

American River Common Features And West Sacramento

General Reevaluation Reports

*Informational Briefing to the Central
Valley Flood Protection Board
(CVFPB)*

11 July 2014

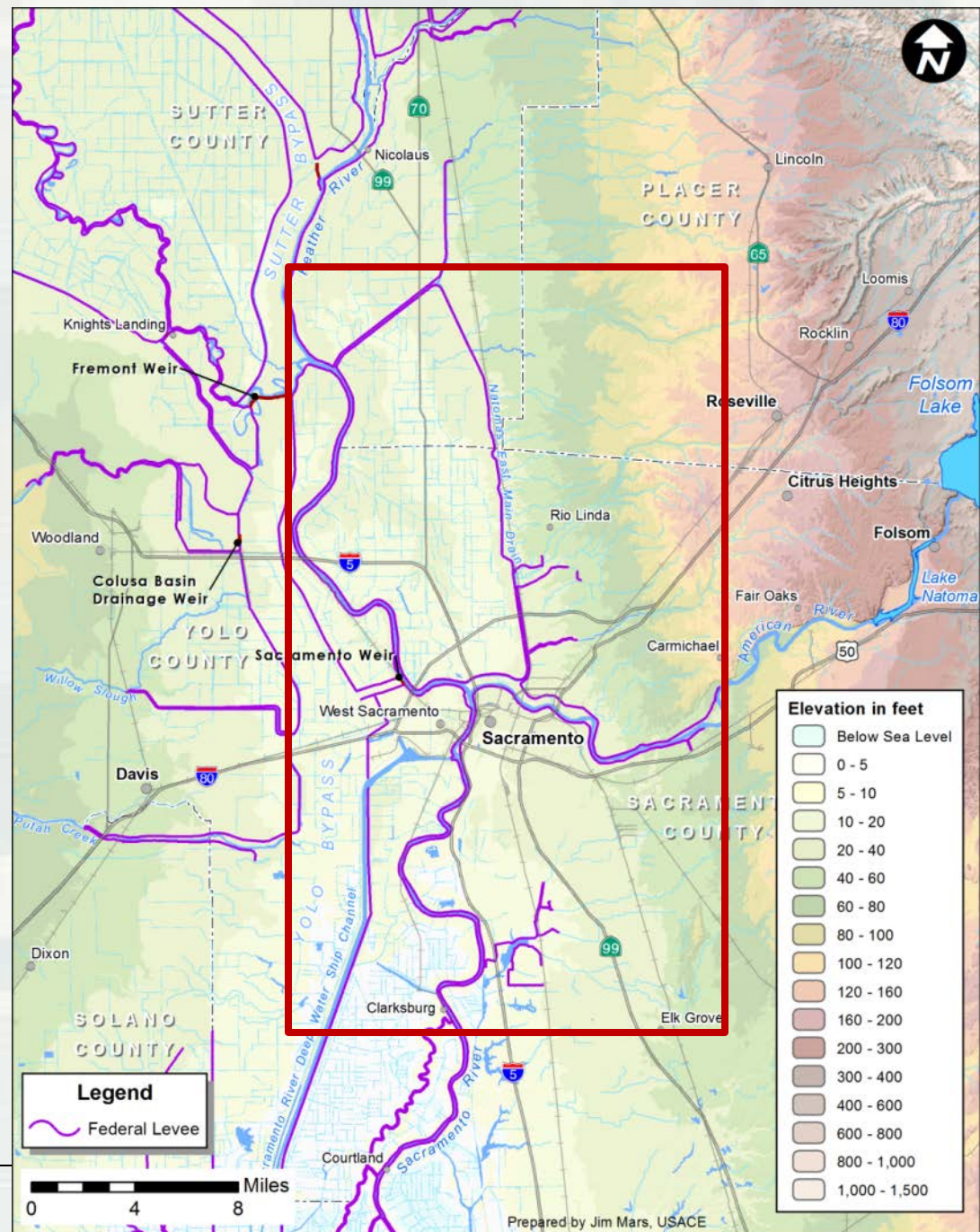


US Army Corps of Engineers
BUILDING STRONG®



Presentation Objectives

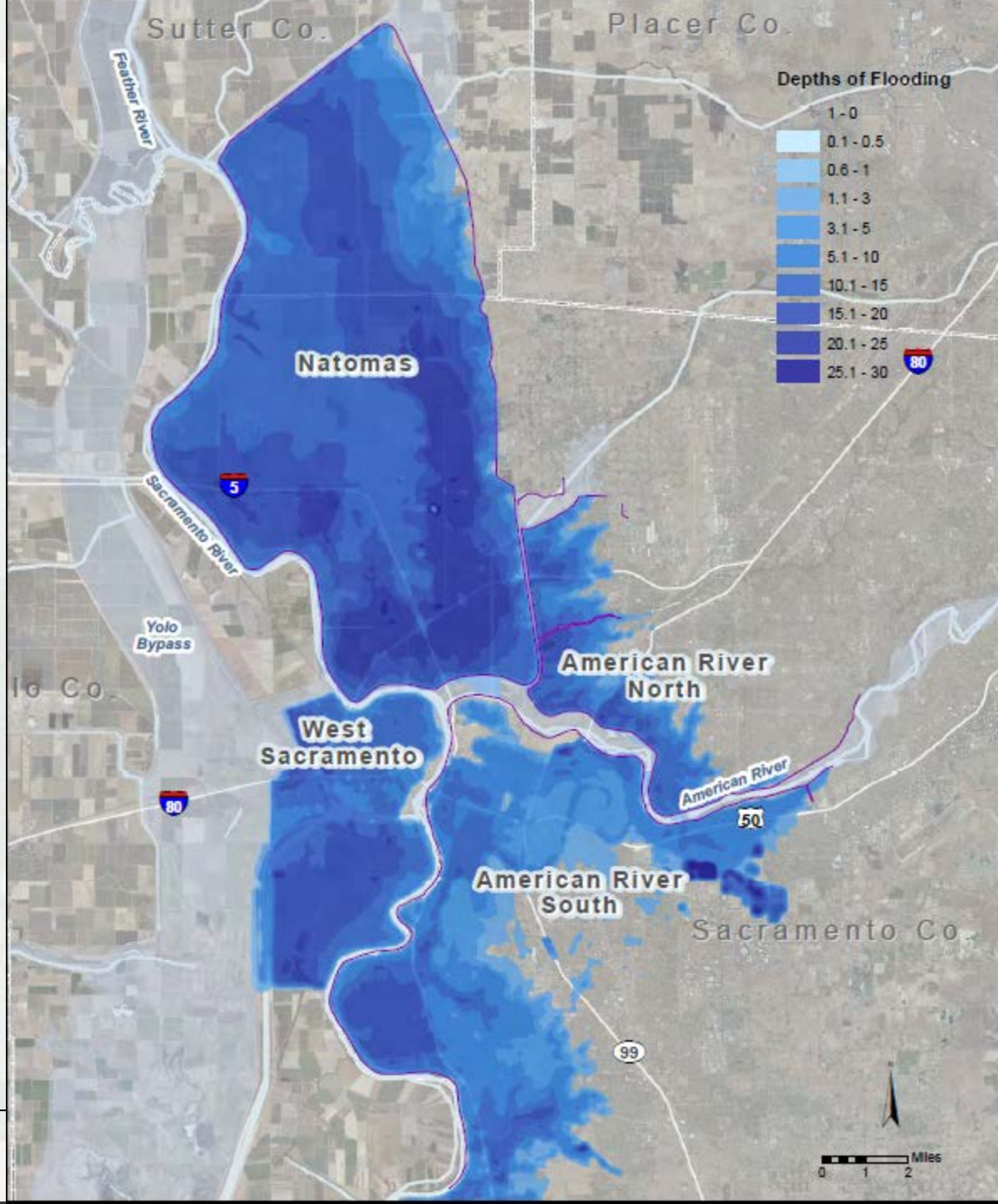
- Brief study analysis results
- Present features of the Tentatively Selected Plan (TSP) for both studies
- Highlight next steps



