Nacimiento-San Antonio Interlake Tunnel Project Overview

WRAC May 2019

Project Orientation

Public infrastructure financed by benefiting properties

Project Description – Water Conveyance Tunnel

10,940 feet long

10 feet diameter

Concrete lined

Gravity flow

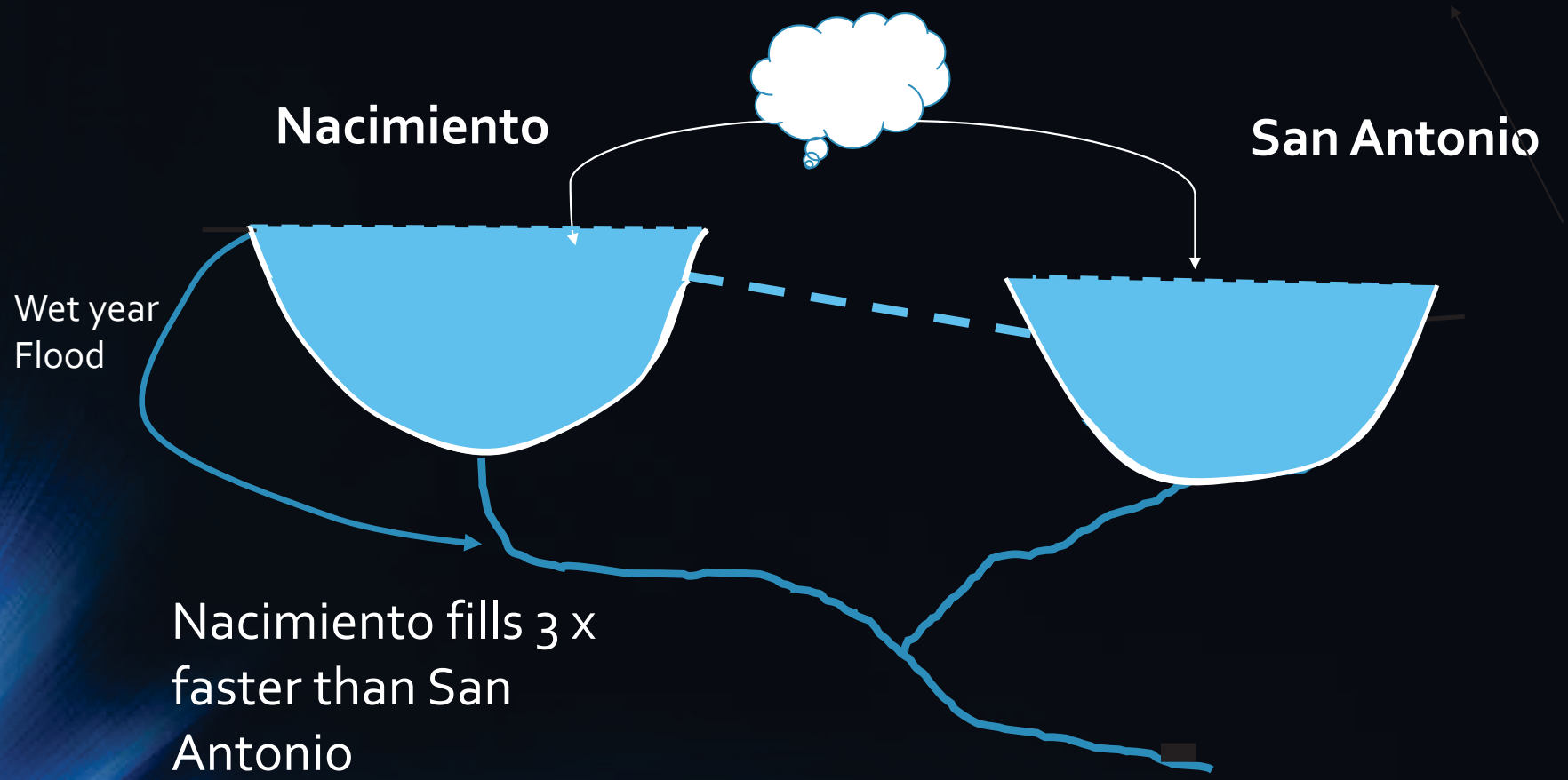
Operating objectives

- Minimize flood releases and reduce downstream flood damage
- Increase the overall surface water storage
- Improve hydrologic balance of the groundwater basin
- Continue to meet environmental flow requirements
- Minimize impact on existing hydroelectric production
- Preserve recreational opportunities in the reservoirs
- Protect agricultural viability and prime agricultural land

