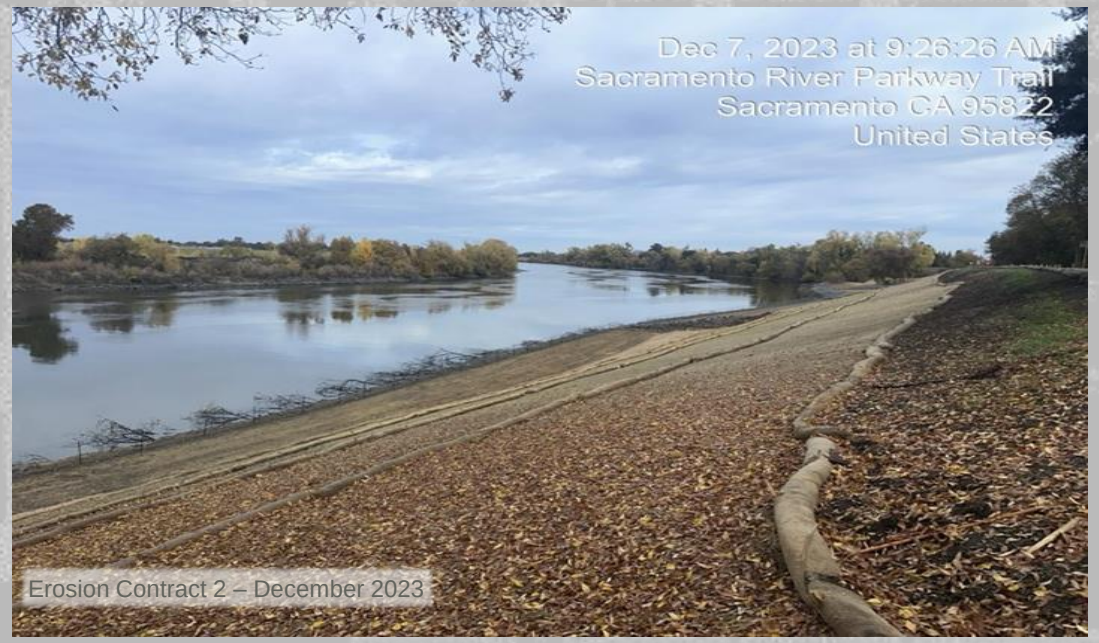
SACRAMENTO DISTRICT
AMERICAN RIVER COMMON FEATURES 2016 (ARCF16) SACRAMENTO RIVER EAST LEVEE CONTRACT 4 & EROSION CONTRACT 2

PRE-CONSTRUCTION PUBLIC MEETING

May 23, 2024

Gregory Treible
Sacramento River Erosion Project Manager
James Wallace
Technical Lead for Erosion C2
Chi Bui
Technical Lead for Erosion C4
Patrick Vanek-McGillivray
Environmental Manager


Erosion Contract 1 Complete – Sept 2021



Erosion Contract 2 – December 2023

US Army Corps of Engineers®

AGENDA

- System Overview
- ARCF 2016 Overview
  - Project Partners
  - Project Progress
- Erosion Contract 2 Overview
- Erosion Contract 4 Overview
- Contact Information

- Technical Overview
- Haul Routes/Access Points
- Alternative Bike Routes
- Impacts
- Schedule

PROJECT PARTNERS

Federal Government

US Army Corps of Engineers®

Local Government

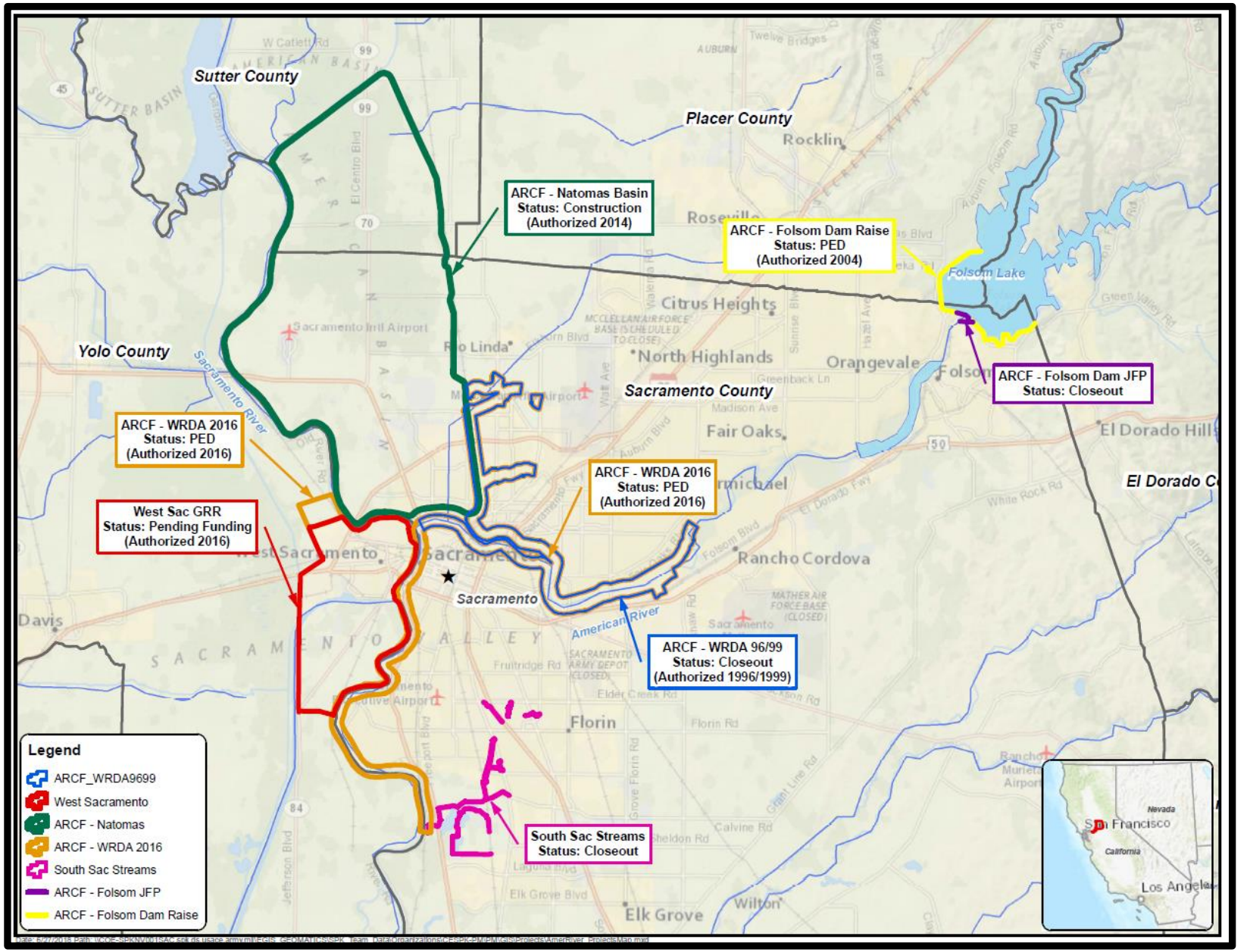
SAFCA
Sacramento Area Flood Control Agency