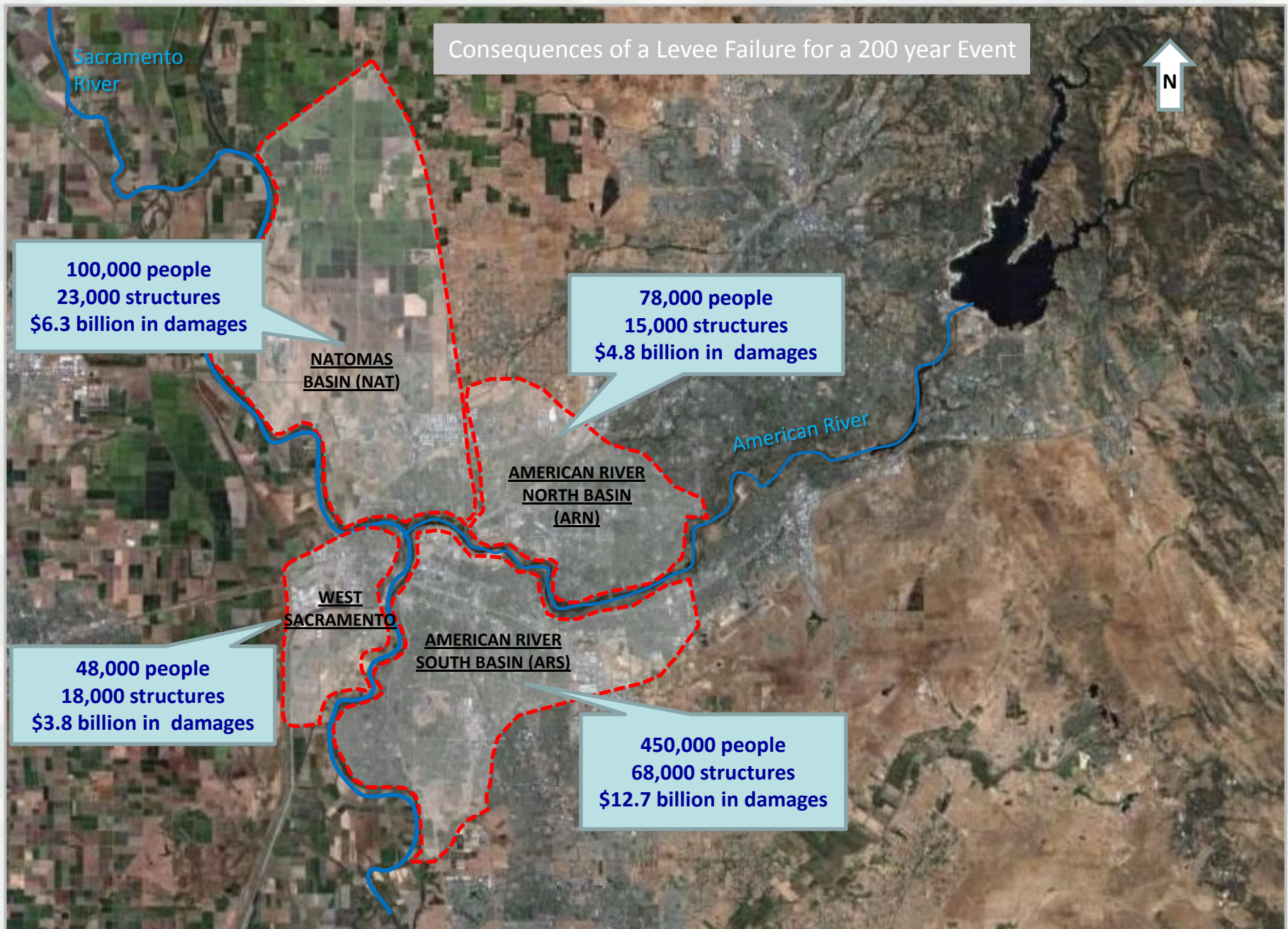
Study Area

Depth of Flooding for the 500 year Event

- Confluence of two major rivers
- High probability of flooding
- High consequences if study area does flood



