



CALIFORNIA  
**WATER FIX**  
RELIABLE. CLEAN. WATER.

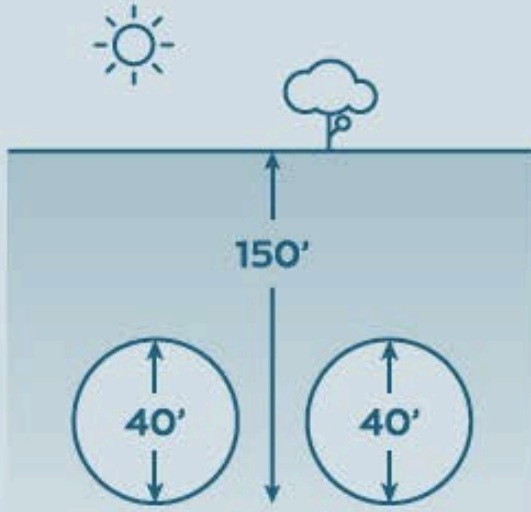
# PROJECT OVERVIEW

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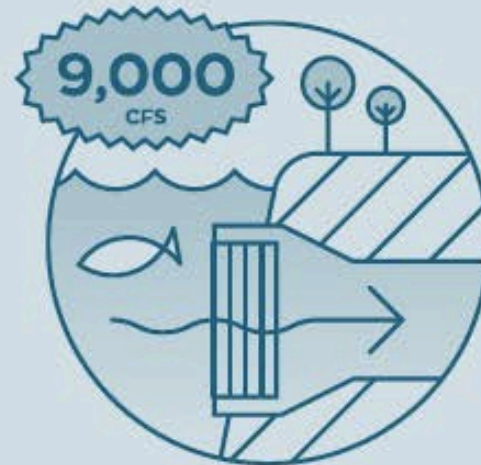
B.G. Heiland, P.E.  
June 15, 2016



# WATER DELIVERY UPGRADE



2 tunnels up to 150' below ground designed to protect California's water supplies



3 new intakes, each with 3,000 cubic-feet per second (cfs) capacity. Average annual yield of 4.9 million acre-feet.



Protection against water supply disruption from failure of aging levees due to sea-level rise, earthquakes and flood events



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# PERMITTING APPROACH

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- BDCP
  - Habitat Conservation Plan under Section 10 of the U.S. Endangered Species Act.
  - Natural Community Conservation Plan under the California Natural Community Conservation Planning Act.
  - Covers wide range of species over a large landscape.
  - Commitments and assurances for a specific term.
- California WaterFix
  - Compliance with the U.S. Endangered Species Act through Section 7 consultation (Biological Opinion).
  - Compliance with the California Endangered Species Act through a 2081b incidental take permit.
  - Permits do not include long-term assurances.
  - Ability to change or amend permits and adaptively manage.



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## WHAT'S CHANGED SINCE THE 2013 DRAFT EIR/EIS

