacramento Railyards. The project includes housing units, retail space, office space, a medical campus, hotels, parks, and a soccer stadium (City of Sacramento 2016). Construction, road construction, and construction traffic associated with the Railyards project have the potential to contribute to cumulative impacts with the proposed project.

Delta Shores Development Project

Delta Shores is an approximately 800-acre master planned development that includes an estimated 1.3 million square feet of retail and commercial uses, and an estimated 5,200 residential units at different housing densities. A majority of the Delta Shores land is located east of I-5, north and south of Cosumnes River Boulevard, east of Freeport Boulevard and north of the SRCSD Wastewater Treatment Plant Bufferlands. The Beach Lake Levee (operated and maintained by SAFCA) is adjacent to a portion of the Delta Shores southern property line (east of I-5). Approximately 100 acres of the Delta Shores land is located on the west side of I-5 and adjacent to the Sacramento River east levee. In the Delta Shores lands west of I-5, medium- and high-density residential housing will be developed on the north side of Cosumnes River Boulevard while medium- and low-density residential housing will be developed on the south side of Cosumnes River Boulevard. Neighborhood parks are programmed east of and adjacent to Freeport Boulevard.

Cosumnes River Boulevard was recently extended by approximately 3.5 miles (from Franklin Boulevard to Freeport Boulevard), and a new I-5 interchange was constructed to provide regional connectivity from Hwy 99 to I-5 as well as allow access for future Delta Shores residential and commercial development. The Cosumnes River Boulevard extension and I-5 interchange improvements were completed in 2015. Construction on the regional shopping center located in the SE quadrant of the I-5 interchange and Cosumnes River Boulevard began in 2016, and the regional shopping center opened in 2017. Additional improvements anticipated to commence construction in 2021 include infrastructure and roadway construction north of Cosumnes River Boulevard, and additional commercial construction north and south of Cosumnes River Boulevard on the east side of I-5. Construction traffic associated with 2022 improvements at Delta Shores have the potential to contribute to cumulative impacts with the proposed project. It is anticipated that additional infrastructure and home construction will occur on the east and west sides of I-5 in future years.

4.2 Cumulative Effects

4.2.1 Visual Resources

Project-related activities would be occurring on and alongside SR 160 and would be visible from this State- and County-designated scenic highway from Freeport south to the County line. The southwestern end of the Delta Shores project would also be visible from SR 160. However, development within the Delta Shores project is required to follow the City of Sacramento design guidelines regarding form, color, texture, mass, landscaping, and signage, as well as the Delta Shores Planned Unit Development Guidelines approved by the City of Sacramento, which are specifically designed to ensure that new development is aesthetically pleasing and blends with the surrounding landscape (City of Sacramento 2008). Therefore, there would be no significant cumulative impact related to damage to scenic resources.

Construction crews, equipment, and haul trucks would be visible to residents adjacent to local streets, and staging areas, and to residences adjacent to the work sites. In addition, construction would be visible to recreationists where portions of parks are used as staging areas, and potentially along portions of the Sacrament River Parkway bicycle and pedestrian trail. However, construction would be temporary in nature, and because construction would proceed along the levee in a linear fashion, the views of construction crews, equipment, and haul trucks would be of short duration, and related projects would not generally be visible from the same locations as the proposed project. At the completion of construction activities, the levees, staging areas, and borrow sites for both the proposed project and the related levee projects would look the same or substantially similar to existing conditions. However, as noted in Section 4.2.10 of the ARCF GRR EIS/EIR, construction of multiple projects along the waterways in the Sacramento region would result in a cumulative impact to visual resources due to the removal of vegetation along these waterways and disturbance from construction activities.

4.2.2 Air Quality

Air quality is inherently a cumulative effect because existing air quality is a result of past and present projects. Ambient air quality standards are violated or approach nonattainment levels because of past activities, and increasing emissions-generating activity across the region may jeopardize attainment (SMAQMD 2020). Several other construction projects are expected to occur simultaneously in the Sacramento Valley Air Basin (SVAB) during the planned construction period for the proposed project. The related projects have the potential to generate construction-related emissions that individually exceed SMAQMD's threshold of significance. However, all construction projects in the SMAQMD, including the proposed project are required to offset emissions that have the potential to negatively affect air quality in the SVAB through implementation of SMAQMD emissions reductions practices. In addition, many offset projects create long-term, permanent emissions reductions (which result in a benefit).

