

Overview of the District's Water Infrastructure, Capital Improvement Program, Morgan Hill/South County Flood Protection Projects, and Current/Future Water Supply Planning

Special Meeting with City of Gilroy and City of Morgan Hill – August 21, 2018

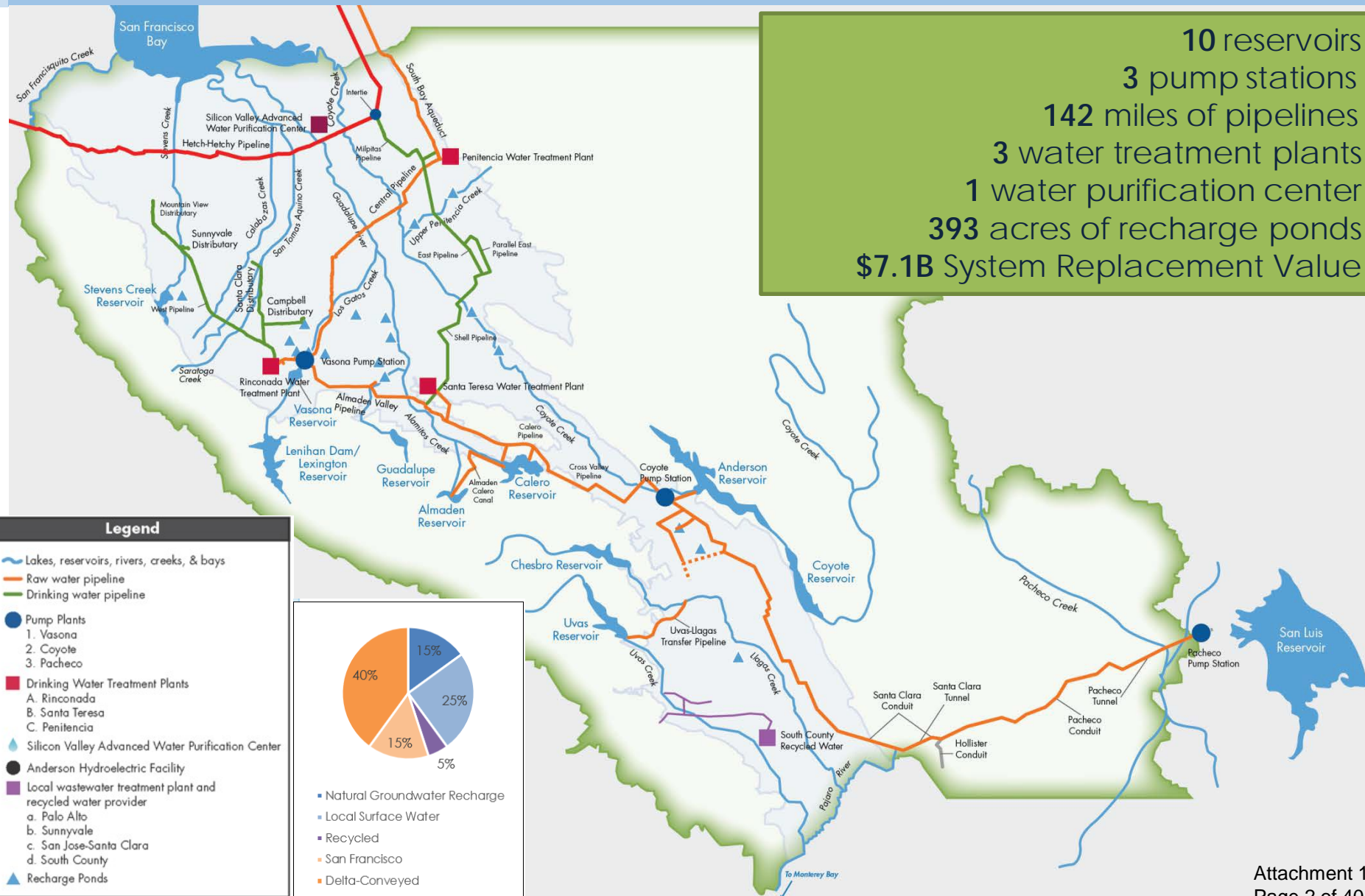
Santa Clara Valley
Water District



Attachment 1
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A comprehensive, flexible water system

10 reservoirs
3 pump stations
142 miles of pipelines
3 water treatment plants
1 water purification center
393 acres of recharge ponds
\$7.1B System Replacement Value

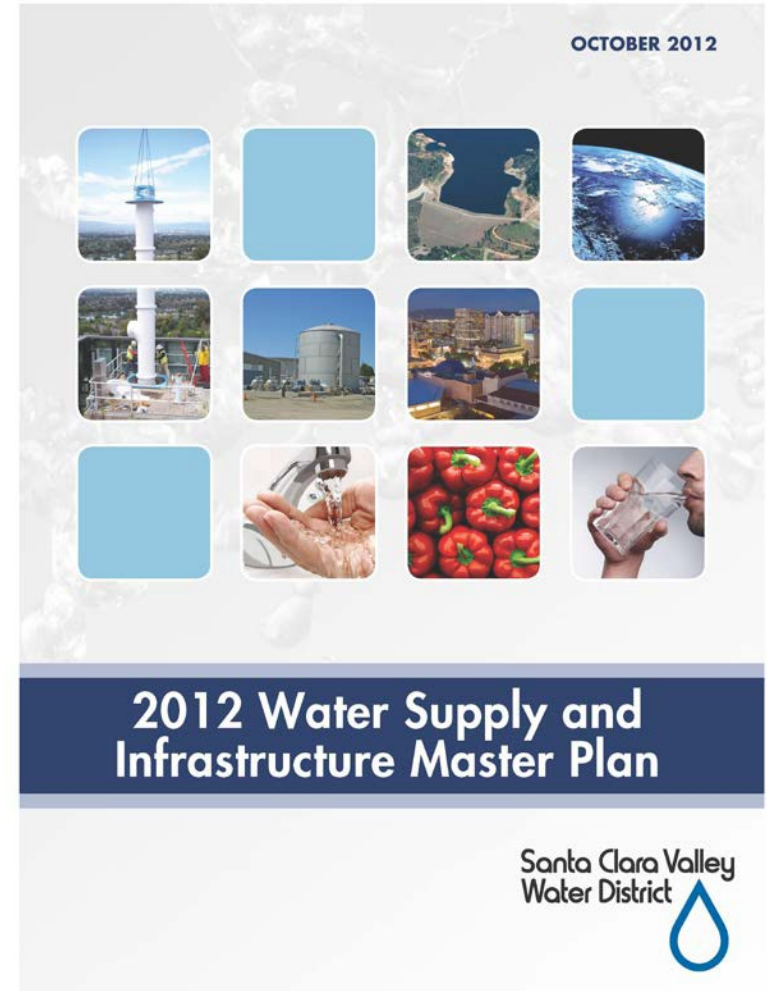


Water Supply Update

2012 Master Plan “Ensure Sustainability” Strategy

Level of service goal – Meet 90% of demands in droughts

- ▶ Secure existing system
 - ▶ Dam retrofits, asset management, pipeline repair, maintain imports
- ▶ Optimize existing system
 - ▶ New recharge, new pipelines
- ▶ Expand conservation and reuse
 - ▶ Graywater, potable reuse



Water Supply Master Plan Update

Analysis shows declining reliability

Average Water Supply Conditions

	2020	2040
Demands (AF)	360,000	402,000
Average Annual Supply (AF)	374,000	366,000
Shortfall (AF)	0	36,000

Drought Water Supply Conditions

	2020	2040
Demands (AF)	360,000	402,000
Minimum Drought Supply (AF)	255,000	250,000
Maximum Shortfall (AF)	105,000 (29%)	152,000 (38%)