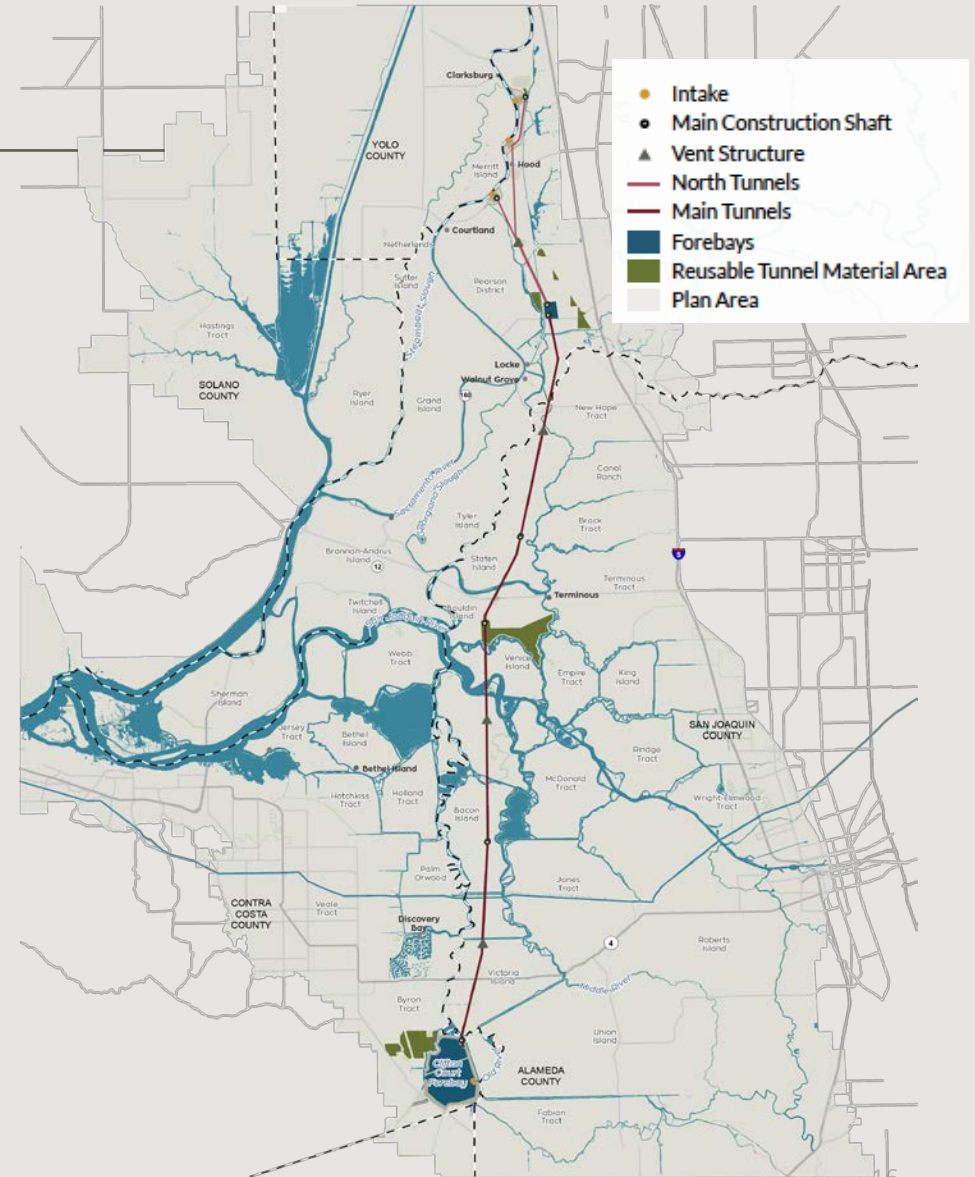
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- Design modifications to Alternative 4 (applied to all new sub-alts)
- Introduction of three new sub-alternatives: 4A, 2D, 5A
- Updated environmental analysis:
  - Fish & Aquatic Habitat
  - Water Quality
  - Effects Downstream of the Delta on Fisheries
  - Air Quality, Health Risk Assessment, Traffic and Noise
  - Geotechnical Investigations
  - Inclusion of Additional NEPA Determinations



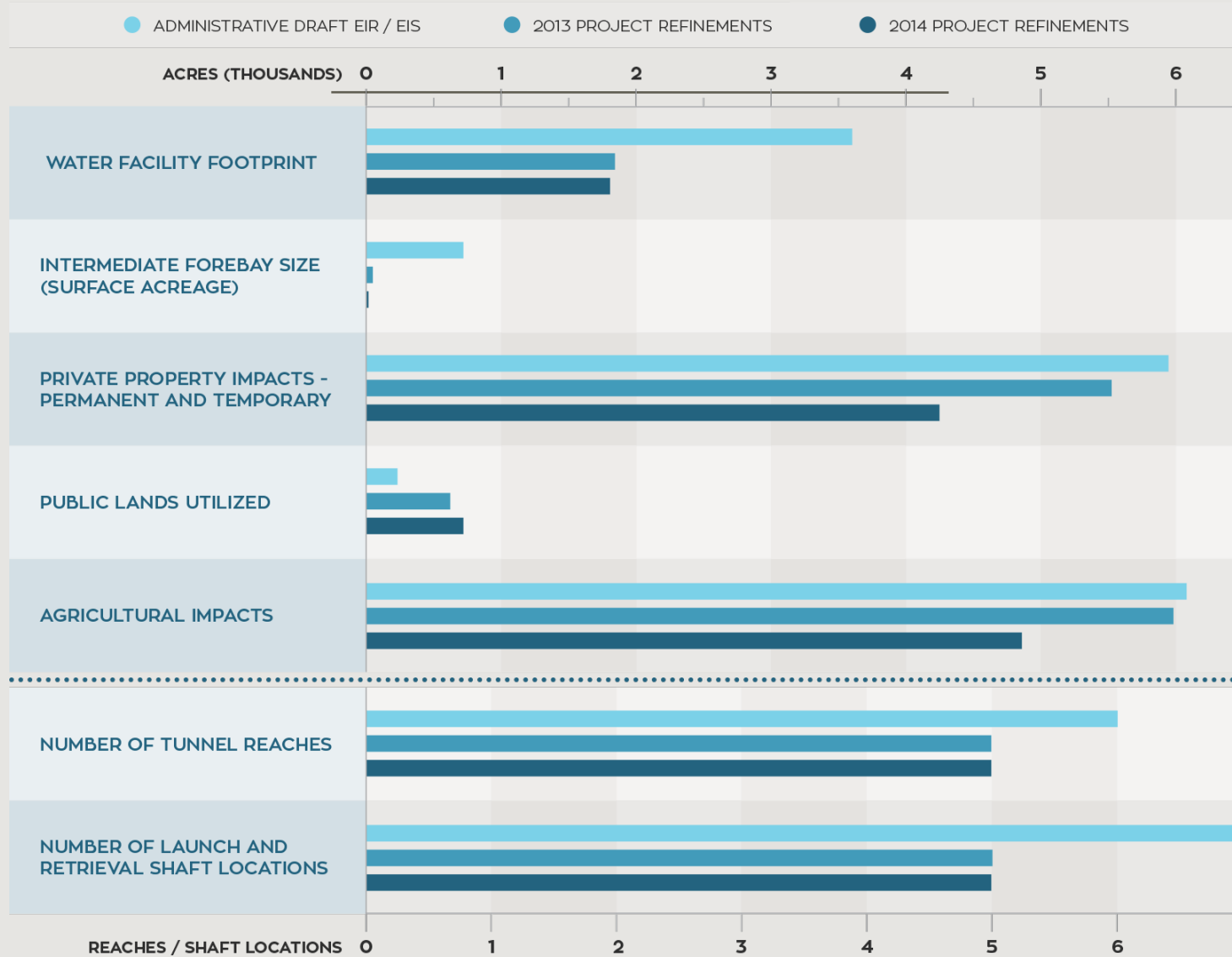
# PROPOSED REFINED TUNNEL OPTION AND INTAKE DESIGN

