



San Joaquin River Restoration Program Mendota Pool Bypass and Reach 2B Improvements Project

Restoration Goal Technical Feedback Group

March 20, 2014 1:30 pm

San Luis and Delta-Mendota Water Authority
842 Sixth St., Los Banos, CA

Agenda

- Restoration Goal Update
- Fishery Actions Update
- Reach 2B Project Status Update
- Reach 2B Project Alternatives
- Reach 2B Operations

Reach 2B Project Update





Reach 2B Project Update

Available Technical Reports

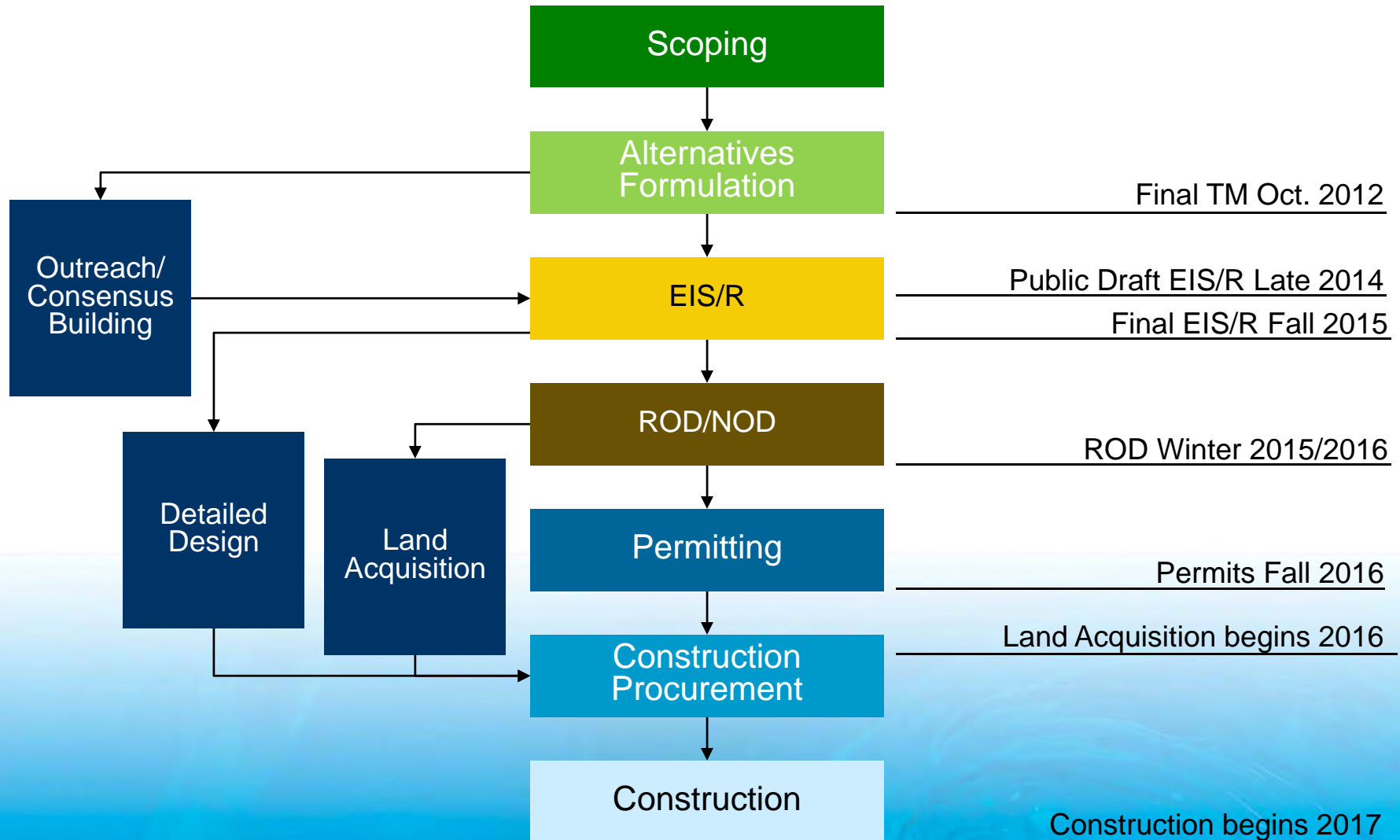
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|--|---------------|
| 1. Final Scoping Report | February 2010 |
| 2. Exist. Env. Conditions: Data Needs and Survey Approach TM | March 2010 |
| 3. Initial Options TM | April 2010 |
| 4. Analytical Tools TM | October 2010 |
| 5. Final Field Survey Report | November 2011 |
| 6. Project Description TM | October 2012 |

Public Draft EIS/R anticipated End of 2014



Reach 2B Project Update

Project Process and Schedule





Design Process Schedule

- Design Data Collection – ongoing through 2014
- Bypass and Structure Design – 2014 and 2015
- Reach 2B Levee Design – 2015+
- Construction start date – 2017

Design Data Collection Update

Purpose:

- Inform Levee and Structure Design
- Soil Stratigraphy
- Soil Density
- Shear Stress



Design Data Collection Update

Completed:

- 40+ Standard Penetration Tests (SPTs)
- Several Undisturbed Drillholes



Design Data Collection Update

Completed:

- 58 Cone Penetrometer Test (CPT) holes



Design Data Collection Update

Completed:

- 3 monitoring wells

Summer 2014:

- 40 SPTs
- 50+ CPTs
- Barge drilling
- Track drilling



Status Summary

- 2B Project moving forward with environmental compliance and design data collection concurrently
- Geotech investigations will lead to 10% design



Reach 2B Project Alternatives





Project Alternatives Vicinity Map





Project Alternatives

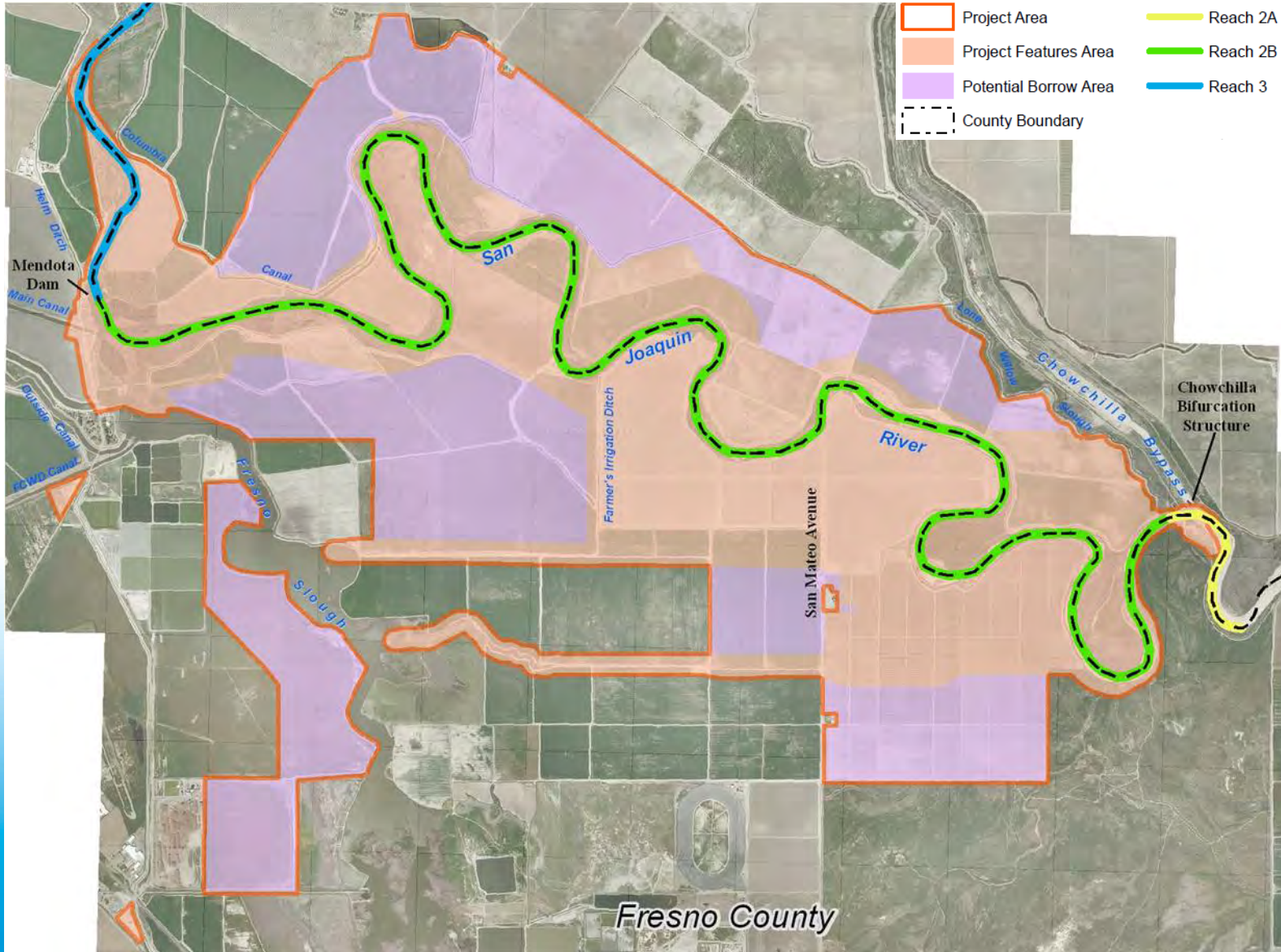
Settlement Agreement

Paragraph 11(a)