Furthermore, the proposed project is part of the larger ARCF 2016 Project, which has been determined to meet the requirements of general conformity with the provisions of the Clean Air Act (CAA) through payment of fees to offset NOx emissions. As discussed in Section 3.3, "Air Quality," the proposed project without mitigation would result in a cumulatively considerable incremental contribution to a significant cumulative effect related to regional air

quality; however, the proposed project's contribution would be mitigated through implementation of mitigation measures described in Section 3.11 of the ARCF GRR EIS/EIR with updates in Section 3.3 of the SREL 1 and 2 SEAs/SEIRs. Therefore, with mitigation, the proposed project does not create an incremental contribution to the significant cumulative effect.

With respect to localized air pollutants such as CO, TACs, and odors, the proposed project and the related projects would generate these pollutants only during construction, and they would be temporary and short term. Some of the related projects may generate concentrations of these pollutants at levels that exceed relevant thresholds. However, the related projects include NEPA documents containing mitigation measures that must be implemented to reduce individual project emissions. Therefore, the proposed project would not result in a considerable incremental contribution to a significant cumulative effect related to generation of CO or TACs during construction.

4.2.3 Vegetation and Wildlife

Project implementation has the potential to contribute to the loss or degradation of sensitive habitats, including riparian, waters of the United States, and waters of the State, and forestland. Similar potential for adverse effects on habitats would be associated with the flood-risk reduction projects, including future ARCF 2016 projects proposed along the Sacramento River east levee and the American River, and removal of high-hazard vegetation by levee maintaining agencies in the Sacramento area and surrounding region. Such projects would generally continue to contribute to the loss or degradation of sensitive habitats and forestland. Most potential adverse effects of the proposed project and the related levee projects would be associated with construction disturbances of habitats, but permanent loss of habitat would also result from some of the individual levee improvement projects and the development projects. Implementation of mitigation measures described in Section 3.6 of the ARCF GRR EIS/EIR with updates in Section 3.4 in the SREL 1 and 2 SEAs/SEIRs would reduce or avoid the effects of the proposed project in accordance with the requirements of the Federal ESA and other regulatory programs that protect habitats, such as CWA Sections 401 and 404.

The ARCF GRR EIS/EIR states: "Implementation of the ARCF project has the potential to remove large amounts of vegetation within the project area…These affects along with the historical decline of vegetation due to urbanization would result in significant cumulative effects." Because the proposed project's temporary impacts would be significant and unavoidable, they could combine with similar impacts from similar projects constructed in 2023, of which there are several. However, the projects listed under 'Projects not included in the ARCF GRR EIS/EIR' do not include significant vegetation removal. Therefore, the proposed project would not result in a considerable incremental contribution to a significant cumulative effect related to vegetation and wildlife.

4.2.4 Special-Status Species

Project implementation has the potential to adversely affect special-status species (valley elderberry longhorn beetle and migratory birds). Similar potential for adverse effects on special-status species and their habitats would be associated with the flood-risk reduction projects, including future ARCF 2016 Project components proposed along the Sacramento River east

levee and the American River, and removal of high-hazard vegetation by levee maintaining agencies in the Sacramento area and surrounding region. Such projects would generally continue to adversely affect special-status species. Most potential adverse effects of the proposed project and the related levee projects related to wildlife would be associated with construction disturbances of wildlife and their habitats, but permanent loss of habitat would also result from some of the individual levee improvement projects and the development projects. These adverse effects could contribute to species declines and losses of habitat that have led to the need to protect these species under the ESA. Implementation of Mitigation Measures described in Section 3.8 of the ARCF GRR EIS/EIR with updates in Section 3.5 in the SREL 1 and 2 SEAs/SEIRs would reduce or avoid the effects of the proposed project in accordance with the requirements of the ESA. Therefore, the proposed project would not result in a considerable incremental contribution to a significant cumulative effect related to special-status species.

4.2.5 Climate Change

Climate change as related to GHG emissions is inherently cumulative. Though significance thresholds can be developed by air districts and State and Federal regulatory agencies, these thresholds and their related goals are intended to address GHG emissions at a cumulative and even a global level. The proposed project and the related projects would result in the generation of GHGs, in proportion to the size of each individual project, amount and time of operation of construction equipment, and distances traveled. However, the proposed project and the related projects that would generate GHG emissions in excess of threshold levels would implement the mitigation measures identified in their respective NEPA documents and adopted to reduce emissions and/or purchase carbon offsets. Furthermore, the proposed project would not exceed CEQ GHG threshold guidance levels and the proposed project would be consistent with Statewide climate change adaptation strategies. Therefore, the proposed project would not result in a considerable incremental contribution to a significant cumulative effect related to climate change.