- Environmental Benefits:
  - Eliminate several features at northern intakes
  - Reduce visual impacts near Hood
  - Remove permanent transmission lines near Stone Lakes National Wildlife Refuge
  - Reduce impacts and overall construction on Staten Island
  - Eliminate large access pads at vent structures
  - Eliminate environmental impacts on Italian Slough
- Operational Benefits:
  - Gravity-fed operation – improves tunnel operation, reduces power requirements and improves long-term reliability
  - Combined pumping facility on existing state-owned property at Clifton Court – reduces environmental and construction impacts



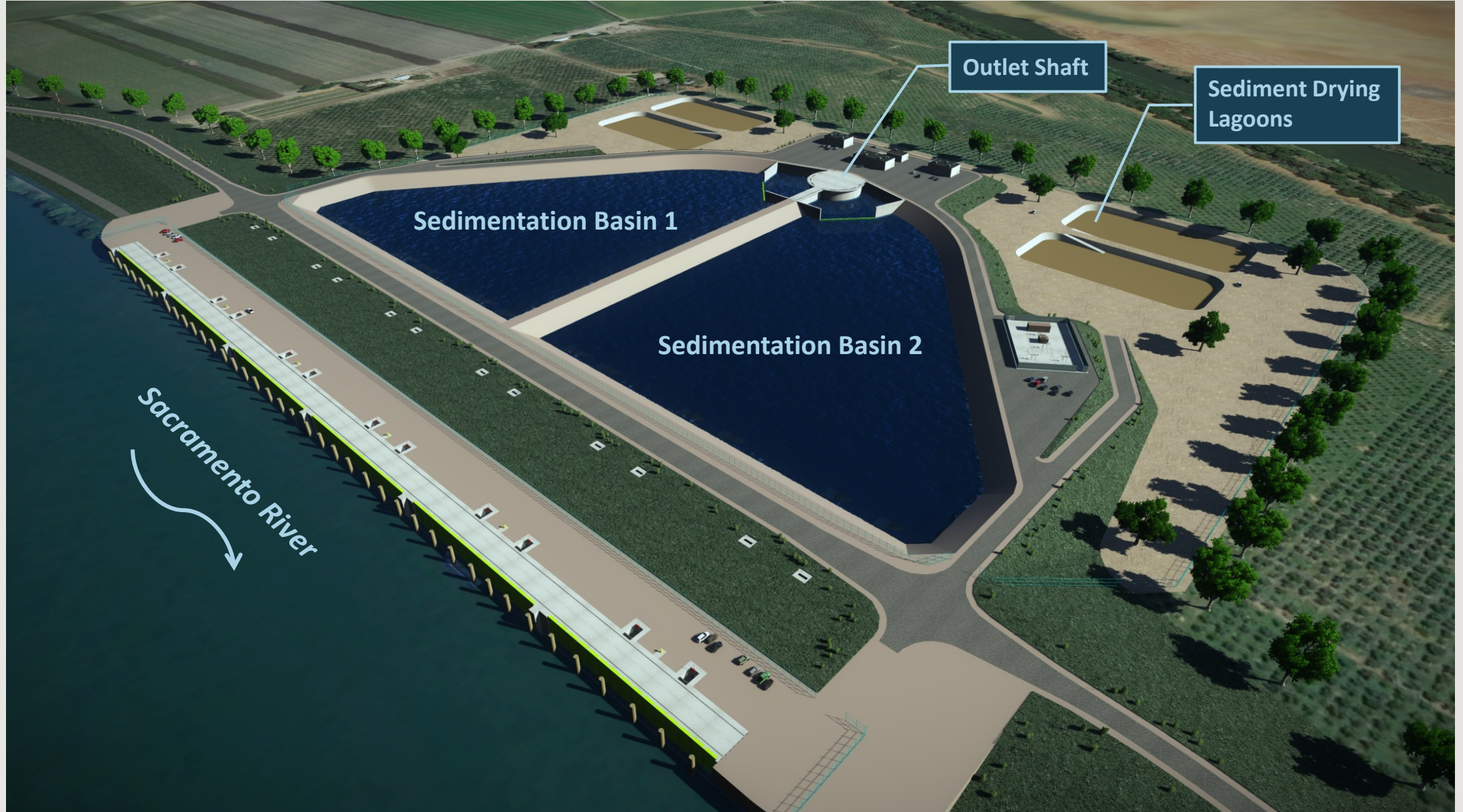


# PROJECT IMPROVEMENTS



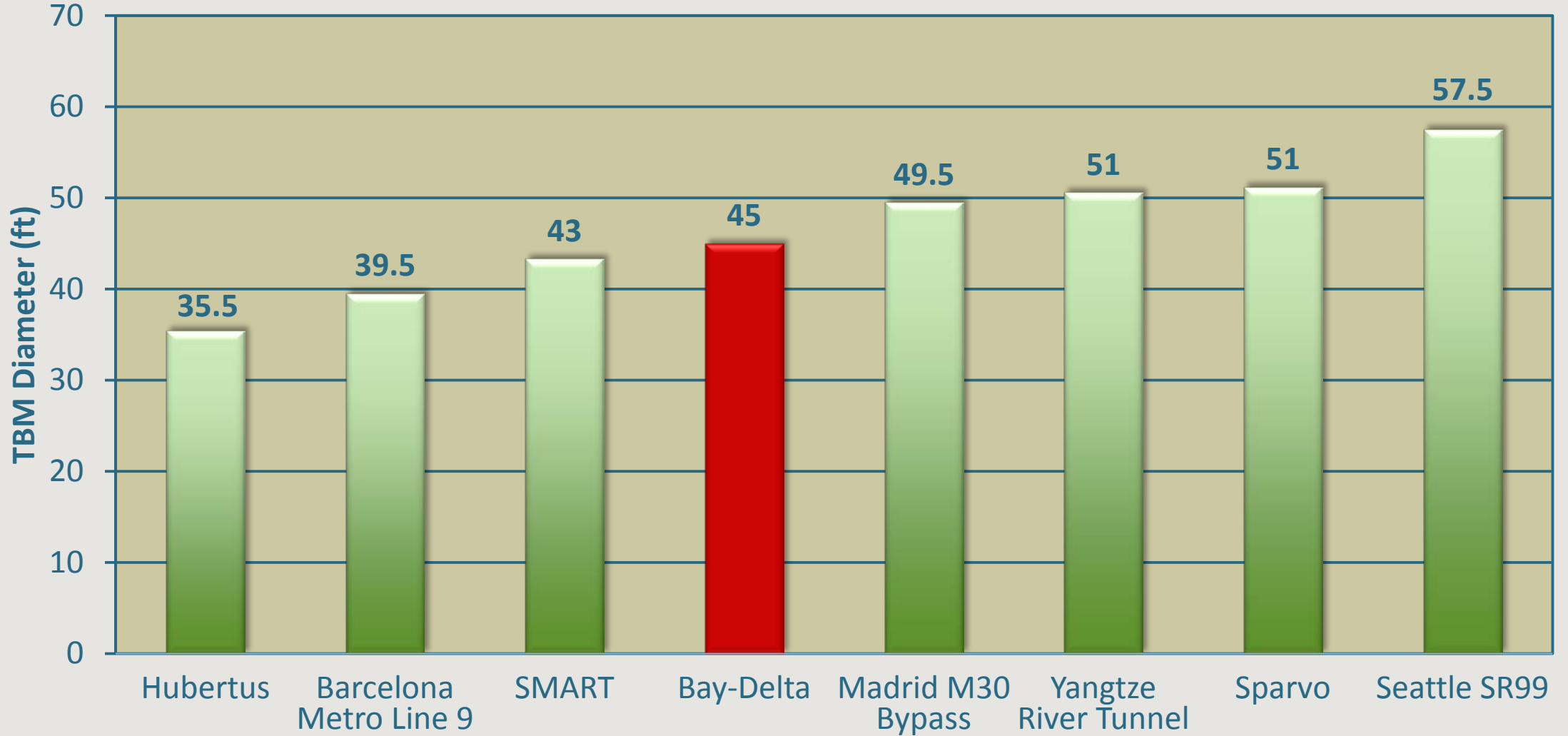


# RIVER INTAKES – OPTIMIZED





# LARGE DIAMETER TBM PROJECTS