- (1) Creation of a **bypass channel** around Mendota Pool to ensure conveyance of **at least 4,500 cfs** from Reach 2B downstream to Reach 3. This improvement requires construction of a structure capable of directing flow down the bypass and allowing the Secretary to **make deliveries of San Joaquin River water into Mendota Pool** when necessary
- (2) Modifications in **channel capacity** (incorporating **new floodplain and related riparian habitat**) to ensure **conveyance of at least 4,500 cfs** in Reach 2B between the Chowchilla Bifurcation Structure and the new Mendota Pool bypass channel

Project Alternatives

Overall Site Area





Project Alternatives

Major Project Components

- Major Components:
 1. Floodplain habitat – 2 different floodplain widths
 2. Bypass Restoration Flows around Mendota Pool – 2 different routes
 3. Deliver SJR water to Mendota Pool – 4 different routes
- Combined variously to produce 4 alternatives for the EIS/R process
- Pieces can be combined differently for project implementation

Reach 2B Project Alternatives

- Four Alternatives presented in the Reach 2B Project Description TM
 - Alternative A: Compact Bypass with Narrow Floodplain and South Canal
 - Alternative B: Compact Bypass with Wide Floodplain and Bifurcation Structure
 - Alternative C: Fresno Slough Dam with Narrow Floodplain and Short Canal
 - Alternative D: Fresno Slough Dam with Wide Floodplain and North Canal



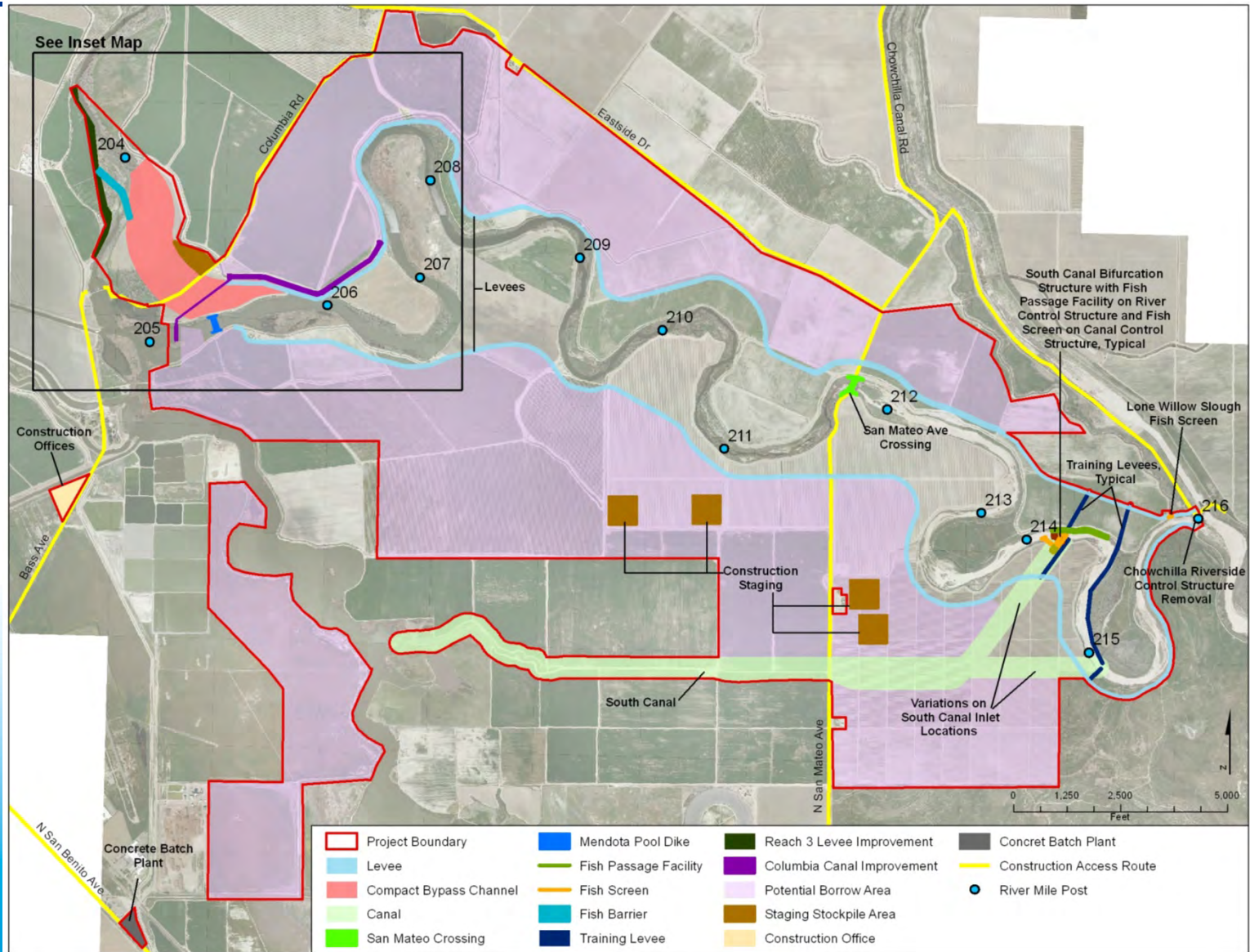
Alternative A

Compact Bypass with Narrow Floodplain and South Canal

- Compact Bypass
 - New channel and structures capable to convey up to 4,500 cfs of Restoration Flows around Mendota Pool
- Narrow Floodplain
 - Floodplain habitat approx. 3,000 feet wide on average
- South Canal
 - South Canal and structures to convey up to 2,500 cfs from Reach 2B to Mendota Pool (includes fish passage facility)
- Other
 - Removal of Chowchilla riverside control structure