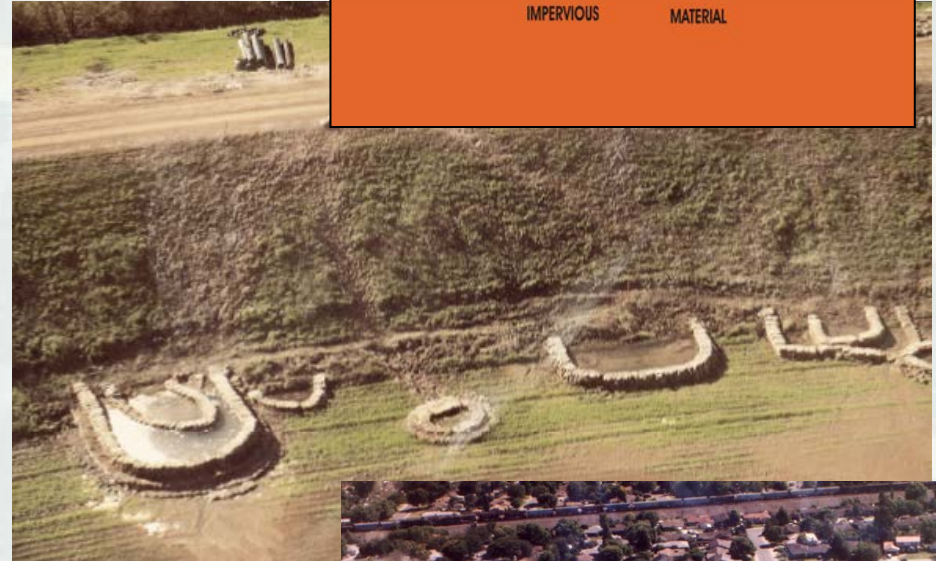
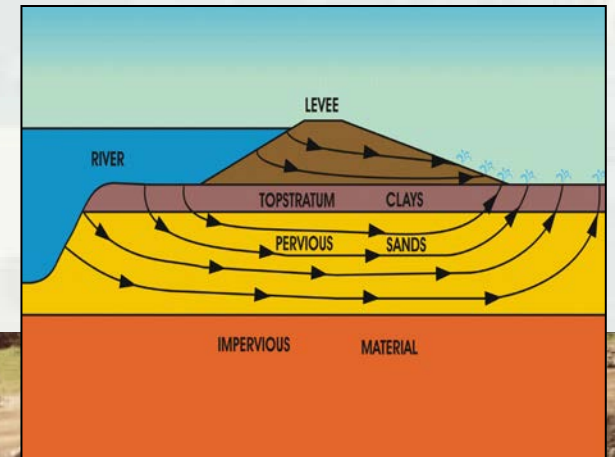
Consequences of a Levee Failure for a 200 year Event



Levee Problems

Levee Failure Modes from Highest Risk Driver to Least:

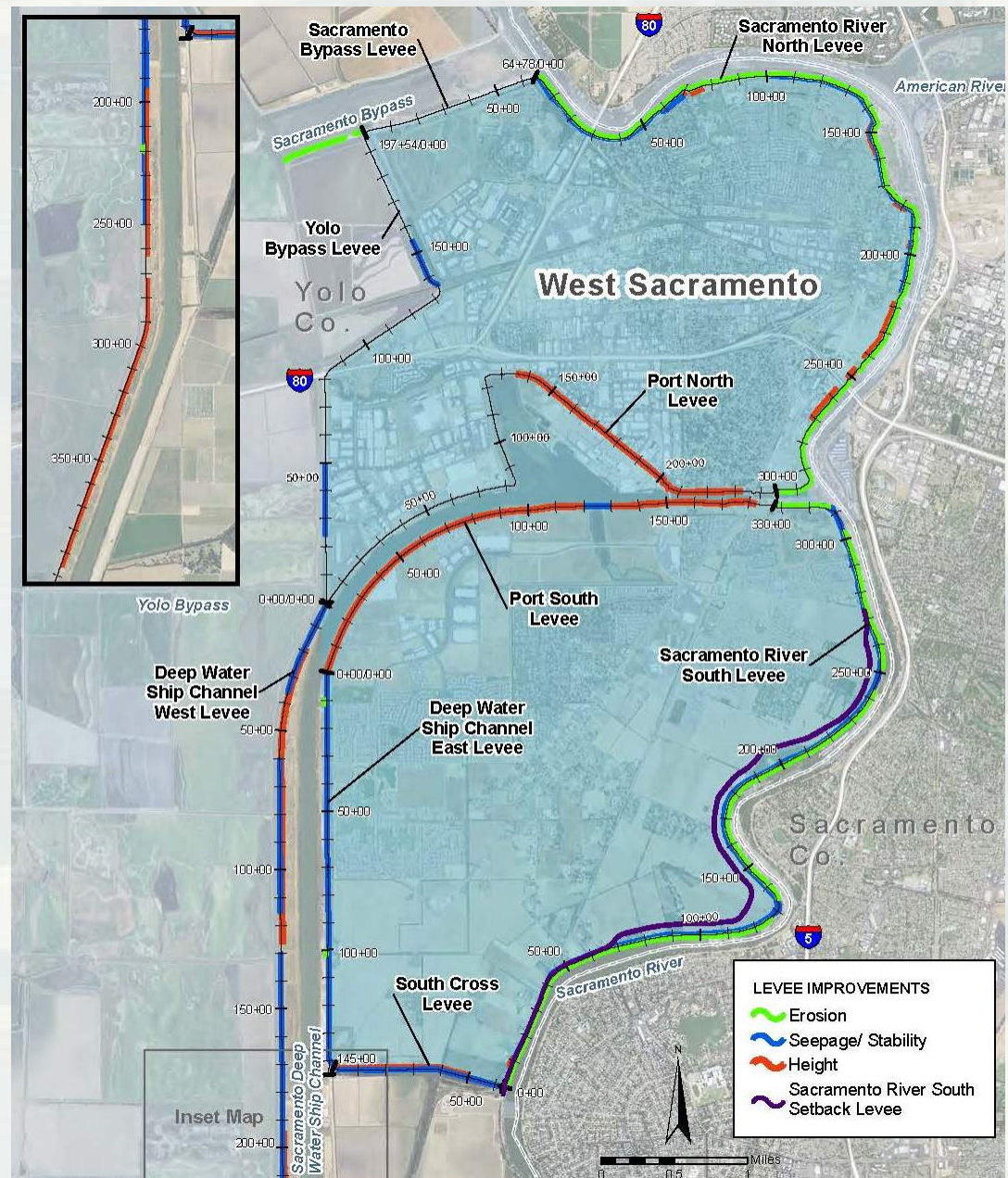
- Through and under-seepage
- Slope stability
- Erosion
- Overtopping