# TYPICAL TUNNEL SEGMENTS



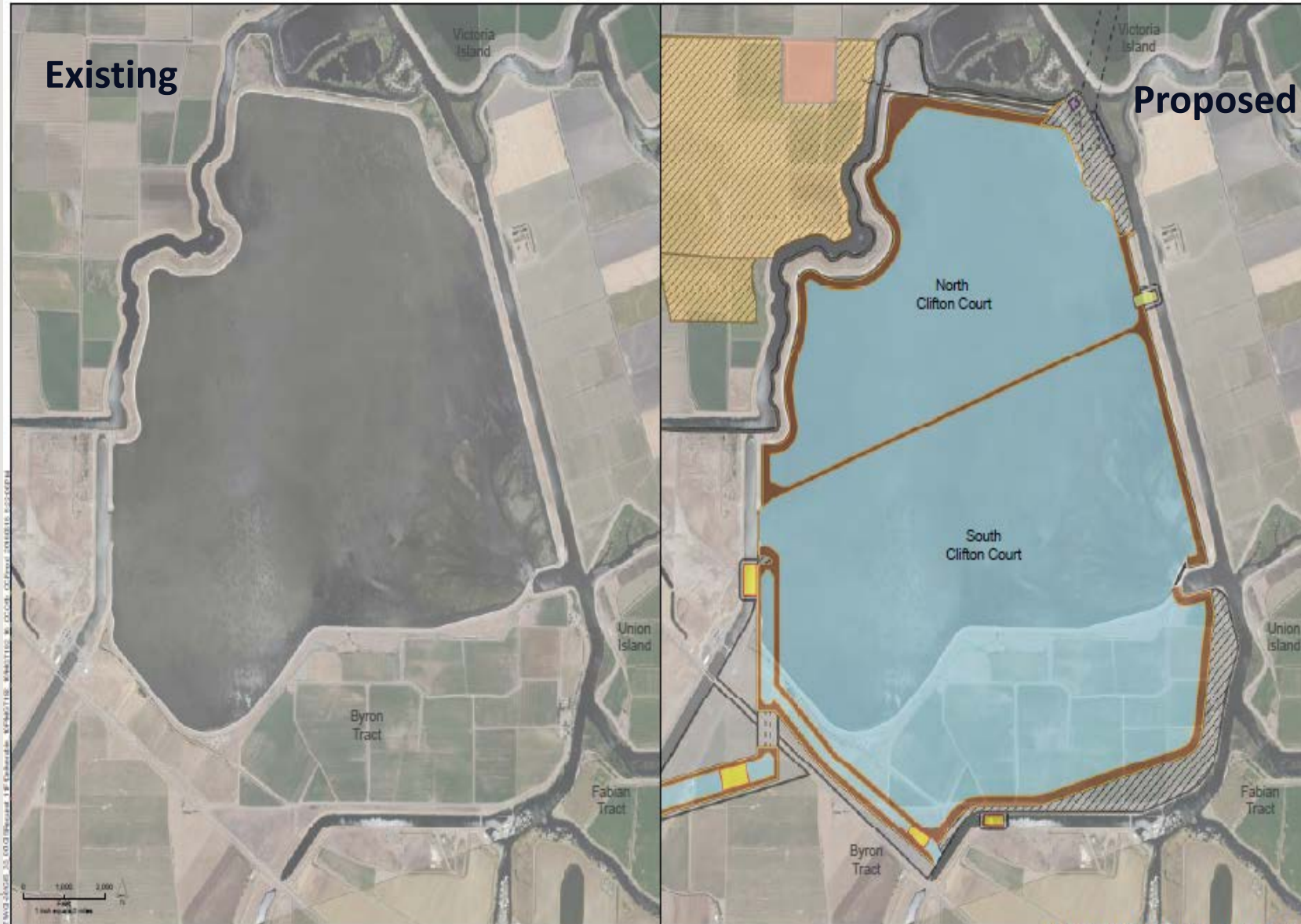


# PUMP PLANT – DRAWING REVIEW





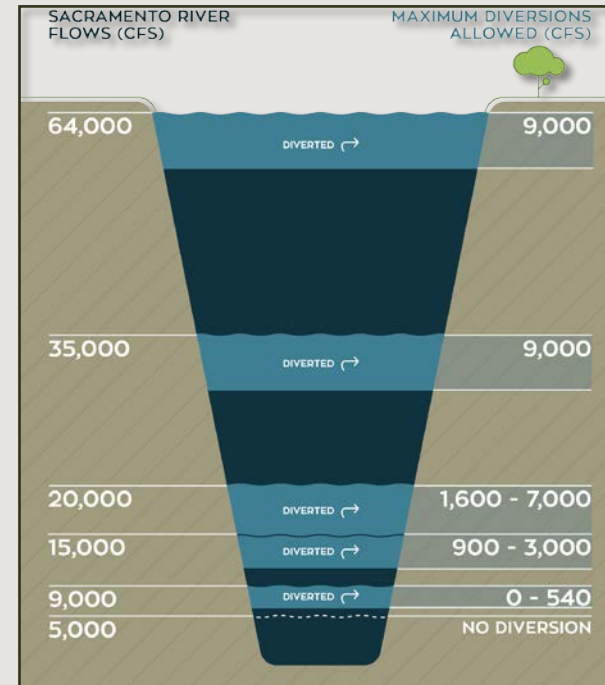
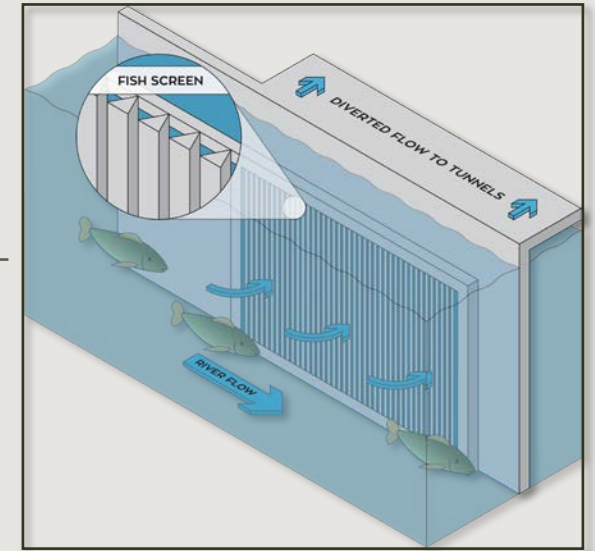
# CLIFTON COURT FOREBAY





# PROTECTING FISH

- A new water conveyance system can improve environmental flows over and above current conditions:
  - New criteria to protect spring outflow to San Francisco Bay