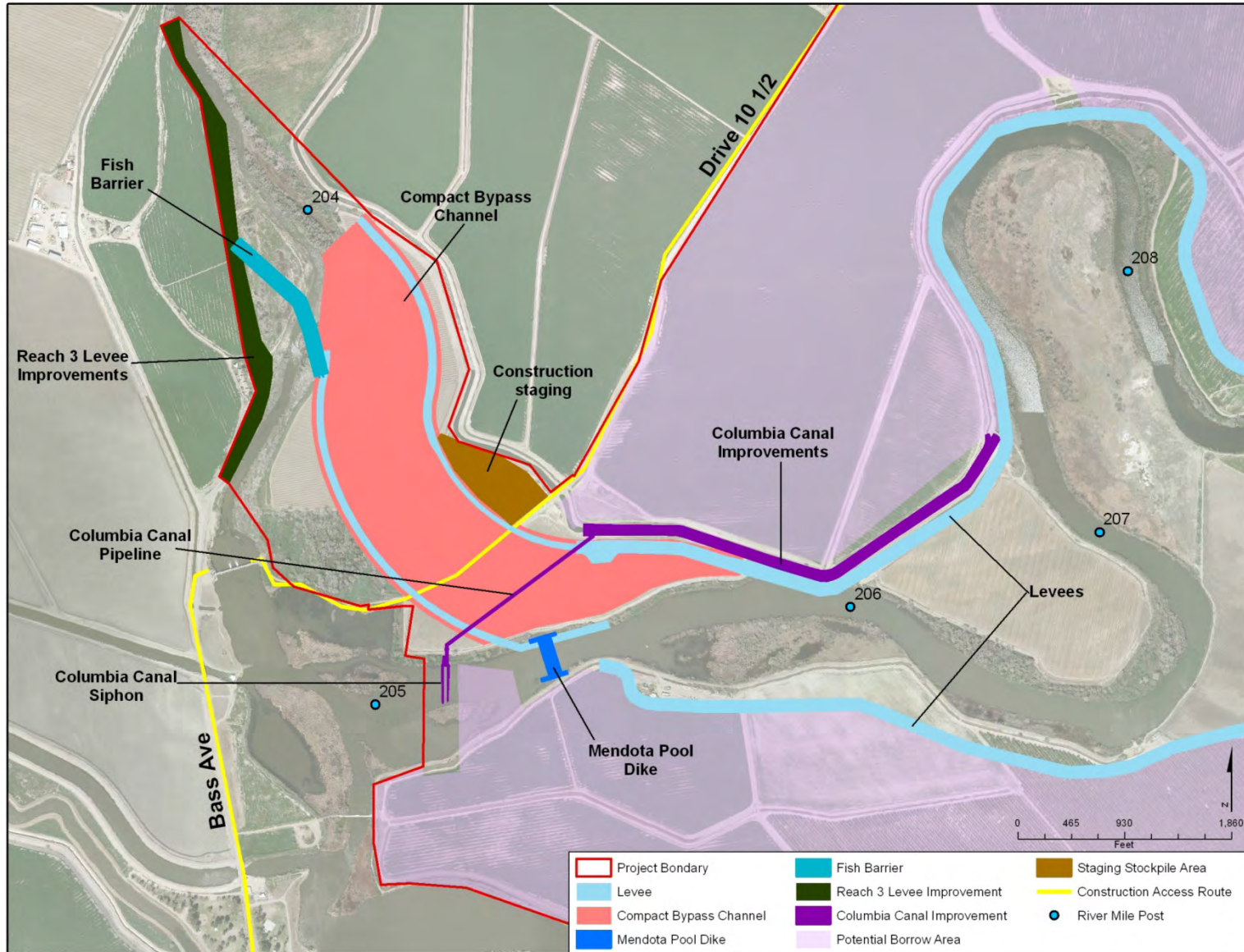
Alternative A

Compact Bypass with Narrow Floodplain and South Canal



Alternative A

Compact Bypass with Narrow Floodplain and South Canal





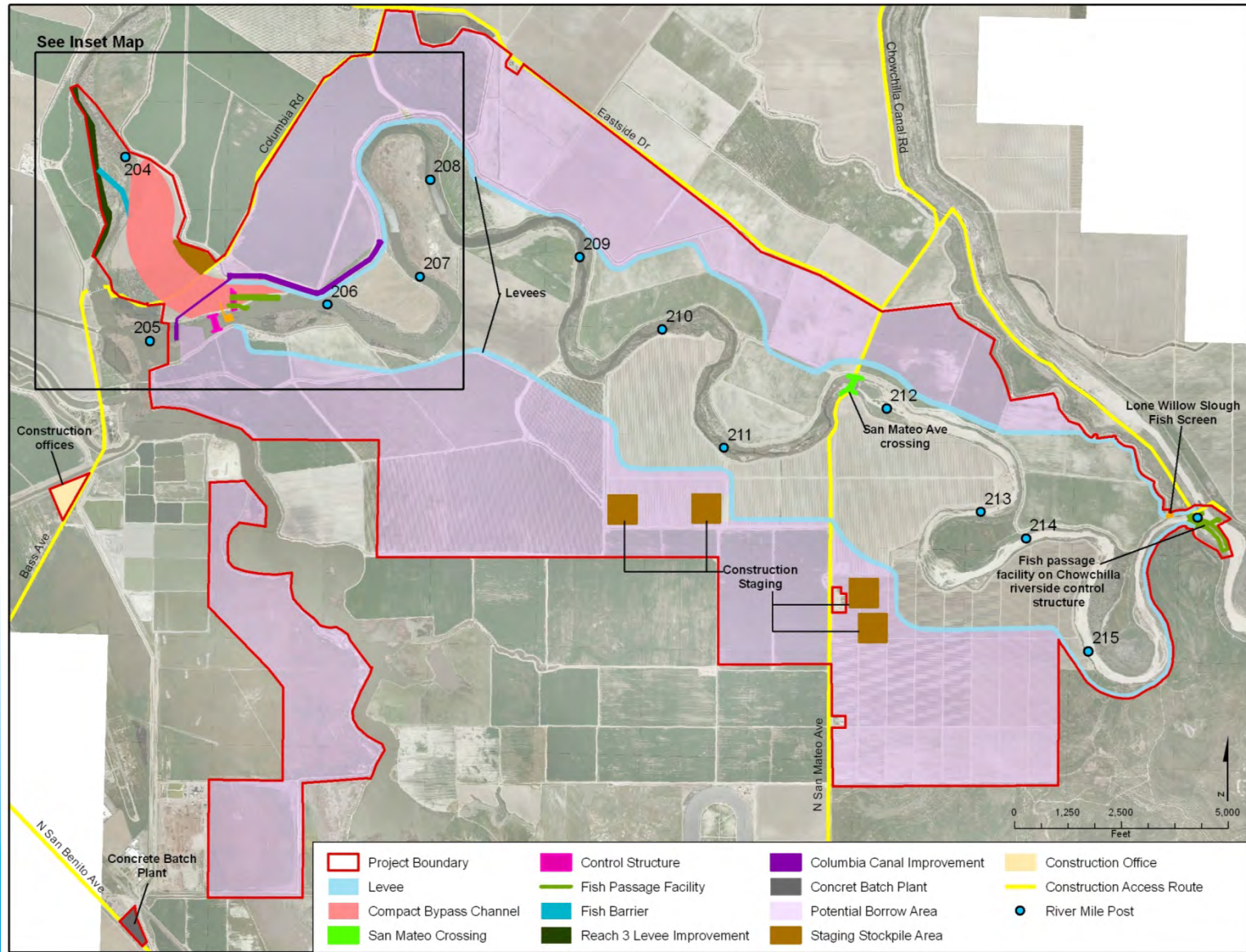
Alternative B

Compact Bypass with Wide Floodplain and Bifurcation Structure

- Compact Bypass
 - New channel and structures capable to convey up to 4,500 cfs of Restoration Flows around Mendota Pool
- Wide Floodplain
 - Floodplain habitat approx. 4,200 feet wide on average
- Bifurcation Structure
 - Mendota Pool control structure to convey up to 2,500 cfs from Reach 2B to Mendota Pool
- Other
 - Fish passage facility at Compact bypass control structure
 - Fish passage facility at Chowchilla riverside control structure