Project hydrology

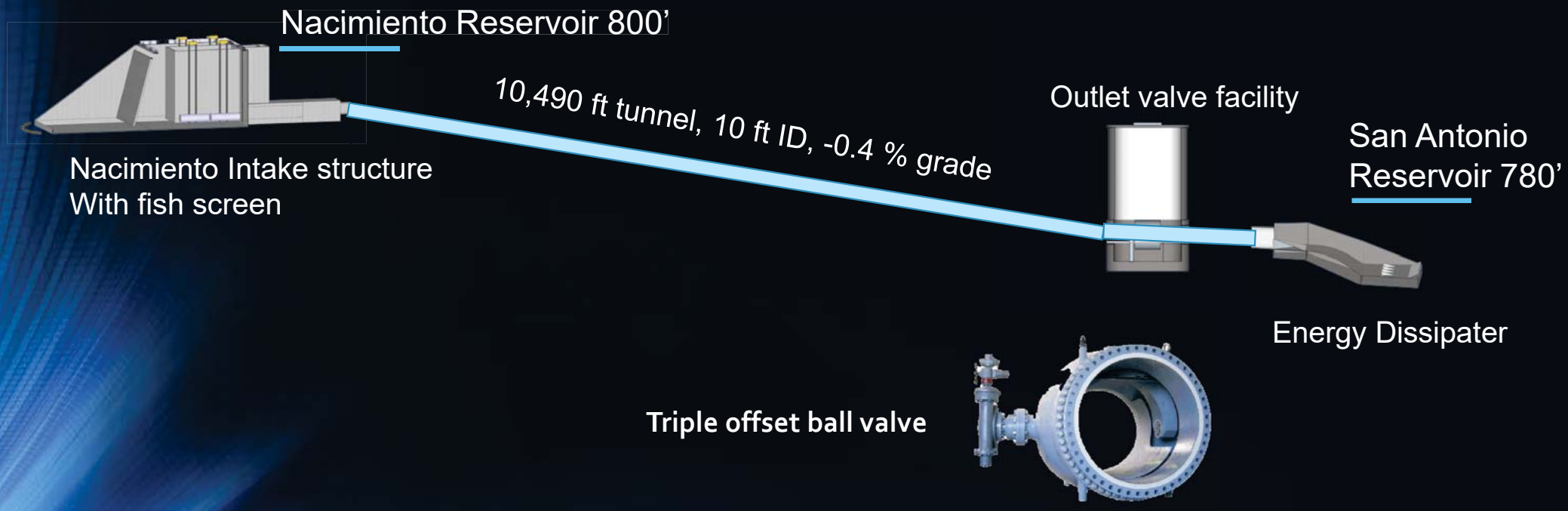
1. Capturing additional water for storage
   - Without changing reservoir operating rules, creates an average of 16,000* AF per year of new conservation releases
   - By optimizing reservoir operations, creates an average total of 20,000+ AF per year of new conservation releases
2. Provides an annual average of 67,000 AF of additional stored water (w/spillway modifications at San Antonio)
3. Reduces potential flood releases by an average of 18,000 AF per year