  - Improve flexibility to avoid water diversions at locations that harm fish
  - More natural direction of South Delta flows
  - Protect fish with state-of-the-art fish screens
  - Protect Sacramento River flows



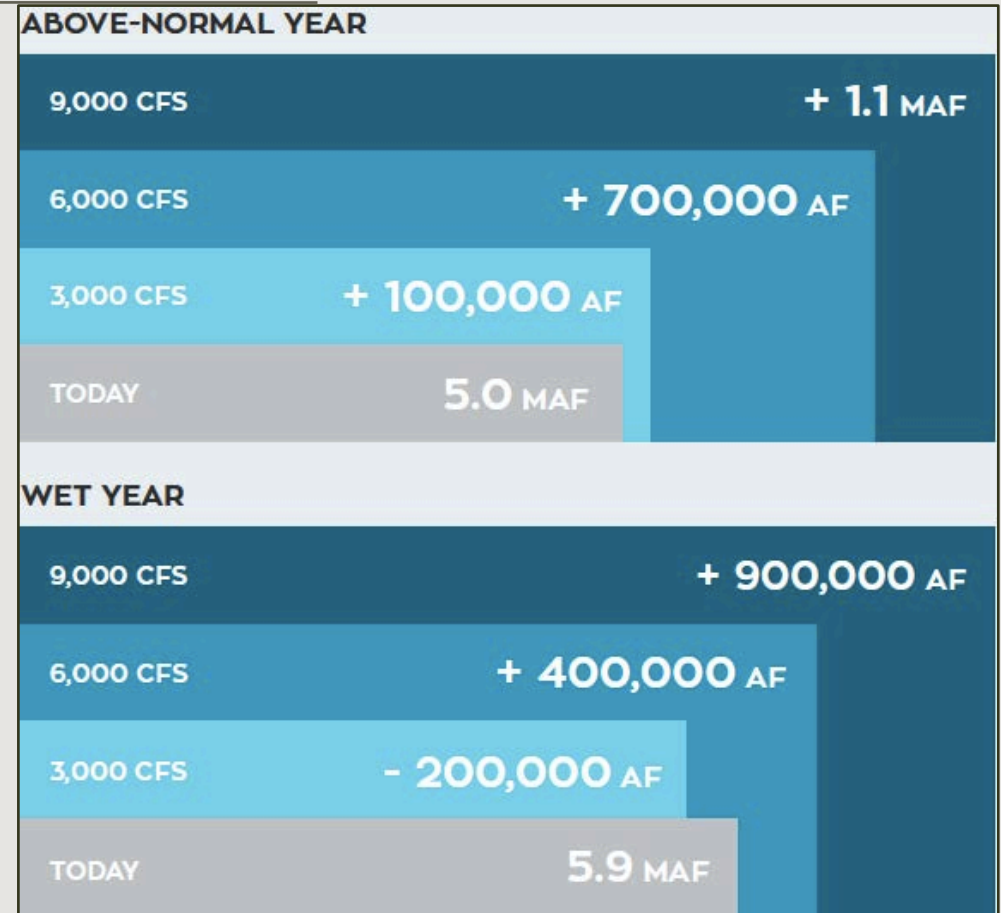
*\*Depending on water year type and fish presence  
\*\*9,000 cfs is the maximum diversion allowed, starting when the river is at 35,000 cfs.*