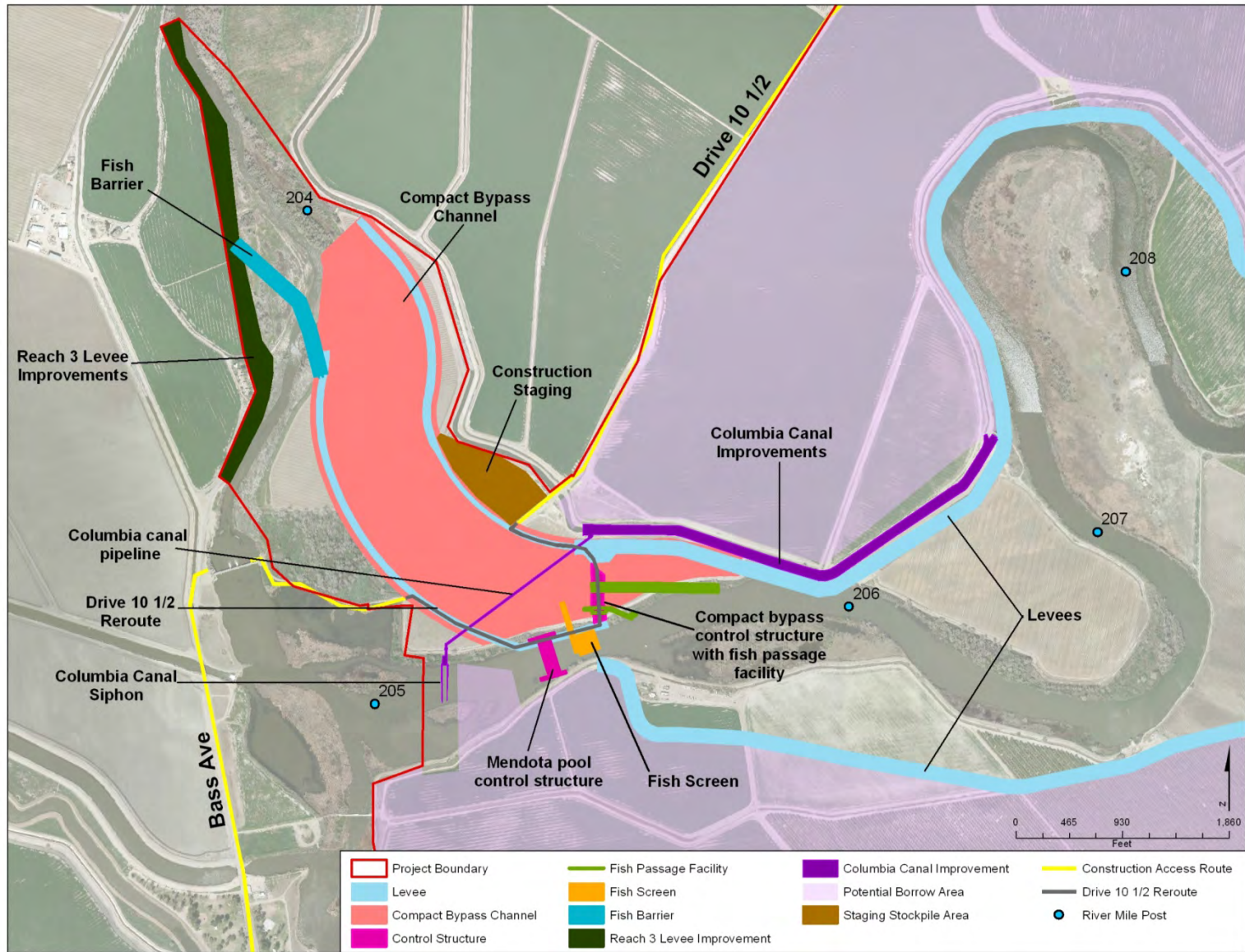
Alternative B

Compact Bypass with Wide Floodplain and Bifurcation Structure



Alternative B

Compact Bypass with Wide Floodplain and Bifurcation Structure





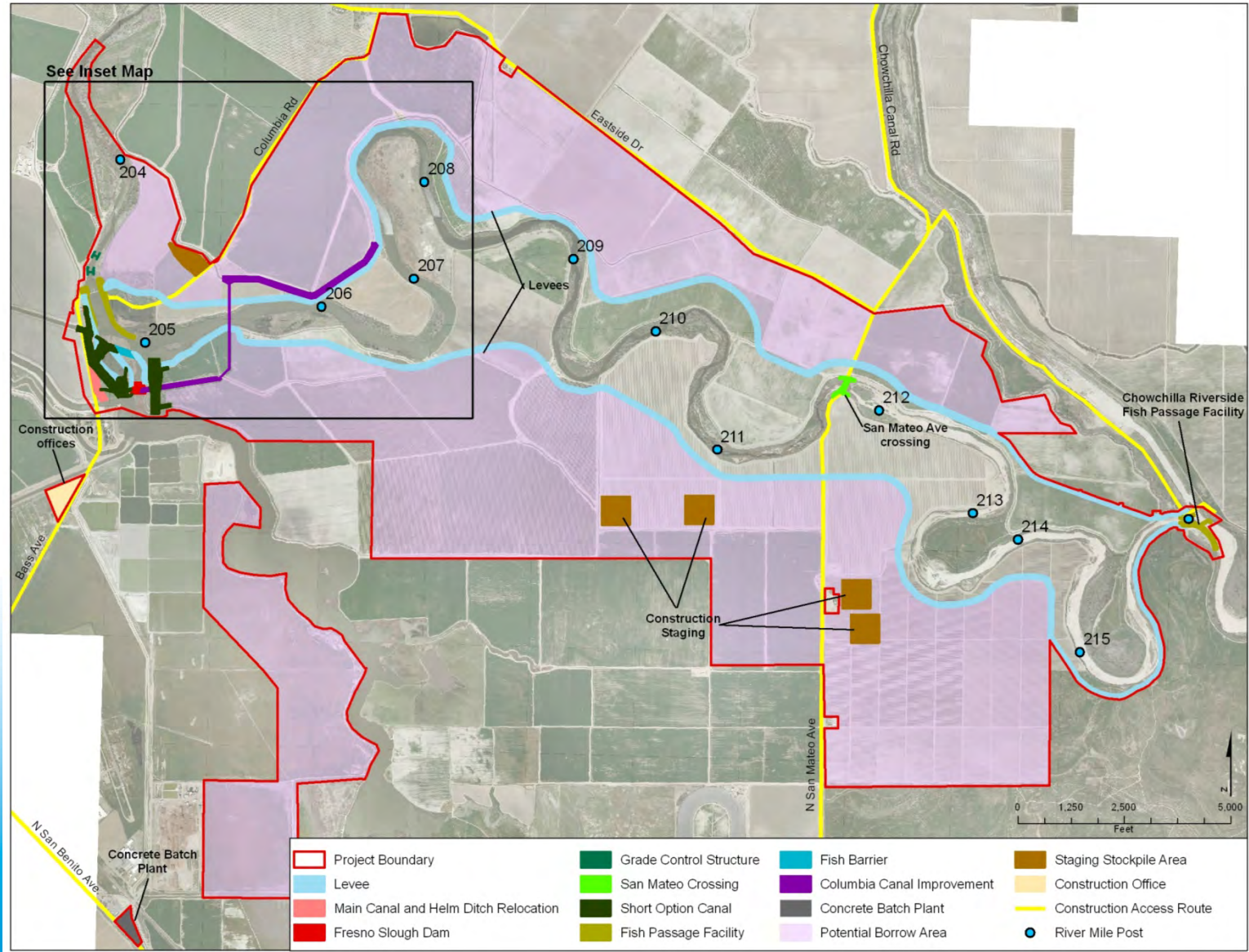
Alternative C

Fresno Slough Dam with Narrow Floodplain and Short Canal

- Fresno Slough Dam
 - New dam to restrict Mendota Pool to Fresno Slough so that up to 4,500 cfs of Restoration Flows can be conveyed around Mendota Pool
 - Mendota Dam fish passage facility
- Narrow Floodplain
 - Floodplain habitat approx. 3,000 feet wide on average
- Short Canal
 - Short Canal and structures to convey up to 2,500 cfs from Reach 2B to Mendota Pool
- Other
 - Fish passage facility at Chowchilla riverside control structure