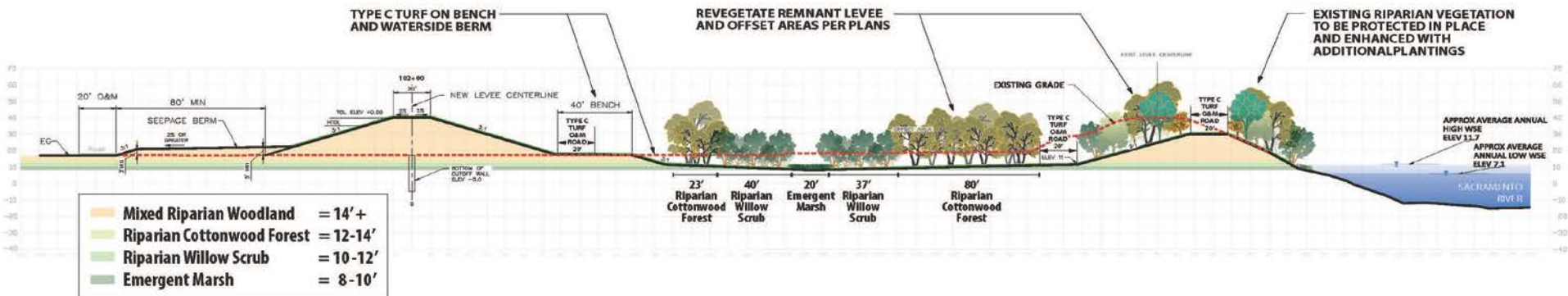
West Sacramento Tentatively Selected Plan (TSP)

Improve Levees and Southport Setback Levee

- Levee improvements:
 - Seepage/Stability = Slurry cutoff walls or seepage berms
 - Erosion protection = bank protection or rock trench
 - Increase Capacity = Levee Raise
- Setback Levee in Southport to address levee concerns and increase riparian habitat



West Sacramento GRR Southport Setback Levee

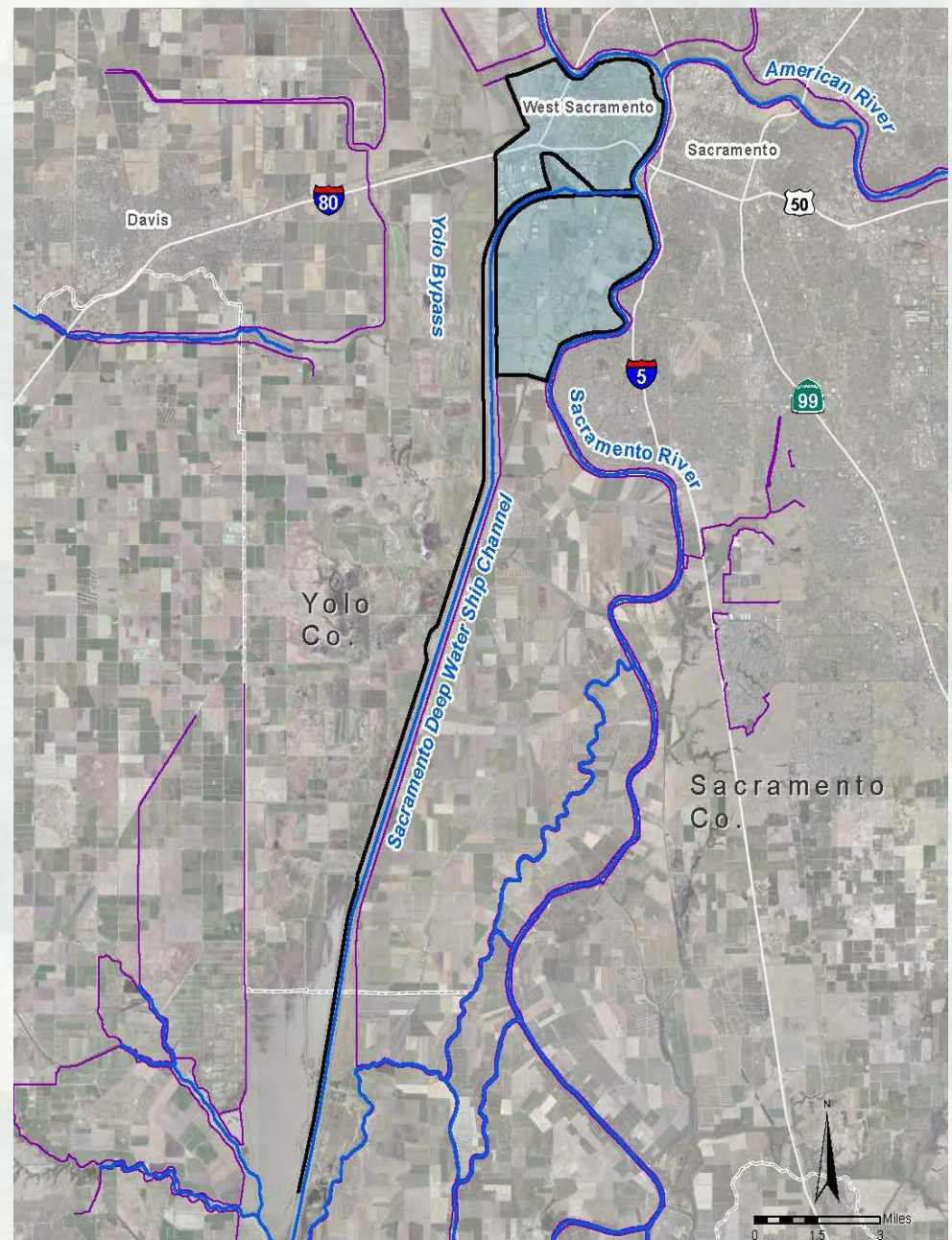


Typical Section of Proposed Levee, Offset Area, and Remnant Levee
Proposed Levee Station 102+00



