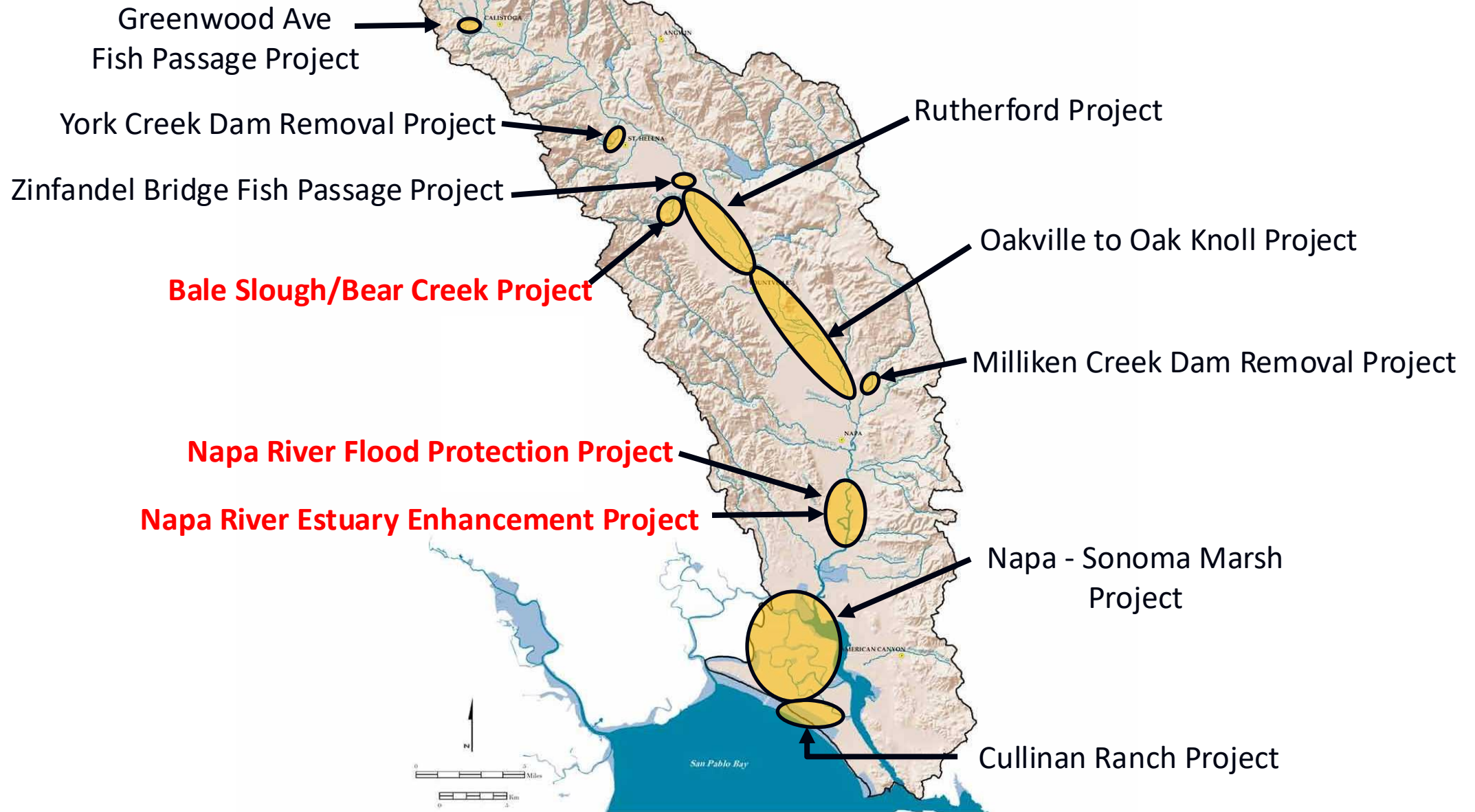


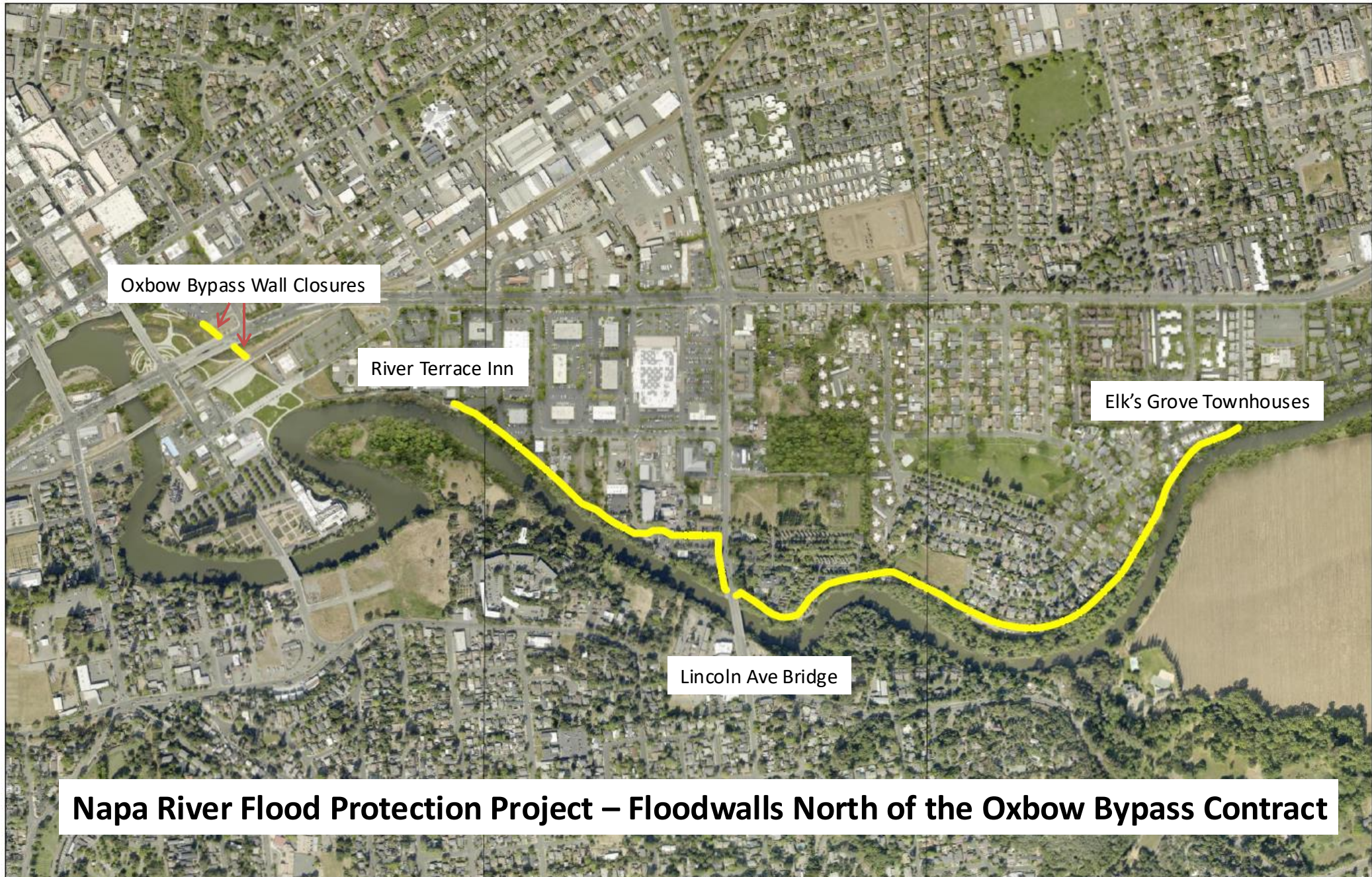
Napa County Watershed Symposium 2024



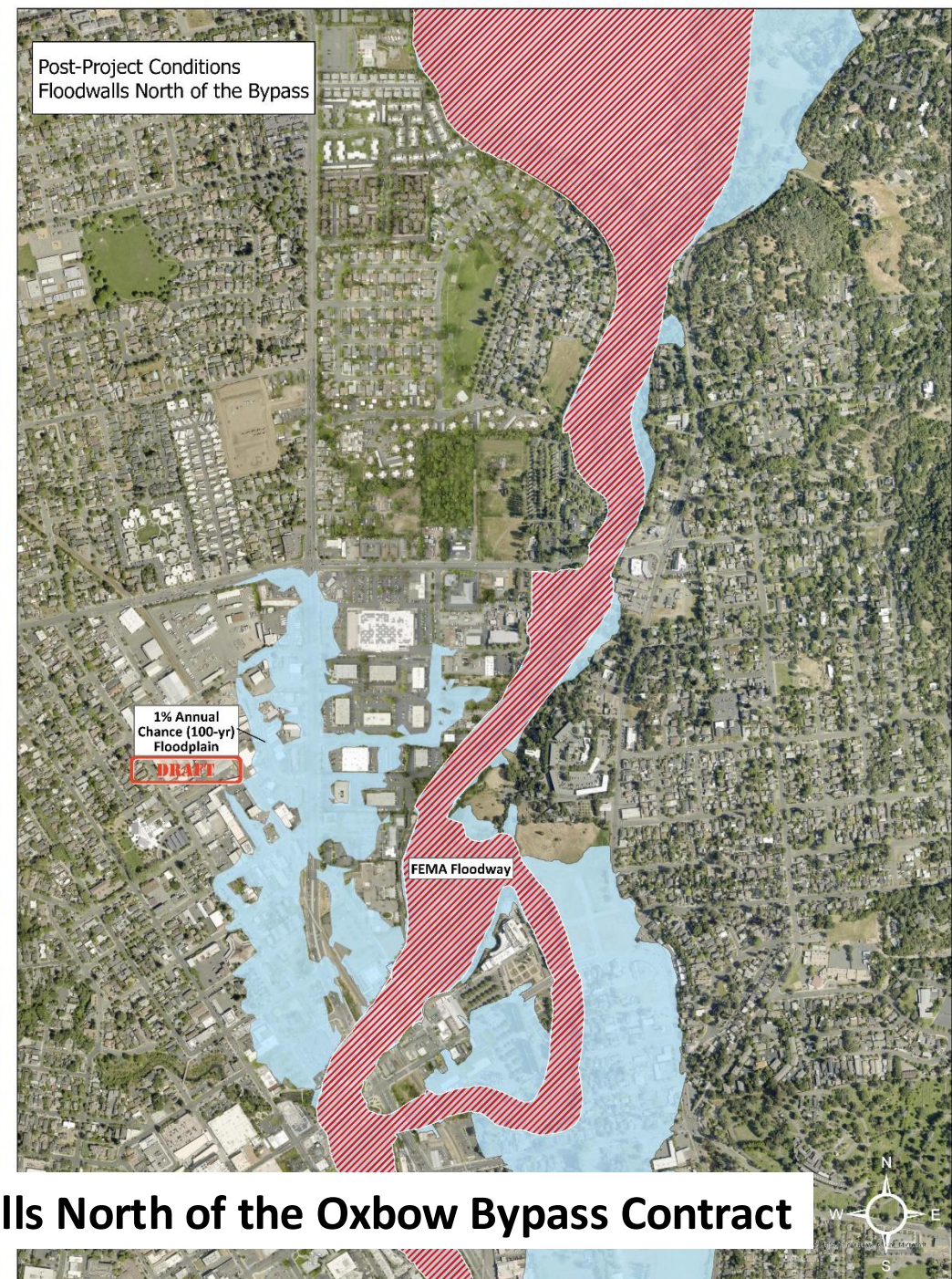