State Government

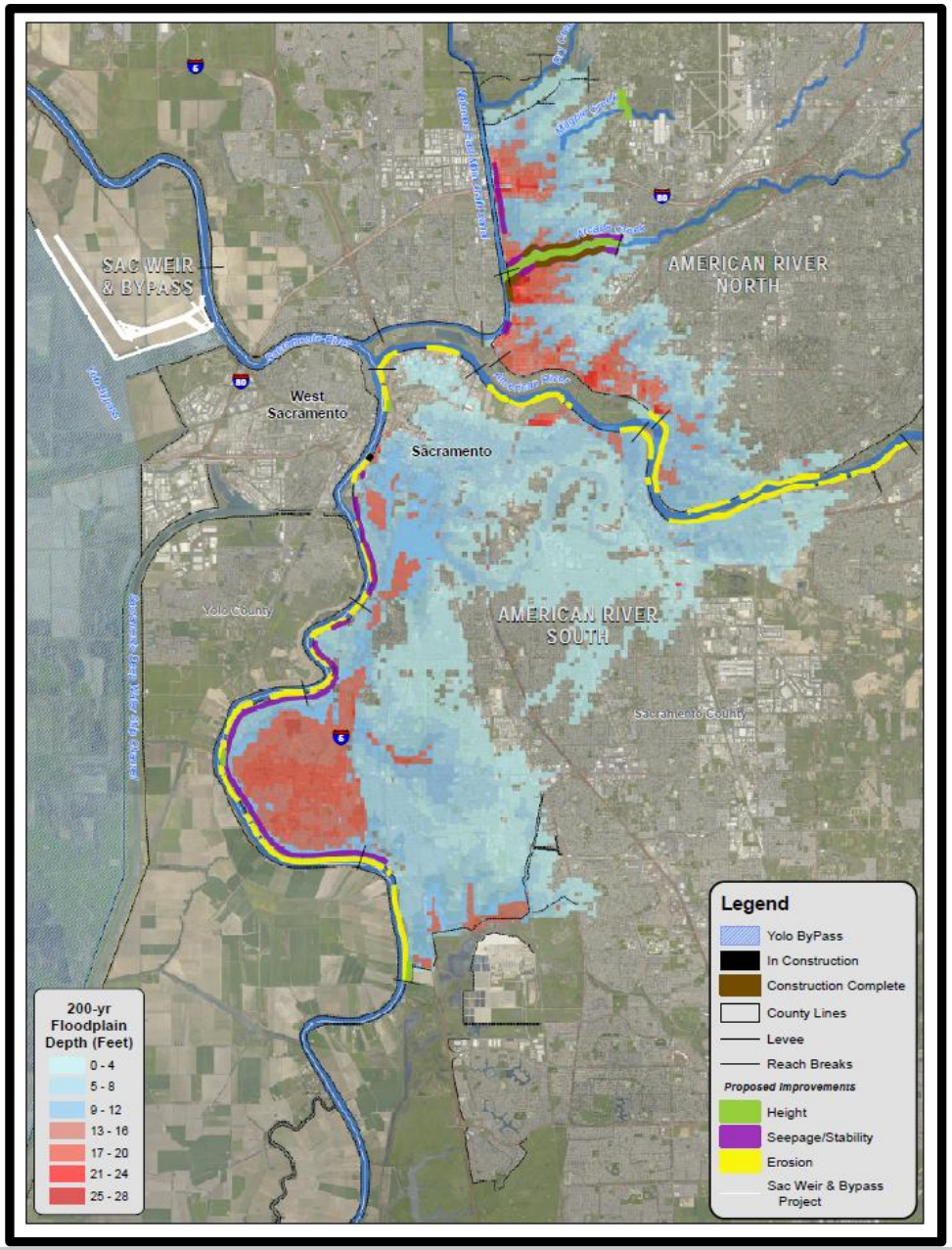
Central Valley Flood Protection Board

Department of Water Resources

SYSTEM OVERVIEW



AMERICAN RIVER COMMON FEATURES (ARCF) 2016



SUPPLEMENTAL TARGET JAN 2024

Authorized Plan	
Features	
North Area Streams Seepage	**4 miles**
Sacramento River Seepage	**9 miles**
American River Erosion	**11 miles**
Sacramento River Erosion	**10 miles**
Levee Stabilization	**5 miles**
Levee raises	**5 miles**
Widen Sacramento Weir and Bypass	**1500 feet**
Reduces Risk	**500,000 people**
	125,000 structures
	$62 billion protection

CAUSES OF LEVEE FAILURE

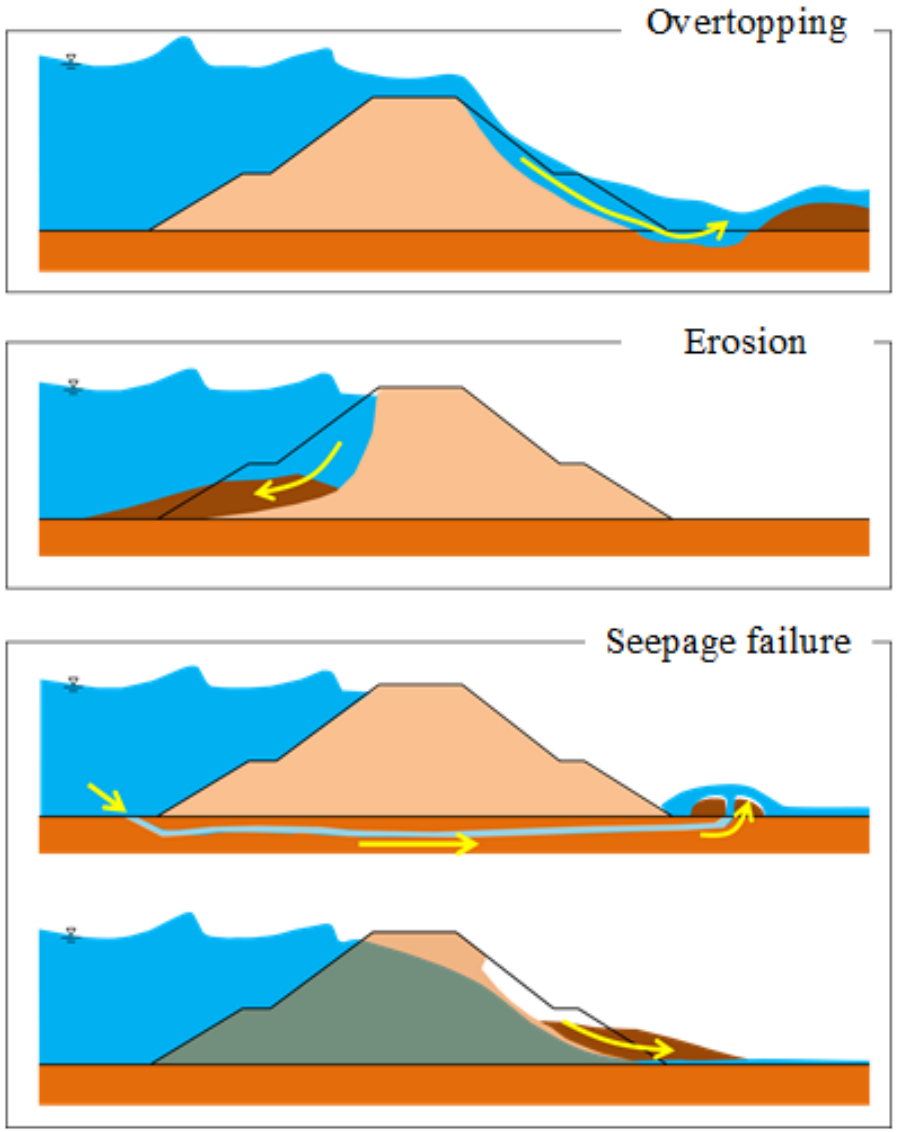


Image courtesy of PWRI Web Magazine

ISSUES ADDRESSED – EROSION CONTRACTS 1 AND 2 SEASON 1 (SITES 2, 3 AND PART OF 6)

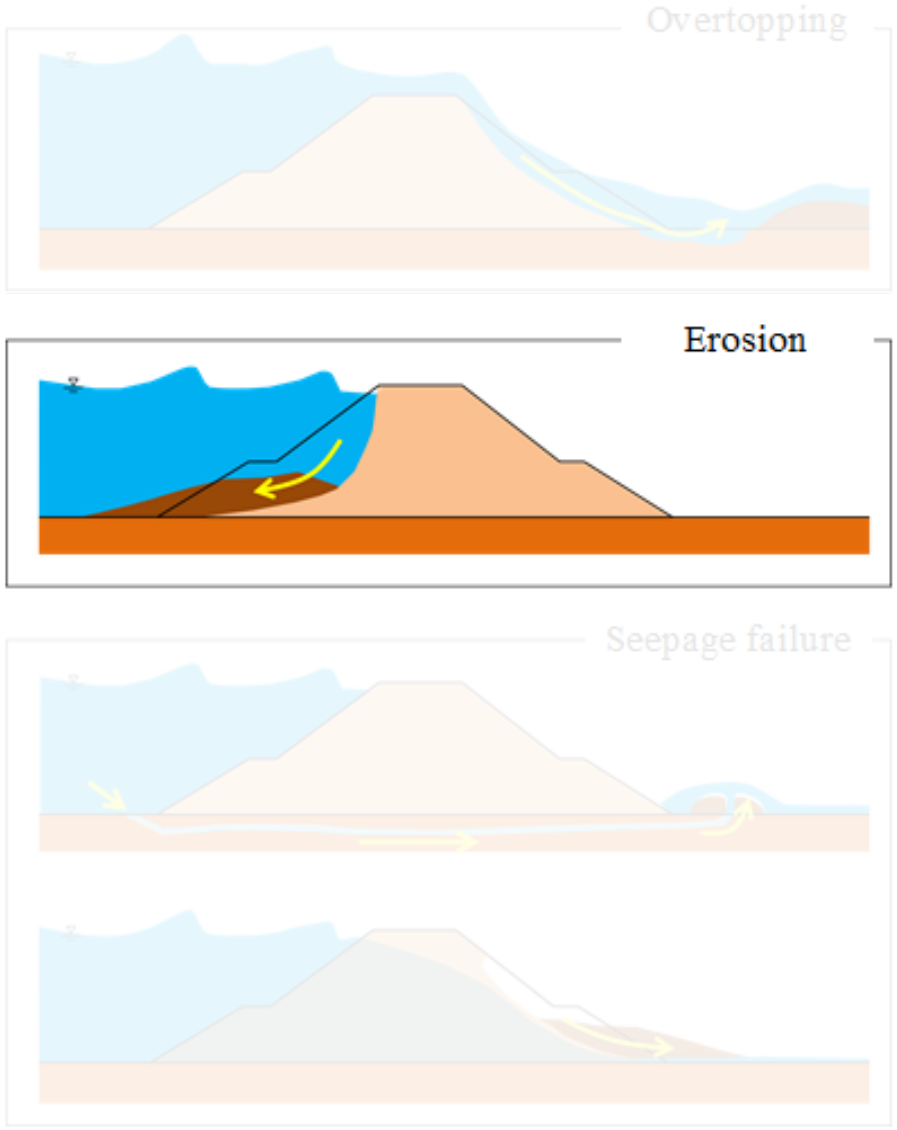
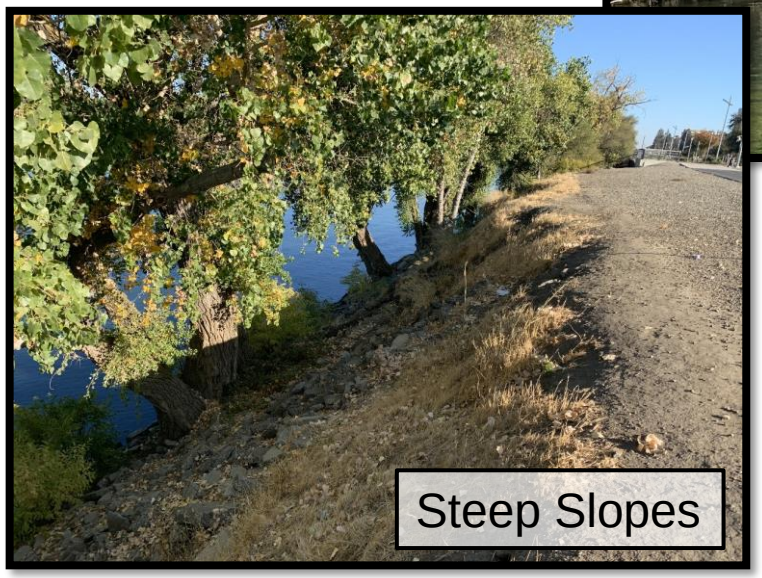