# PROPOSED FACILITY SIZE & YIELD

**A 9,000 CFS FACILITY WOULD PROVIDE AN AVERAGE ANNUAL YIELD OF 4.9 MILLION ACRE-FEET**

- Proposed 9,000 cfs facility is the best option for:
  - Reducing reverse flows and minimizing the trapping of migrating fish
  - Enhancing the ability to store surplus outflows and reduce diversions during critical fish migration periods
  - Improve drinking water quality
  - Expand groundwater recharge and recycling
  - Protect against water outages



*The yields depicted account for climate change, which is expected to cause more intense storms and flood events.*



# ENVIRONMENTAL MITIGATION



Improve habitat conditions along five miles of important juvenile salmon migration routes



Restore tidal and non-tidal wetland habitat to sustain habitat functions for native wildlife, such as the Giant Garter Snake and salmon



Restore native riparian forest and scrub to support habitat for riverside species and improve linkages for terrestrial and other native species



Improve connectivity among existing patches of grassland and other natural habitats



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# CALIFORNIA ECORESTORE

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- Program will accelerate and implement a comprehensive suite of habitat restoration actions.
- More than 30,000 acres over the next 5 years.
- Actions include critical Delta restoration and pre-existing regulatory requirements and enhancements to improve overall health of the Delta.
- Projects identified through locally-led processes facilitated by the Delta Conservancy.
- Projects implemented by the Delta Conservancy in collaboration with local governments.
- Funding provided through multiple sources.



# PROJECT TYPES & ACREAGES







# WHAT HAPPENS NEXT?

|    | REGULATORY PROCESSES AND PERMITS   | IN PROGRESS? | SEQUENCING                     |                  |
|----|--|--------------|--------------------------------|------------------|
|    |  |              | IN COORDINATION WITH CEQA/NEPA | AFTER ROD/NOD    |
| 1  | CALIFORNIA ENVIRONMENTAL QUALITY ACT / NATIONAL ENVIRONMENTAL POLICY ACT (CEQA/NEPA) | ☑            | ●                              |                  |
| 2  | ENDANGERED SPECIES ACT (ESA) SECTION 7 CONSULTATION                                  | ☑            | ●                              |                  |
| 3  | NATIONAL HISTORIC PRESERVATION ACT (NHPA) SECTION 106 COMPLIANCE                     | ☑            | ●                              |                  |
| 4  | CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW) 2081(B) PERMIT                     | ☑            |                                | ●                |
| 5  | SECTION 401 OF THE CLEAN WATER ACT - WATER QUALITY CERTIFICATION                     | ☑            |                                | ●                |
| 6  | CDFW LAKE AND STREAMBED ALTERATION AGREEMENT, SECTION 1602                           | ☑            |                                | ●                |
| 7  | U.S. ARMY CORPS OF ENGINEERS (USACE) SECTION 404 PERMIT                              | ☑            |                                | ●                |
| 8  | STATE WATER RESOURCES CONTROL BOARD (SWRCB) CHANGE PETITION                          | ☑            |                                | ●                |
| 9  | DELTA STEWARDSHIP COUNCIL  | ☑            |                                | ●                |
| 10 | USACE SECTION 408 PERMIT   |              |                                | ●                |
| 11 | DESIGN & ENGINEERING   | 10% DESIGN   |                                | 30% - 95% DESIGN |

- **Environmental Review**
  - Preparing Final EIR/S
  - Expected late-2016
- **ESA Section 7 Consultation**
  - Working draft biological assessment released
  - Issuance of Biological Opinion expected in 2016
- **USACE Section 404 Permit**
  - Submitted on August 24, 2015
  - Public comment period: September 9, 2015 – November 9, 2015
- **SWRCB Change Petition**
  - Submitted on August 26, 2015
  - Public hearings – July 2016



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## STAY INVOLVED

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[www.californiawaterfix.com](http://www.californiawaterfix.com)

