

REFINED TUNNEL OPTION AND INTAKE DESIGN

MAPPING A BETTER ROUTE FORWARD

In 2013, significant changes to the proposed water facilities and operations reduced the overall project footprint by one-half of its original size to minimize community impacts. In 2014, the water facilities were further refined to address engineering improvements and feedback received during the public comment period. Since then, additional changes have been made to the proposed facilities. Changes to the project:



Reduce construction impacts on Delta communities and the environment



Reduce power requirements



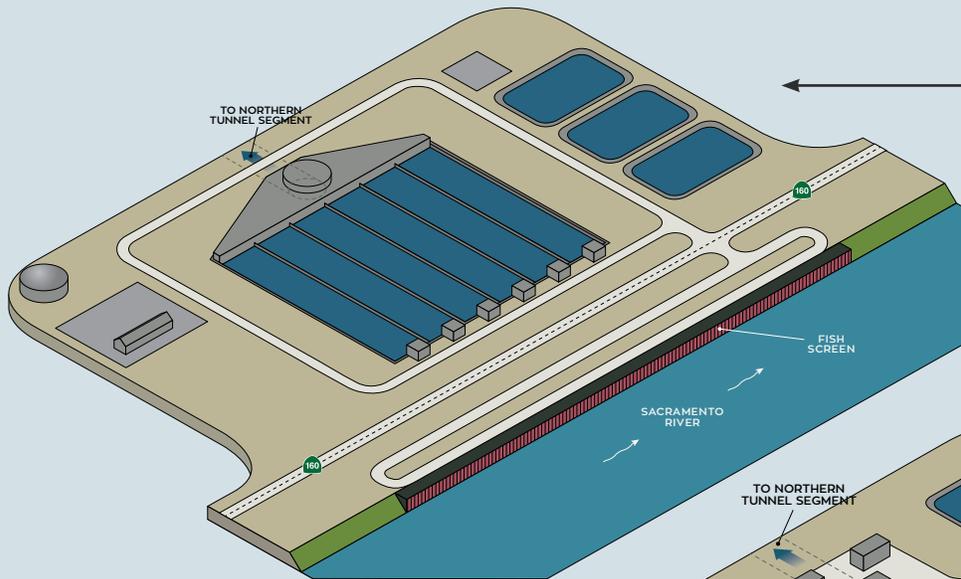
Increase use of state-owned property



Allow for gravity flow at certain river conditions

These changes, along with others, will be available for formal review and comment in the Partially Recirculated Draft Environmental Impact Report (EIR)/Supplemental Environmental Impact Statement (EIS) expected for release in June 2015.

ENGINEERING CHANGES TO INTAKE FACILITIES

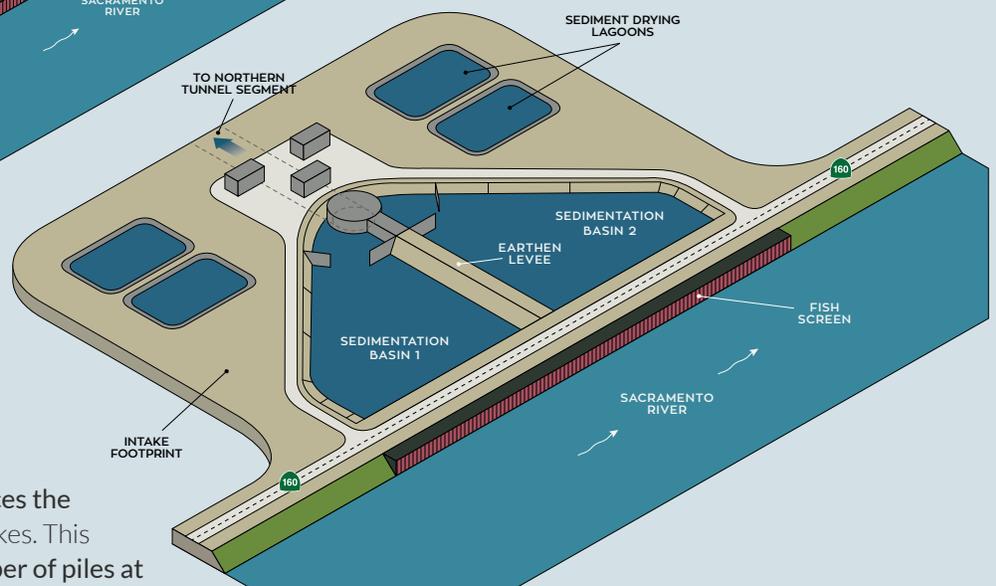


2014 PROPOSED DESIGN

In 2014, the three intakes were modified to **eliminate pumping plants and permanent power lines** from each intake site, which **reduced overall power needs**.

2015 PROPOSED DESIGN

The three intakes have been further refined to convert previously-proposed concrete sedimentation basins into two earthen bays. This change **eliminates the need to drive hundreds of piles (concrete pillars) into the ground, reduces equipment noise and truck trips, and significantly reduces the volume of concrete** needed to build the intakes. This modification is expected to **reduce the number of piles at each intake site by about 75 percent**.