West Sacramento GRR Deep Water Ship Channel (DWSC)

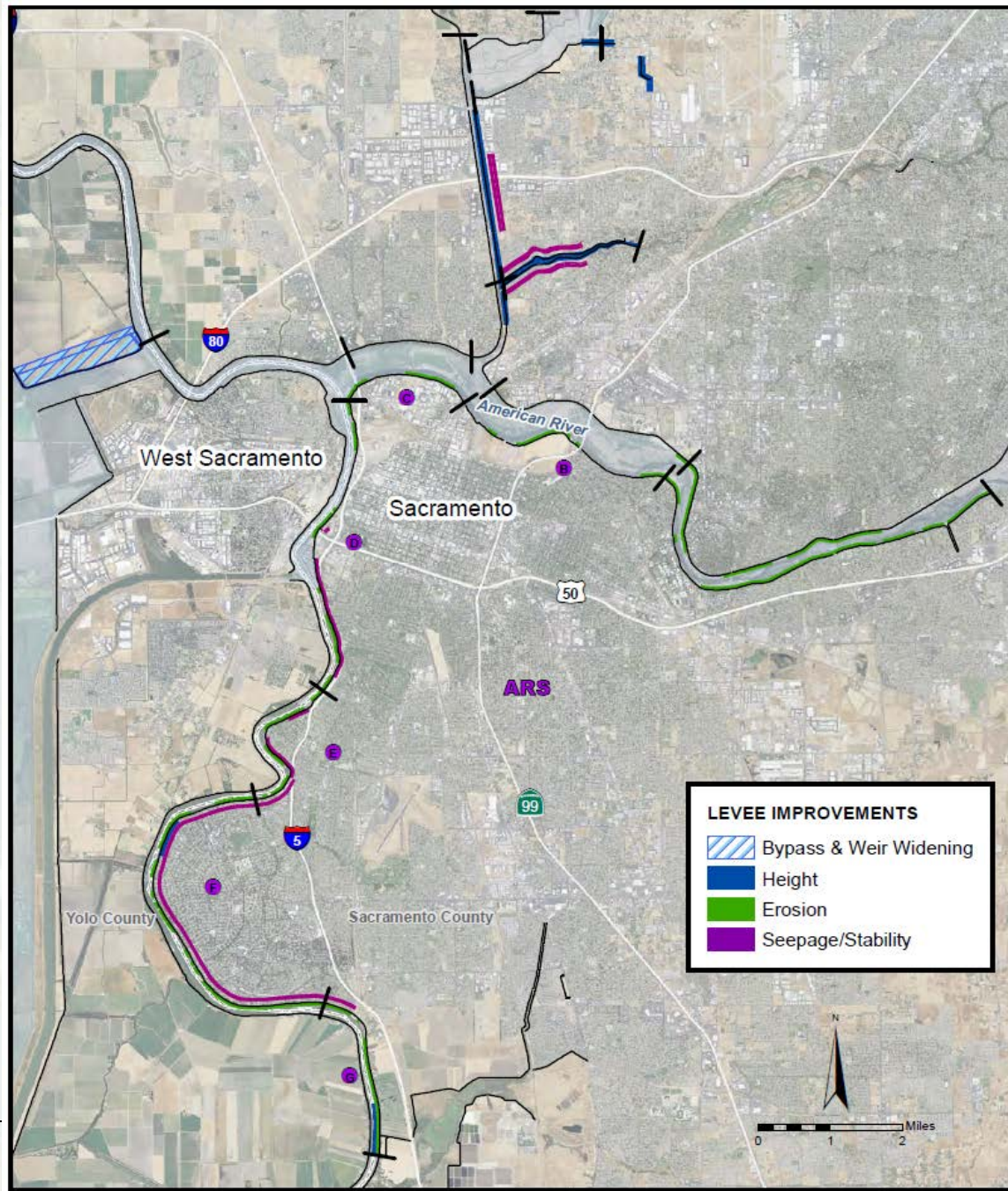
- DWSC was constructed in the 1960s and breached the existing project levee
- Since the DWSC West levee provides FRM benefits to West Sacramento the GRR recommends improvements to the DWSC West levee and that it becomes a project levee.



American River Common Features Tentatively Selected Plan

Improve Levees and Widen Sacramento Weir and Bypass

- Seepage/Stability = Slurry cutoff walls, seepage berms
- Erosion protection = bank protection or launchable rock trench
- Overtopping = Levee Raise or Floodwall and widen Sac Bypass



ARCF Tentatively Selected Plan (TSP)