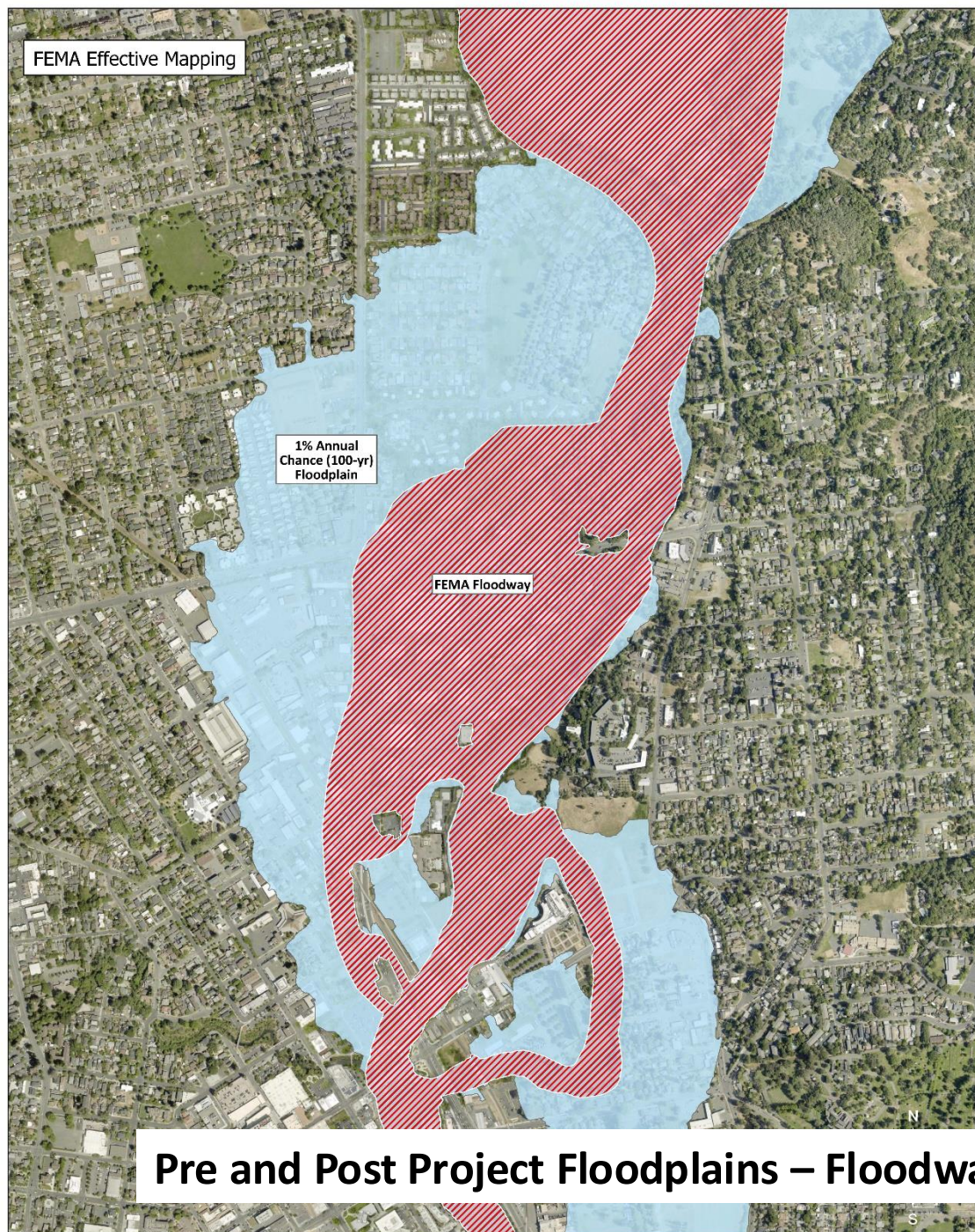
Update on Napa River Flood Protection Project and Restoration Projects within the
Napa River Watershed