Evaluated about 40 projects for filling gaps

- ▶ Conservation and demand management
- ▶ Stormwater capture and reuse
- ▶ Onsite reuse
- ▶ Potable reuse
- ▶ Recycled water
- ▶ Groundwater recharge ponds
- ▶ Raw water pipelines
- ▶ Ag land fallowing
- ▶ Storage, inside and outside county
- ▶ Desalination
- ▶ Dry year options/transfers
- ▶ Water contract purchase
- ▶ California WaterFix

“No Regrets” package is cost-effective and broadly supported

- ▶ Advanced Metering Infrastructure
- ▶ Gray Water Program Expansion
- ▶ Leak Repair Incentive
- ▶ New Development Model Ordinance
- ▶ Stormwater Capture and Reuse
 - ▶ Ag Land Recharge
 - ▶ Rain Barrel Rebate
 - ▶ Rain Garden Rebate
 - ▶ San Jose Recharge
 - ▶ Saratoga Recharge

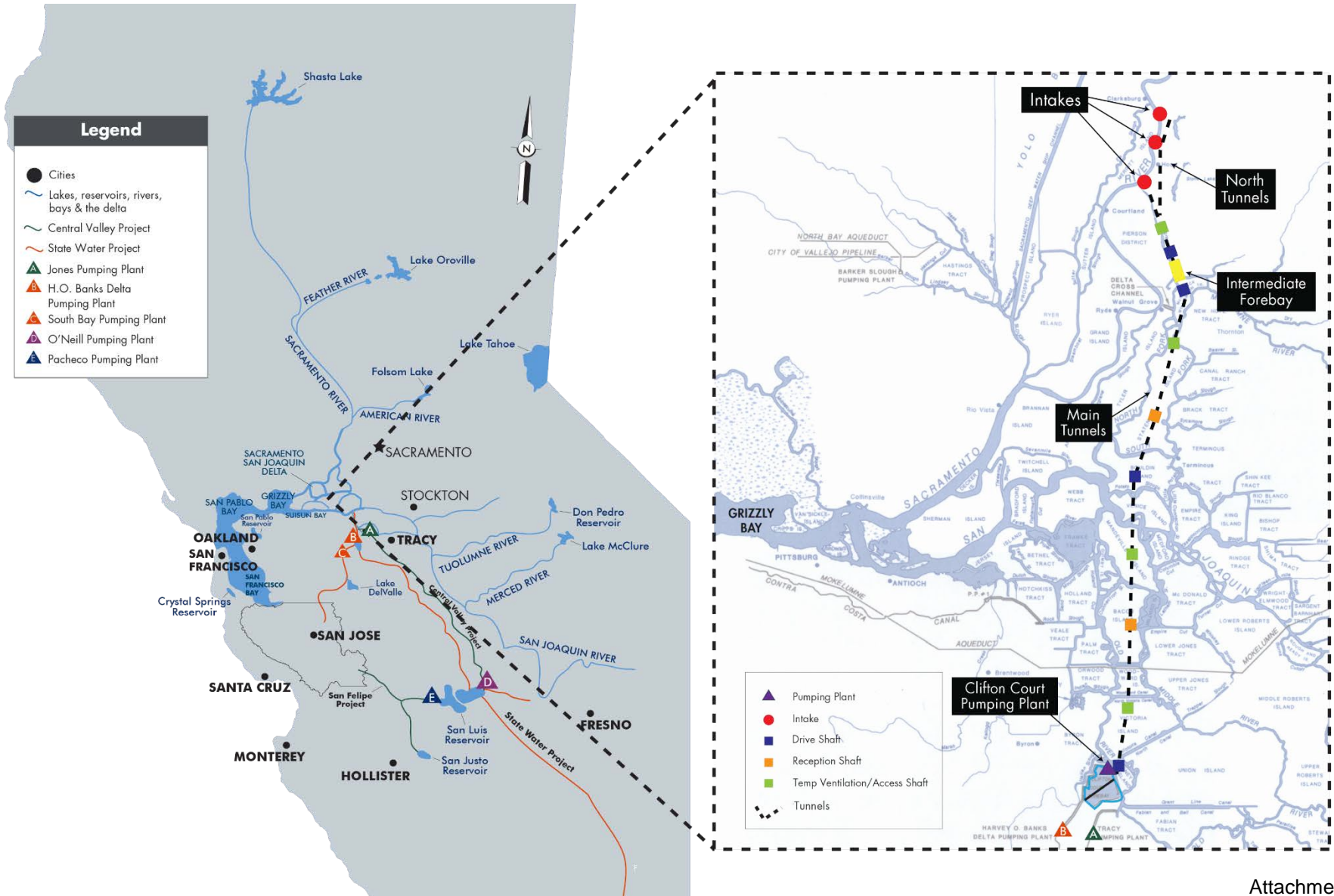
Total District Cost	\$100 million
Additional Water Conservation Savings	10,000 AF
Additional Water Supply Yield	1,000 AF
Unit Cost	\$400/AF

Multiple decision points, including

- Prop 1 storage funding – Summer 2018
- California WaterFix permits – Winter 2018
- Select P3 entity for potable reuse – 2019
- Annual supply & demand review – each Summer
- Annual CIP, budget, and water charge process begins – each Fall
- Finalize update to Water Supply Master Plan – late 2018

California WaterFix

Project Overview - California WaterFix



WaterFix – Benefits to Santa Clara County

Benefits to Santa Clara County



Produces the **most** water for lowest cost



Keeps our **water clean, safe, and reliable**



Provides **resiliency** for future conditions



Improves **environment** for fish

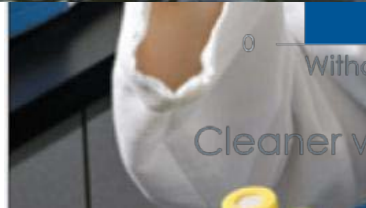
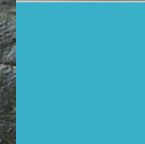


SCVWD has **prominent leadership role** in WaterFix governance to ensure benefits are achieved

Reliable Water



ces salt
by ~20%



WaterFix – Benefits to Santa Clara County

Benefits to Santa Clara County



Produces the **most water for lowest cost**



Keeps our water **clean, safe, and reliable**



Provides **resiliency for future** conditions



Improves **environment for fish**



SCVWD has **prominent leadership role** in WaterFix governance to ensure benefits are achieved