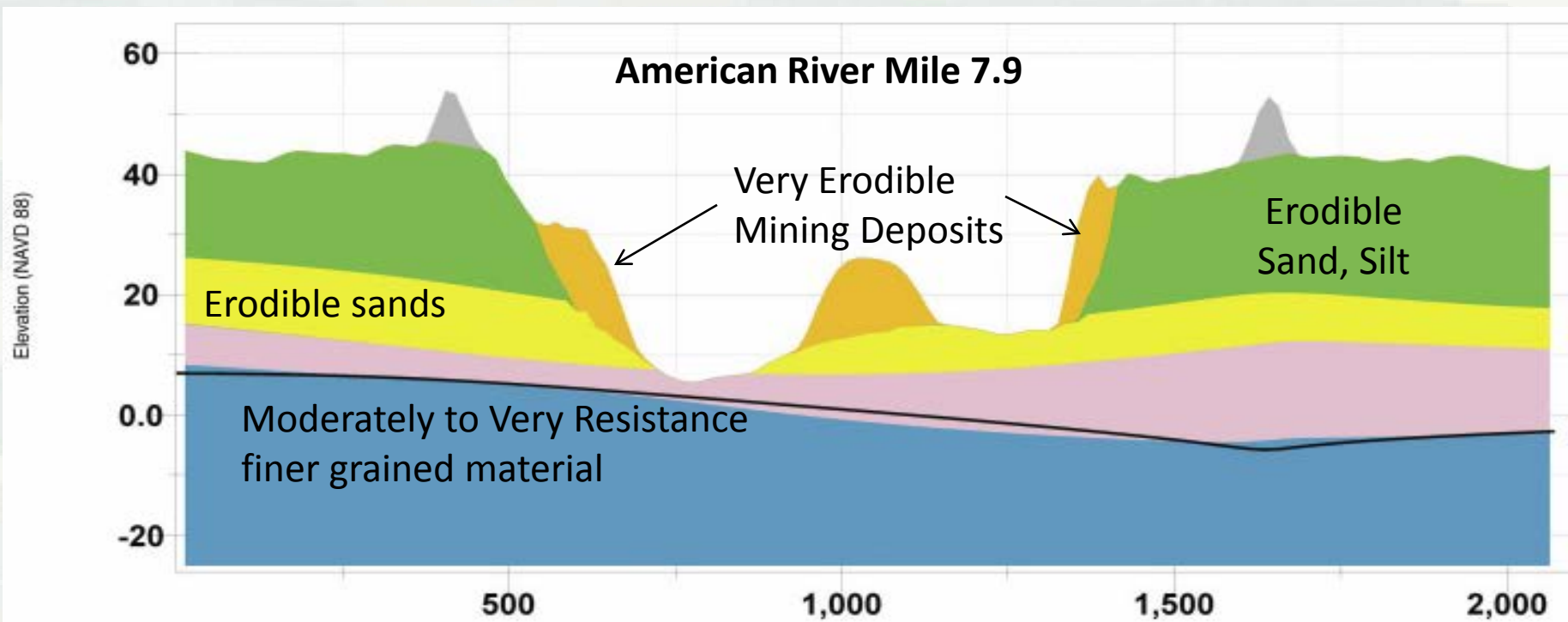
Sacramento Weir and Bypass Widening

- Sacramento Weir
 - Widened by 1,500'
 - Old weir kept in place
- Sacramento Bypass
 - New levee constructed 1,500' to the north
 - Existing north levee degraded



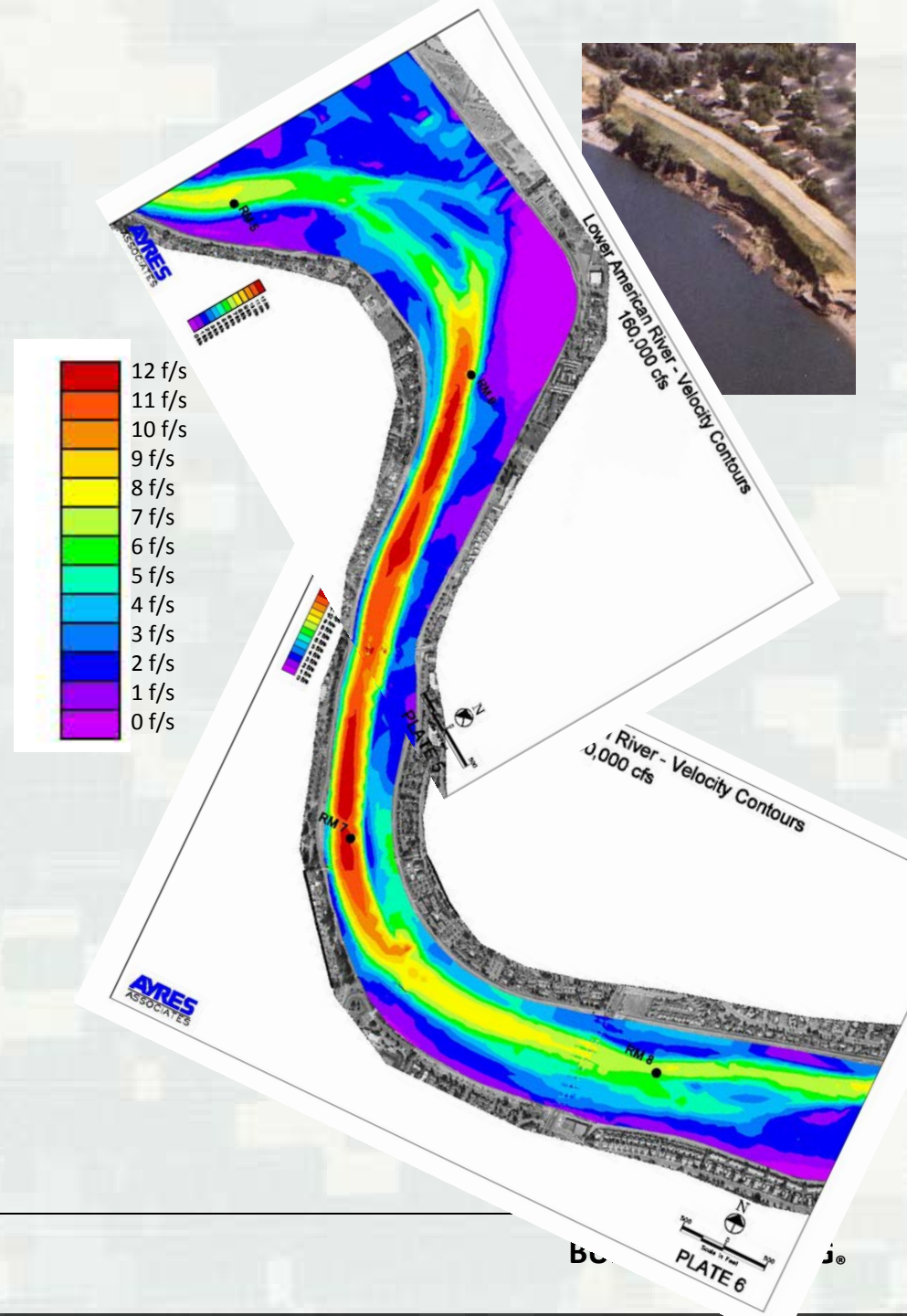
American River Erosion Analysis

- Fill** = Fill; levees, road embankments, other
- 1850** = 1850s mining deposits
- SS** = silty sand, sandy silt, silt, sand
- S** = sand; locally silty sand, gravelly sand, clayey sand
- BCG** = boulders, cobbles, gravel, with sand; locally with silt and clay
- CS** = silty clay, sandy clay, clay; locally clayey sand, silty sand, silt
- C** = clay
- = Erosionally resistant surface