Major Restoration Projects within the Napa River Watershed





Napa River Flood Protection Project – Floodwalls North of the Oxbow Bypass Contract

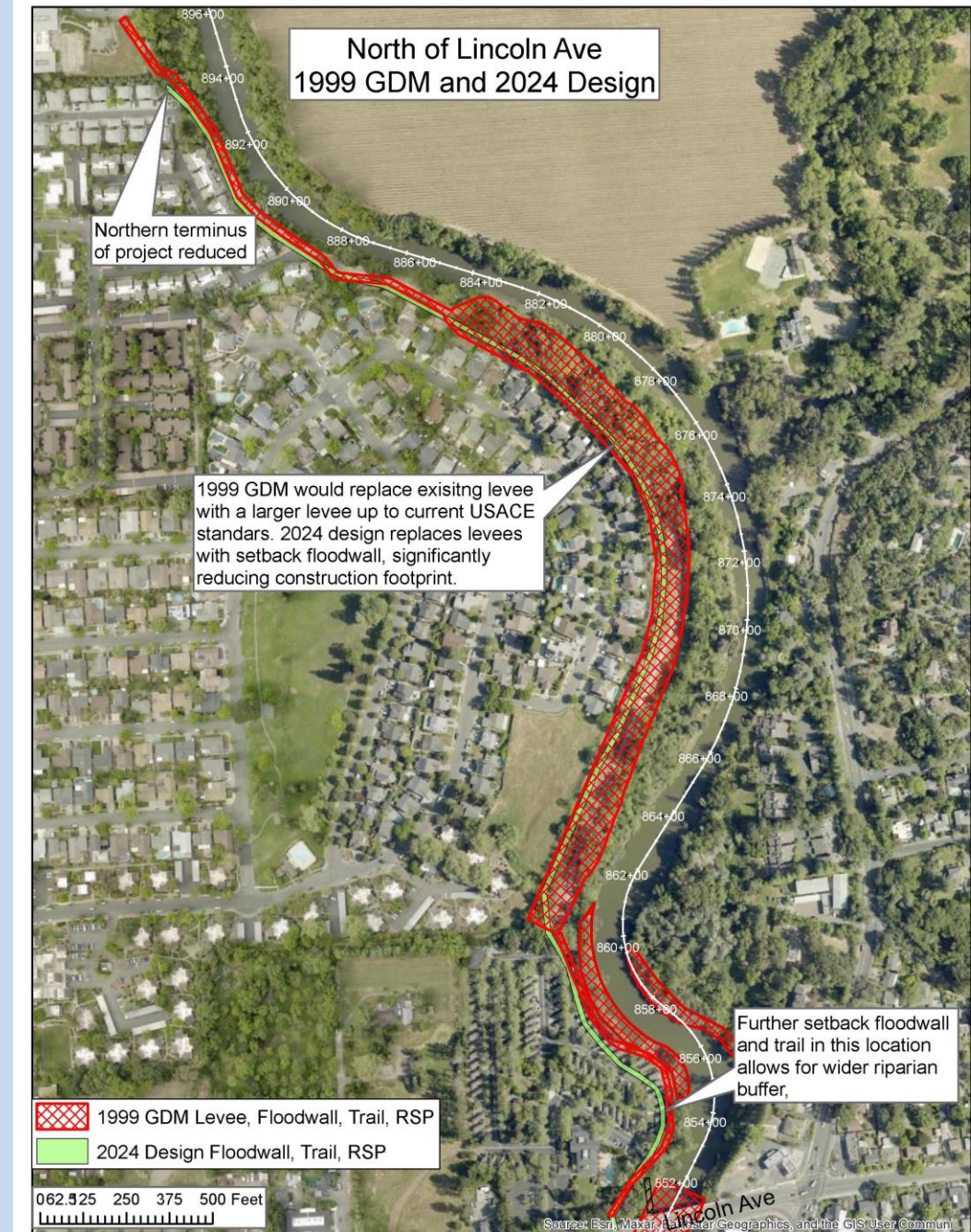
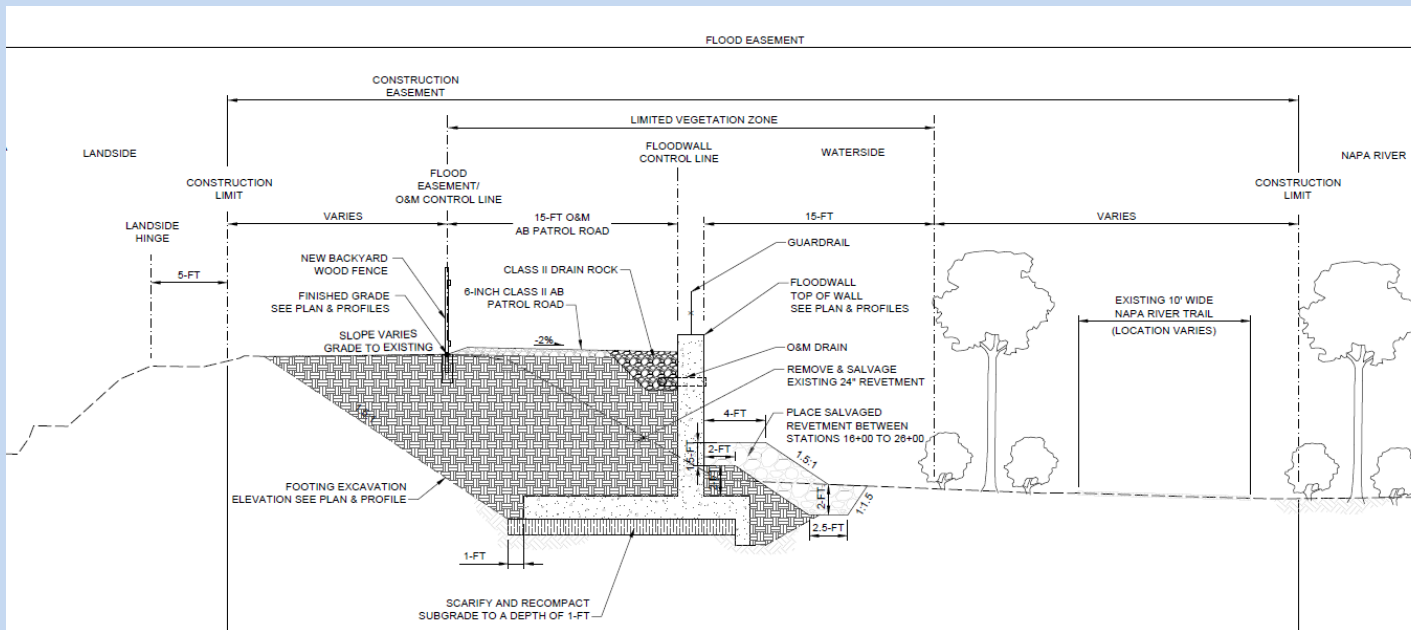