Resiliency to climate change



January 13, 2013



January 13, 2014

WaterFix – Benefits to Santa Clara County

Benefits to Santa Clara County



Produces the **most water for lowest cost**



Keeps our water clean, safe, and reliable



Provides **resiliency** for future conditions

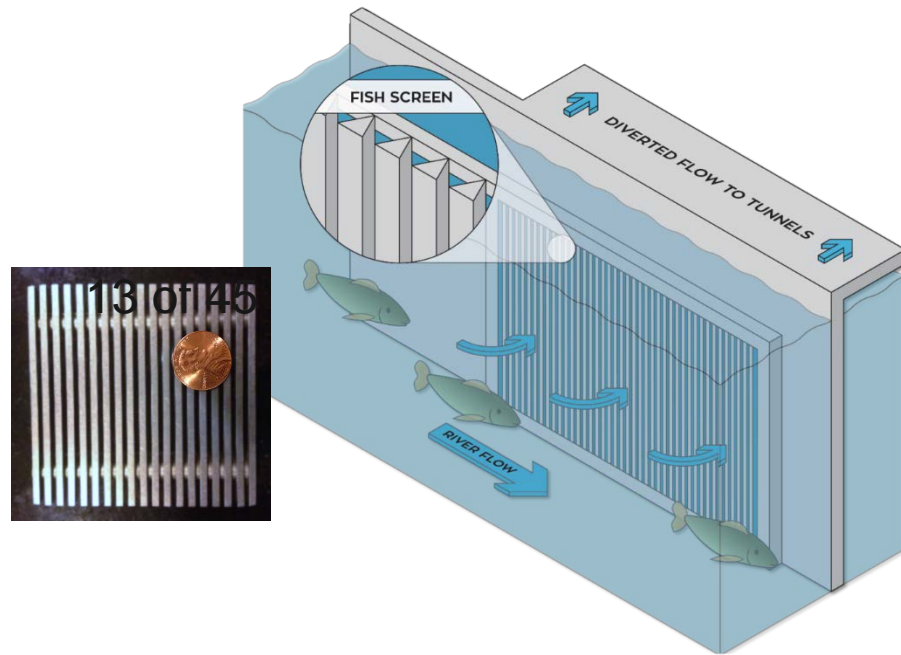


Improves **environment for fish**



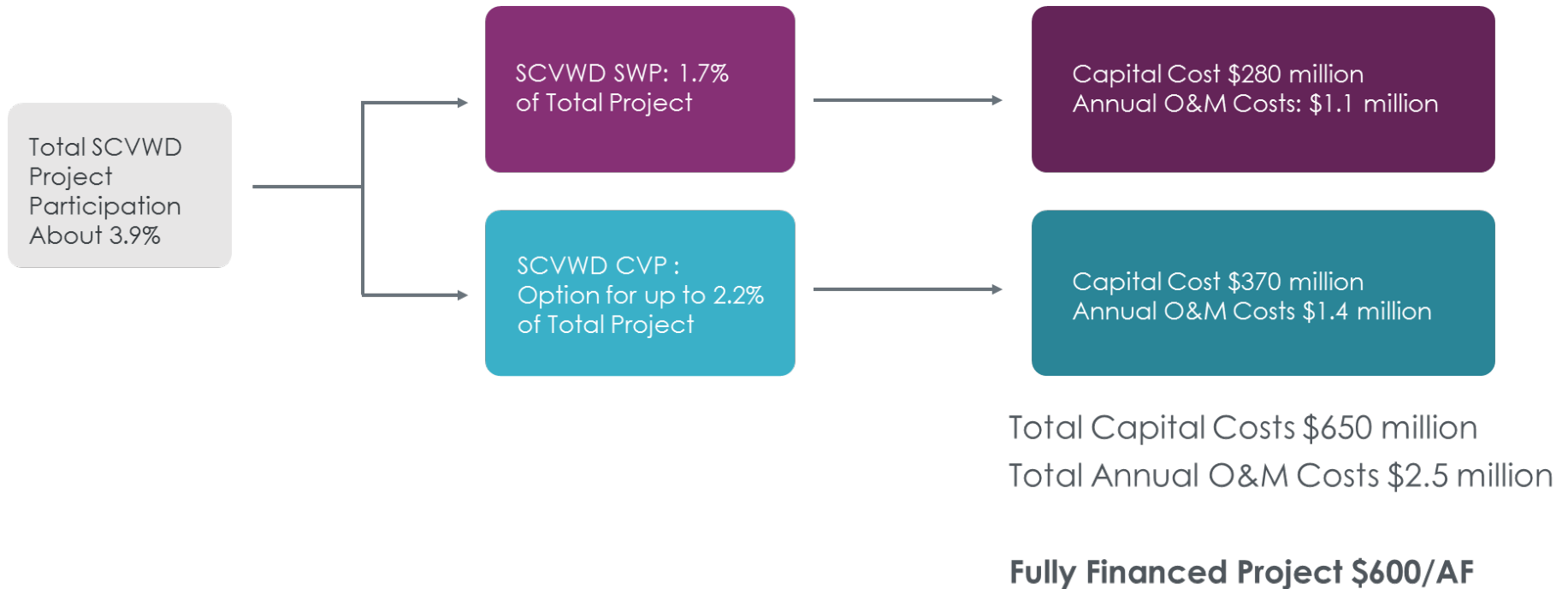
SCVWD has **prominent leadership role** in WaterFix governance to ensure benefits are achieved

Improved conditions for fish means fewer restrictions on Santa Clara County's water supply



New state-of-the-art fish screens will lessen impacts on fish

WaterFix – Cost to Santa Clara County

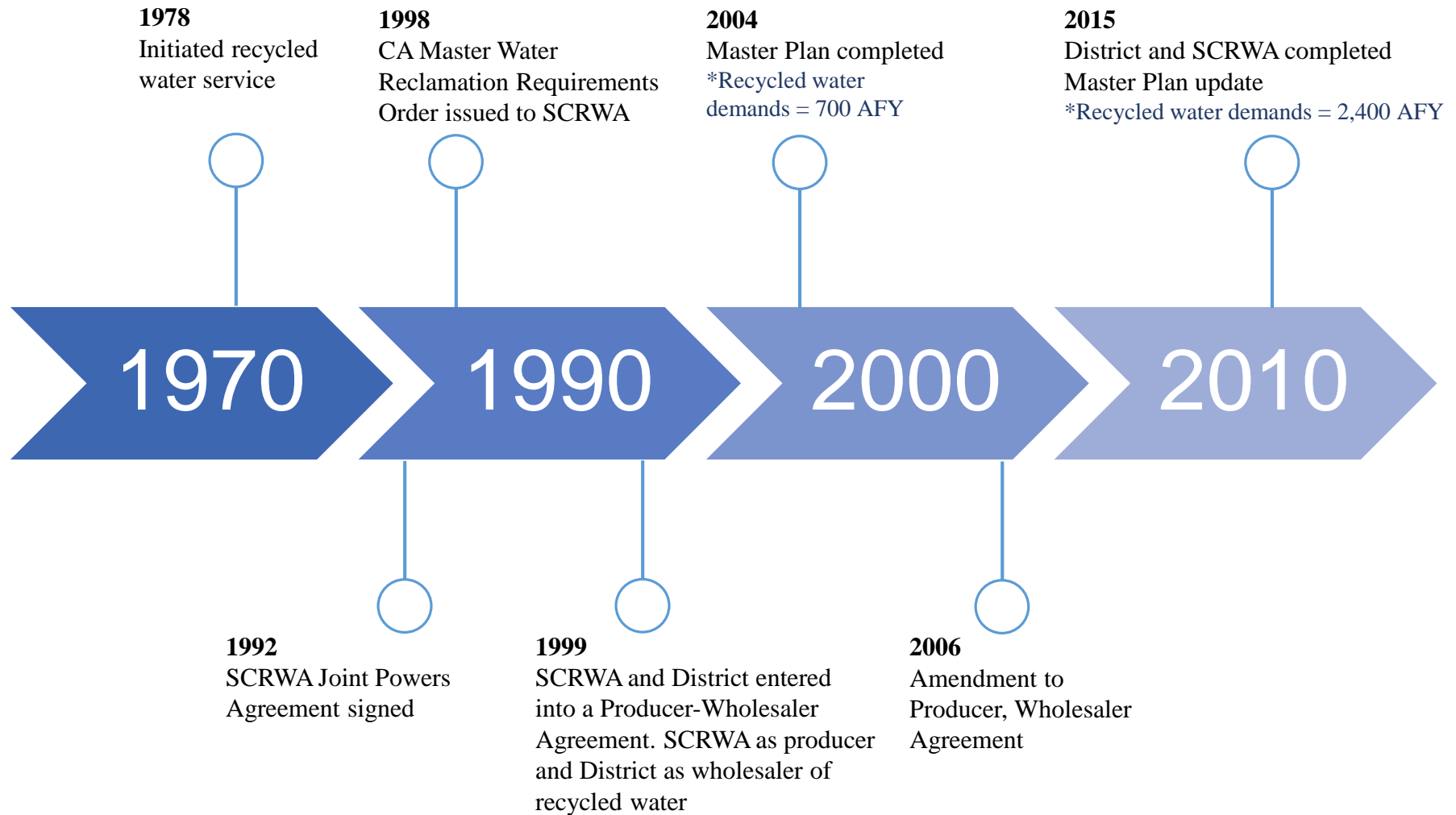


Average monthly household cost of WaterFix (FY33)



