Interlake Tunnel and Spillway Modification
Workshop venues


2. Heritage Ranch, Lake Nacimiento – 2:00 – 4:00 PM – September 15, 2017
Stakeholder workshop agenda

1. Introductions
2. Meeting Purpose
3. Project Purpose \ Project Objectives
4. Project description overview
5. Accomplishments to date
6. Project status report
7. Project plan and cash flow forecast
8. Four month look ahead
9. Questions
Purpose of meeting

1. Share information with the project stakeholders and public regarding the project status and planned activities.
2. Identify concerns of stakeholders to be addressed during project design.
Purpose of the project

The Monterey County Water Resources Agency manages, protects, and enhances the quantity and quality of water and provides specified flood control services for present and future generations of Monterey County.

The Interlake Tunnel is a proposed beneficial project under the auspices of MCWRA to provide flood control and enhance the quantity of water supply for Monterey County.
Salinas Valley Surface Water Supply
2 reservoirs, Salinas River, & Salinas River Diversion Facility (SRDF)

Provides:
- Flood Control
- Fisheries Minimum Flows
- Conservation Releases
- Groundwater Recharge
Water supply sustainability

Release water at opportune timing to:
1) Recharge groundwater aquifers
2) Supply for possible future projects
3) Augment deliveries to SRDF

Benefits Include
1) Increased flood control
2) Increased supply of surface water
3) Increased downstream flows for steelhead

Additional water available for:
- Supply to future projects
- Recharge groundwater
Project objectives

1. Minimize flood releases from Nacimiento reservoir and reduce associated downstream flood damages;
2. Increase the overall surface water supply available from Nacimiento and San Antonio reservoirs by maximizing the opportunity for water to be collectively stored in the reservoirs;
3. Improve the hydrologic balance of the groundwater basin in the Salinas Valley and reduce seawater intrusion;
4. Continue to meet environmental flow requirements
5. Minimize impact on existing hydroelectric production
6. Preserve recreational opportunities in the reservoirs
7. Protect agricultural viability and prime agricultural land
Project orientation

Facts:
- ~ 11,000 feet
- 10’ diameter
- Concrete lined
- Gravity flow tunnel

Lake San Antonio

Proposed Tunnel

Lake Nacimiento
Interlake Tunnel Concept

Tunnel maximum flow capacity ~ 1,700 CFS

- Nacimiento Reservoir
- Tunnel
- San Antonio Reservoir
- Nacimiento Intake Structure
- San Antonio Valve Facility
- San Antonio Energy Dissipator

Tunnel length: 12,000’

Reservoir elevations:
- Nacimiento: 800’
- San Antonio: 780’

Tunnel diameter: 10’
San Antonio Spillway Modification

Increases storage to San Antonio Reservoir
In 2017 the tunnel would have moved 88,000 ACFT from Nacimiento to San Antonio of the 192,000 ACFT that was spilled to the ocean.
### Flood Control Benefit

**Flood Control**

<table>
<thead>
<tr>
<th>Flood Spills</th>
<th>Number of years flood spill occurs</th>
<th>Average flood volume (AFY)</th>
<th>Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>15</td>
<td>46,000</td>
<td></td>
</tr>
<tr>
<td>Tunnel</td>
<td>6</td>
<td>25,000</td>
<td>60%</td>
</tr>
<tr>
<td>Tunnel &amp; SA Raise</td>
<td>6</td>
<td>22,000</td>
<td>60%</td>
</tr>
</tbody>
</table>

- **Baseline**: 15 years, 46,000 AFY
- **Tunnel**: 6 years, 25,000 AFY (60% reduction)
- **Tunnel & SA Raise**: 6 years, 22,000 AFY (60% reduction)

**Graph**: Comparison of flood spill volume from 1987 to 2023, showing a reduction in spill volume from reservoirs and spill reduction due to the tunnel project.
# Interlake Tunnel Project

**Preliminary Operational Modeling Results**

(Water years 1967 - 2013)

(Average Acre Feet/Year)

<table>
<thead>
<tr>
<th></th>
<th>Reduction in Spills</th>
<th>Increase in Total Controlled Releases</th>
<th>Tunnel Transfers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tunnel</td>
<td>7,736</td>
<td>5,390</td>
<td>50,493</td>
</tr>
<tr>
<td>Tunnel &amp; SA spillway mod*</td>
<td>11,857</td>
<td>8,101</td>
<td>53,840</td>
</tr>
</tbody>
</table>

<table>
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</thead>
<tbody>
<tr>
<td>Tunnel</td>
<td>60% reduction</td>
<td>46% reduction</td>
</tr>
<tr>
<td>Tunnel &amp; SA spillway mod</td>
<td>60% reduction</td>
<td>52% reduction</td>
</tr>
</tbody>
</table>

* (Adds 59,000 AF of reservoir storage to San Antonio)

Does not include operating scenario to maximize beneficial use.
Major accomplishments to date

• Initiated EIR process and completed scoping and NOP process.
• Completed environmental field studies.
• Collected groundwater / well information.
• Initiated project design and geotechnical exploration.
• Meetings with regulatory agencies to address permitting and white bass issue resolution.
  • NMFS
  • DSOD
  • CDFW
• Secured $10 million grant funding from DWR
• Basin hydrologic historical model (USGS) will support future modeling
Project Status report

1. Environmental clearance and permitting
   • Regulatory approval status
     • NMFS – implementing HCP to fully address protection of endangered species.
     • CDFW – developing fish screen alternatives for white bass exclusion from the tunnel and related MOU with CDFW.
   • EIR progress
     • Defining project description and viable alternatives for impact analysis.