PROPOSED PROJECT CHANGES

Reducing environmental impacts and improving operations



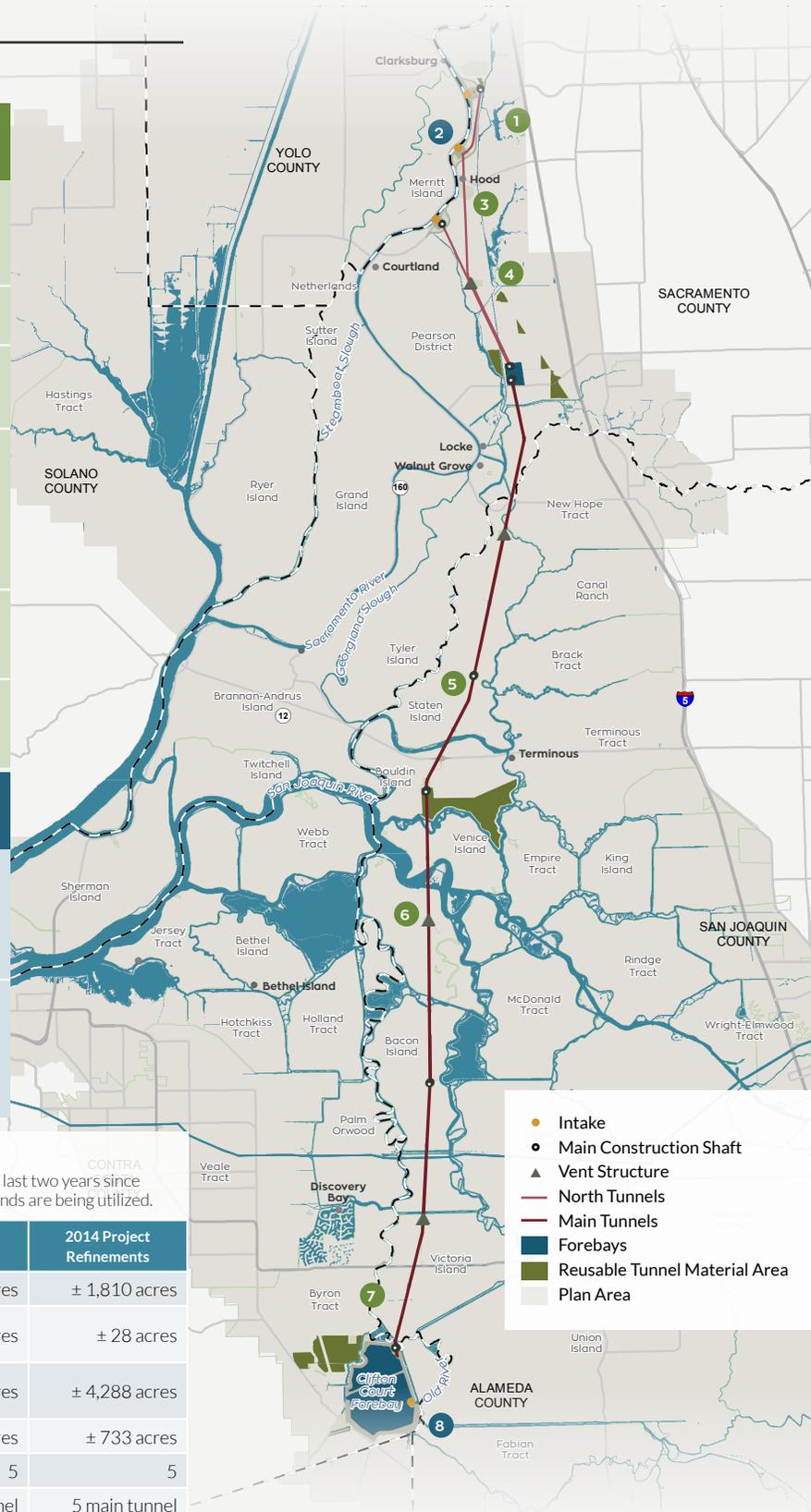
ENVIRONMENTAL BENEFITS

- 1 Eliminate the pumping plants, permanent power lines, and sediment basins at the northern intakes to reduce visual and air quality impacts and energy needs.
- 3 Reduce visual impacts near the town of Hood.
- 4 Remove permanent transmission lines near Stone Lakes Wildlife Refuge to reduce environmental impacts.
- 5 Reduce impacts on Staten Island wildlife habitat by removing the proposed tunnel launch facilities, large reusable tunnel material storage areas, a barge landing site, and high voltage transmission lines. This change also reduces the overall construction time on Staten Island.
- 6 Eliminate large access pads at vent structures to reduce the need for earth work
- 7 Eliminate environmental impacts on Italian Slough by removing an underground siphon.



OPERATIONAL BENEFITS

- 2 Gravity-fed operation improves tunnel operation and maintenance, reduces power requirements at the northern intakes, and improves long-term tunnel reliability by reducing internal pressure.
- 8 Consolidate pumping plants previously proposed at the three northern intakes to one combined pumping facility located on existing state-owned property at Clifton Court to reduce environmental and construction impacts.



PROJECT REFINEMENTS

The chart below shows how the California Water Fix project has been refined in the last two years since the initial BDCP Draft. Fewer overall acres are being impacted, while more public lands are being utilized.

Project Refinements	Administrative Draft EIR / EIS	2013 Project Refinements	2014 Project Refinements
Water Facility Footprint	± 3,654 acres	± 1,851 acres	± 1,810 acres
Intermediate Forebay Size (Surface Acreage)	± 750 acres	± 40 acres	± 28 acres
Private Property Impacts - Permanent and Temporary	± 5,965 acres	± 5,557 acres	± 4,288 acres
Public Lands Utilized	± 240 acres	± 657 acres	± 733 acres
Number of Tunnel Reaches	6	5	5
Number of Launch and Retrieval Shaft Locations	7 main tunnel shafts	5 main tunnel shafts	5 main tunnel shafts
Agricultural Impacts	± 6,105 acres	± 6,033 acres	± 4,890 acres