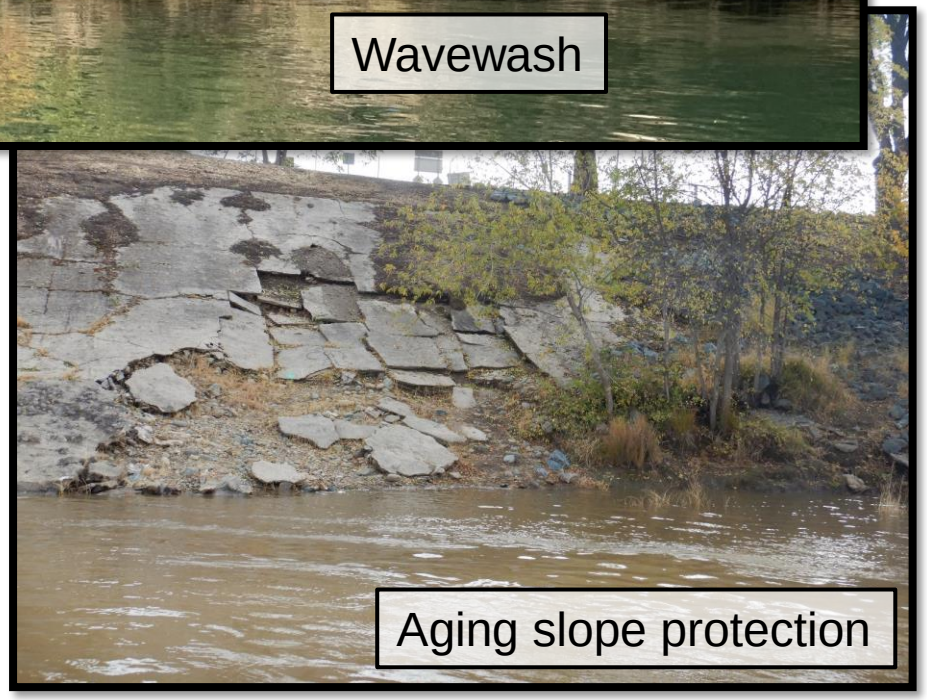
Image courtesy of PWRI Web Magazine

EROSION ISSUES ON THE SACRAMENTO RIVER

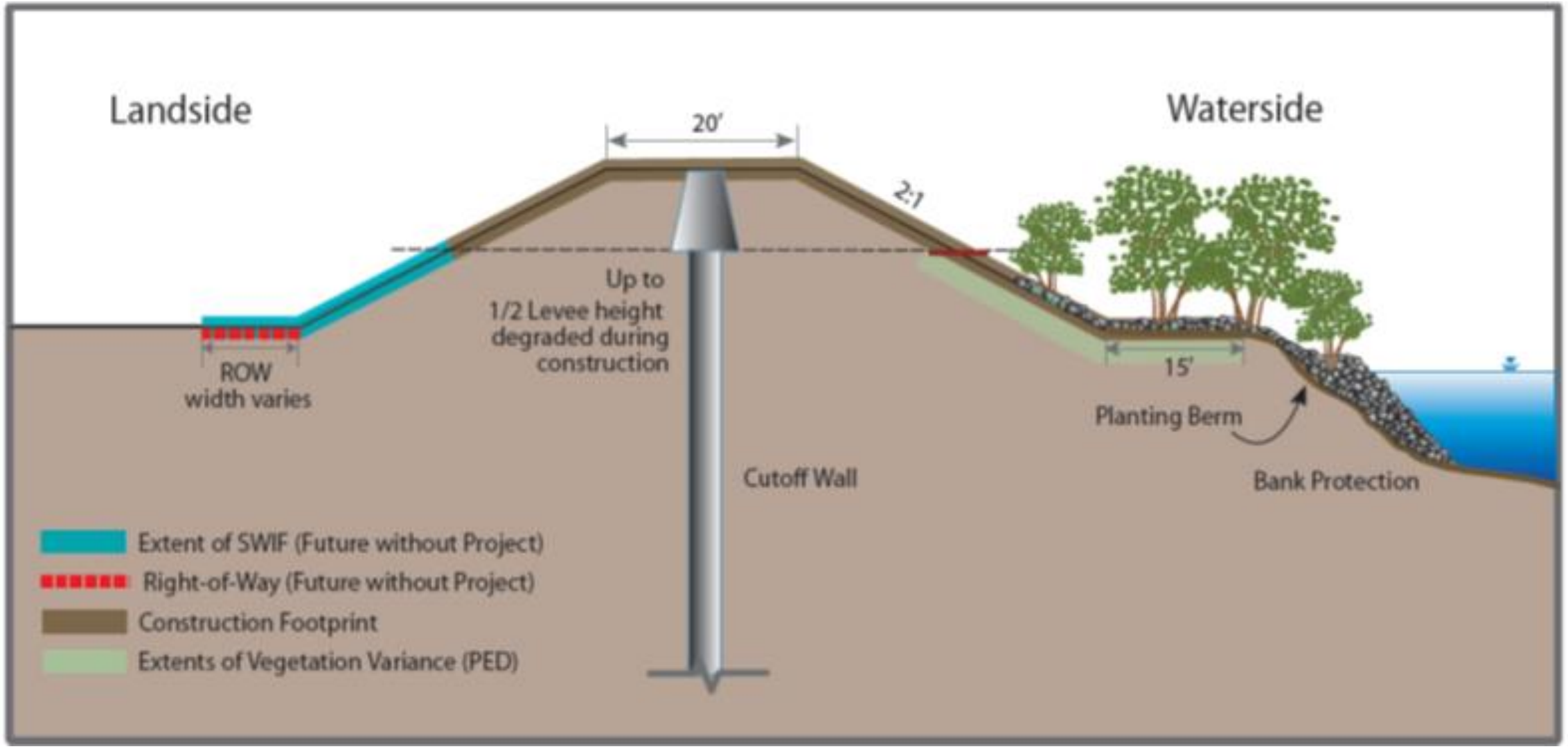
Contributors:

- Boat wake
- Steep slope
- Poor levee material
- Levees built very close to the riverbank