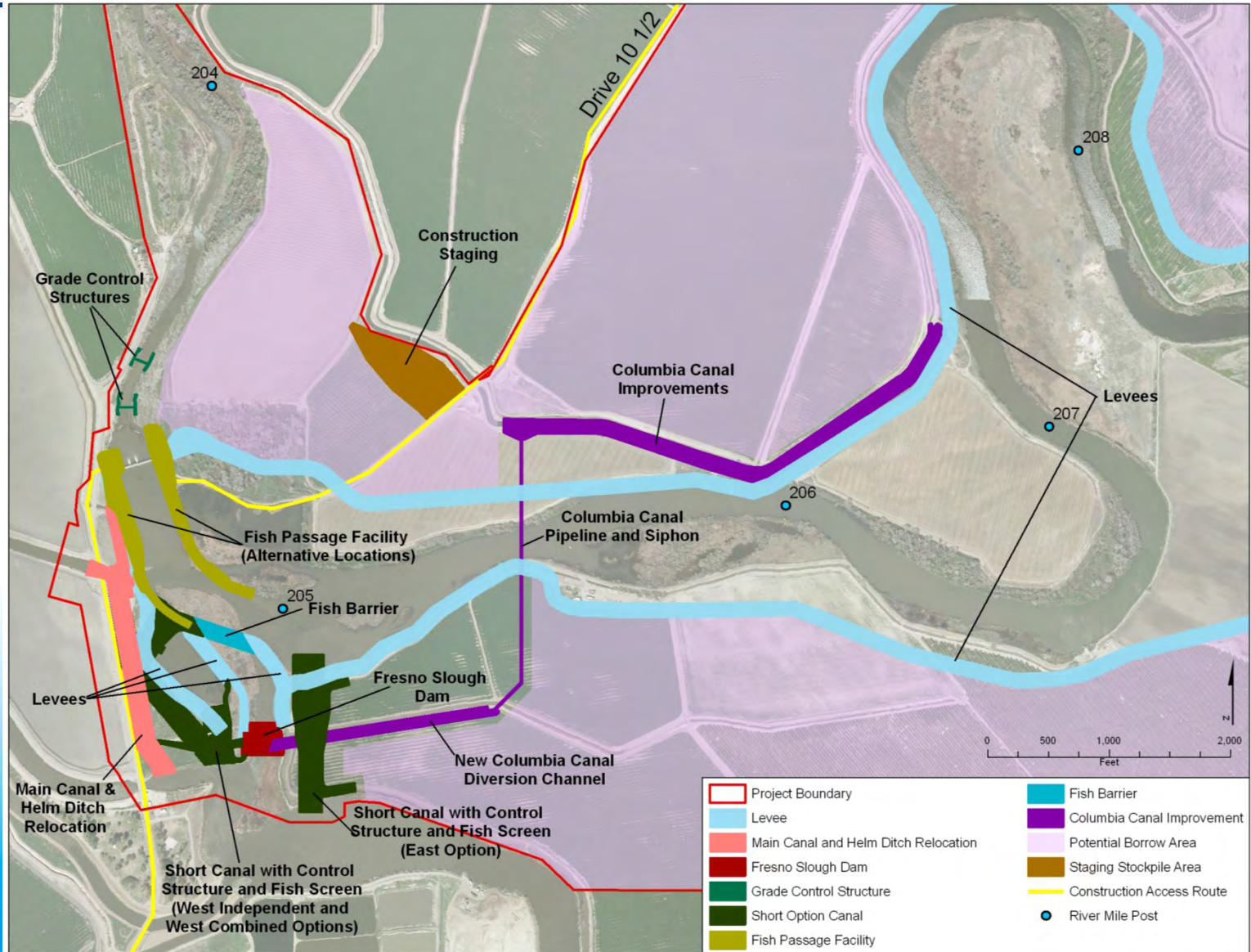
Alternative C

Fresno Slough Dam with Narrow Floodplain and Short Canal



Alternative C

Fresno Slough Dam with Narrow Floodplain and Short Canal





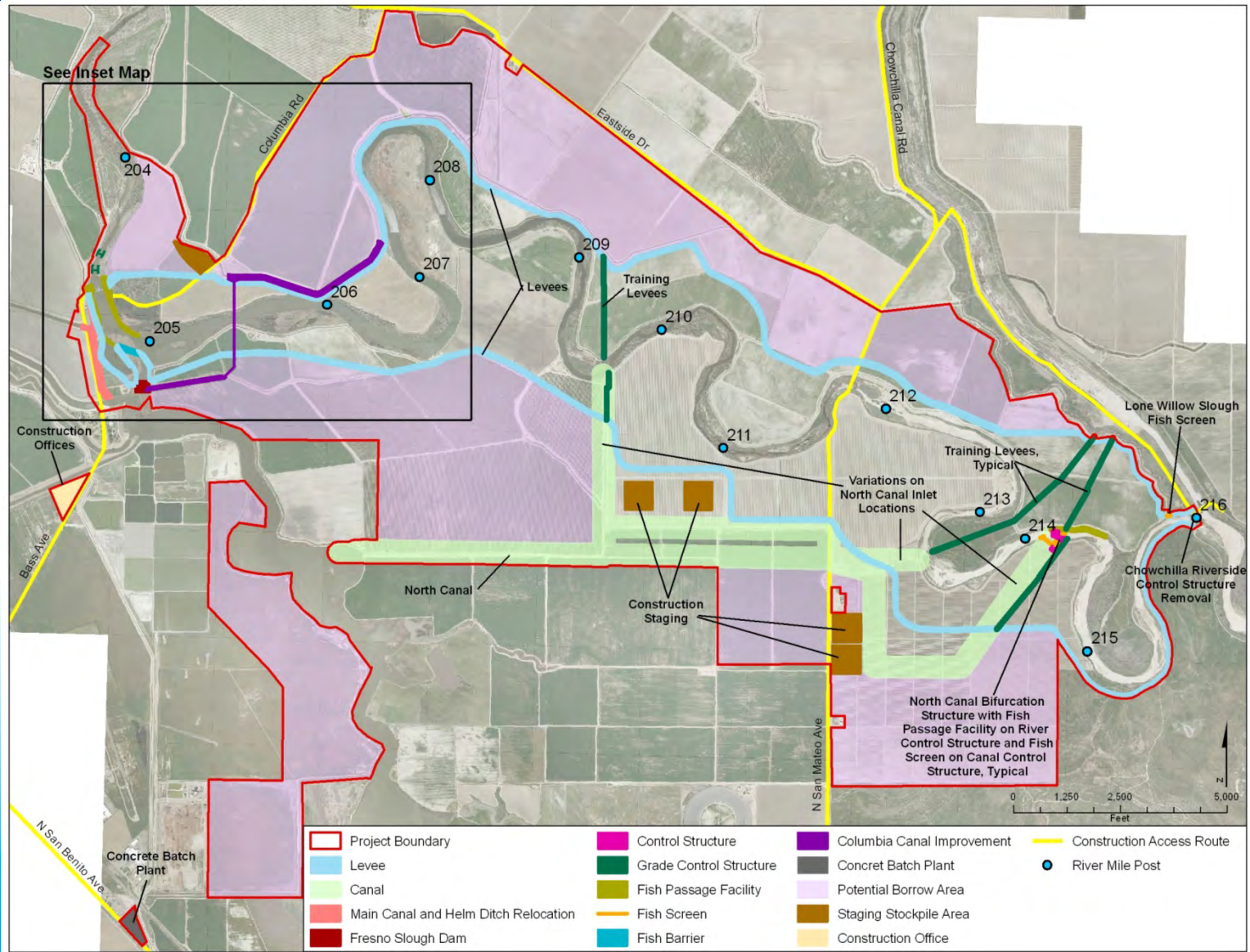
Alternative D

Fresno Slough Dam with Wide Floodplain and North Canal

- Fresno Slough Dam
 - New dam to restrict Mendota Pool to Fresno Slough so that up to 4,500 cfs of Restoration Flows can be conveyed around Mendota Pool
 - Mendota Dam fish passage facility
- Wide Floodplain
 - Floodplain habitat approx. 4,200 feet wide on average
- North Canal
 - North Canal and structures to convey up to 2,500 cfs from Reach 2B to Mendota Pool (with fish passage facility)
- Other
 - Removal of Chowchilla riverside control structure

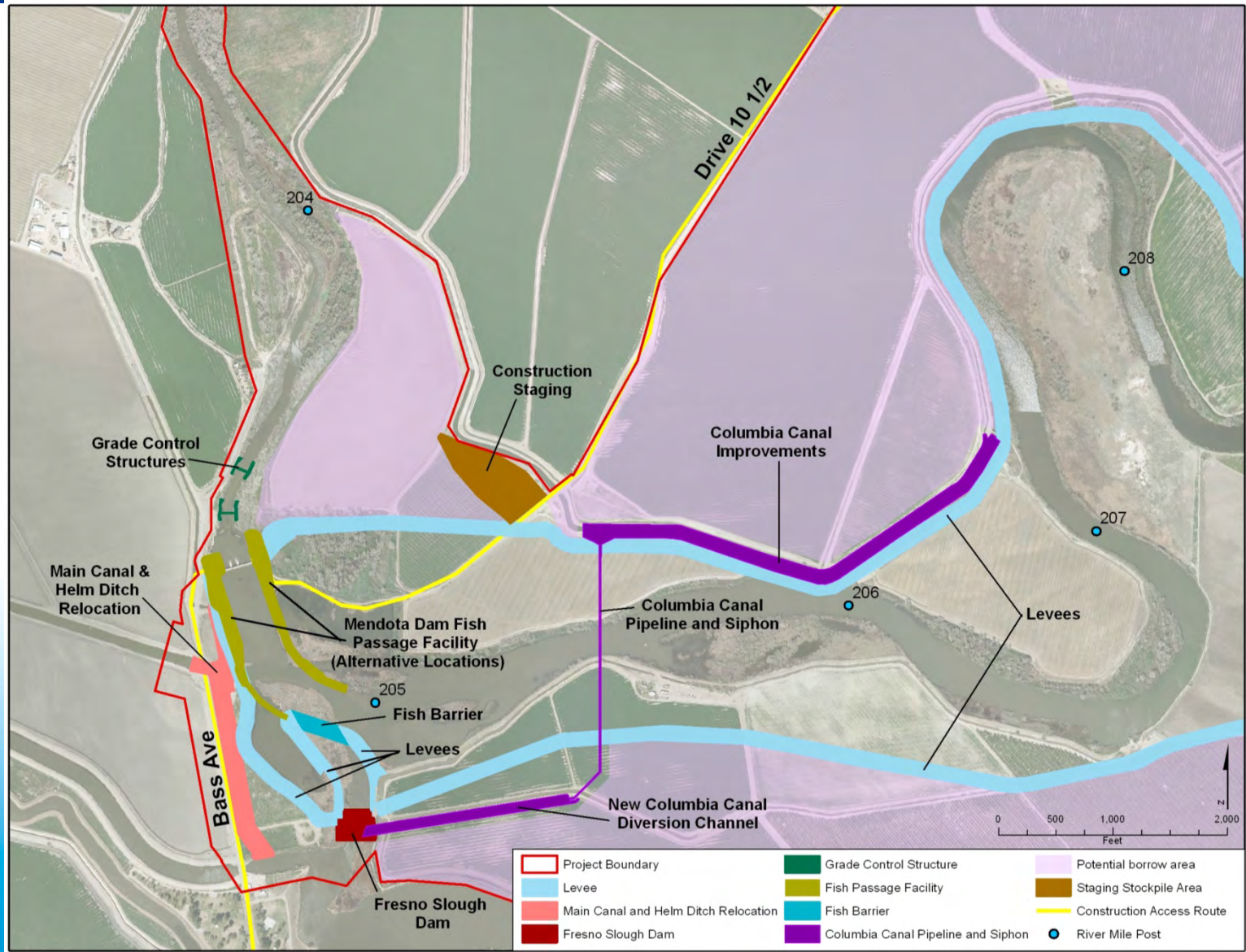
Alternative D

Fresno Slough Dam with Wide Floodplain and North Canal



Alternative D

Fresno Slough Dam with Wide Floodplain and North Canal





Reach 2B Project Operations



Project Operations

- Primary operations are flow routing
- Types of flows in Reach 2B:
 - Restoration Flows
 - Deliveries to Mendota Pool from the San Joaquin River
 - Millerton Lake flood releases (via San Joaquin River)
 - Pine Flat Reservoir flood releases (via Fresno Slough)
 - Local diversions to and from Mendota Pool