Pre and Post Project Floodplains – Floodwalls North of the Oxbow Bypass Contract

Floodwalls North of the Oxbow Bypass Contract

Lake Park Area Floodwall

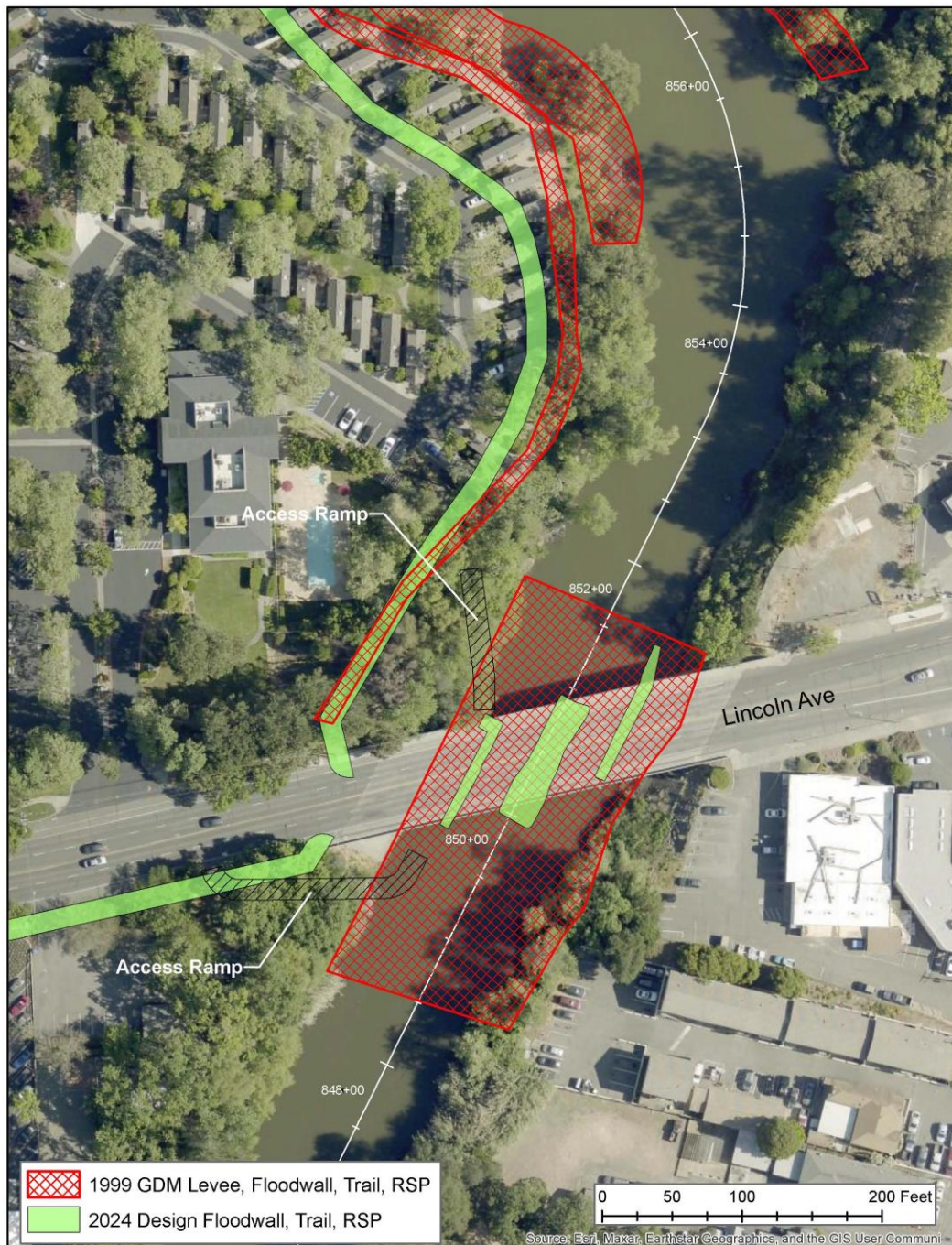
2024 Floodwall Design significantly reduced footprint and impact to riparian area compared to 1999 USACE General Design Memorandum



Floodwalls North of the Oxbow Bypass Contract River Pointe Resort Area Floodwall and Lincoln Bridge Scour Protection

2024 Floodwall Design set back from riverbank and reconstruction of a setback Napa River Trail creates opportunity for riparian area restoration as compared to 1999 USACE General Design Memorandum