4.2.6 Cultural Resources

Implementation of the proposed project; other flood-risk reduction projects, including the ARCF 2016 Project components proposed along the Sacramento River east levee and the American River, and other projects considered in this cumulative analysis, have the potential to contribute to the loss or degradation of known and unrecorded archaeological resources, known precontact-period Cultural Landscapes, known and unknown human remains, and known and unknown historic-period archaeological resources.

Implementation of the mitigation measures presented in Section 3.9 of the ARCF GRR EIS/EIR with updates in Section 3.7 in the SREL 1 and 2 SEAs/SEIRs would reduce or avoid the effects of the project on known resources and on unknown archaeological resources and human remains that could potentially be discovered during project construction. Furthermore, the Proposed Action reduces ground disturbance by limiting the amount of levee raise to under 1000 feet, as opposed to the one mile of raise stated in Alternative 2 of the ARCF GRR EIS/EIR. Therefore, the proposed project would not result in a considerable incremental contribution to a significant cumulative effect related to cultural resources.

4.2.7 Geological Resources

Construction activities associated with the proposed project and most of the related projects, including the levee projects and the Delta Shores development project, would involve extensive grading and earthmoving activities, thereby exposing soil to erosion from wind in summer and from rainfall during storm events. If uncontrolled, suspended sediment from stormwater runoff could enter adjacent water bodies and result in increased turbidity. However, the proposed project along with each related project that would disturb 1 acre of land or more are required by law to comply with the Construction General Permit from the State Water Resources Control Board, which require preparation of a SWPPP and implementation of erosion control BMPs. Therefore, the proposed project would not result in a considerable incremental contribution to a significant cumulative effect related to construction-related erosion.

If not addressed, seepage-related levee failures could contribute significant volumes of sediment and material to the stream channels, which could alter flow patterns and potentially destabilize other levees outside the project site. However, the proposed project and most if not all of the related projects would implement seepage control measures that would reduce the risk of levee failure. Therefore, the proposed project and the related projects would not cumulatively increase the risk of levee failure. The proposed project's effects would be cumulatively beneficial by reducing flood risk and the attendant major erosion that would occur.

All proposed project improvements, as well as improvements proposed as part of the related levee projects, would be designed based on the results of detailed geotechnical engineering studies and required to comply with standard engineering practices for levee design. In addition to compliance with CVFPB standards, levee design and construction must be in accordance with EM 1110-2-1913 Design and Construction of Levees (USACE 2000), the primary Federal standards applicable to levee improvements. In addition, ER 1110-2-806, Earthquake Design and Evaluation for Civil Works Projects (USACE 2016), would also apply to project design and construction. Therefore, the design and construction of all levee modifications would meet or exceed applicable design standards for static and dynamic stability, seismic ground shaking, liquefaction, subsidence, seepage, and expansive soils. The related development projects must comply with the California Building Standards Code, which incorporates specific requirements for engineering and construction that are designed to reduce damage from seismic ground shaking, liquefaction, subsidence, seepage, and expansive soils to the maximum extent feasible. Therefore, the proposed project would not result in a considerable incremental contribution to a significant cumulative effect related to seismicity and soils.

The proposed project and most of the related projects would entail earthmoving activities in the Riverbank and/or Modesto Formations, which are considered paleontologically sensitive. While some of the related projects, such as the CVFPP, NLIP, and the Delta Shores projects, contain mitigation measures to protect paleontological resources, the other related projects may not. Therefore, some of the related projects may result in significant effects to unique paleontological resources. Future ARCF 2016 Project components proposed along the Sacramento River east levee and the American River would also take place in the Riverbank Formation. However, the presence of unique paleontological resources is site-specific, and a low probability exists that any project, including the proposed project, would encounter unique,

scientifically important fossils. Therefore, the proposed project would not result in a considerable incremental contribution to a significant cumulative effect related to paleontological resources.

4.2.8 Hazardous Wastes and Materials

Implementation of the proposed project and the related projects would include handling small quantities of hazardous materials used in construction equipment (e.g., fuels, oils, lubricants) and during construction activities. The storage, use, disposal, and transport of hazardous materials are extensively regulated by various Federal, State, and local agencies. Permits are required for the use, handling, and storage of these materials, and compliance with appropriate regulatory agency standards agencies is also required to avoid releases of hazardous waste. Construction companies that handle hazardous substances for the proposed project and all related projects are required by law to implement and comply with these existing regulations. Furthermore, any effect that might occur would be localized to the area where the materials are being used and would not be additive to other hazardous materials-related effects associated with the project site. None of the materials would be acutely hazardous, and they would not be used in quantities that pose a hazard to schools within 0.25 mile of construction sites.