South County Recycled Water Master Plan and Future Water Partnerships

History



Accomplishments Since Partnership Agreements (1999)

Collaborative Planning

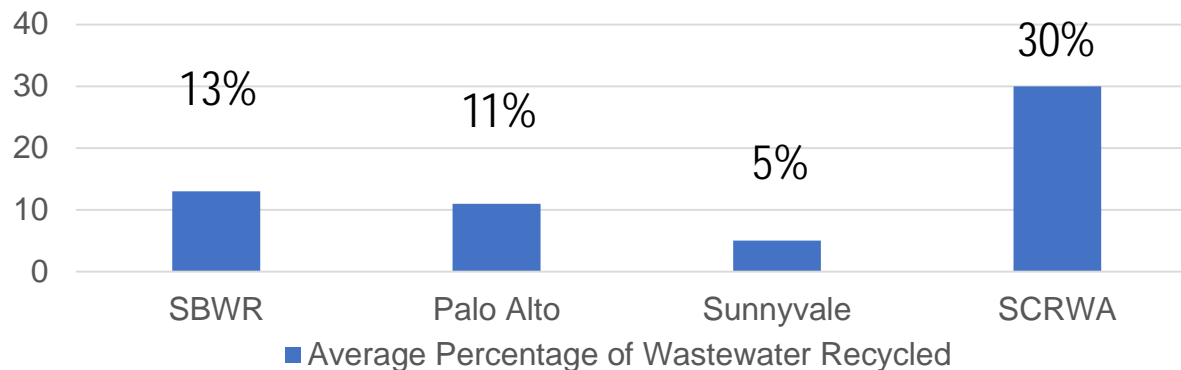
- ✓ Master Plan, adopted 2004, updated 2015
- ✓ Programmatic EIR Report, adopted 2011

Distribution System

- ✓ 3.2 mile recycled water pipeline extension
- ✓ Retrofit 1.4 miles of existing recycled water pipelines
- ✓ 1,700 acre-foot average increase in annual recycled water demands

Wastewater Treatment Plant

- ✓ 6 million gallon per day increase in tertiary treatment capacity
- ✓ 3 million gallon reservoir and booster station
- ✓ 3 million gallon per day pump station
- ✓ 2.3 mile emergency discharge/recycled water pipeline extension



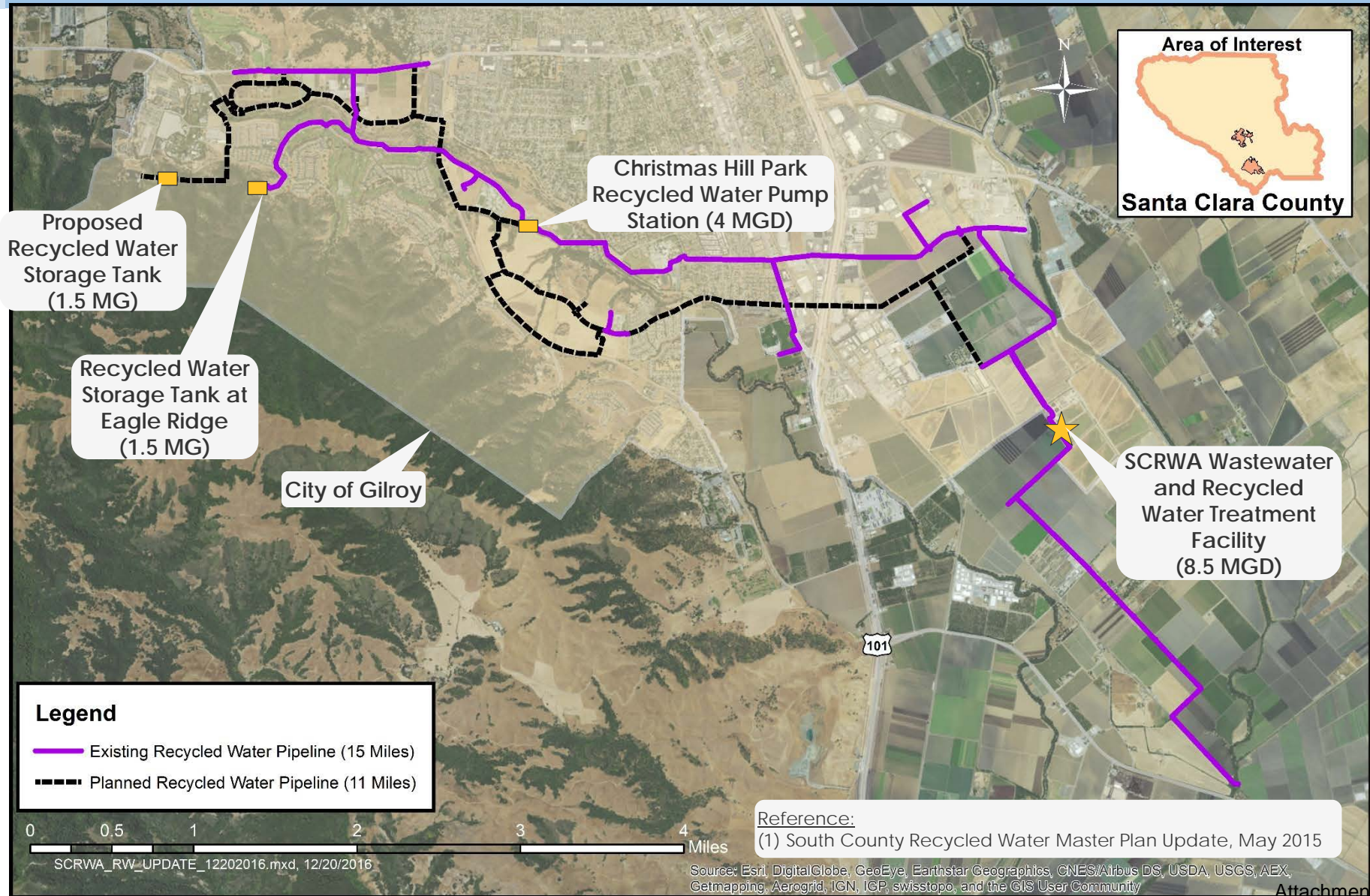
2015 Master Plan CIP Recommendation

Segments	Capital Improvement Projects (2015 Master Plan update)	Cost Estimate
Immediate -Term	• Distribution: 26,600 foot pipeline extension	\$ 14.3 Million
	• Wastewater Treatment Plant (WWTP): UV Treatment, pump station upgrade	<u>WWTP</u> \$ 4.5 Million
Short- Term	• Distribution: 21,860 foot pipeline extension	\$ 10.0 Million
	• WWTP: Chlorine contact basin upgrade, pump station upgrades, meter conversion (Gilroy/District), 6 mgd reservoir expansion (District)	<u>WWTP</u> \$ 8.4 Million
Long-Term	• Distribution: 7,010 foot pipeline extension, 1.5 mgd storage tank, and booster pump station	\$ 10.0 Million
	• WWTP: 2.5 mgd secondary treatment expansion (SCRWA) and recycled water fill station (commercial / residential) (City of Gilroy/District)	<u>WWTP</u> \$ 50.9 Million
	Total Cost Estimate	\$ 98.1 Million

