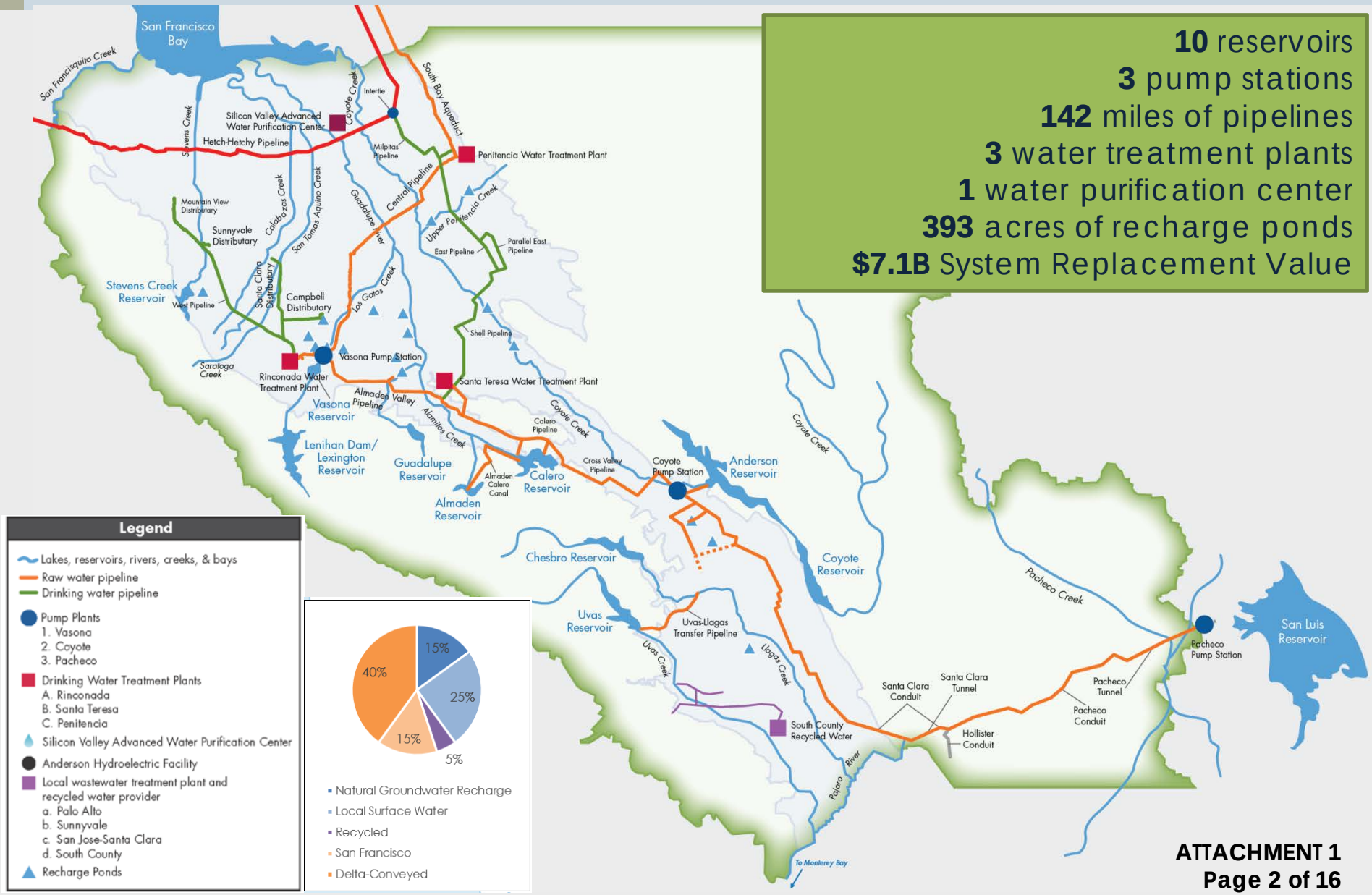
Overview on Water Infrastructure, Wholesale Supply and Financial Projection