Project implementation could result in exposure to existing hazardous materials sites or from accidental rupture of petroleum or natural gas pipelines during construction activities. It is unknown whether any of the related project sites contain existing hazards materials. However, mitigation measures identified in Section 3.17 of the ARCF GRR EIS/EIR with updates in Section 3.9 of the SREL 1 and 2 SEAs/SEIRs would minimize potential exposure to unknown hazards and hazardous materials during implementation of the proposed project. Therefore, the proposed project would not result in a considerable incremental contribution to a significant cumulative effect related to existing hazardous materials.

4.2.9 Water Quality and Groundwater Resources

A majority of the levee projects, including the proposed project, involve subsurface geotechnical work to repair levees in place and, consequently, there would be no adverse effects on flooding but beneficial effects from reduced flood risks. Some projects, such as the West Sacramento GRR and the SRBPP, include levee raises, floodwalls, and bank protection. The West Sacramento GRR, the balance of the ARCF 2016 Project components, and the Lower Elkhorn Basin Levee Setback Project, include construction of new setback levees. Dewatering of the construction area (e.g., removing groundwater that may fill trenches dug for cutoff wall construction) could result in the release of contaminants to surface or groundwater. The related projects considered in this cumulative analysis could also result in adverse water quality effects from construction dewatering. However, the proposed project and the related projects are required by law to comply with Central Valley RWQCB provisions that require a dewatering permit and to implement Central Valley RWQCB measures designed to reduce adverse water quality effects from construction dewatering. Therefore, the proposed project would not result in a considerable incremental contribution to a significant cumulative effect related to degradation of water quality or groundwater resources from project construction activities, including construction-related dewatering.

4.2.10 Noise

The Delta Shores Development project is located in the immediate vicinity of the proposed project, and thus was considered for purposes of this cumulative noise and vibration analysis. A cumulative effect might occur if construction activities associated with any of the related project(s) were to occur within 500 feet of the proposed project's construction activities, and also, if the construction activities of other projects were to occur at the same time or overlap at some point during the construction activities of the proposed project. Construction of a portion of the shopping center at Delta Shores, east of I-5, began in 2016 and is ongoing. However, at its closest point, this portion of the Delta Shores project area is more than 1,500 feet east of the project site. There is currently no scheduled date for construction of homes and parks on the west side of I-5 at Delta Shores. Therefore, the Delta Shores project is located too far away to combine with the proposed project's construction noise or vibration effects. Furthermore, although any of the related projects could require construction that exceeds the respective local City or County noise ordinances, the proposed project would limit noise-generating activities to the hours when the City of Sacramento exempts construction noise. Therefore, the proposed project would not result in a considerable incremental contribution to a significant cumulative effect related to construction equipment or traffic noise levels in excess of standards established in the local general plan or noise ordinance or in other applicable local, State, or Federal standards.

4.2.11 Recreation

The proposed project, along with the related projects, may result in temporary closure of recreational facilities (including closures of some parks for more than one year), potential damage to recreational facilities, and temporary diminishment of recreational experiences at nearby parks during construction. Implementation of mitigation measures described in Section 3.14 of the ARCF GRR EIS/EIR with updates in Section 3.12 in the SREL 1 and 2 SEAs/SEIRs would reduce the proposed project's effects to a less-than-significant level. Because of the temporary nature of the construction effects and the likelihood that any access restrictions or degradation of the quality of recreational experiences would last for approximately 3 to 6 months in any location, the proposed project's effects on local recreation are not anticipated to overlap with effects of other related projects. The nearby Delta Shores development project includes internal parks for use by residents. Therefore, the proposed project would not result in a considerable incremental contribution to a significant cumulative effect related to recreation resources.

4.2.12 Transportation and Circulation

The majority of traffic effects related to the proposed project would occur west of I-5, in the vicinity of the project site. The SAC 5 Corridor Enhancement Project is scheduled to be completed in December 2022, before construction of the proposed project begins. However, the Delta Shores project (in addition to other construction projects in the Sacramento metropolitan area) would also affect traffic volumes and capacity on I-5 in the vicinity of the project site and potentially other proposed haul routes shown in Figure 2-3through Figure 2-7**.** Other levee projects would occur at locations that are relatively distant. The Proposed Action would also require approximately 11,600 less haul truck trips (60% less) than SREL Contract 3 because

there is substantially less material hauling and limited levee raise. Therefore, the proposed project would not result in a considerable incremental contribution to a significant cumulative effect related to traffic.