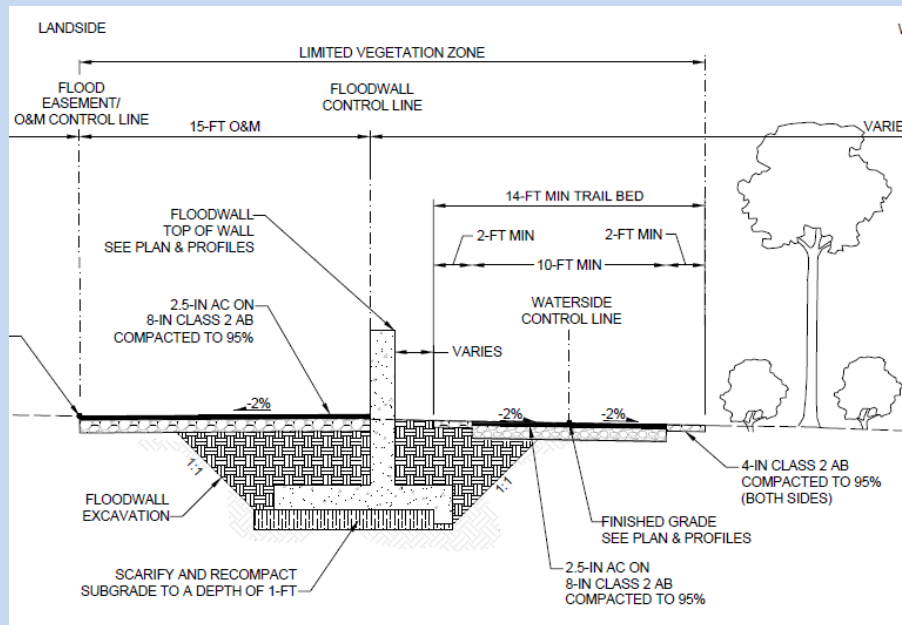
Footprint of rock scour protection at bridge greatly reduced based upon hydraulic modeling and setback floodwall.



Floodwalls North of the Oxbow Bypass Contract South of Lincoln Avenue

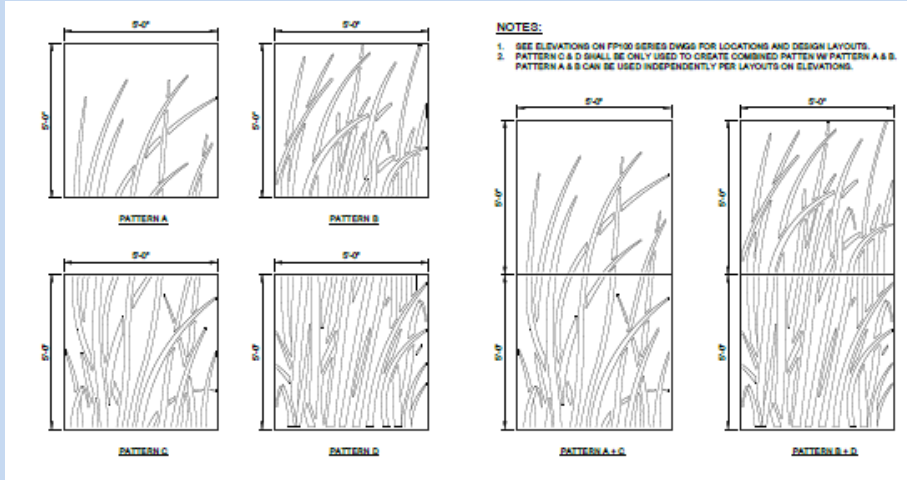
2024 Floodwall Design set back from riverbank remains unchanged as compared to 1999 USACE General Design Memorandum

Napa River Trail continuation from River Terrace Inn to existing Trail north of Lincoln Avenue. Trail located on river side of floodwall up to North Bay Drive. New Pedestrian crossing of Lincoln Avenue.