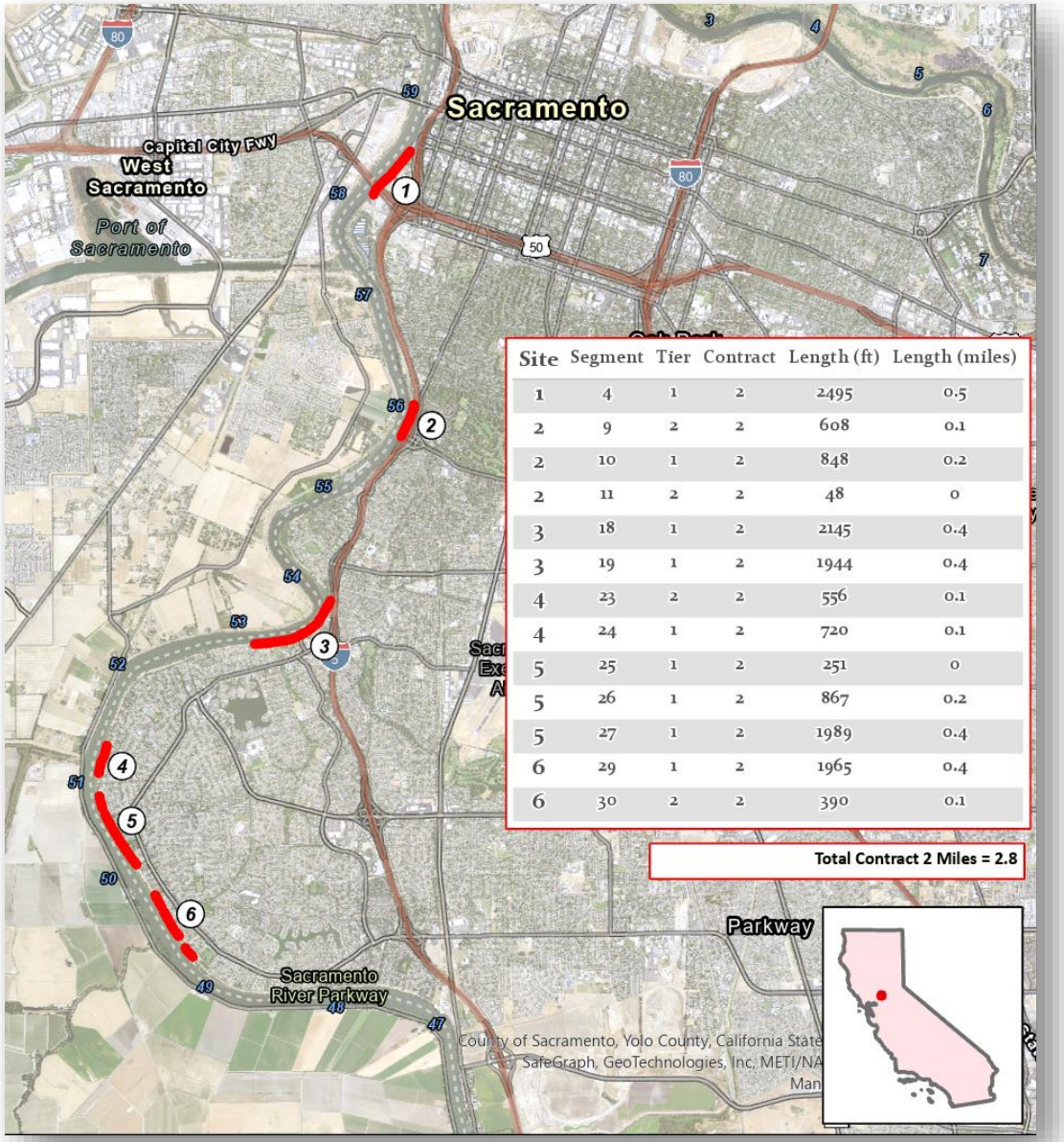




EROSION ISSUES ADDRESSED



SACRAMENTO RIVER EROSION CONTRACT 2



Site	Segment	Tier	Contract	Length (ft)	Length (miles)
1	4	1	2	2495	0.5
2	9	2	2	608	0.1
2	10	1	2	848	0.2
2	11	2	2	48	0
3	18	1	2	2145	0.4
3	19	1	2	1944	0.4
4	23	2	2	556	0.1
4	24	1	2	720	0.1
5	25	1	2	251	0
5	26	1	2	867	0.2
5	27	1	2	1989	0.4
6	29	1	2	1965	0.4
6	30	2	2	390	0.1

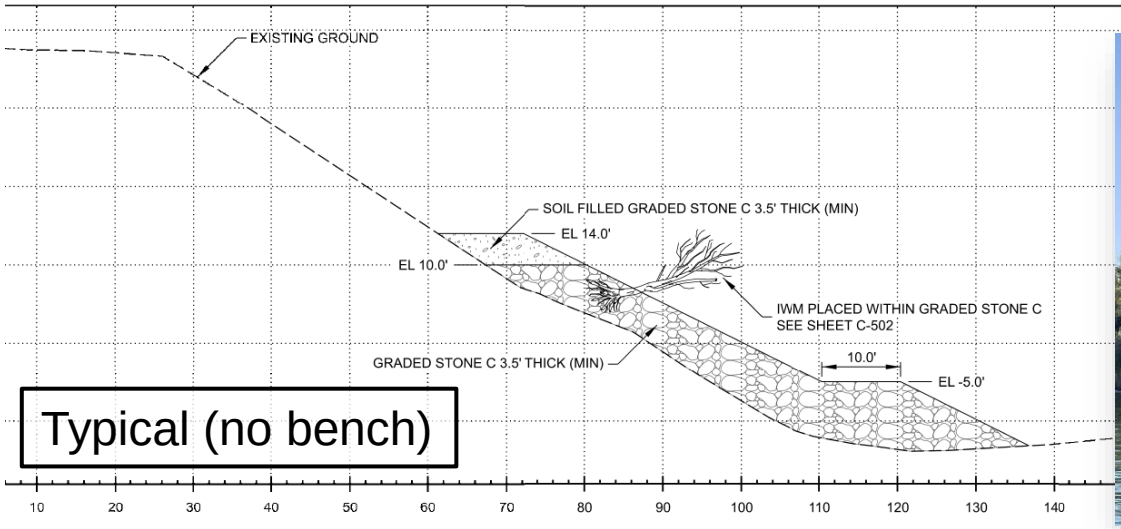
Total Contract 2 Miles = 2.8

High velocities and waves from wind and boats lead to erosional processes that degrade the surface of the levee which can, in time increase the risk of levee failure.

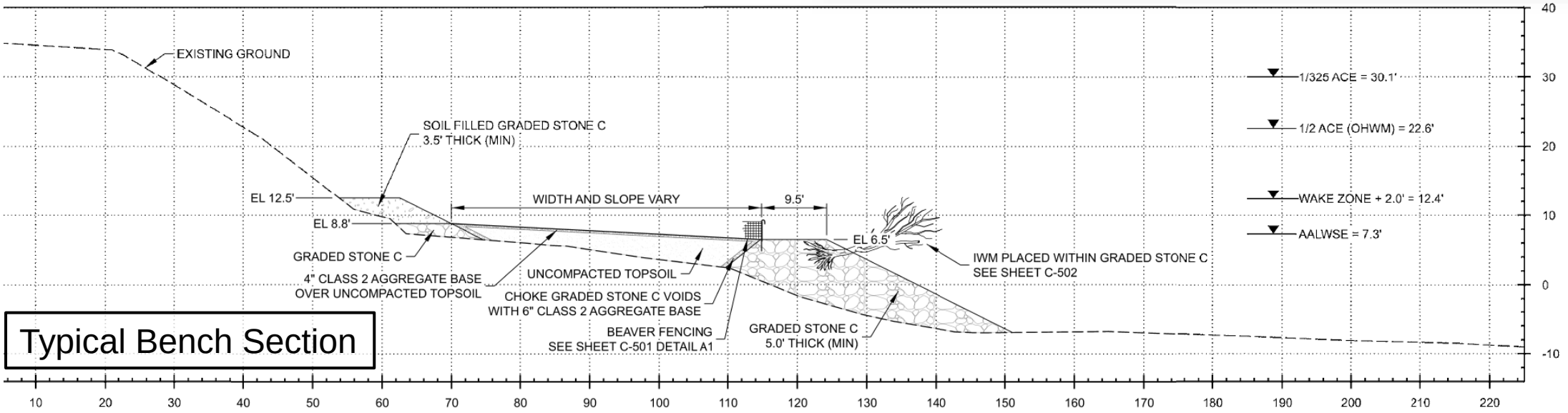
The project design includes:

- Approximately 3 miles of water side erosion protection
- Barges to transport material
- Planting benches, IWM
- Replacement of water side pipes of SUMP 63

CROSS SECTION OF TYPICAL PLANTING BENCH

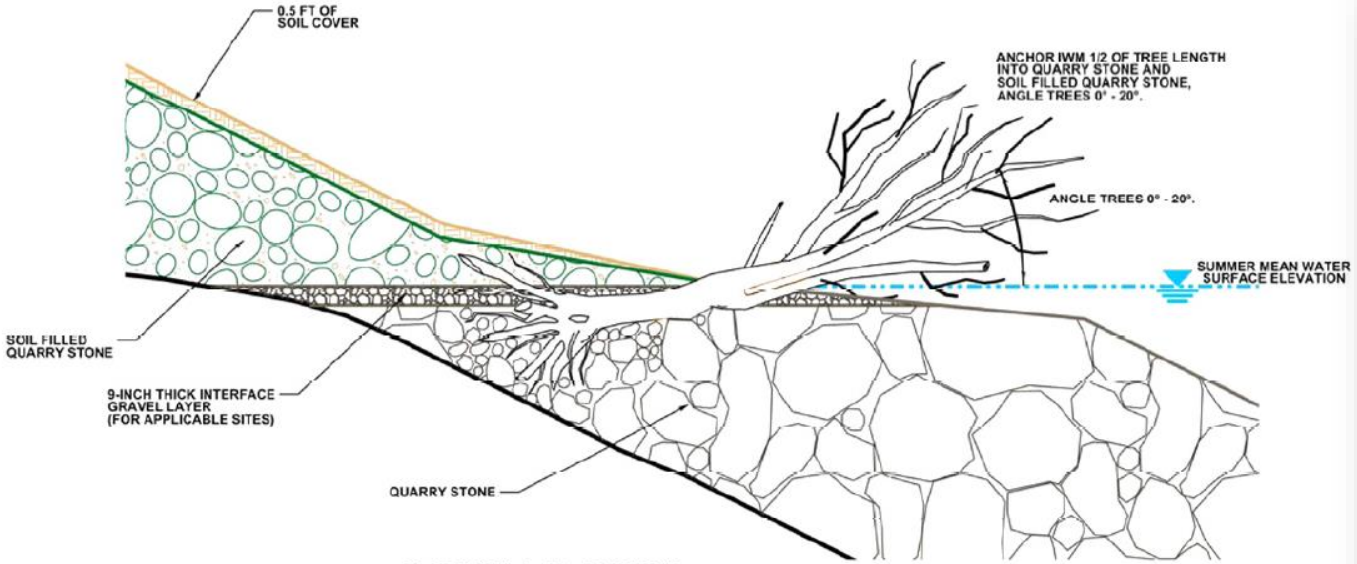


Typical (no bench)