Mitigation Measure TR-1, described in Section 3.13, "Transportation and Circulation," includes a traffic control and road maintenance plan to reduce the proposed project's impact. This mitigation requires emergency service providers be notified in advance of road closures and detours and requires emergency access to be maintained. Although other major construction projects would also implement traffic control plans specifically designed to provide appropriate emergency access, traffic controls could cause delays during the morning and evening peak commute hours, which could disrupt emergency response times in the vicinity of the construction sites. Thus, as disclosed in the ARCF GRR Final EIS/EIR, the proposed project could result in a cumulatively considerable incremental contribution to a significant cumulative effect related to emergency vehicle access or response times temporarily during construction activities.

Bicycle and pedestrian paths affected by the proposed project would be primarily west of I-5, in the vicinity of the construction activities and along potential haul routes. As part of Mitigation Measure TR-1, the proposed project would provide detours to maintain safe pedestrian and bicyclist access around the construction areas at all times. In general, major construction projects (including the SAC 5 Corridor Enhancement and Delta Shores) would also implement traffic control plans specifically designed to provide continued safe routes for alternative modes of transportation during construction. Therefore, the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative effect related to performance or safety of alternative modes of transportation.

4.2.13 Public Utilities and Service Systems

The proposed project, future ARCF 2016 Project components along the Sacramento River east levee and the American River, and all other related levee projects, in addition to Delta Shores and other development projects, could temporarily disrupt utility service as a result of inadvertent damage to existing utility equipment, facilities, and infrastructure. However, any utility and service system effects would be geographically isolated, short in duration, and occur on a project-by-project basis. Thus, these disruptions would not combine to form cumulative effects. Therefore, the proposed project would not result in a considerable incremental contribution to a significant cumulative effect related to potential disruption of utility services.

Temporary construction activities associated with the proposed project and related projects in the Sacramento Region would generate organic and non-organic solid waste. Waste material that is not suitable for disposal onsite or at the Railyards would likely be disposed of in the Yolo County Central, Kiefer, or L and D Landfills. These landfills currently provide solid waste disposal services to municipal and commercial customers and provide construction demolition and debris disposal in Sacramento County. These landfills have sufficient permitted capacity to accommodate solid waste disposal needs for Sacramento County, including the disposal needs of the proposed project and the related projects. Therefore, the proposed project would not result in a considerable incremental contribution to a significant cumulative effect related to increases in solid waste generation.

4.3 Growth-Inducing Effects

Because the proposed project would not involve construction of housing, the action would not directly induce growth. Project-related construction activities would generate temporary and short-term employment, but these construction jobs are anticipated to be filled from the existing local employment pool and would not indirectly result in a population increase or induce growth by creating permanent new jobs. Furthermore, the project would not involve constructing businesses or extending roadways or other infrastructure that could indirectly induce population growth. Consequently, the proposed project would not induce growth leading to changes in land use patterns, population densities, or related impacts on environmental resources.

Levee improvements would benefit areas identified for future growth anticipated in the vicinity of the Sacramento River east levee in the City of Sacramento. Local land use decisions are within the jurisdiction of the City of Sacramento, which has adopted a general plan consistent with State law. The City of Sacramento 2035 General Plan (City of Sacramento 2015) provides an overall framework for growth and development in the City. The City of Sacramento 2013–2021 Housing Element (City of Sacramento 2013) of the City General Plan identifies vacant parcels zoned for multifamily dwelling units in the vicinity of Riverside Boulevard and 43rd Avenue, and vacant parcels zoned for single-family dwelling units are identified within the Pocket and Little Pocket areas in the vicinity of Pocket Road.

The levee improvements would increase the levee's resistance to erosion, provide better overall levee stability and reliability, and provide additional flood protection for growth anticipated in the City's General Plan. Growth throughout the project area has already been planned for as part of the City of Sacramento 2035 General Plan (City of Sacramento 2015). The proposed project would not allow additional growth to occur other than what has already been planned, nor would it change the locations where this growth is planned to occur. Consequently, implementation of the proposed project would not affect current and/or projected population growth patterns within the City of Sacramento as already evaluated and planned for in the City General Plan and, therefore, would not be growth-inducing. The proposed project would mitigate flood risks by improving levees to meet engineering standards associated with the National Flood Insurance Program; it would not alter protection for the 100-year event nor does it transfer any such risk to other areas. The proposed project would not directly or indirectly support development in the base floodplain.