Joint Meeting with City of Milpitas - March 21, 2018

Santa Clara Valley Water District

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



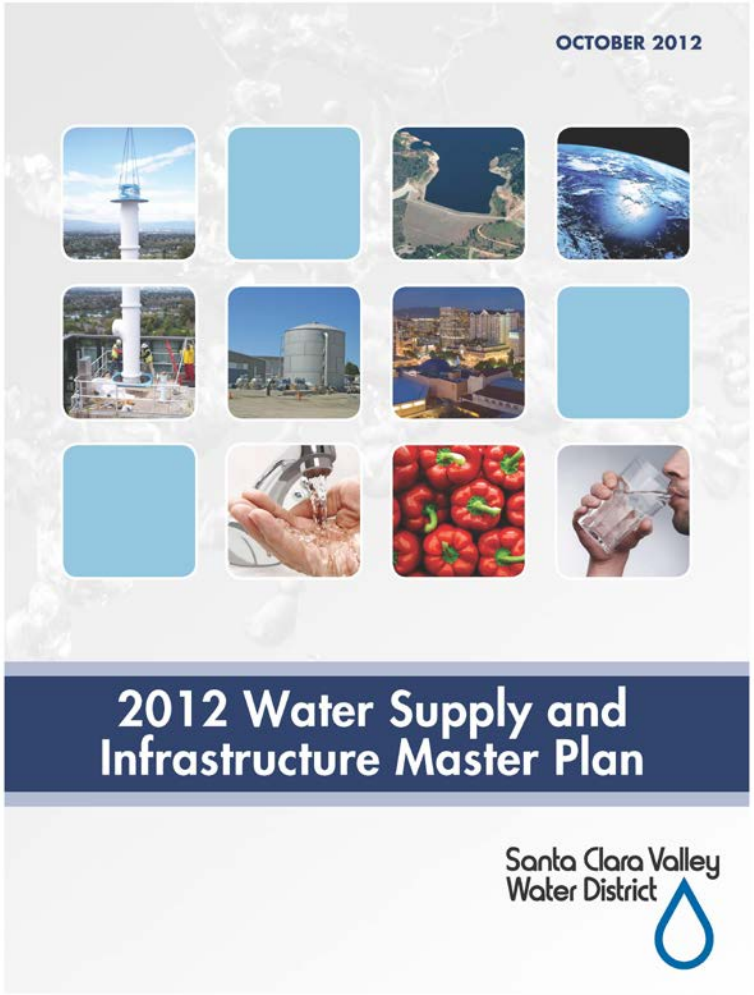
Legend

- Lakes, reservoirs, rivers, creeks, & bays
- Raw water pipeline
- Drinking water pipeline
- Pump Plants
  1. Vasona
  2. Coyote
  3. Pacheco
- Drinking Water Treatment Plants
  A. Rinconada
  B. Santa Teresa
  C. Penitencia
- Silicon Valley Advanced Water Purification Center
- Anderson Hydroelectric Facility
- Local wastewater treatment plant and recycled water provider
  a. Palo Alto
  b. Sunnyvale
  c. San Jose-Santa Clara
  d. South County
- Recharge Ponds

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



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 and demand review – Summer
- Annual CIP, budget, and water charge process begins – Fall
- Finalize update to Water Supply Master Plan – late 2018

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)