Typical Bench Section

INSTREAM WOODY MATERIAL (IWM) DETAILS

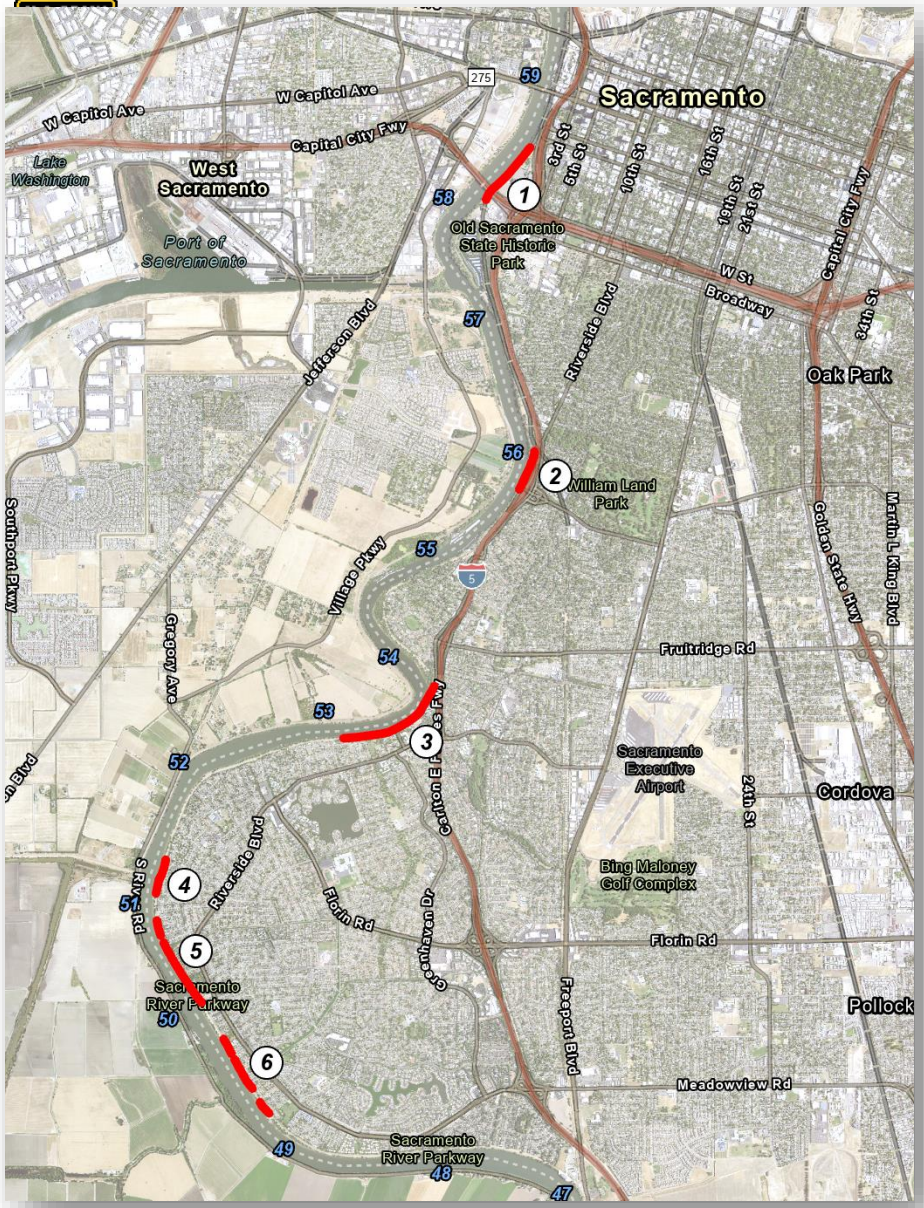


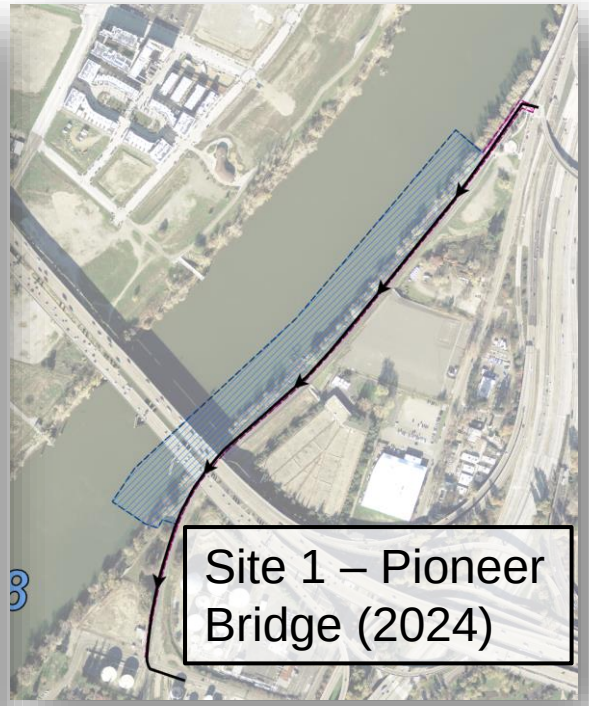
SECTION A-A' - TYPICAL
IN-STREAM WOOD ANCHORING
AND FASCINE PLACEMENT
N.T.S.

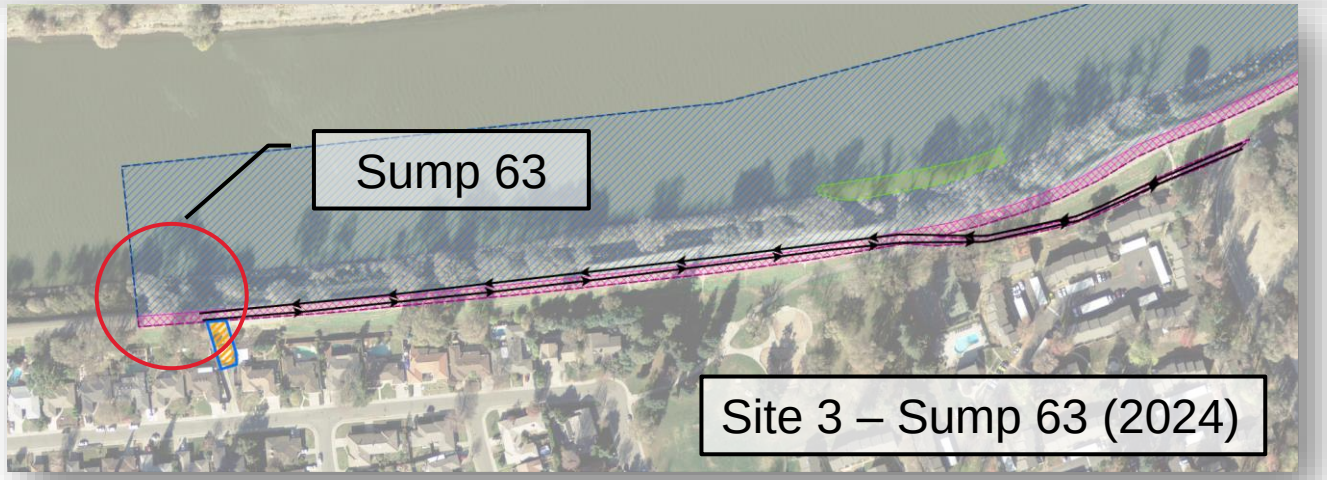
Source: Ayres Associates

Photo 5: IWM installed along summer-fall shoreline.

CONSTRUCTION ACCESS







SUPPLEMENTAL EIR/EA

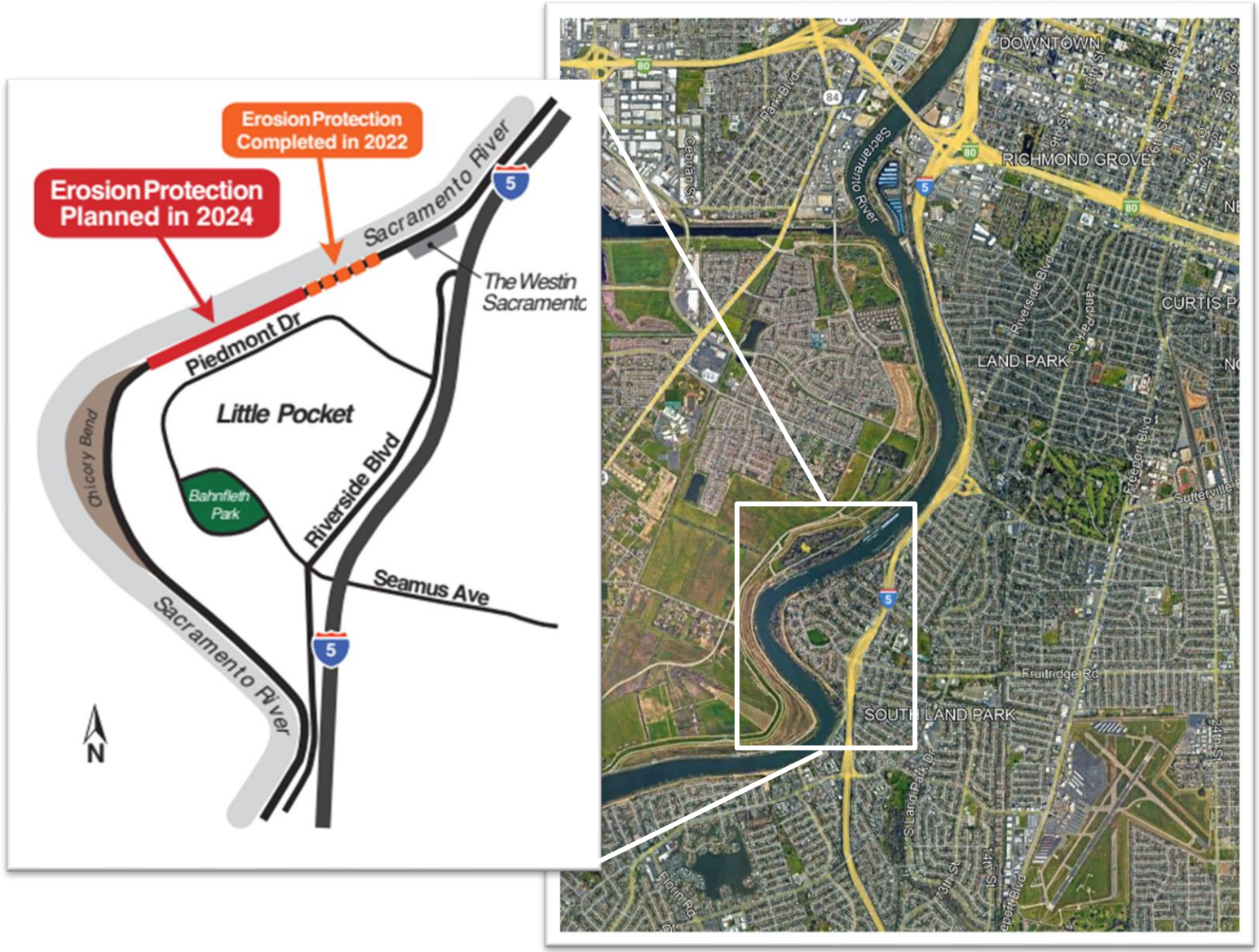
TOPIC AREAS ANALYZED

- Visual Resources
- Hydrology and Water Quality
- Vegetation and Wildlife
- Fisheries
- Special Status Species
- Cultural Resources
- Transportation and Circulation
- Geological Resources
- Air Quality
- Greenhouse Gas Emissions and Energy Consumption
- Noise
- Recreation
- Public Utilities and Service Systems
- Hazards and Hazardous Materials