4.4 Irreversible and Irretrievable Commitment of Resources

The discussion of irreversible and irretrievable commitments of resources in the ARCF GRR Final EIS/EIR adequately describes the effects of the proposed project.

CHAPTER 5 COMPLIANCE WITH FEDERAL LAWS AND REGULATION

Certain Federal laws and regulations require issuance of permits before project implementation; other laws and regulations require agency consultation but may not require issuance of any authorization or entitlements before project implementation. For each of the laws and regulations addressed in this section, the description indicates either full or partial compliance; if partial compliance is indicated, full compliance would be achieved prior to issuance of a NEPA decision document.

5.1 Clean Air Act of 1963, as amended, 42 USC 7401, et seq.

Compliance. The Federal CAA requires EPA to establish NAAQS. EPA has established primary and secondary NAAQS for the following criteria air pollutants: ozone, PM10, PM2.5, CO, NO2, SO2, and lead. The primary standards protect the public health, and the secondary standards protect public welfare. The CAA also requires each state to prepare an air quality control plan, referred to as a State Implementation Plan.

The Proposed Action would have no greater air quality impacts than those stated in the GRR EIS/EIR. USACE released a conformity determination for public notice in March 2020, and the final report was posted in June 2021. Total NOx emissions of the overall ARCF 16 Project are expected to exceed the EPA's General Conformity de minimis thresholds during several of the ARCF 16 project's construction years, including 2022, and 2023. USACE expects to purchase offsets for NOx emissions from SMAQMD.

5.2 Endangered Species Act of 1973, as amended, 16 USC 1531, et seq.

Compliance. Pursuant to the ESA, USFWS and NMFS have regulatory authority over Federally listed species. Under the ESA, a permit to "take" a listed species is required for any Federal action that may harm an individual of that species. Take is defined under ESA Section 9 as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Under Federal regulation, take is further defined to include habitat modification or degradation where it would be expected to result in death or injury to listed wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. ESA Section 7 outlines procedures for Federal interagency cooperation to conserve Federally listed species and designated critical habitat.

Section 7(a)(2) requires Federal agencies to consult with USFWS and NMFS to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species. A list of threatened and endangered species that may be affected by the Proposed Action was obtained from the USFWS in 2021 (Appendix B-2). USACE formally consulted with USFWS on the ARCF Project and received a Biological Opinion on September 11, 2015 (USFWS No: 08ESMF00-2014-F-0518). USACE formally consulted with NMFS on the ARCF Project and received a Biological Opinion on September 9, 2015 (NMFS No: WCRO-2014-1377). Re-initiation of Formal Consultation on the ARCF Project with USFWS was completed on March 31, 2021 (USFWS No: 08ESMF00-2014-F-0518-

R003) and from NMFS on May 12, 2021 (NMFS No: WCRO-2020-03082). The SREL Contract 4 Proposed Action causes no additional impacts to listed species with the potential to occur in the Project Area beyond what was already analyzed in the GRR EIS/EIR and earlier SREL contracts. The Project is covered for VELB, western yellow-billed cuckoo, and federally-listed fish under the existing NMFS and USFWS BO's, therefore reinitiation of consultation was not required.

5.3 Executive Order 11988, Floodplain Management.

Compliance. The Proposed Action, as an element of the ARCF 2016 project, would help to mitigate flood risks by improving levees to meet engineering standards associated with the National Flood Insurance Program; it would not alter protection for the 100-year event, nor does it transfer any such risk to other areas. Because the Proposed Action would not directly or indirectly support development in the base floodplain, it would comply with Executive Order (EO) 11988.

5.4 Executive Order 11990, Protection of Wetlands.

Compliance. No wetlands are located within the footprint of the Proposed Action.

5.5 Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.

Compliance. The purpose of EO 12898 is to identify and address the disproportionate placement of adverse environmental, economic, social, or health effects from Federal actions and policies on minority and/or low-income communities. EO 12898 requires that adverse effects on minority or low-income populations be considered during preparation of environmental and socioeconomic analyses of projects or programs that are proposed, funded, or licensed by Federal agencies.

Section 2-2 of EO 12898 requires all Federal agencies to conduct programs, policies, and activities that substantially affect human health or the environment in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons the benefits of, or subjecting persons to discrimination because of their race, color, or national origin. Section 1-101 of EO 12898 requires Federal agencies to identify and address, as appropriate, disproportionately high, and adverse human health, or environmental effects of programs on minority and low-income populations.