 @CAWaterFix / @CAEcoRestore

 California WaterFix / California EcoRestore



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# QUESTIONS

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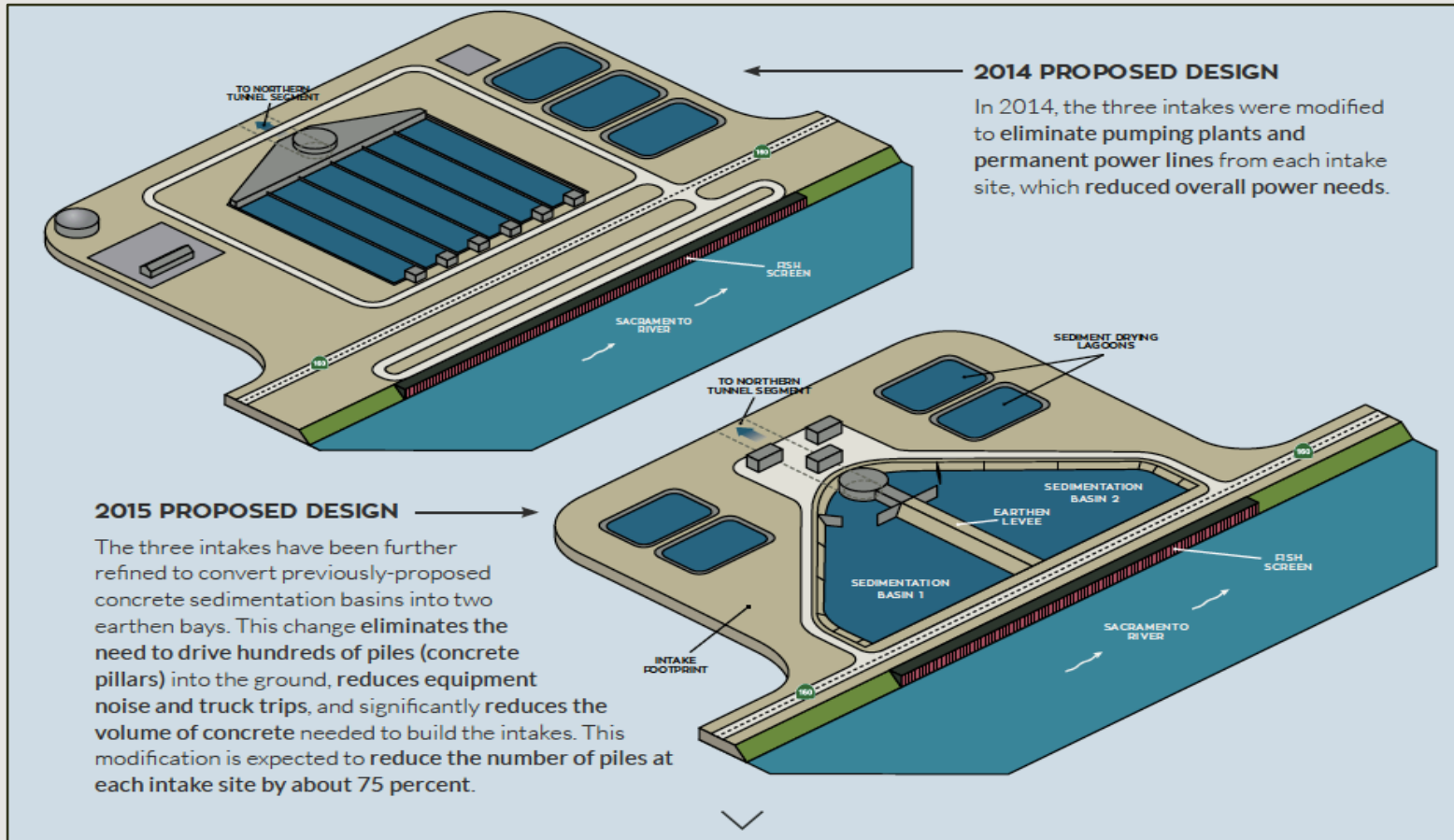
## PROPOSED ENGINEERING IMPROVEMENTS

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- Response to public comments
  - Reduce visual impacts at pumping plants
  - Permanent power lines near Stone Lakes
  - Reusable Tunnel Material (RTM) construction and duration of impacts at Staten Island
  - Construction impacts at Italian Slough
  - Increased use of DWR owned property



# PROPOSED ENGINEERING CHANGES TO INTAKE FACILITIES





# RESTORATION OBJECTIVES BREAKING GROUND IN 2015/2016

- 2015:
  - Dutch Slough
  - Knights Landing Outfall Gates
- 2016:
  - Southport
  - McCormack-Williamson Tract
  - Hill Slough
  - Goat Island at Rush Ranch
  - Tule Red Restoration