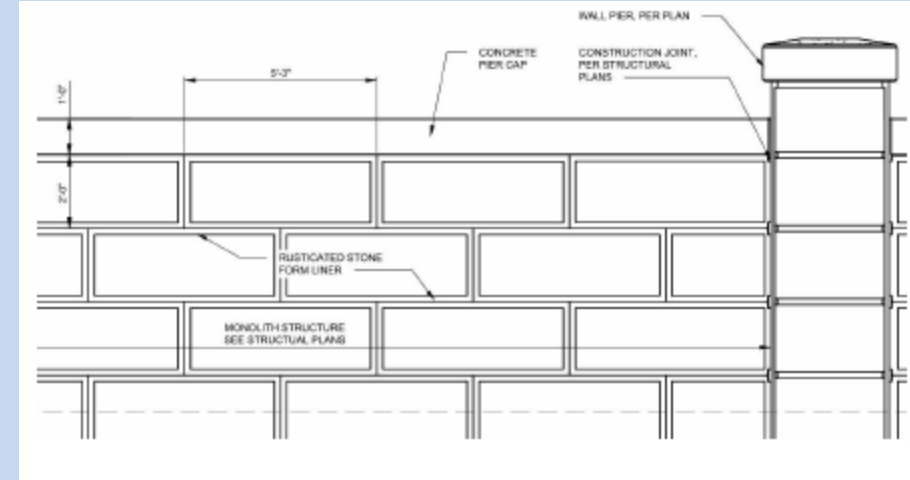


Floodwalls North of the Oxbow Bypass Contract

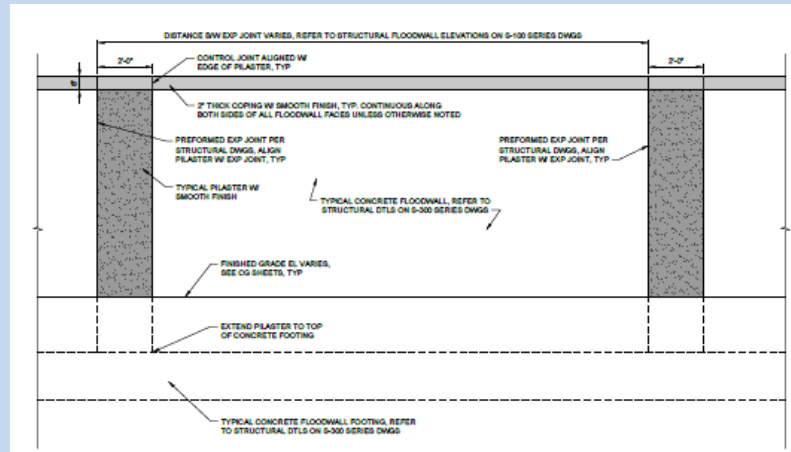
Aesthetics



North and South
of Lincoln



Bypass
Floodwalls
and along to
Lincoln Ave



North and South
of Lincoln

Floodwalls North of the Oxbow Bypass Contract

Oxbow Bypass Floodwall Closures

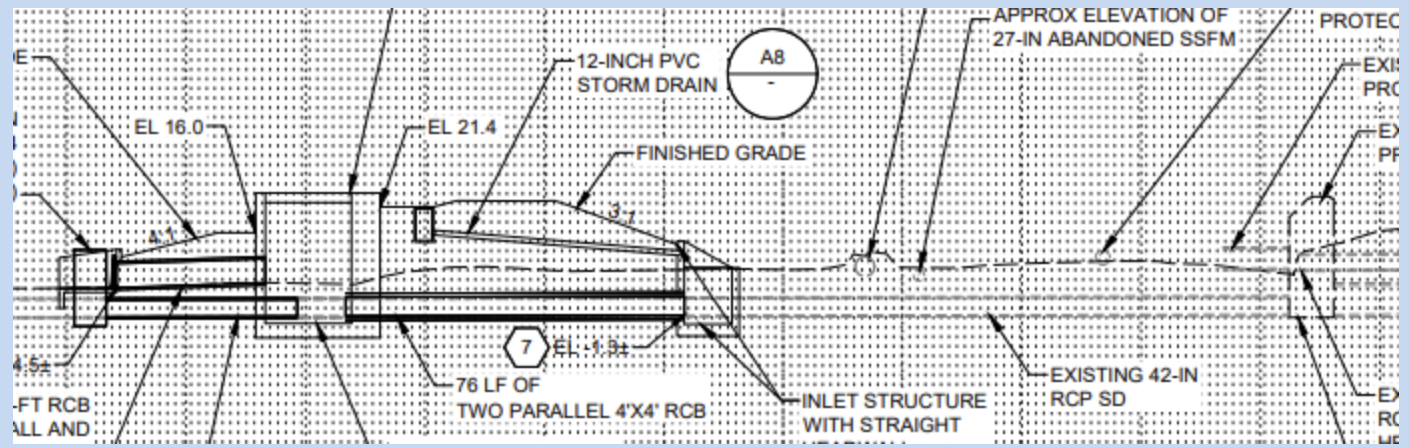
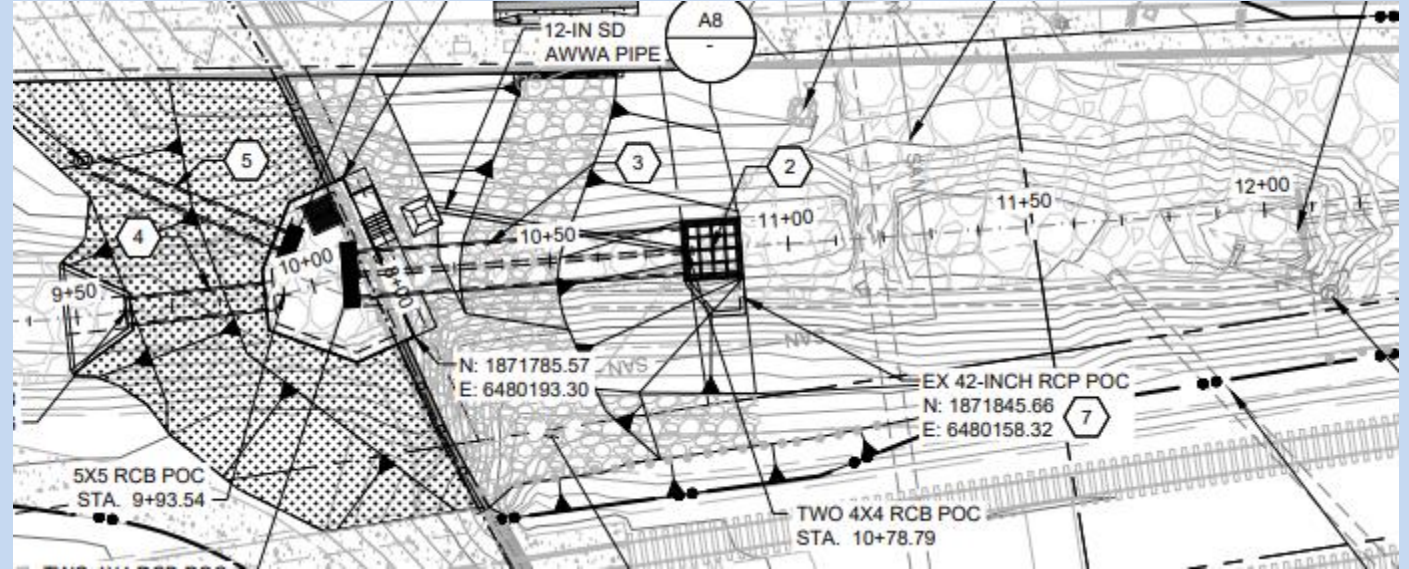