Project Operations

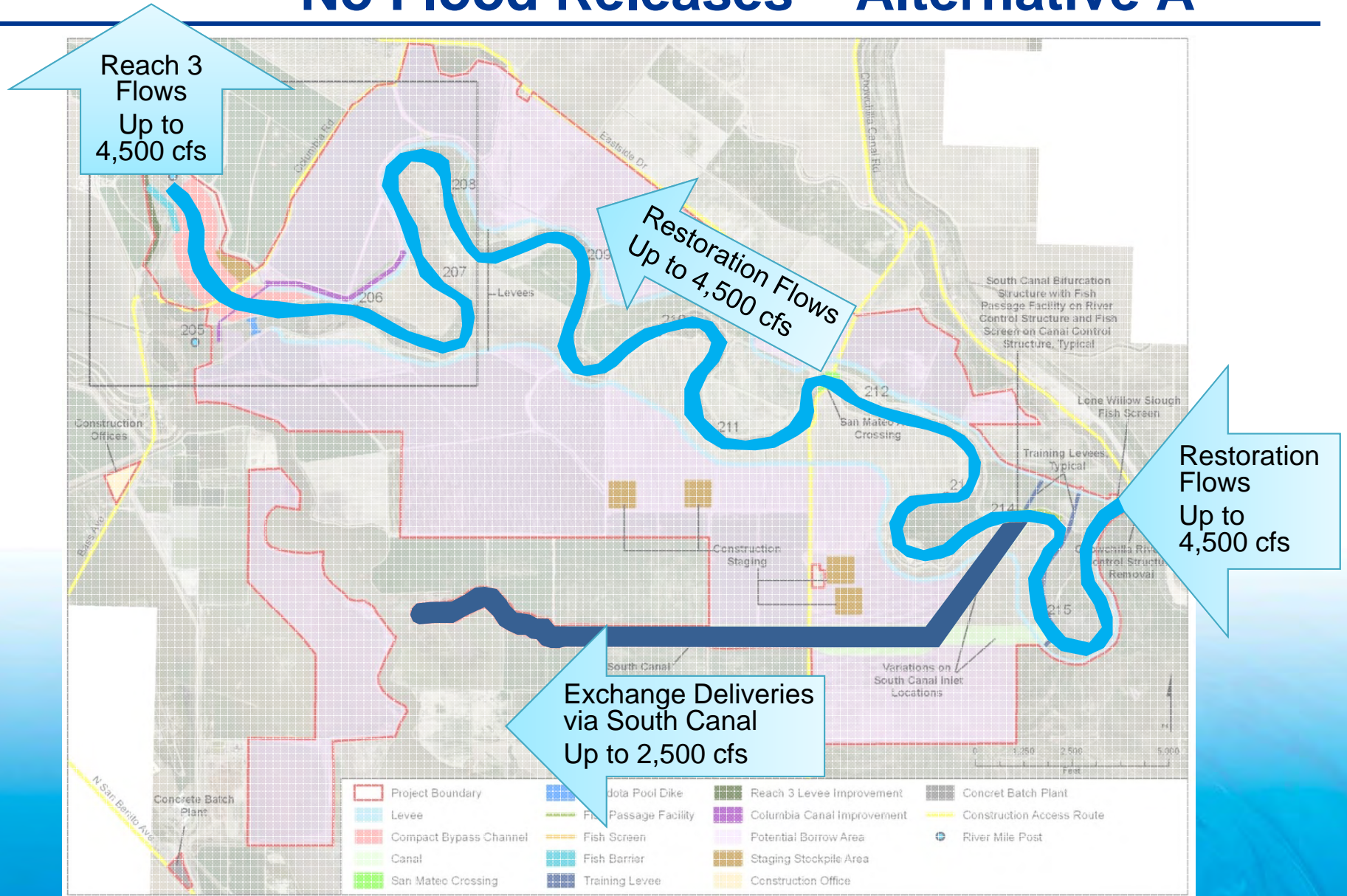
Flood Flow Scenarios

- Three basic flood flow scenarios:
 1. No Flood Releases (critical-low to normal-wet water years)
 - Restoration Flows will proceed through Reach 2B
 - Irrigation deliveries and diversions will occur in Mendota Pool
 - No interaction between the Restoration Flows in Reach 2B and Mendota Pool (outside of Exchange Contract delivery)