mgd = million gallons per day

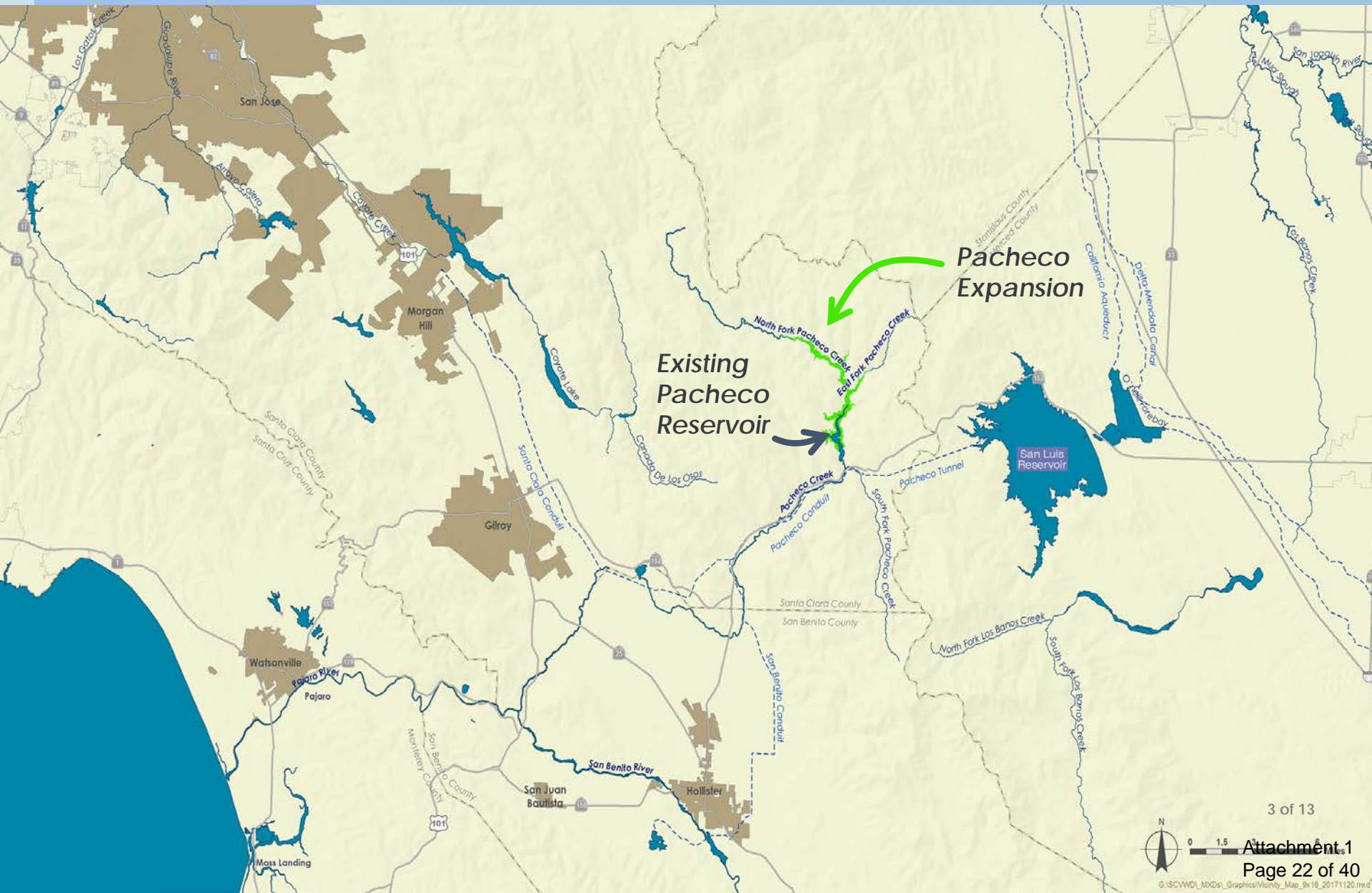
Cost per Additional Acre-foot = \$2,901

Map – South County Recycled Water System



Pacheco Reservoir Expansion Project

Pacheco Reservoir Expansion Project Location



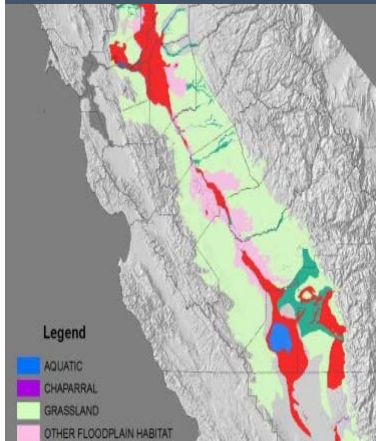
The Pacheco Reservoir Expansion Will Address Five Big Challenges

Restore Federally Threatened Fish



90% population decline in Pajaro watershed from 1960s to 1990s

Improve the Delta



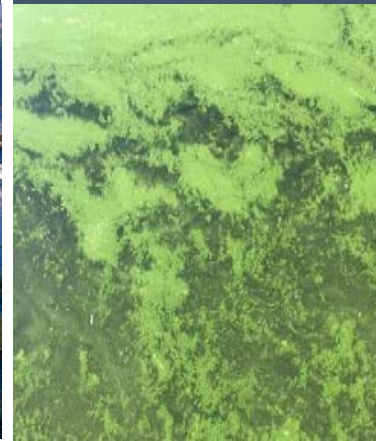
90% of Delta watershed wetlands have disappeared

Improve Resiliency and Emergency Water Supply



66% chance of Delta earthquake in next 50 years;
45% of water supply imported from Delta

Eliminate Water Quality Issues in San Luis Reservoir



Water quality issues during summer months in **57%** of years

Reduce Flooding to Disadvantaged Communities



Extensive flooding even for frequent/small events;
20-year flood in 2017 (pictured)