Available at www.SacLeveeUpgrades.com

SACRAMENTO RIVER EROSION CONTRACT 4 LOCATION

Contract 4 (red):
A 1700 ft section of the Sacramento River, located downstream of Contract 1 (orange, completed in 2022)



BASIS FOR EROSION PROTECTION DESIGN

- Riprap placed in 1939
- Concrete rubble at other places
- Shallow riprap under water level
- Erosion at lower bank has progressed upstream

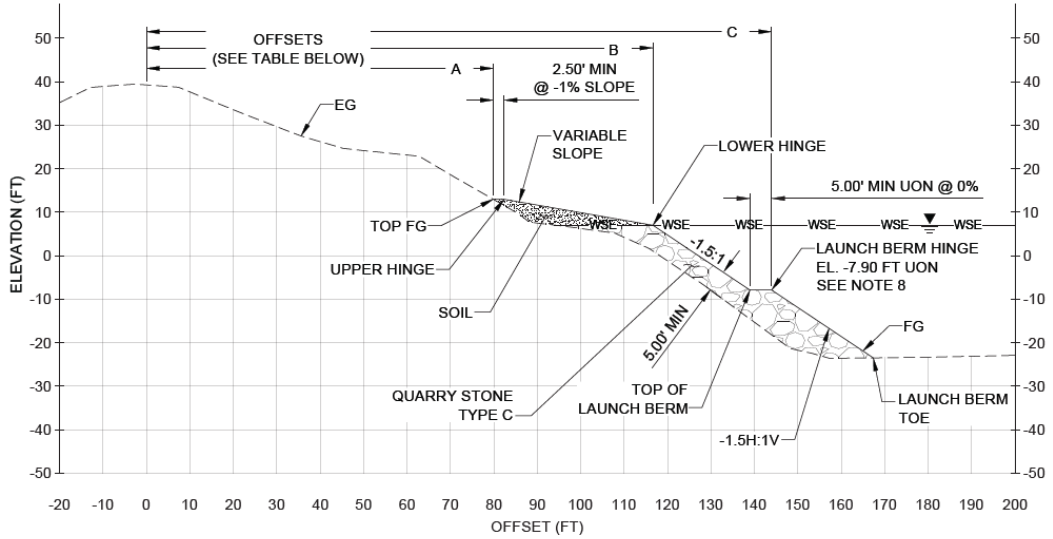
Survey on October 19, 2022
Old riprap present along bank

Survey on October 19, 2022
Photo taken looking up the bank slope.
Concrete rubble placed at toe of bank. Willows growing above concrete.

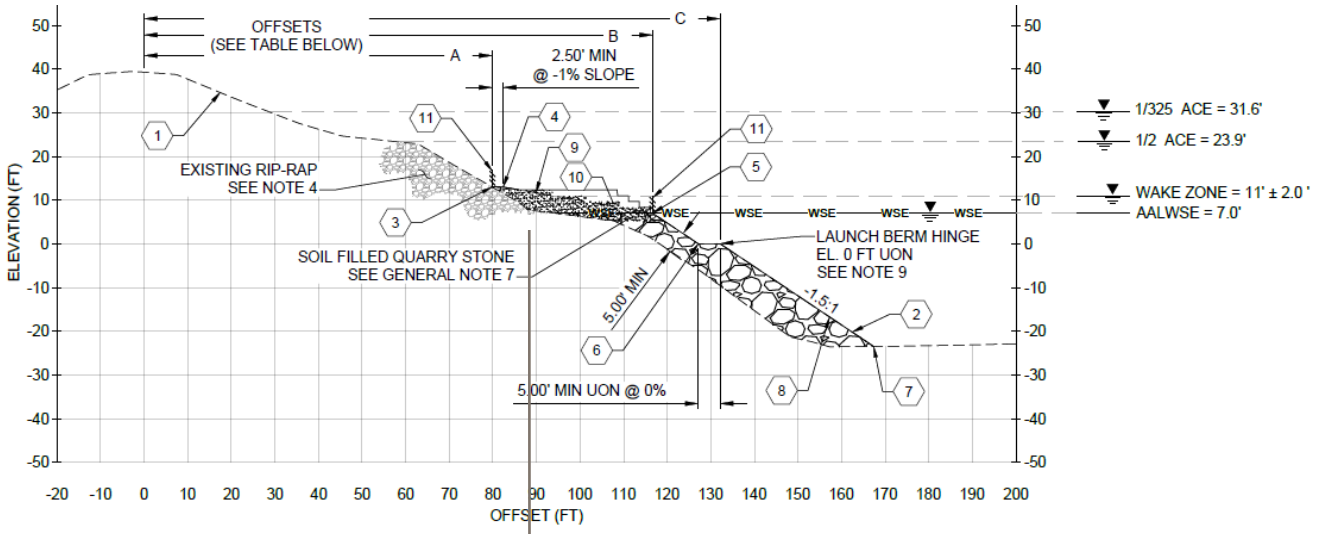
Survey on October 19, 2022
Photo taken looking upstream.
Concrete placed along bank.
Undercut below bank toe

BASIS FOR EROSION PROTECTION DESIGN

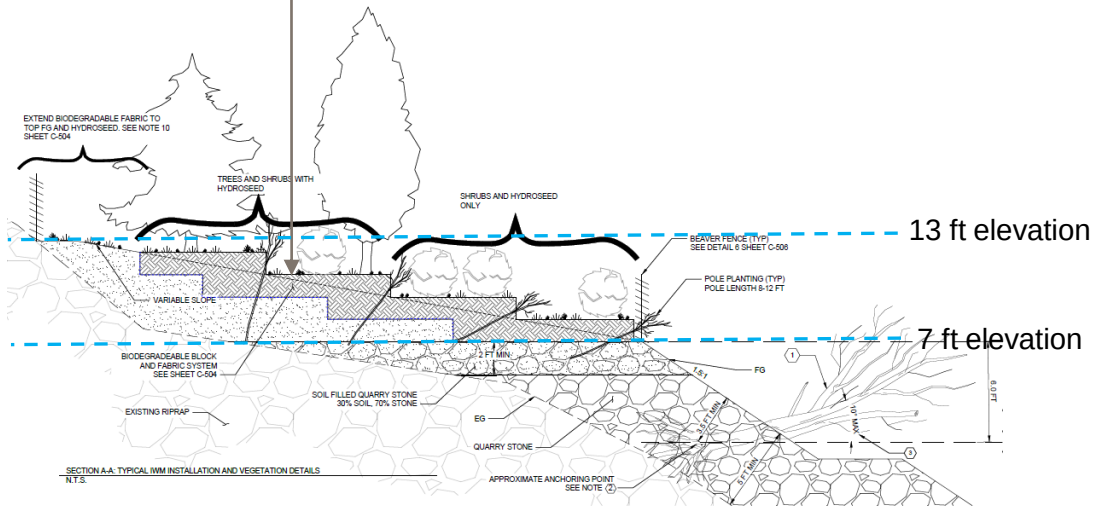
Rock revetment



Soil Bioengineering revetment



- Toe scour protection
- Bank protection below water level (7 ft)
- Bank protection above water level up to wake zone (13 ft)
- 6 rock tie-backs
- Length of project: approximately 1,700’



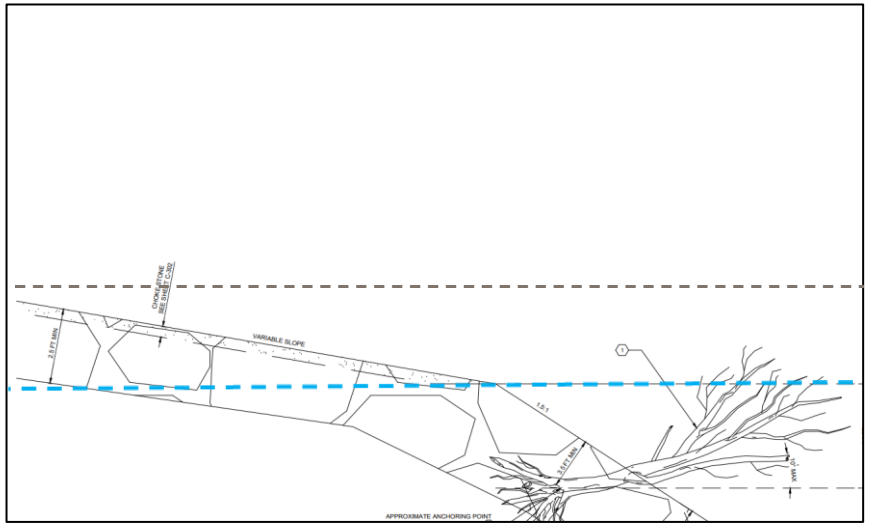
DIFFERENCES BETWEEN CONVENTIONAL AND BIOTECHNICAL DESIGN

Conventional Rock Design

- Riprap above the summer water level
- Requires tree removal (approximately 31 trees)