Project Operations

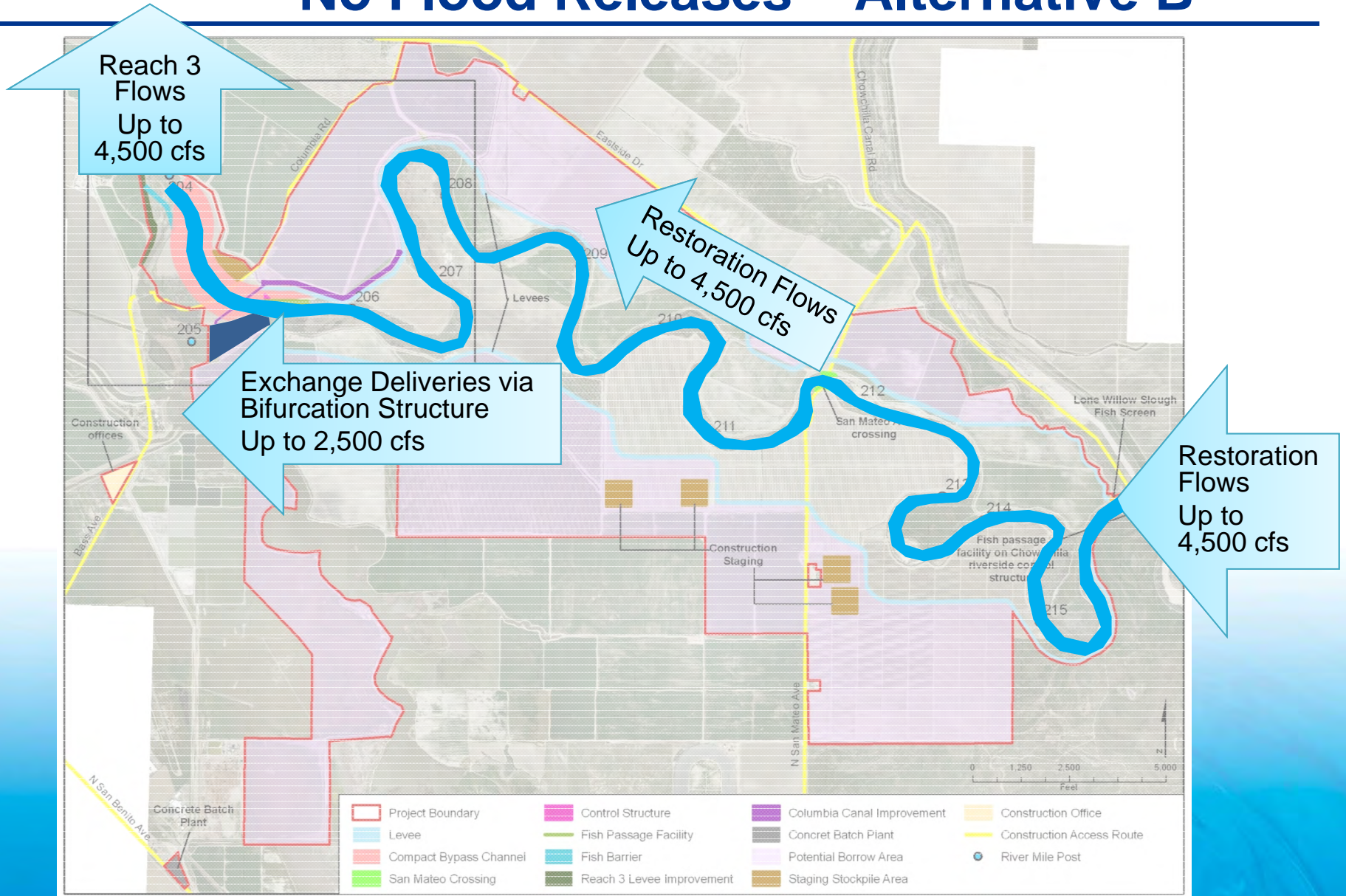
No Flood Releases – Alternative A





Project Operations

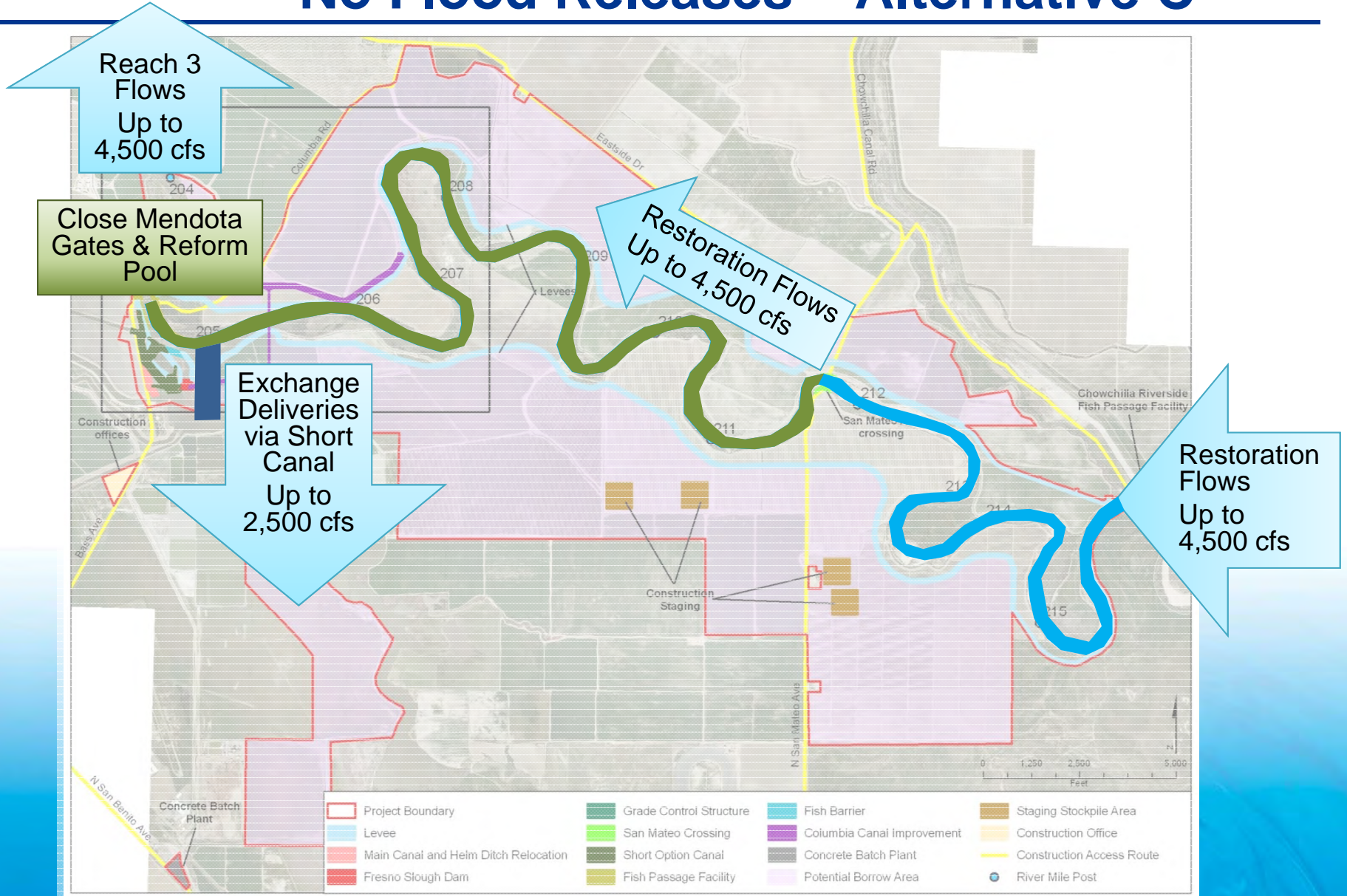
No Flood Releases – Alternative B





Project Operations

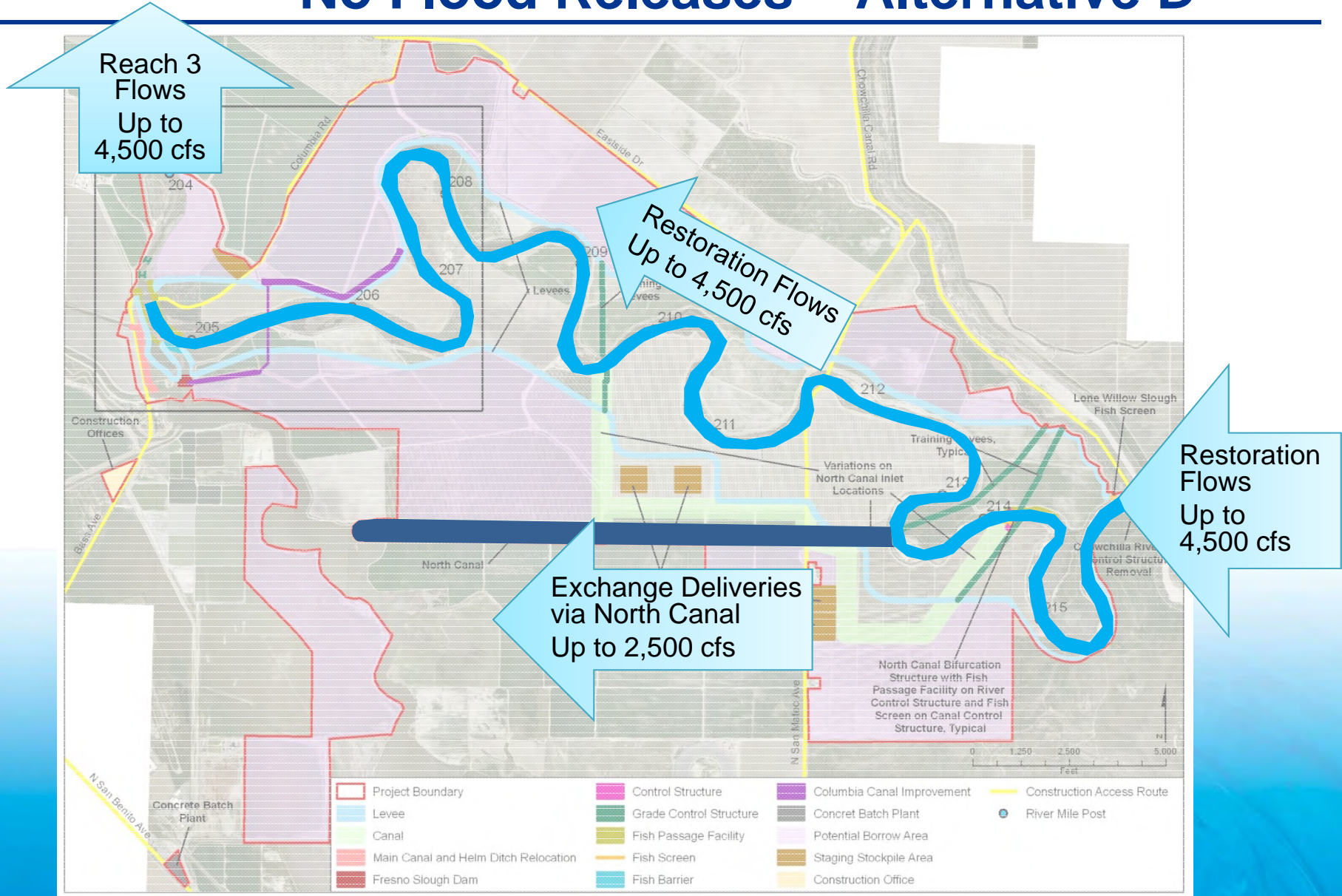
No Flood Releases – Alternative C





Project Operations

No Flood Releases – Alternative D





Project Operations

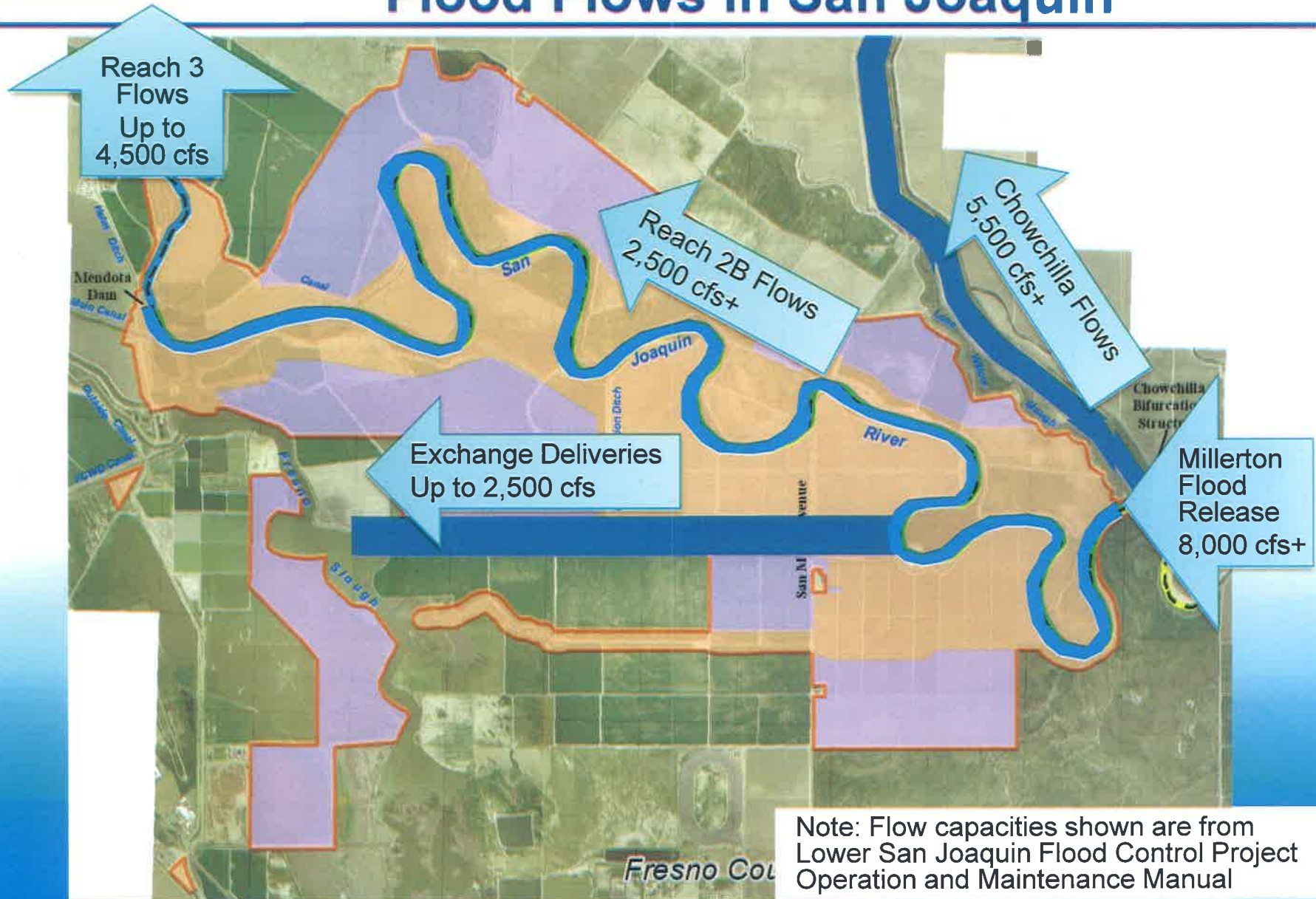
Flood Flow Scenarios

- Three basic flood flow scenarios, cont.:
 2. Flood Flows in San Joaquin (normal-wet to wet water years)
 - Flood releases from Millerton Lake
 - Flood flows possibly diverted from Reach 2B into the Chowchilla Bypass and/or Mendota Pool
 - Some portion of flood flows is anticipated to perform as Restoration Flows in Reach 2B