5.6 Executive Order 13112, Invasive Species.

Compliance. EO 13112 directs Federal agencies to take actions to prevent the introduction of invasive species, provide for control of invasive species, and minimize the economic, ecological, and human health impacts that invasive species cause. EO 13112 also calls for the use of native plants and tree species for site stabilization and restoration. Project construction activities have potential to introduce new invasive plants or spread existing invasive plants on the project site. Temporarily disturbed areas would be hydroseeded with a native seed

mix that may include sterile non-native species for erosion protection and to prevent colonization of exotic vegetation.

5.7 Federal Clean Water Act as amended, 33 USC 1251, et seq.

Compliance. EPA is the lead Federal agency responsible for water quality management. The CWA of 1972, as amended (33 USC 1251 et seq.), is the primary Federal law that governs and authorizes water quality control activities by EPA, as well as the State. The Proposed Action would involve construction activities and/or the placement of fill materials near or within Waters of the United States and must comply with permit requirements of Sections 401 and 404 of the Clean Water Act. A consistency review, including a CWS Section 404(b)(1) analysis (Appendix E of the GRR EIS/EIR), has been conducted. USACE obtained a programmatic Water Quality Certification from the Central Valley Regional Water Quality Control Board on July 13, 2021. Prior to construction, USACE would request authorization from the CVRWQCB to start construction under the Programmatic General Permit for the Proposed Action. Prior to construction, the contractor would be required to obtain a Construction General Permit for potential effects on stormwater discharge, including preparation of a SWPPP. With implementation of these permits, the Proposed Action would comply with the Clean Water Act.

5.8 Fish and Wildlife Coordination Act of 1958, as amended, 16 USC 661, et seq.

Compliance. The Fish and Wildlife Coordination Act ensures that fish and wildlife receive consideration equal to that of other project features for projects that are constructed, licensed, or permitted by Federal agencies. It requires that the views of USFWS, NMFS, and the applicable State fish and wildlife agency (CDFW) be considered when effects are evaluated, and mitigation needs are determined.

In 2015, during preparation of the ARCF GRR EIS/EIR, USACE coordinated with USFWS to consider potential effects to vegetation and wildlife from implementation of the overall ARCF 2016 project. On October 5, 2015, the USFWS issued a Final Coordination Act Report that provided mitigation recommendations (USFWS File # 08ESMF00-20 13-CPA-0020). USACE considered all recommendations and responded to them in the final ARCF GRR EIS/EIR. The Proposed Action would not require additional mitigation to that stated in the Final Coordination Act Report as agreed upon by the resource agencies, despite new features and expansion of the footprint beyond what was described in the GRR Final EIS/EIR.

5.9 Magnuson-Stevens Fishery Conservation and Management Act.

Compliance. The Magnuson-Stevens Act requires that all Federal agencies consult with NMFS regarding actions or proposed actions permitted, funded, or undertaken that may adversely affect essential fish habitat. Essential fish habitat is defined as “waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” The Sacramento River is designated as essential fish habitat (EFH) for salmon (winter, fall/late fall, and spring-run), steelhead, green sturgeon DPS, and delta smelt. The potential effects of the ARCF Project on EFH are being coordinated with the NFMS under the Magnuson-Stevens Act, and the Corps

received EFH conservation recommendations from NMFS on September 9, 2015. On September 24, 2015, the Corps transmitted a letter to NMFS responding to the recommendations from NMFS. As a result, the ARCF GRR project is in full compliance with the Magnuson-Stevens Act. Consultation was completed with NMFS on May 12, 2021, and the project, including the Proposed Action, is in full compliance.

5.10 Migratory Bird Treaty Act of 1936, as amended, 16 USC 703 et seq.

Compliance. The Migratory Bird Treaty Act (MBTA) domestically implements a series of international treaties that provide for migratory bird protection. The MBTA regulates the taking of migratory birds; the act provides that it would be unlawful, except as permitted by regulations, "to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird …" (USC Title 16, Section 703). This prohibition includes both direct and indirect acts, although harassment and habitat modification are not included unless they result in direct loss of birds, nests, or eggs. The current list of species protected by the MBTA includes several hundred species and essentially includes all native birds. Permits for take of nongame migratory birds can be issued only for specific activities, such as scientific collecting, rehabilitation, propagation, education, taxidermy, and protection of human health and safety and personal property. The Proposed Action incorporates mitigation measures, as detailed in the ARCF GRR EIS/EIR and the SREL Contract 1-3 SEAs/SEIRs that minimize the potential for the take of migratory birds because of project construction. No permit is needed for SREL Contract 4.