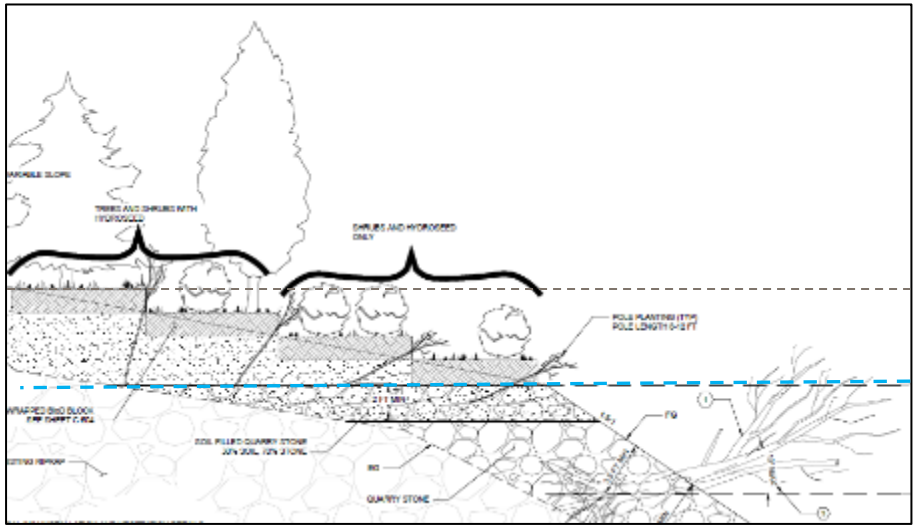
Biotechnical Design

- Shrub and tree plantings above summer water level, instead of riprap
- Existing trees would remain
- Creates riparian habitat through on-site shrub and tree plantings



13 ft elevation

Summer water level, 7 ft elevation



INSTREAM WOODY MATERIAL (IWM)

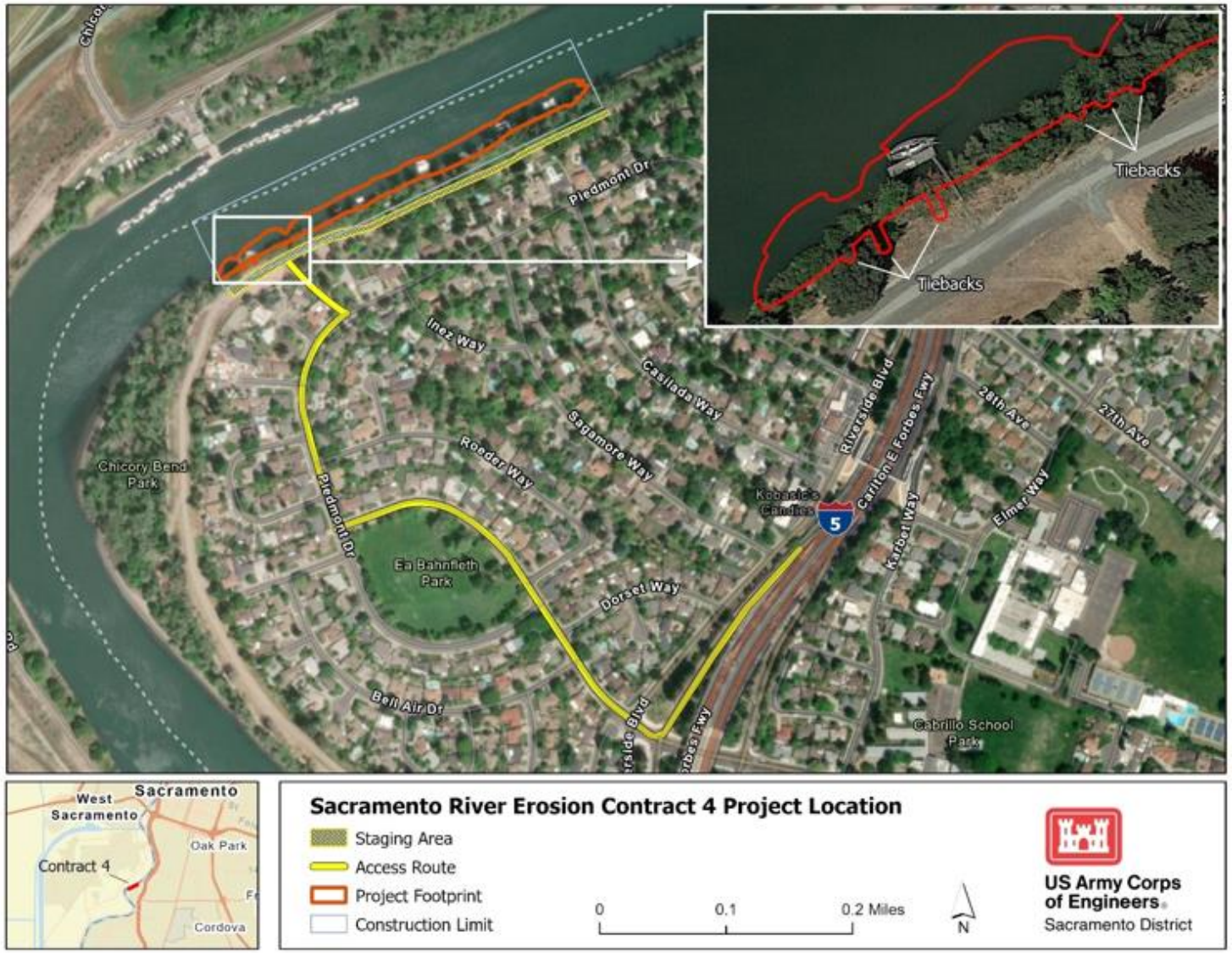
- IWM embedded into rock protection
- Provides shade and refuge for fish
- Per our Biological Opinions from USFWS and NMFS
- 50 ft buffer around boat dock pilings

SACRAMENTO RIVER EROSION CONTRACT 4

Construction personnel access in yellow

Levee top is the staging area
- construction offices
- personal vehicle parking
- tree removal and revegetation trucks

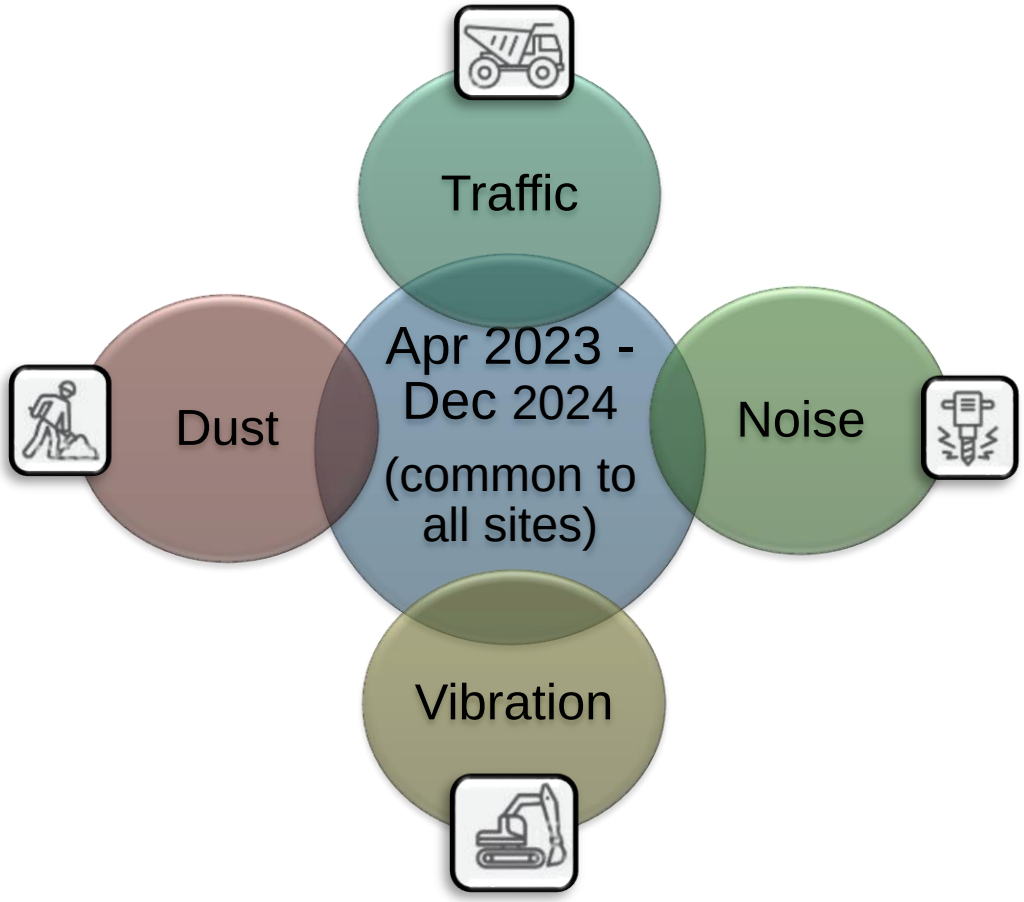
Temporary closure of levee top extending down to river during construction



CONSTRUCTION

- Tree removal (if any) to occur from the levee top
- Equipment will not drive off the levee top
- Underwater rock placement to occur from a barge
- Shoreline rock (or bioengineering) placement to occur from equipment leaving the barge
- Revegetation – after construction, from levee top