 - Flood management agencies will have ultimate discretion in directing flood flows



Project Operations

Flood Flows in San Joaquin





Project Operations

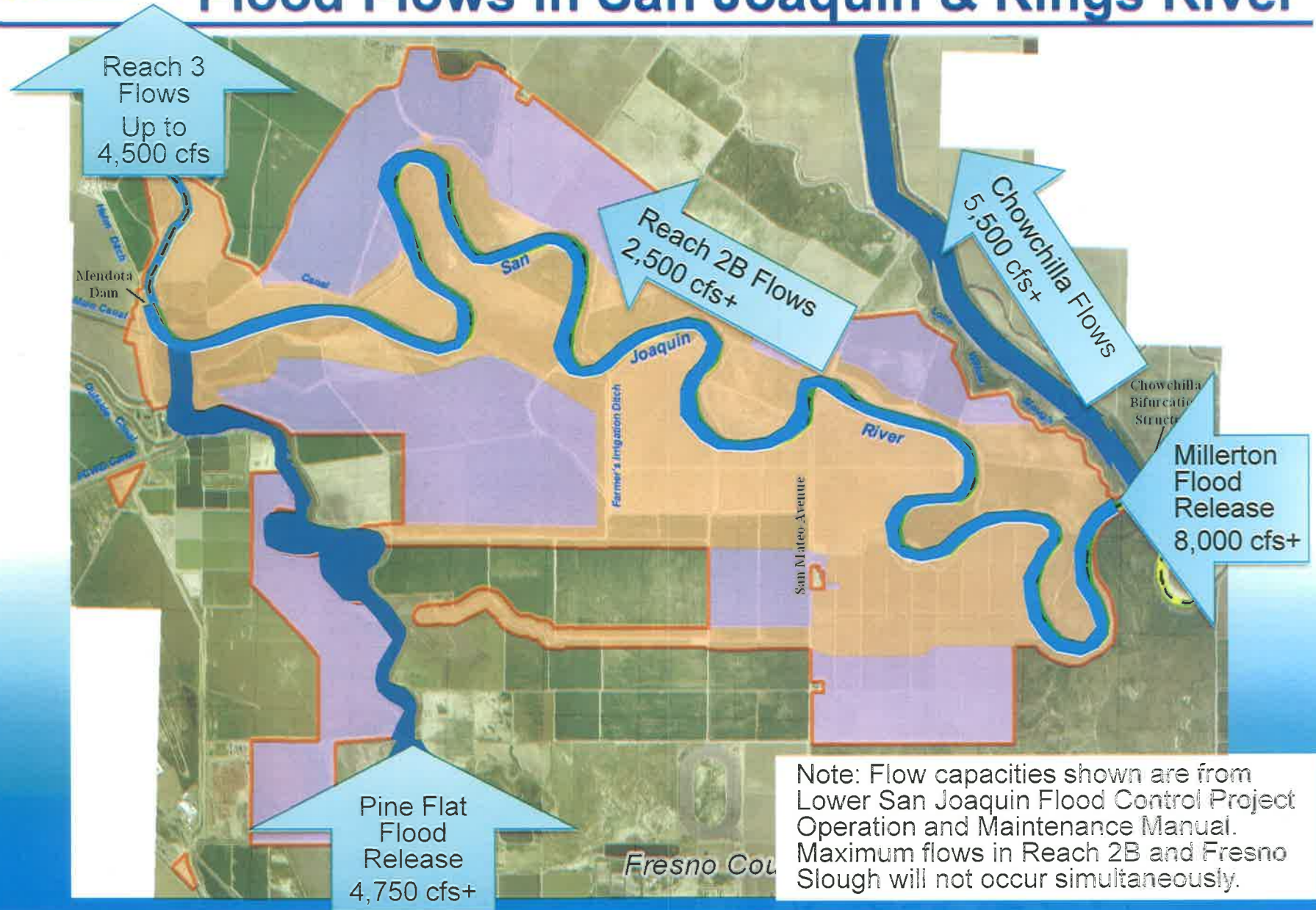
Flood Flow Scenarios

- Three basic flood flow scenarios, cont.:
 3. Flood flows in San Joaquin & Kings River (wet water years)
 - Flood releases from Pine Flat Reservoir via Fresno Slough
 - San Joaquin flood flows diverted from Reach 2B into the Chowchilla Bypass
 - Some portion of the San Joaquin River flows is anticipated to perform as Restoration Flows in Reach 2B
 - Flood management agencies will have ultimate discretion in directing flood flows



Project Operations

Flood Flows in San Joaquin & Kings River





Questions?





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