Figure 1

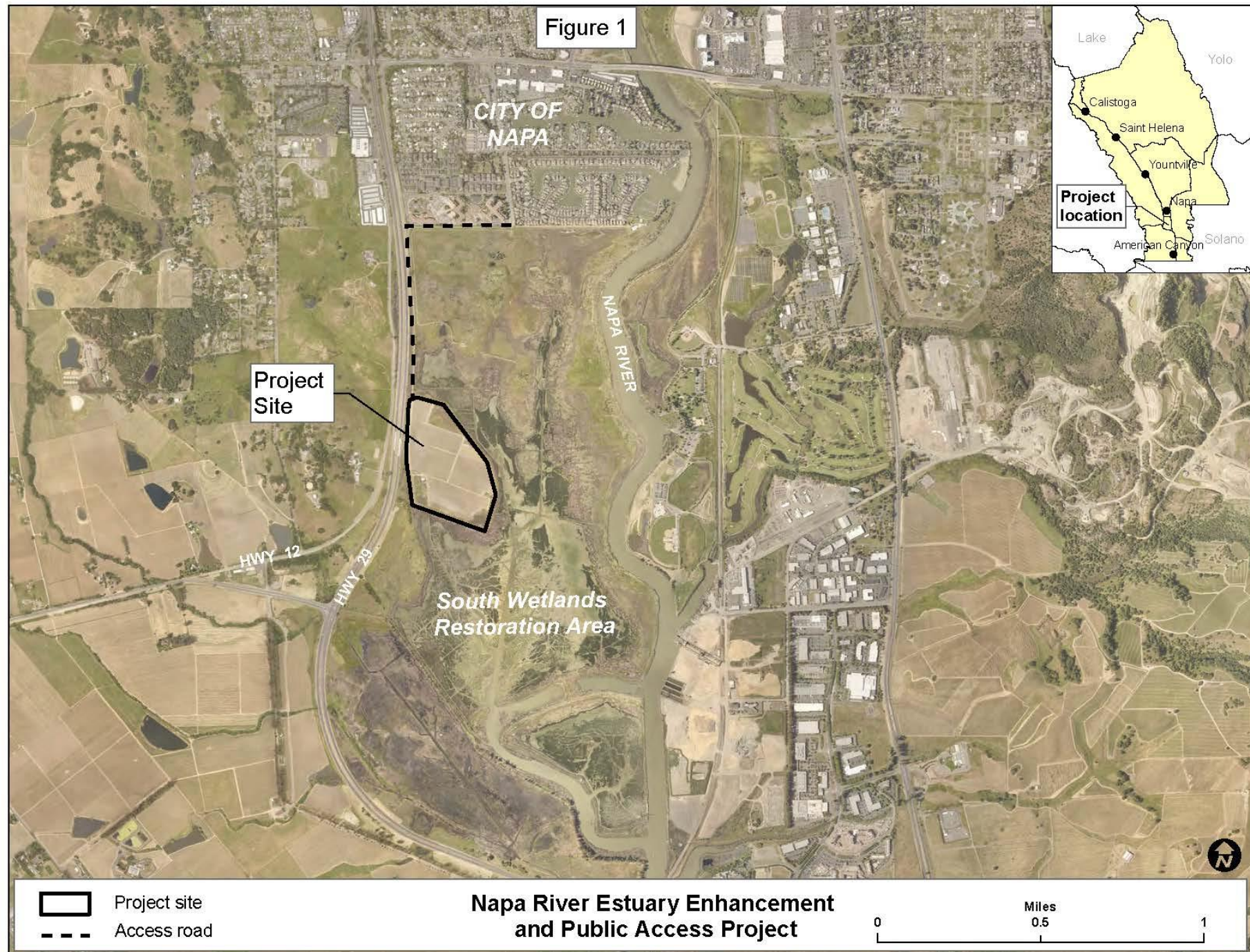
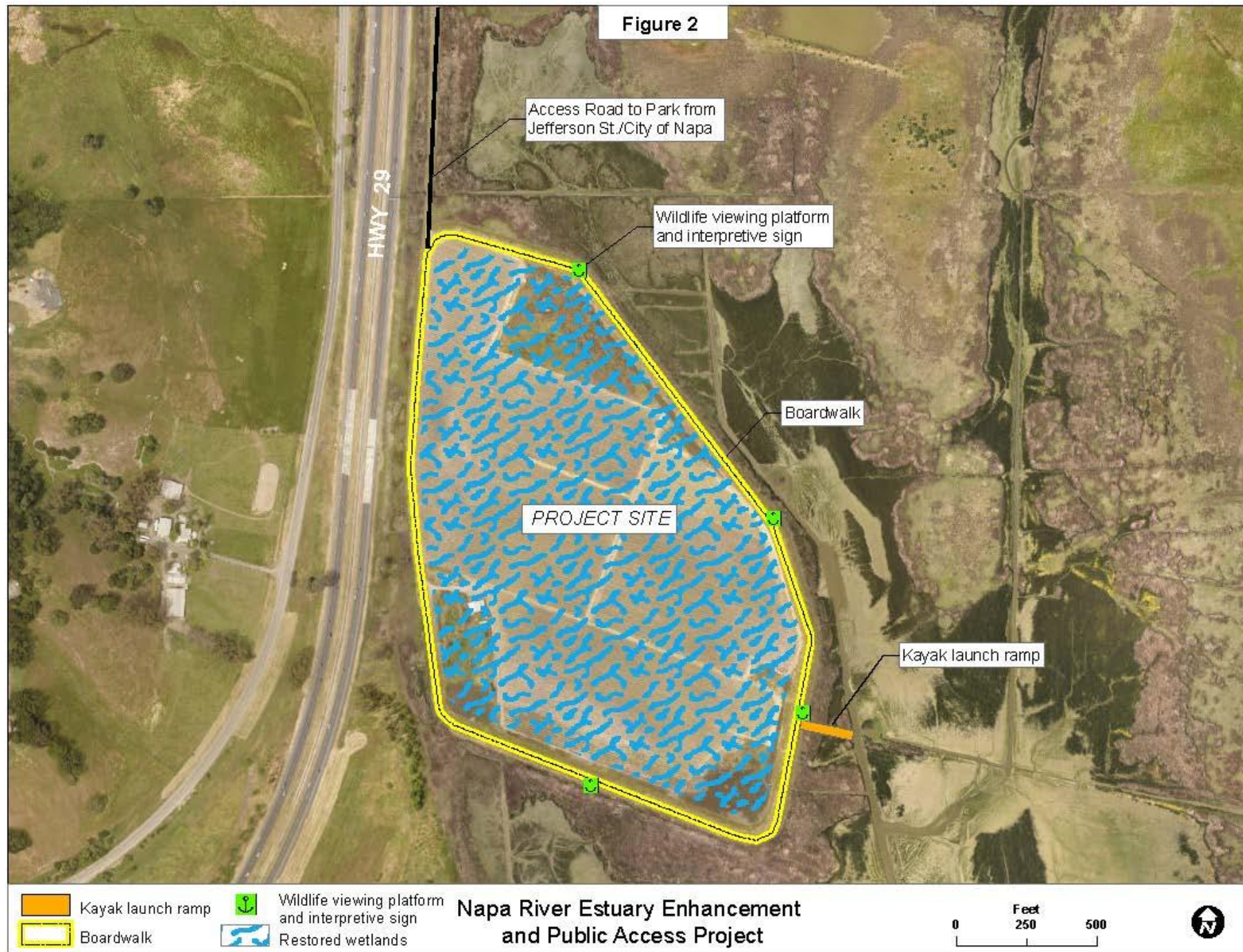