2. Engineering and design status
   • Confirmed location and design concept for Nacimiento intake structure
     • Evaluation of alternatives to address white bass issues with CDFW
   • Coordination meetings with DSOD and submittals to obtain permits for geotechnical exploration and project design development.
3. **Hydrologic modeling status**
   - Basin wide surface water/ground water model being developed by USGS for another project
     - Tunnel Project will utilize new basin wide model for benefits analysis
   - Consultant selected to operate USGS model
   - Developing scenarios and rules for model runs to define hydrologic performance of project.
Development schedule to Prop 218

Prop 218 election – Feb 2019

- Right of Way Easements
- Hydrologic Modeling
- USGS Model
- Model Run Scenarios
- Confirm Project Description
- Project Alternatives Scenarios
- Prepare Final EIR
- Findings, SOCP, NOD, MMRP
- CEA Approval
- Permit Issuances
- Habitat Conservation Plan
- Regulatory Agency Coordination
- San Antonio Spillway Design
- Spillway Hydraulic Design
- Embankment Stability Evaluation
- Preliminary Design (30%)
- Final Design
- DSOD Review & Approval
- Tunnel Design
- Preliminary Engineering - Geotechnical Investigation Program
  - Geotech Exploration
  - Design Criteria Memorandum
  - Preliminary Engineering - Report (30% Design Level)
  - Design-Build Documents

- Proposition 218 Financing
- 218 Hearings and Election
- 218 Financing approved
- Tax Assessment Process
- Bond Sales
- Proposition 218 Funding
- Issue Design-Build FFP
- DB Contractor Selection
- Tunnel D/B Notice to Proceed

*Not included in DWR Grant
## Project Capital Budget

### Interlake Tunnel Cost History
**As of August 18, 2017**

<table>
<thead>
<tr>
<th>Budget</th>
<th>Dec 2015</th>
<th>August 2017</th>
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</thead>
<tbody>
<tr>
<td>Conceptual Engineering</td>
<td>$314,952</td>
<td>$1,110,000</td>
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<tr>
<td>Environmental clearance and permits</td>
<td>1,198,400</td>
<td>1,834,598</td>
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<tr>
<td>Tunnel design and geotechnical investigations</td>
<td>1,310,800</td>
<td>2,834,097</td>
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<tr>
<td>Spillway engineering and final design</td>
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<td>1,766,692</td>
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<tr>
<td>ROW acquisition and water rights permit application</td>
<td>244,000</td>
<td>244,000</td>
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<tr>
<td>Financing</td>
<td>342,000</td>
<td>462,000</td>
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<tr>
<td>Tunnel construction</td>
<td>32,206,000</td>
<td>32,506,000</td>
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<tr>
<td>San Antonio Spillway Modification</td>
<td>15,000,000</td>
<td>15,000,000</td>
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<tr>
<td>Fish Screen</td>
<td></td>
<td>5,000,000</td>
</tr>
<tr>
<td>Program Management</td>
<td>1,386,695</td>
<td>2,866,919</td>
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<tr>
<td>Construction Management</td>
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<td>1,200,000</td>
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<tr>
<td>Contingency</td>
<td>9,800,000</td>
<td>10,290,000</td>
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<tr>
<td>Capitalized interest during construction</td>
<td></td>
<td>3,400,000</td>
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<tr>
<td>Broker / Financing fees</td>
<td></td>
<td>1,400,000</td>
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<tr>
<td>PLA Negotiations (EPC only)</td>
<td></td>
<td>36,860</td>
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<tr>
<td>Habitat Conservation Plan (tunnel focused)</td>
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<td>TBD</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$63,002,847</td>
<td>$79,951,166</td>
</tr>
</tbody>
</table>
Four Month Look Ahead

1. Perform hydrologic modeling to complete project description and impact analysis for Draft EIR
2. Complete geotechnical investigations
3. Advance preliminary engineering on tunnel and spillway modification
4. Advance development of Habitat Conservation Plan (HCP)
5. Continued collaboration with regulatory agencies
6. Initiate water rights analysis for revised points of diversion and added storage
7. Complete MOU with CDFW regarding white bass solution
Geotechnical exploration plan

Tunnel: 5 borings
Spillway: 4 borings
Questions