Anderson Dam Project Update

Key Water Supply Projects



**Dam Seismic Retrofits/Improvements
(\$780 Million)**



**RWTP Reliability Improvements
(\$290 Million)**



**Expedited Purified
Water Program
(\$1 Billion via P3
Delivery Method)**

Anderson Dam Project Update

Anderson Dam Existing Configuration

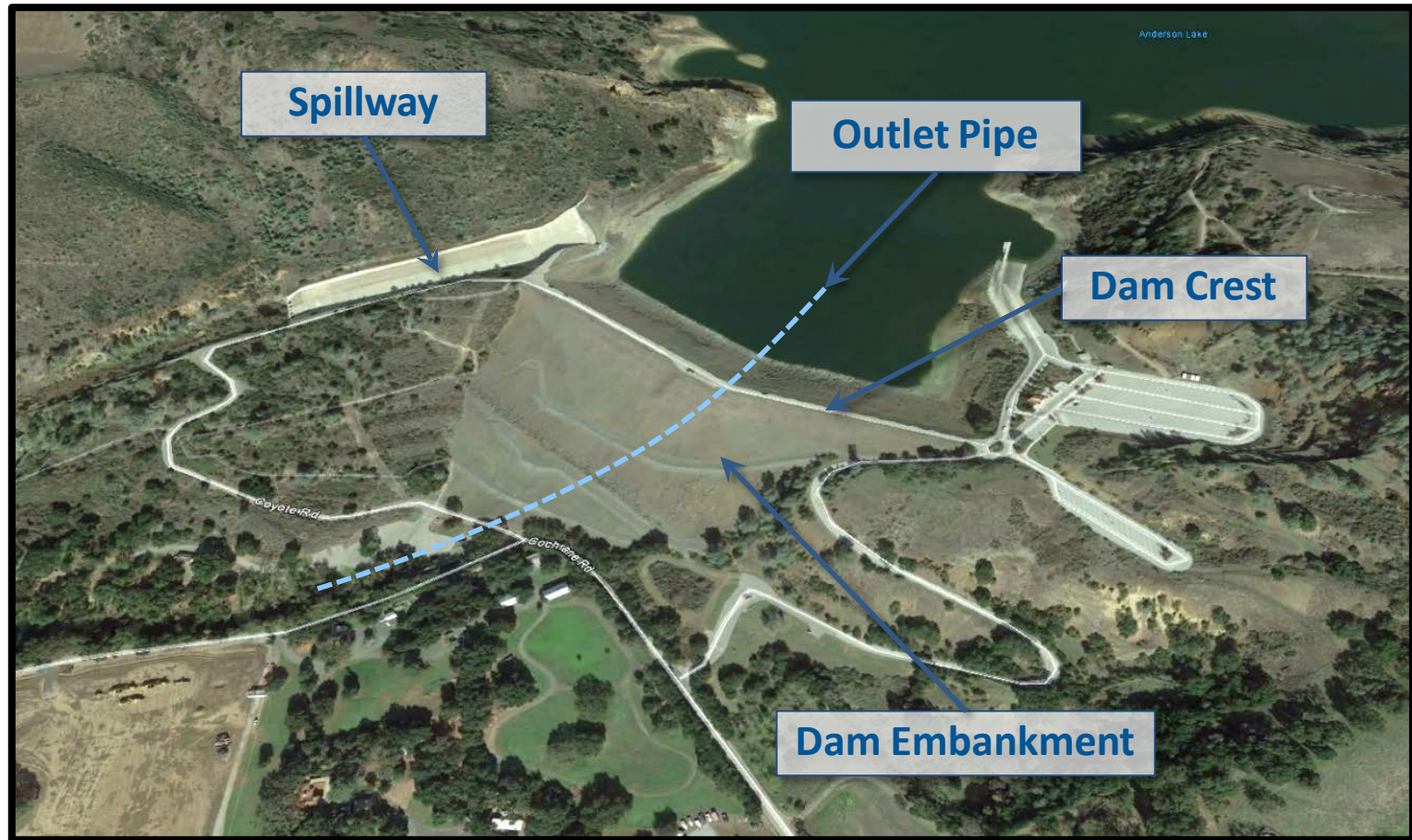


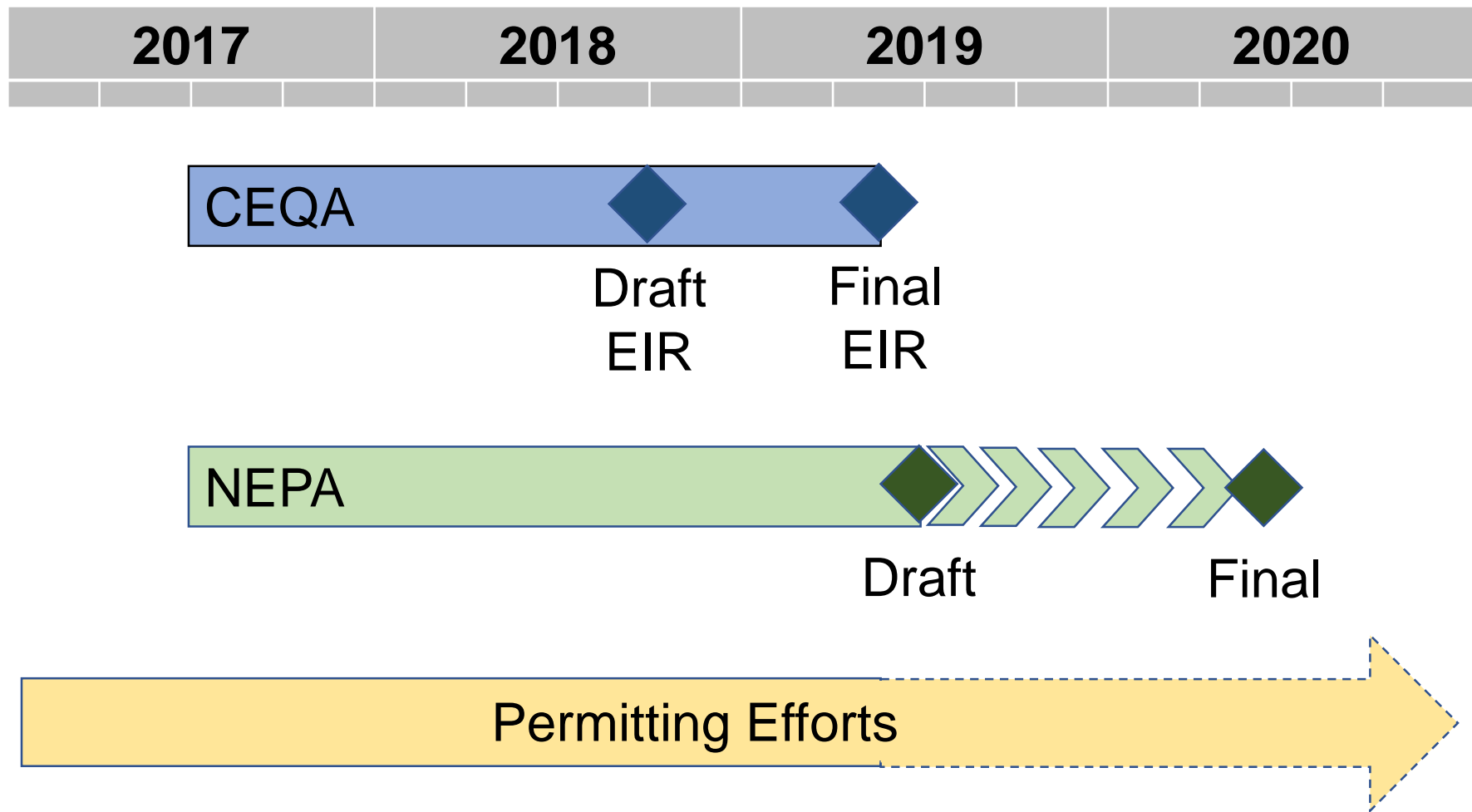
Image Source: Google Earth

Anderson Dam Project Update

Anderson Dam – Current Project Efforts

- 60% Design completed; under review
- Geotechnical investigations for spillway replacement
- Preparation of environmental and permit documents
- Full court press on permitting process.

CEQA/NEPA/Permitting Timeline Overview



Anderson Dam Project - Necessary Permits

- Federal

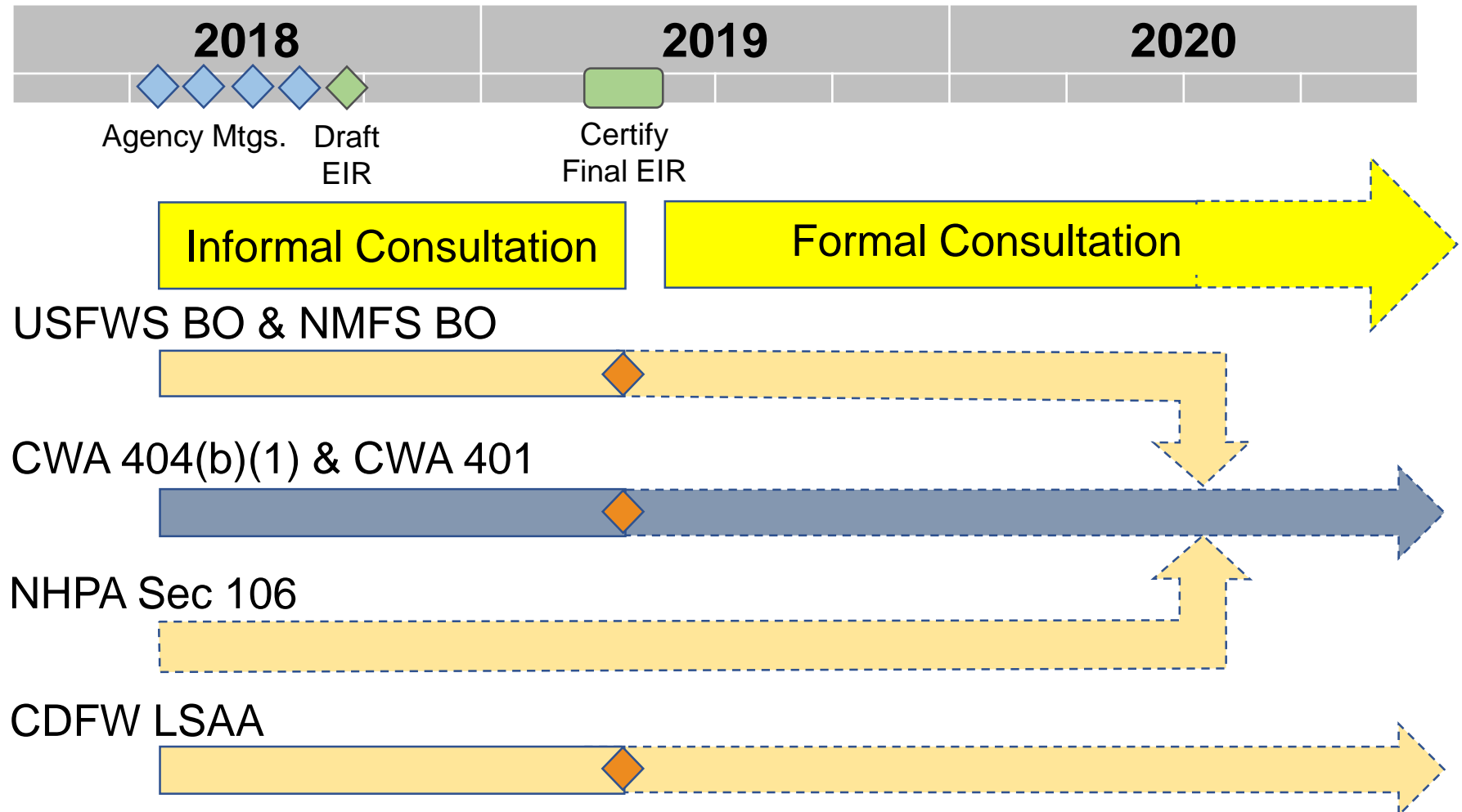
- FERC: Amendment to Exemption for Licensing
- USACE: CWA Section 404 Permit
- USFWS: Incidental take permit (VHP – see below)
- NMFS: Incidental take permit (steelhead trout)