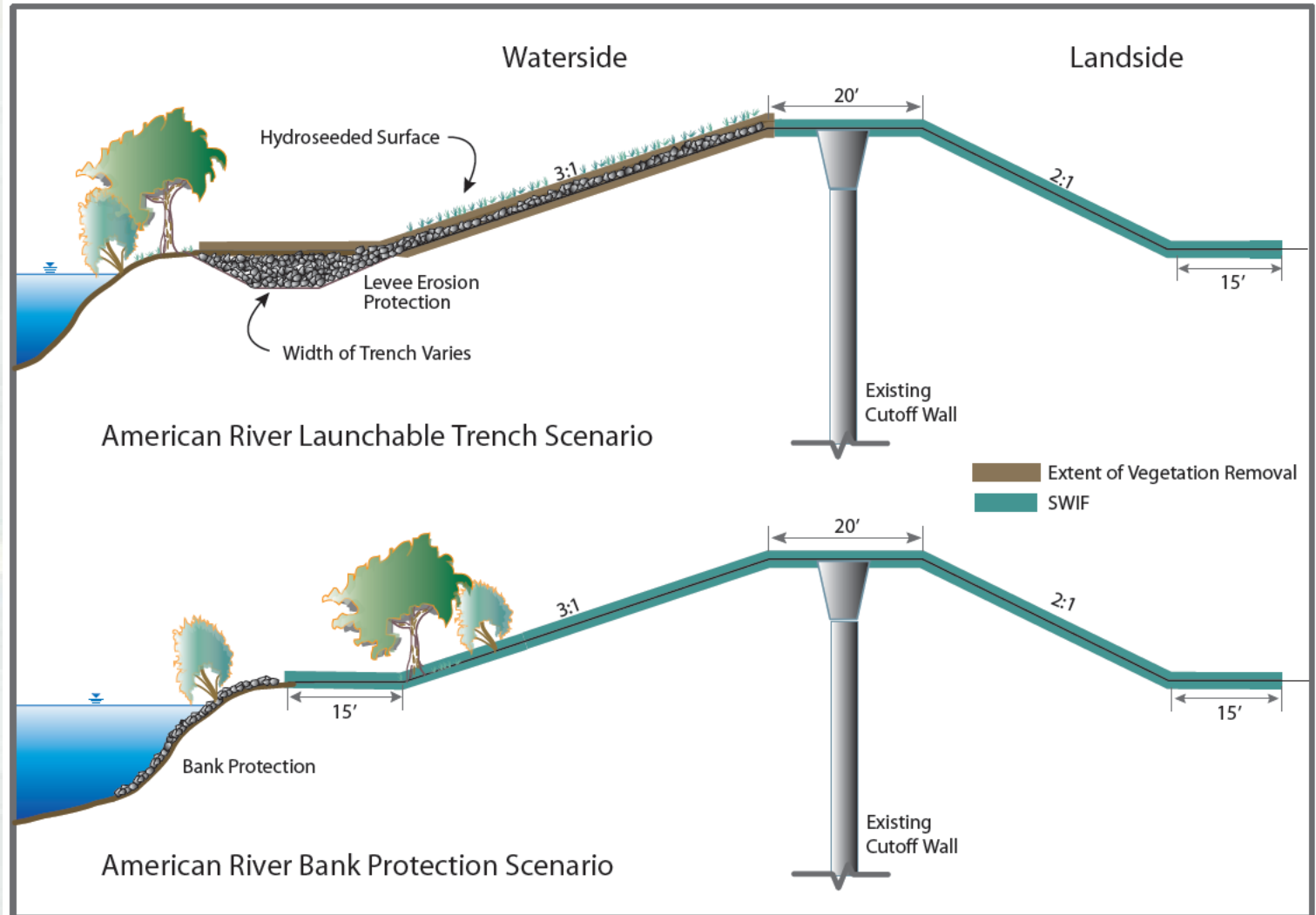
Erosion Analysis

- American River relatively steep downstream from Folsom to the confluence
- Levees constructed close to River between RM 5 and RM 10, constricting flow
- Steepness, constricted channel, along with erodible soils, lead to erosion of the banks and levees



Proposed Erosion Protection

Typical Scenarios



Launchable Rock Trench Construction

River Mile 7.0 Right Bank (at Guy West Bridge)



Proposed Bank Protection Scenario

*Sacramento River Bank Protection Project, Lower American River, River Mile 7
at Guy West Bridge*