IMPACTS



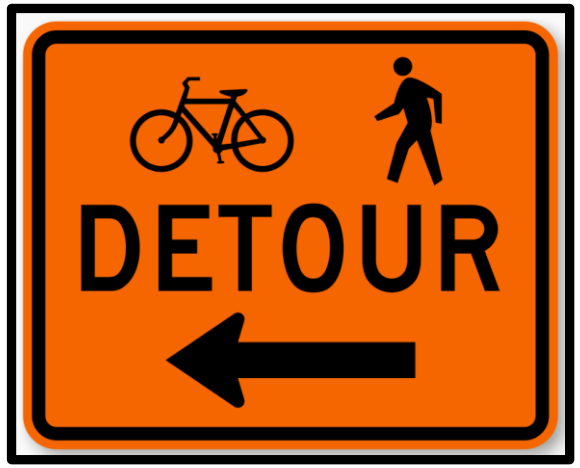
Levee Access - Levee path closed to the public in work areas & parking closed near Westin Hotel

Park - Garcia Bend boat lot and ramp closed April - Dec 2023 & Miller lot April 2023 Dec 2024

Habitat/Shade/Aesthetic - In-water rock placement and tree removal

Air – Equipment emissions, dust

MITIGATION MEASURES



Detour Routes & Flaggers

Vibration Monitoring

Dust Control

SACRAMENTO METROPOLITAN
AIR QUALITY
MANAGEMENT DISTRICT

Water & Air Quality Monitoring

VEGETATION & WILDLIFE

Trimming and Removing Trees Outside of Bird Nesting Season and to Protect Bats

New Riparian Forest Habitat

New Fish Habitat

Comprehensive Monitoring by Qualified Biologists

MITIGATING HABITAT IMPACTS

Beach Stone Lakes Mitigation Site

AVOIDANCE, MINIMIZATION, AND MITIGATION FOR WILDLIFE AND HABITAT

Preconstruction surveys

- Nesting birds
- Bat surveys
- Western Pond Turtle
- Rare plants

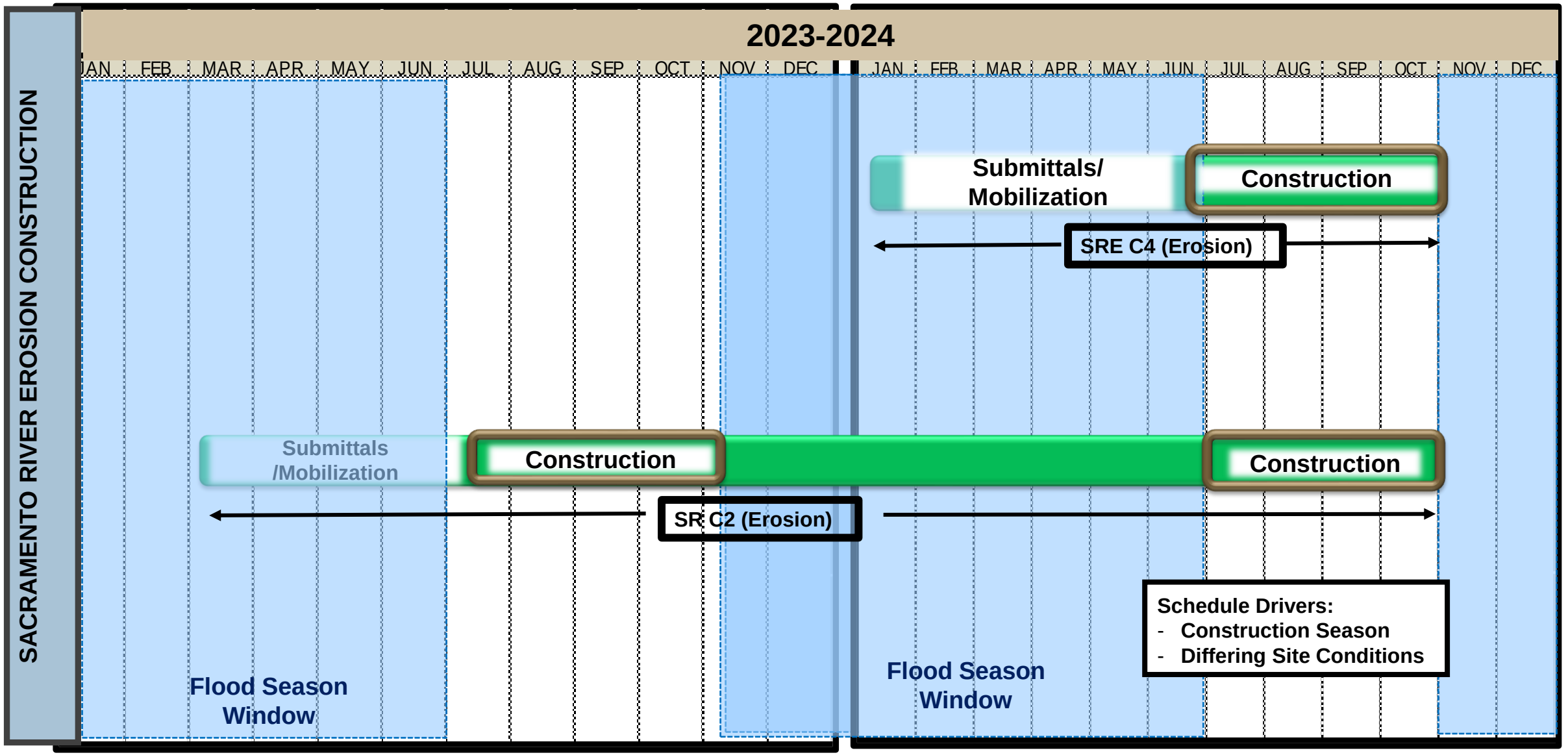
July – October work window

Waterside construction

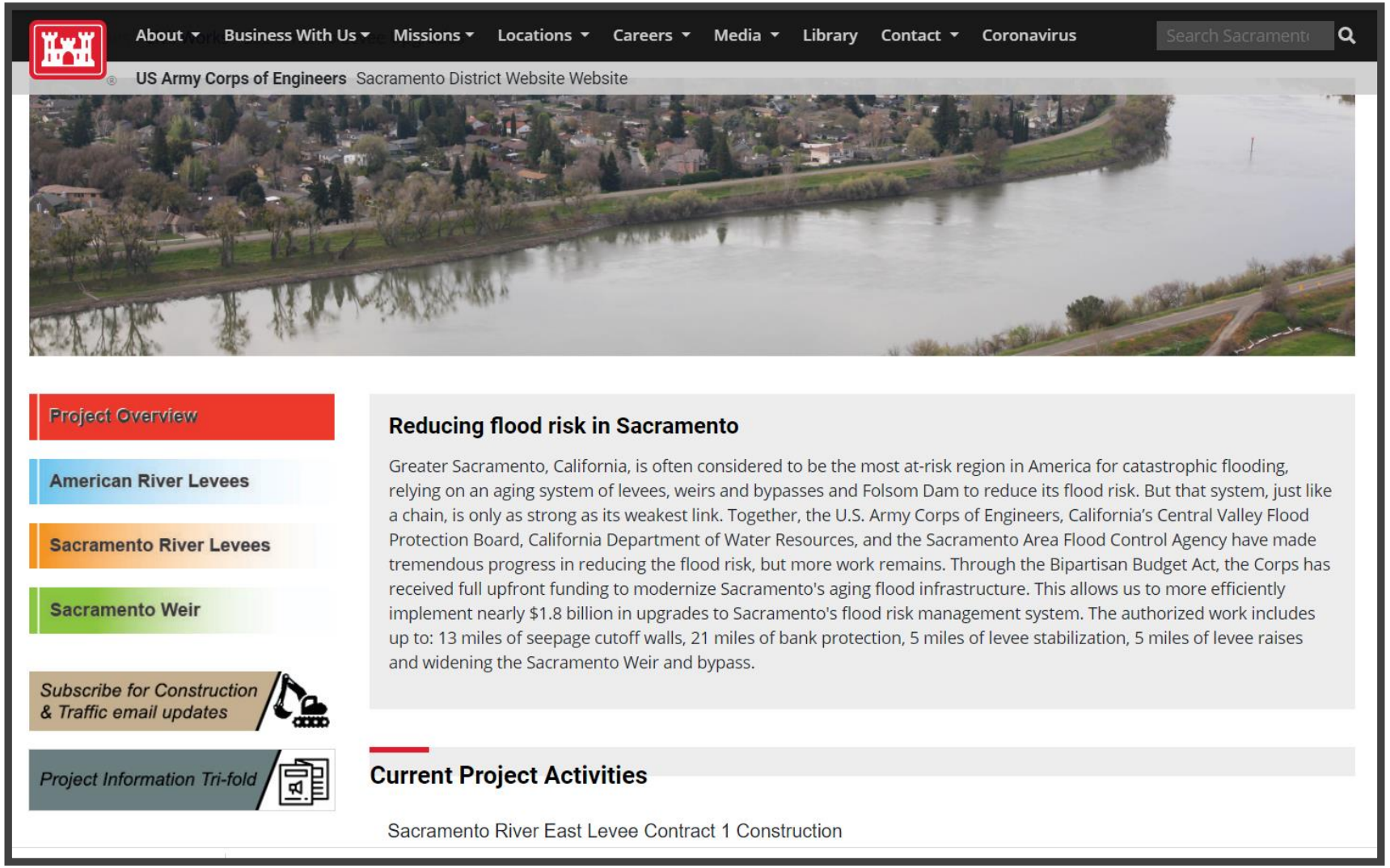
Will follow environmental commitments listed in

- Biological Opinions (NMFS, USFWS)
- 2016 ARCF EIS/EIR
- Supplemental EA/EIR
- Water Quality Certification (Water Board)

SACRAMENTO RIVER EROSION SCHEDULE



FOR MORE INFORMATION…



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- *We will **mitigate** and strive to **minimize***
- *We will be **transparent***
- *We will be **honest***
- *We will keep **communication** lines open*

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