- State

- DSOD: New dam application
- CDFW: LSAA
- VHP: Incidental take authorization (covered species for state and federal ESA)
- SWRCB: General Construction NPDES Stormwater Permit
- SWRCB/SFRWQCB: CWA Section 401 Water Quality Certification
- SHPO: Section 106 of the NHPA

- Local: municipal approvals, encroachment permits, temporary rights of way

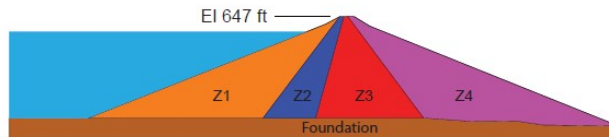
Anderson Dam – Anticipated Permitting Process



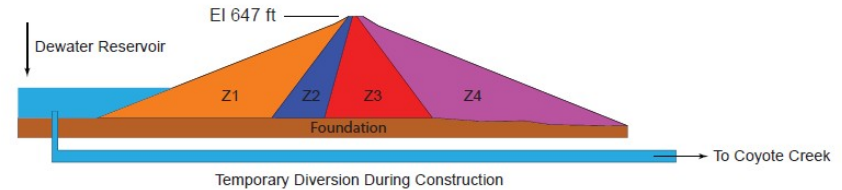
◆ Permit Applications

Anderson Dam Embankment Retrofit Sequence

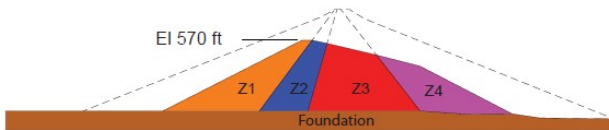
Existing Dam



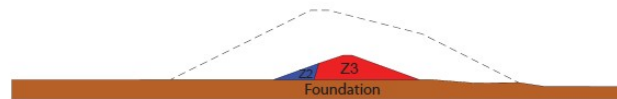
Existing Dam Dewatering



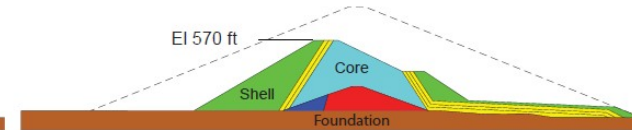
Stage 1 Excavation



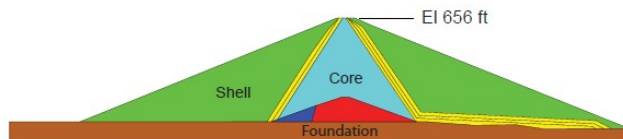
Stage 2 Excavation



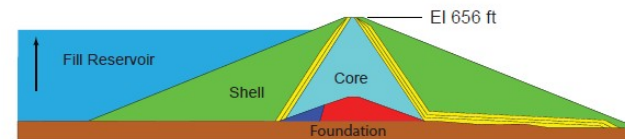
Stage 2 Fill



Stage 3 Fill



Final Configuration



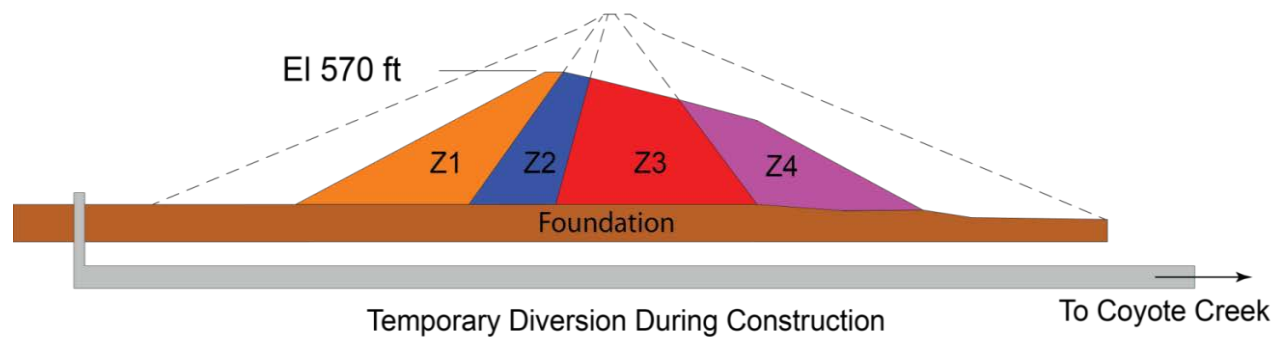
Downstream Releases during Anderson Construction

- Key Objectives:

- Operate flow diversion pipe to minimize risk to interim dam
Minimize downstream flood risk.

- Based on 100,000 simulations, annual risk of diversion releases greater than:

- ❖ 500 cfs = 30%
- ❖ 1,000 cfs = 2%
- ❖ 2,000 cfs = 0.4%
- ❖ 5,000 cfs = 0.03%

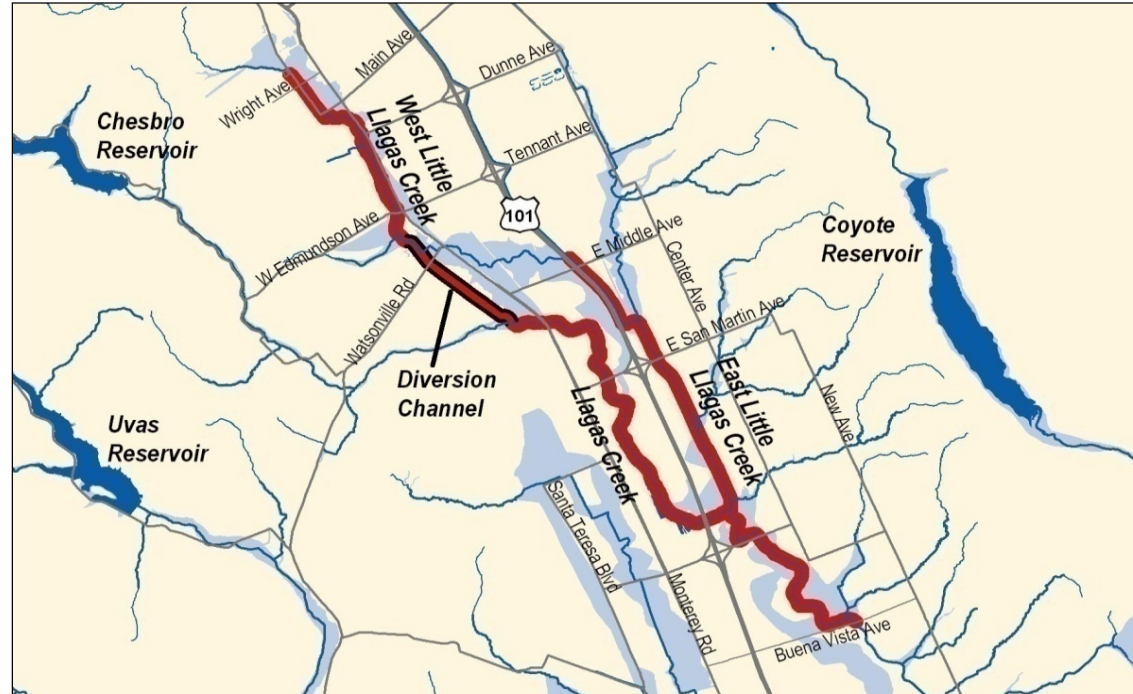


Update on Morgan Hill/South County Flood Protection Projects

Upper Llagas Creek Project Update

Phase 1- Reaches 4-5, 7a

- 2 remaining rights of way in escrow;
- Awaiting Final Biological Opinion from USFWS
 - Army Corps finalizes Env. Impact Study (EIS);
 - Posts EIS in Federal Register;
 - Files Record of Decision
 - Issues final permit
- Project can proceed to construction.



Phase 2 – Reaches 6, 7b, 8, 14

- 10 remaining rights of way to acquire;
- Start of construction will lag Phase 1 by one year.

How Water Supply Services Are Funded

Why do well owners pay SCVWD to pump water from the ground?

Construction at Anderson Reservoir, 1951



**\$550M Seismic Retrofit
under way at Anderson**

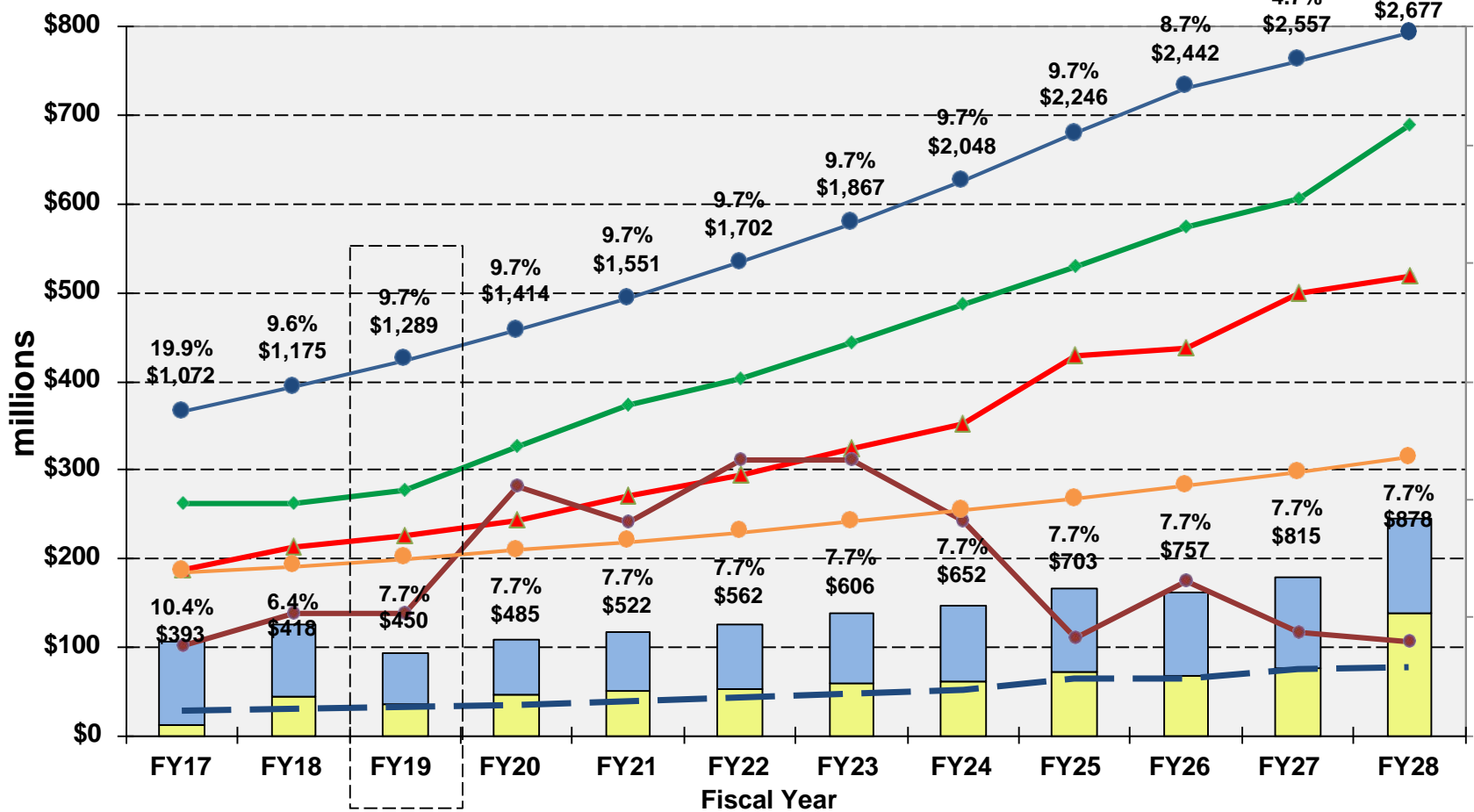
- ▶ Local rainfall cannot sustain Santa Clara County water needs
- ▶ Planning in early 1900's called for construction of reservoirs to capture rainwater to percolate into the ground
- ▶ Groundwater Production Charge is a reimbursement mechanism
 - ▶ pays for efforts to protect and augment water supply

Many activities ensure safe, reliable groundwater supplies

- Plan & construct improvements to infrastructure
- Purchase imported water
- Operate & maintain local reservoirs
- Operate & maintain raw & recycled water pipelines
- Monitor & protect groundwater from pollutants



Financial Analysis: Proposed Groundwater Production Charge Projection



Op & Cap Reserve
Total Revenue + Xfers In
Capital Projects
North County M&I Rate (\$/AF)

Restricted & Other Reserves excl. enc.
Operating Exp. + Xfers Out
Min Op & Cap Reserve
South County M&I Rate (\$/AF)

FY 2018-2019 Schedule

Jan 9	Board Meeting: Preliminary Groundwater Charge Analysis
Jan 17	Water Retailers Meeting: Preliminary Groundwater Charge Analysis
Jan 24	Water Commission Meeting: Prelim Groundwater Charge Analysis
Feb 13	Board Meeting: Review draft CIP & Budget development update
Feb 23	Mail notice of public hearing and file PAWS report
Mar 21	Water Retailers Meeting: FY 19 Groundwater Charge Recommendation
Apr 2	Ag Water Advisory Committee
Apr 3	Landscape Committee Meeting
Apr 10	Open Public Hearing
Apr 11	Water Commission Meeting
Apr 12	Continue Public Hearing in South County
Apr 24	Conclude Public Hearing
Apr 25-27	Board Meeting: Budget work study session
May 8	Adopt budget & groundwater production and other water charges

Summary

- **Groundwater Production Charge projection driven by infrastructure repair & replacement, and water supply reliability investments**
- **FY 19 Groundwater Production Charge increase equates to an increase of \$1.10 per month in South County to average household**