2001



2005

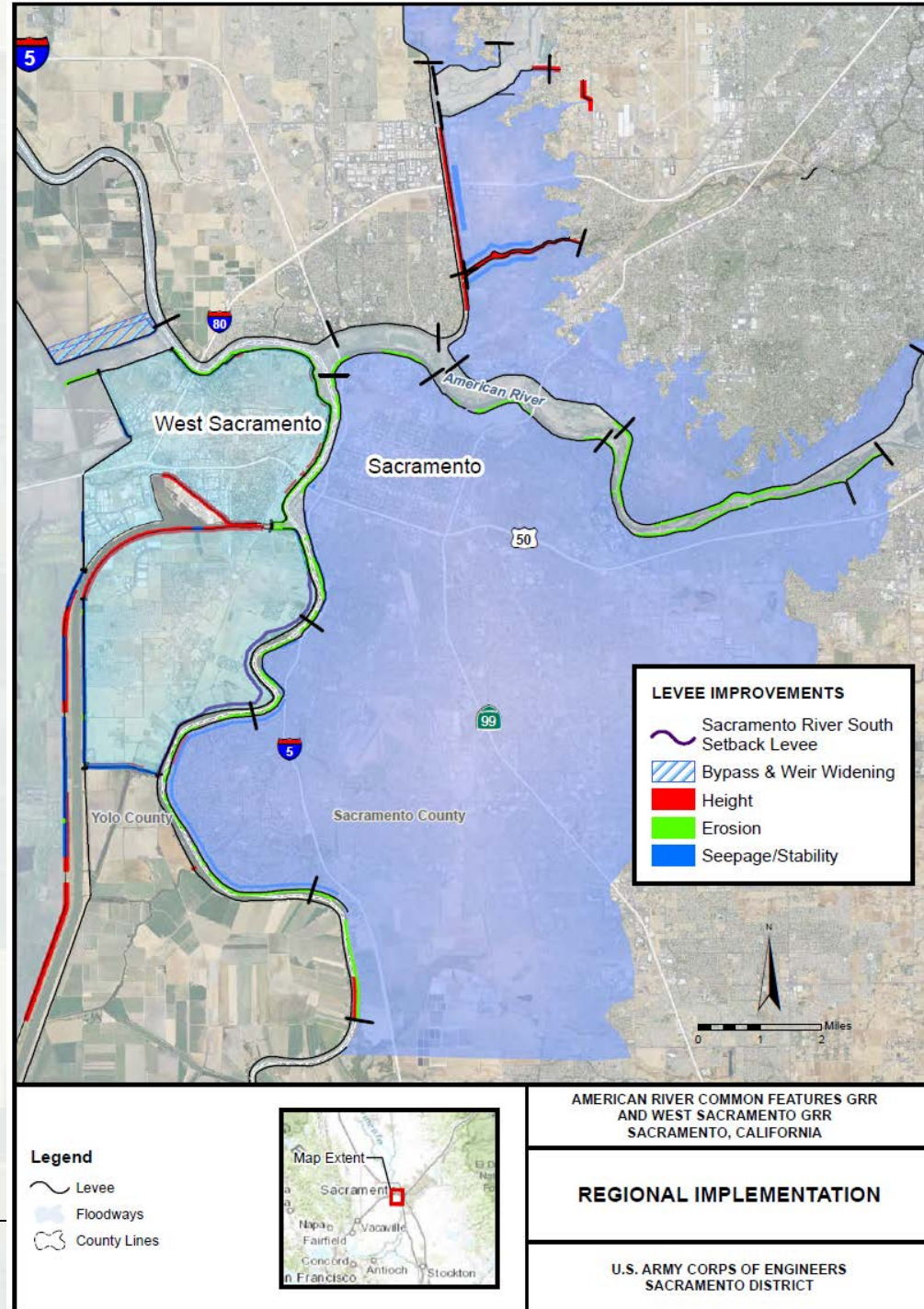


2010

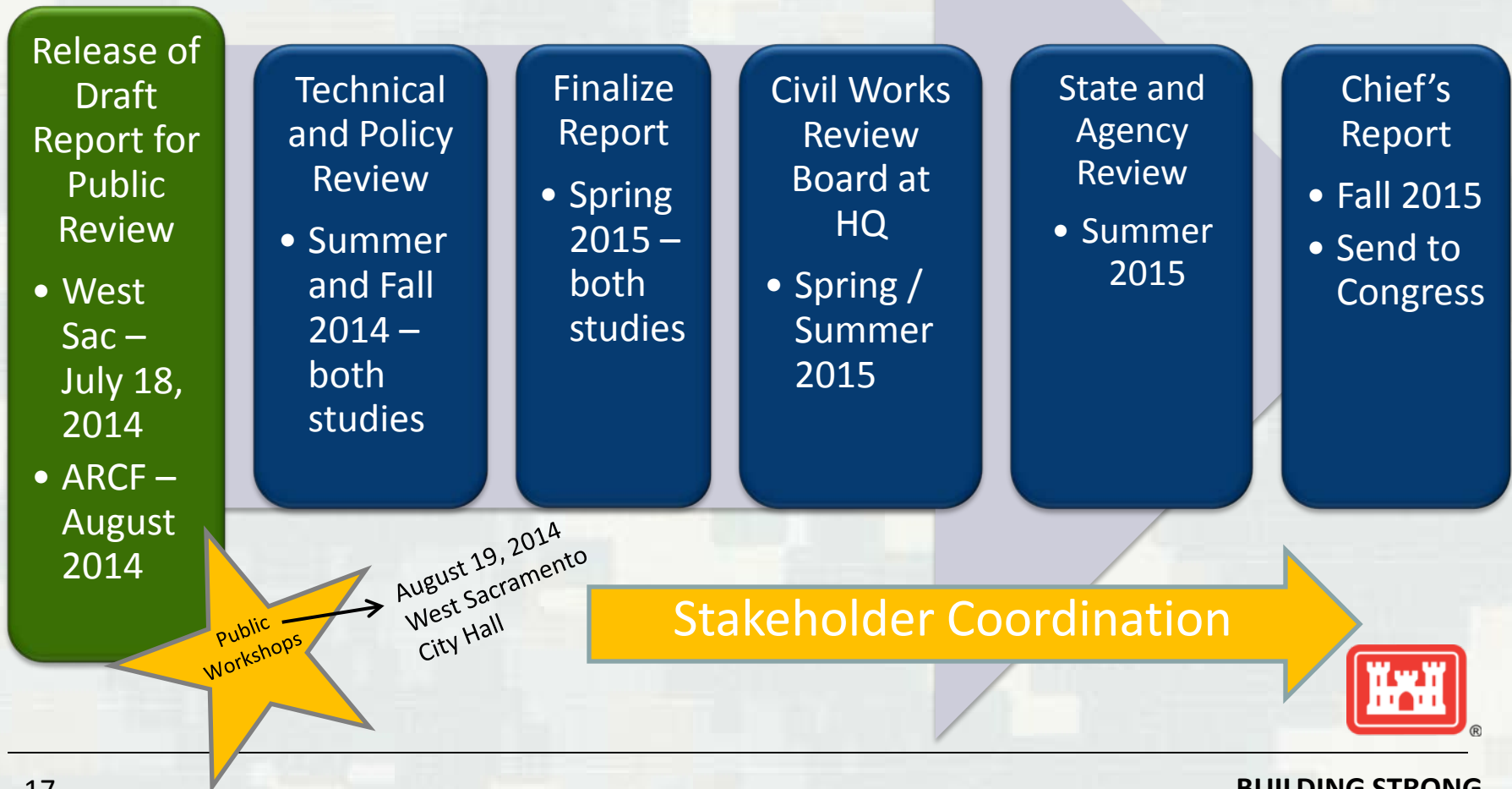


Implementation Approach

- Worst First for both Studies – identify areas with highest return, greatest buy down of risk
- Protect other resources
- Identify ways to minimize impacts and maximize cost-effectiveness during Design
- Sponsors moving forward on Section 408 requests to initiate work in highest risk areas



West Sacramento and American River Common Features GRRs Process for Implementation



Questions?