Tunnel operating function



Nacimiento fills 3 x faster than San Antonio

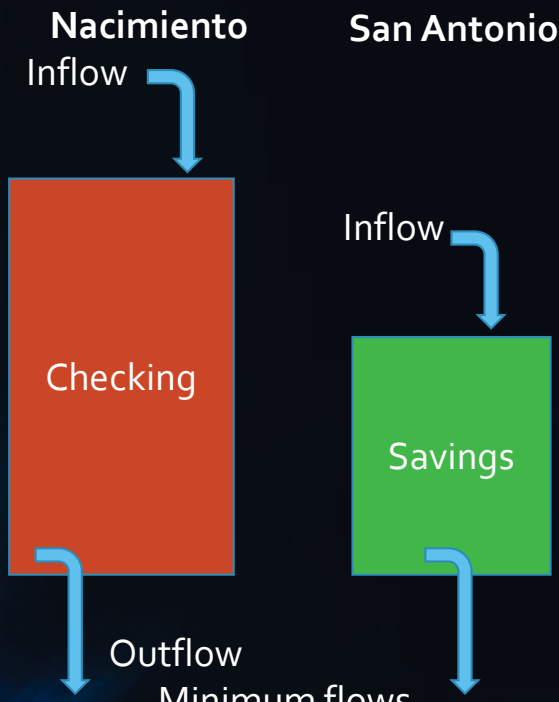
Project Schematic



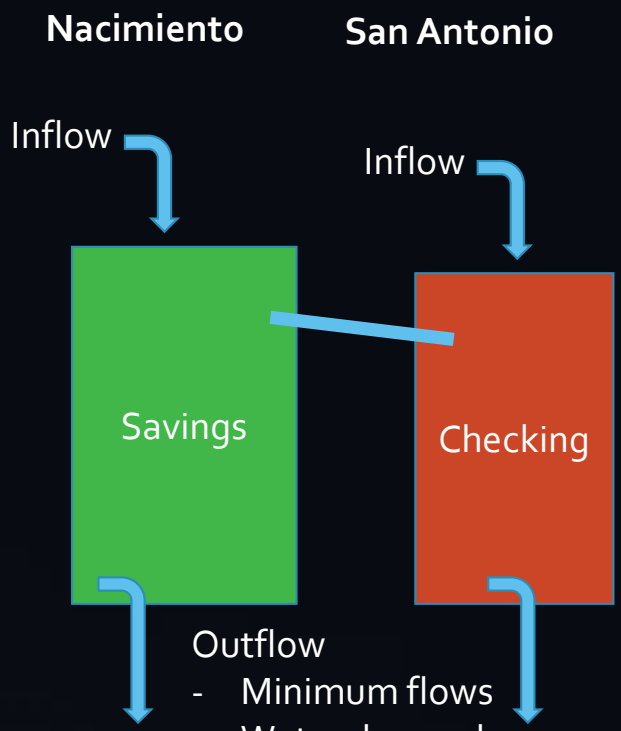
Triple offset ball valve

Reservoir Operations
Checking and Savings Accounts

Current Operations

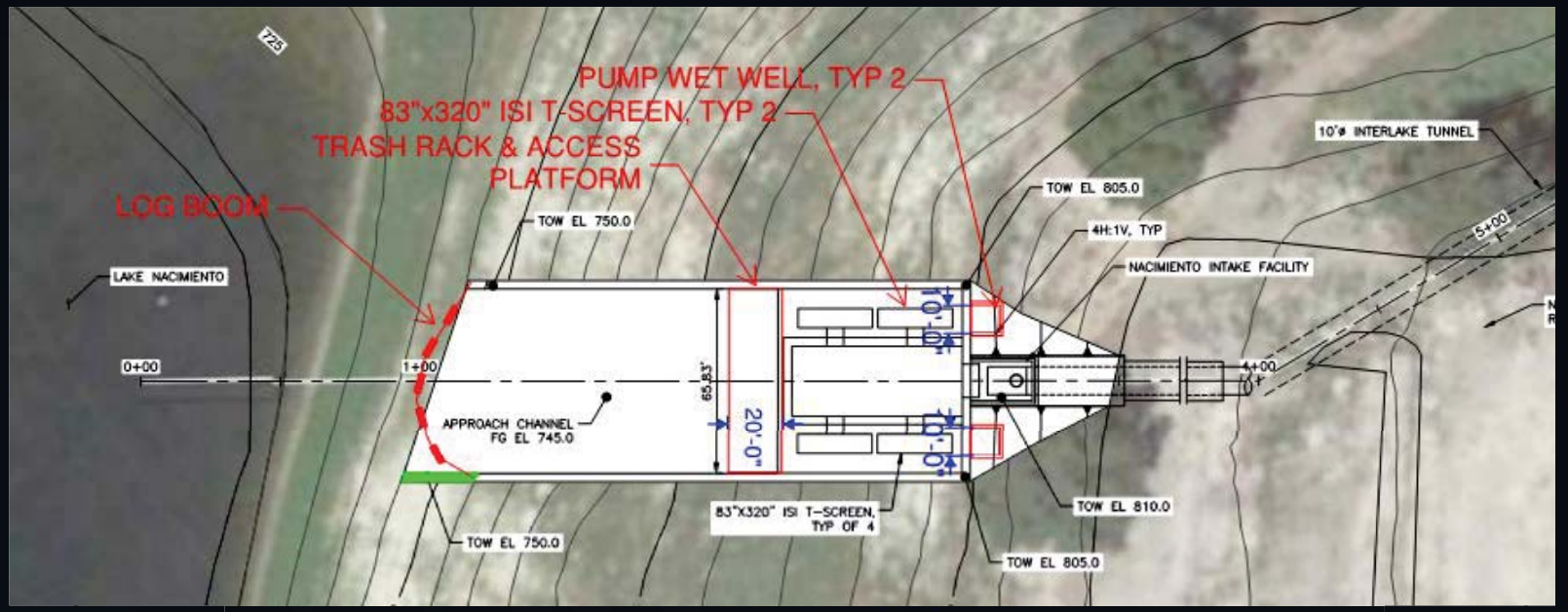


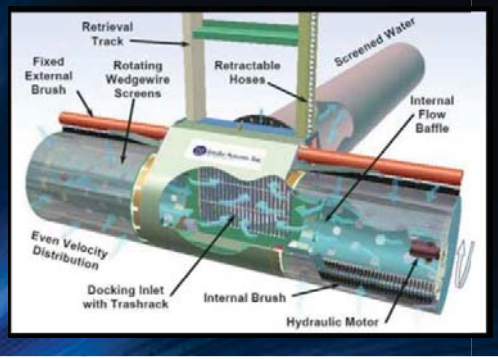
Future Operations

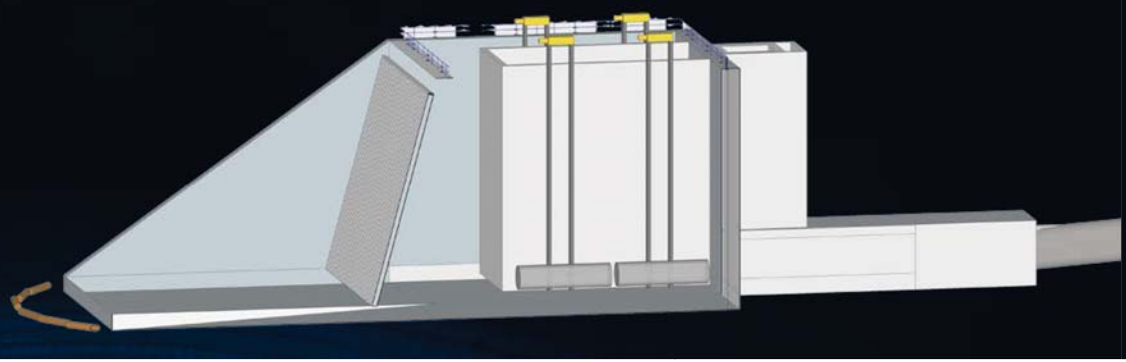


Fish screens at Nacimiento intake

White Bass





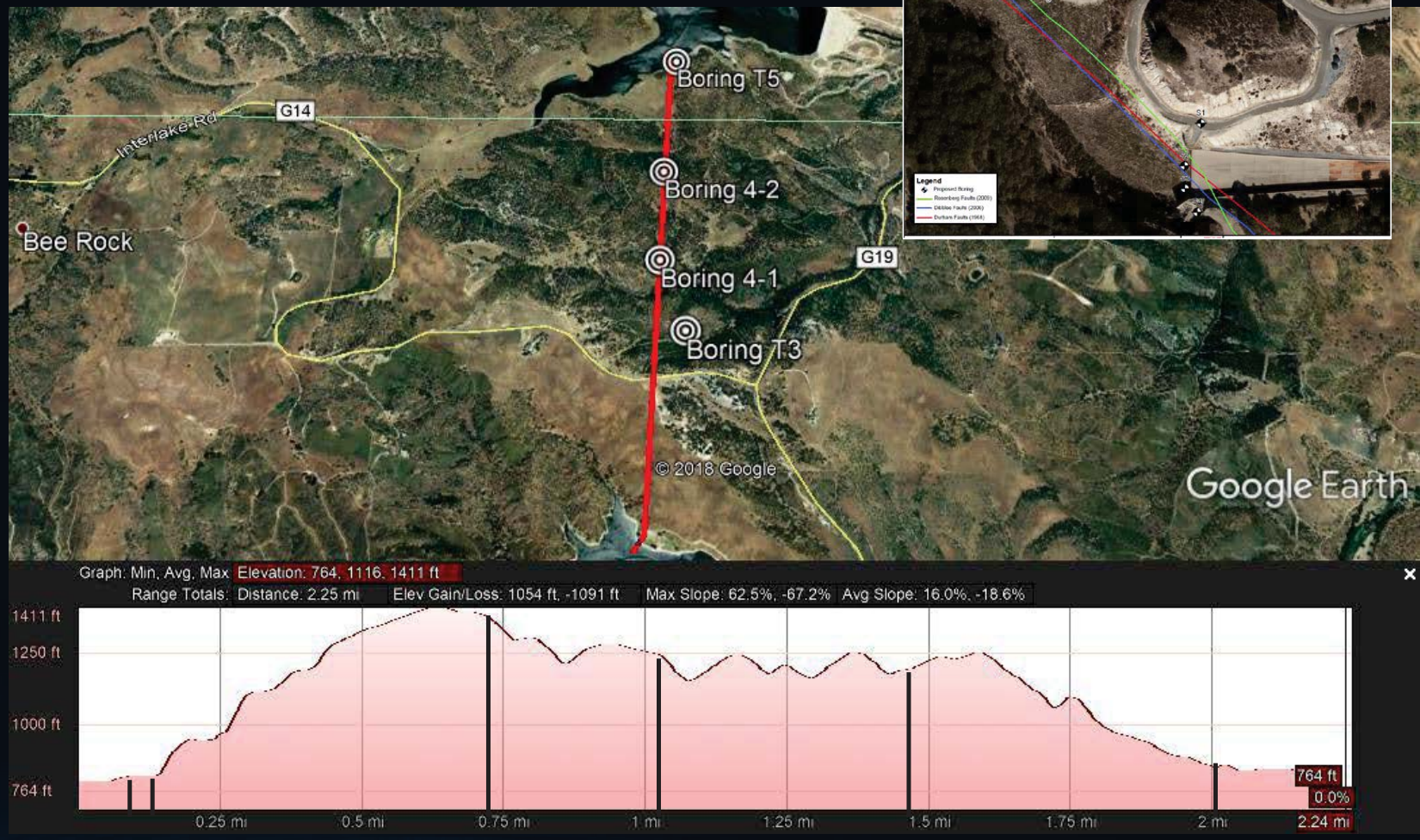


Geotechnical exploration

Tunnel – 6 borings (4 completed)

Test pits

Spillway – 4 borings



Groundwater

Groundwater occurs within the fractured shales and claystones.