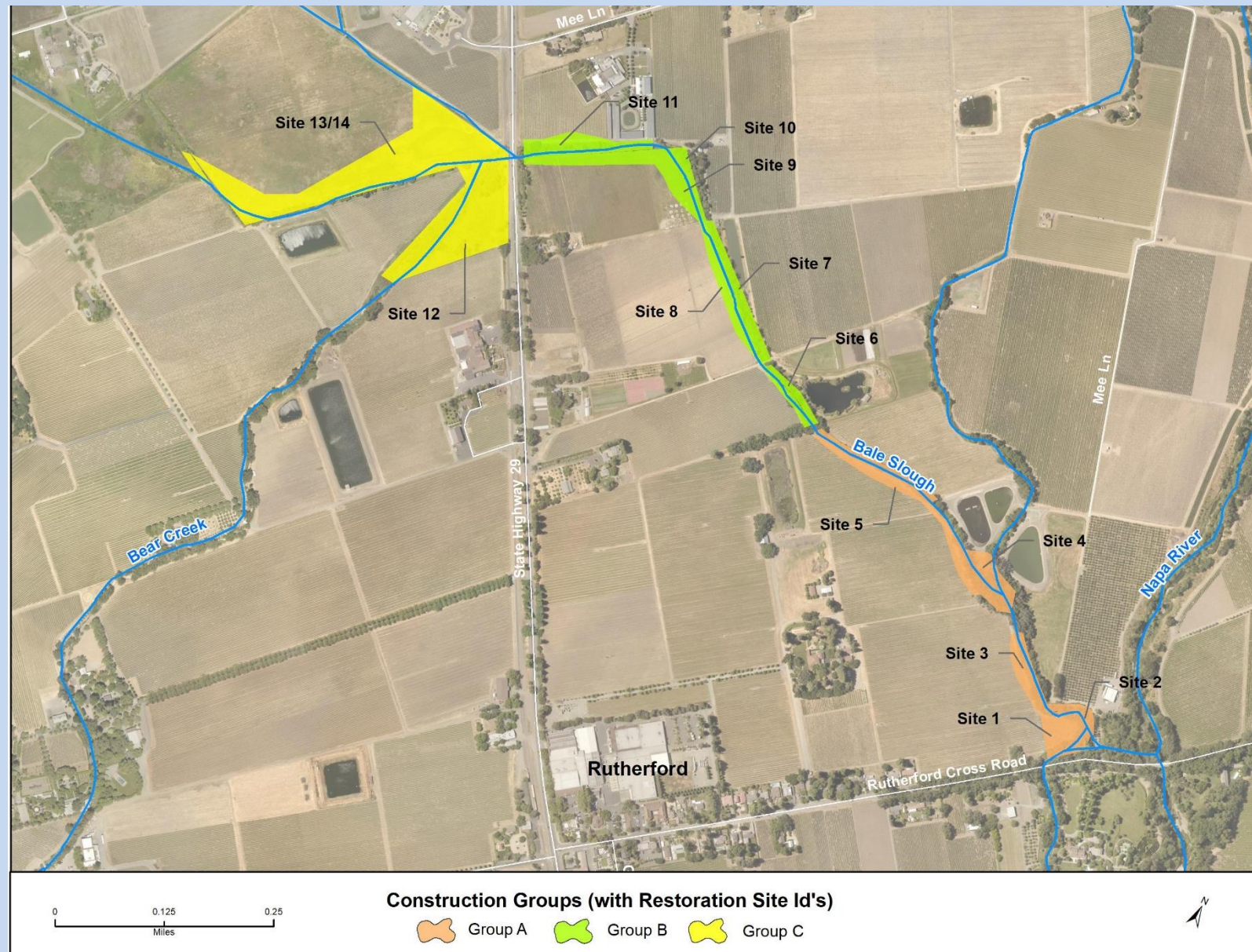
Figure 2



Bale Slough - Bear Creek Restoration Project Overview

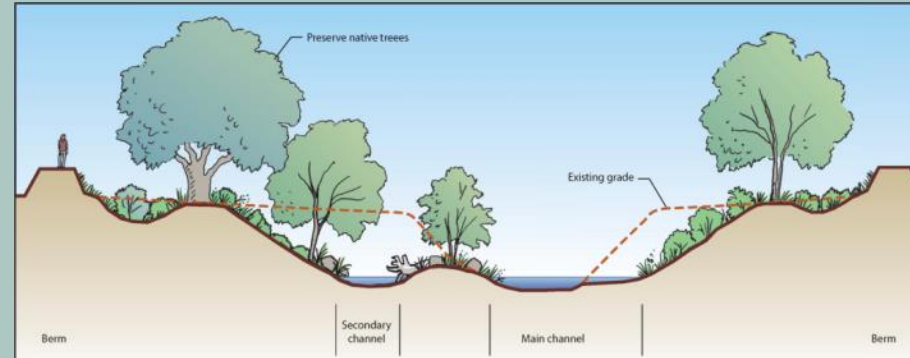
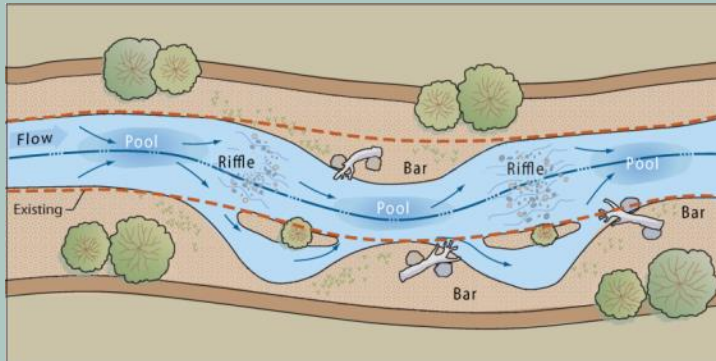
Building on the success of the Rutherford and Oakville to Oak Knoll Restoration Projects, the Bale Slough - Bear Creek Project provides continuity with those projects by extending transformative channel restoration into the tributaries of the Napa River. This multiphase project once completed will include restoration at 14 sites along 1.6 miles of stream channel. Project objectives include:

- Increase quality and availability of in-stream habitat
- Increase floodplain and channel interaction, expand riparian corridor
- Increase residence time/storage of water on alluvial fan and wetlands to improve seasonal (spring/summer) flow conditions and ground water dependent ecosystems



Bale Slough - Bear Creek Restoration Design Process

Design Concepts for Restoration of Geomorphic and Ecological Processes



Key concepts for the project include:

1. Expanding the incised channel to create low, frequently flooded habitat aimed at reducing flow velocities, reducing bank erosion, and increasing sediment deposition
2. Creation of “zero stage” and side channels, a passive and active approach to creating a multi-threaded channel, wet meadows and wetlands that are well connected to adjacent floodplains
3. Expansion of wetlands and alluvial fan by enhancing and creating broad gentle depressions to mimic historic wetland conditions; these areas provide numerous physical and biological benefits to a broad array of native species



April 2023

Restoration Group A
Completed 2023
Sites 1 + 2
Side channel and instream
habitat creation, riparian
habitat expansion



March 2024



April 2023

Restoration Group A
Completed 2023
Site 4
Channel and riparian habitat
expansion, instream habitat,
“tree islands”



March 2024



April 2023



March 2024



Restoration Group A
Completed 2023
Site 5
Vineyard setback, channel and
riparian habitat expansion,
instream habitat enhancement

Group C
Implementation 2025
Site 12 + 14

Zero stage
restoration area

Bear Creek

Wetland/alluvial fan
restoration area