5.11 National Historic Preservation Act of 1966, as amended.

Partial Compliance. Section 106 of the NHPA and its implementing regulations (36 CFR 800, as amended in 2004) require Federal agencies to consider the potential effects of their proposed undertakings on historic properties. Historic properties are cultural resources that are listed on, or are eligible for listing on, the NRHP (36 CFR 800.16[l]). Federal agencies must allow the Advisory Council on Historic Preservation to comment on a proposed undertaking (defined as an activity directly carried out, funded or permitted by a federal agency) and its potential effects on historic properties.

Because the ARCF 2016 Project is being implemented in phases, and because implementation of phases of the ARCF 2016 Project may have an effect on Historic Properties, USACE has consulted with the State Historic Preservation Officer (SHPO) and other parties and has executed a Programmatic Agreement (PA) with the SHPO. The PA establishes the process USACE must follow for compliance with Section 106, taking into consideration the views of the signatory and concurring parties and interested Native American Tribes.

In accordance with the PA and Historic Properties Management Plan (HPMP) procedures, USACE has initiated ongoing consultation with Native Americans who attach religious or cultural significance to potential Historic Properties that may be affected by the proposed undertaking. In accordance with the PA, USACE would consult with the State Historic Preservation Officer (SHPO), requesting concurrence on the delineation of the Area of Potential Effect (APE), on the adequacy of inventory methods, the findings of the cultural investigations, the determinations of eligibility, and on the finding of effect. Consultation regarding the delineation of the APE, the adequacy of inventory methods, the findings of the cultural

investigations, the determinations of eligibility, and finding of effect is ongoing and would be completed prior to award of SREL Contract 3. Accordingly, the Proposed Action would comply with Section 106 of the National Historic Preservation Act.

Determinations of the specific measures to be implemented to resolve adverse effects to known Historic Properties would be made by USACE in consultation with SHPO and Consulting Parties to the PA, as required by the PA and as guided by the Historic Property Management Plan (HPMP) for the ARCF Project. Specific mitigation measures that are consistent with the PA and the HPMP are identified in the ARCF GRR EIS/EIR to address potential impacts to unknown cultural resources that could be discovered during construction. Implementation of these mitigation measures would reduce the effects of the Proposed Action to any previously unidentified Historic Properties to less than significant.

5.12 Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, 42 USC 4601 et seq.

Compliance. Federal, State, regional, and local government agencies, and others receiving Federal financial assistance for public programs and projects that require the acquisition of real property, must comply with the policies and provisions set forth in the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended in 1987 (the URA), and implementing regulation, 49 CFR Part 24. Relocation advisory services, moving costs reimbursement, replacement housing, and reimbursement for related expenses and rights of appeal are provided in the URA. All or portions of some parcels within the SREL Contract 4 footprint would need to be acquired for project construction. Any property acquisitions required as part of the Proposed Action would comply with the URA and would be conducted by the Sacramento Area Flood Control Agency (SAFCA), a partner on the ARCF Project.

CHAPTER 6 COORDINATION OF THE SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

This Draft Supplemental EA will be circulated for 45 days in conjunction with the CEQA Draft EIR to agencies, organizations, and individuals known to have a special interest in the project. Copies of the Draft Supplemental EA will be posted on the USACE and CVFPB websites and made available by mail upon request. This project has been coordinated with all appropriate Federal, State, and local governmental agencies including USFWS, SHPO, CDFW, and DWR prior to the finalization of this document.

CHAPTER 7 FINDINGS

This SEA evaluates the expected environmental effects of the Proposed Action. Potential adverse effects to the following resources were analyzed in detail: visual resources; air quality; vegetation and wildlife; Federal special-status species; hazardous wastes and materials; water quality and groundwater resources; noise and vibration; recreation; transportation and circulation; fisheries (non-listed species); public utilities and service systems; and socioeconomic effects the area's population and environmental justice.

The analysis presented in this SEA, as well as related field visits and coordination with other agencies indicate that the Proposed Action would cause no new significant adverse effects on environmental resources beyond those already addressed in the ARCF GRR EIS/EIR and the previous three SEAs/SEIRs for SREL Contracts 1-3.

As described in 40 CFR, Section 1508.1(l), a FONSI may be prepared when an action would not have an adverse significant effect on the human environment and for which an Environmental Impact Statement would therefore not be prepared. Based on this evaluation and the CFR definition, the Proposed Action analyzed in this SEA qualifies for a FONSI.

CHAPTER 8 REPORT WRITERS AND REVIEWERS

This Supplemental EA was prepared by USACE, Sacramento District.

The following individuals prepared the SEA, provided important background materials, or provided project description engineering clarifications:

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