Local to the tunnel environment, groundwater aquifers supply private wells for residential and agricultural use.

Priority for well avoidance and protection of ground water supply

DWR Grant – Use of Funds

Task	Report summary	Baseline Cost	Actual Costs to Date	Budget remaining	ACTUAL % COMPLETE
	DWR Grant	$10,000,000.00	$3,291,704.53	**$6,708,295.47**	33%
A	**Project Administration**	**$2,374,858.00**	$1,414,522.06	**$960,335.94**	**60%**
B	**Land Purchase Easements**	**$244,000.00**	$0.00	**$244,000.00**	**0%**
C	**Planning / Design / Engineering and Environmental**	**$7,381,142.00**	$1,877,182.47	**$5,503,959.53**	**25%**
C.1	**Hydrologic Modeling**	**$532,691.00**	$16,559.05	**$516,131.95**	**3%**
C.2	**Environmental and Permitting**	**$1,527,632.00**	$432,286.74	**$1,095,345.26**	**28%**
C.3	**Water Rights**	**$550,000.00**	$4,420.00	**$545,580.00**	**1%**
C.4	**LiDAR Survey**	**$170,000.00**	$132,188.00	**$37,812.00**	**78%**
C.5	**San Antonio Spillway Design**	**$1,766,692.00**	$373,194.33	**$1,393,497.67**	**21%**
C.6	**Tunnel Design**	**$2,834,127.00**	$918,534.35	**$1,915,592.65**	**32%**

Work in Progress

- Draft Environmental Impact Report
- Determining benefits of modified operations of the reservoirs and completing modeling of the operational scenarios
- 60% design

Estimated Time-line for Key Milestones

- July- initial cost estimates
- Summer 2019- public meetings
- First Quarter 2020- Draft EIR completed
- Spring 2020- Prop 218 vote if the project is determined to be economically feasible