Project Overview

Anderson Dam Existing Configuration

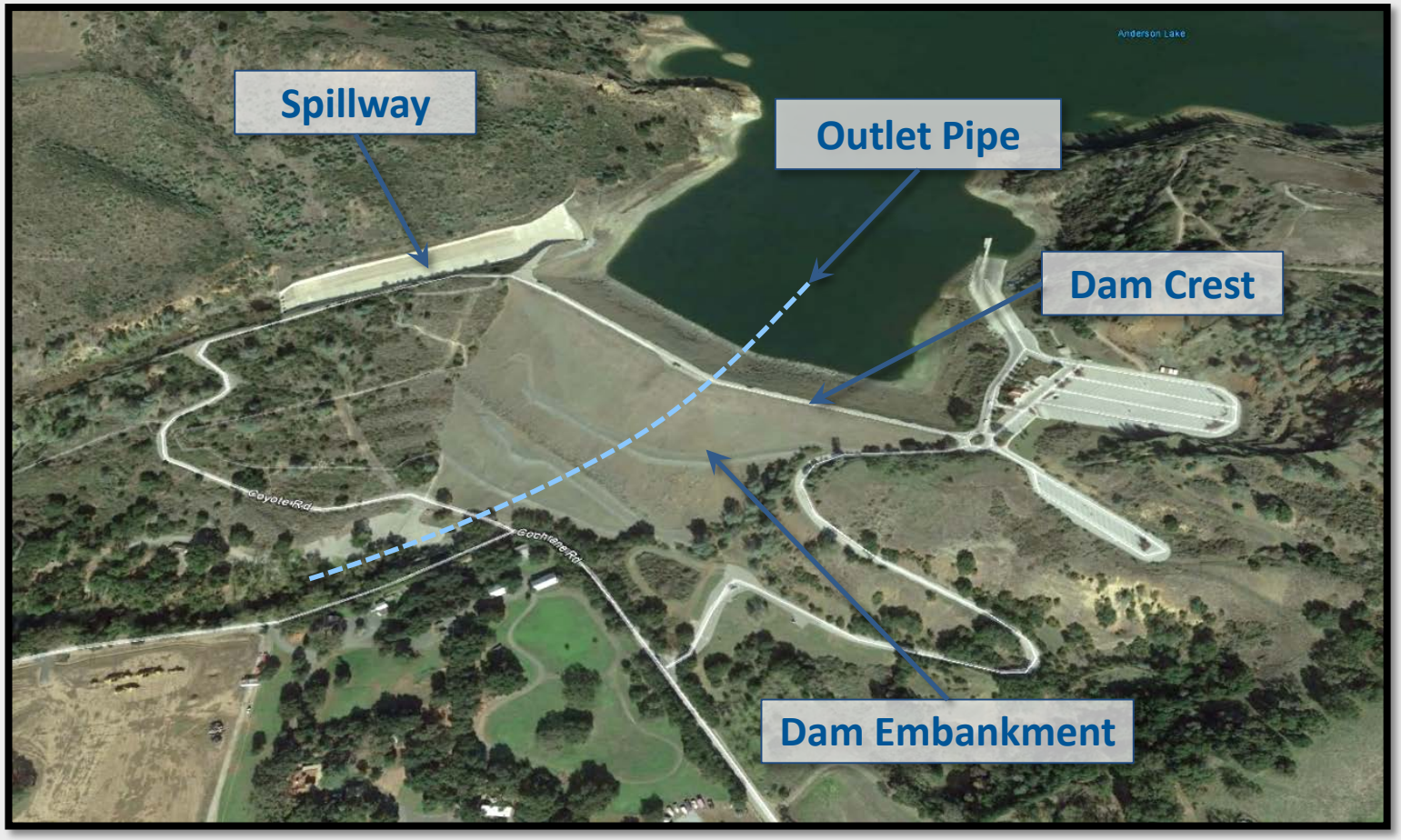
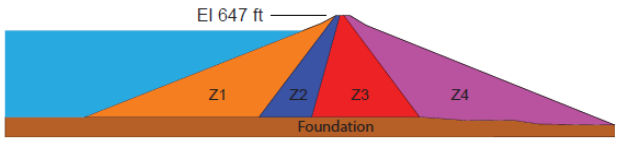


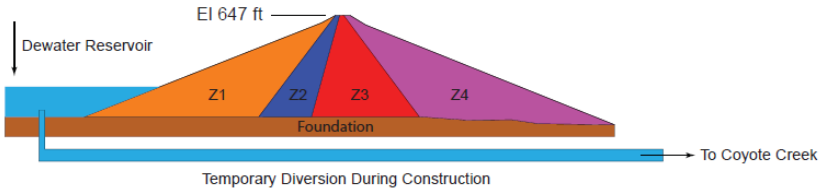
Image Source: Google Earth

Anderson Dam Embankment Construction Sequence

Existing Dam

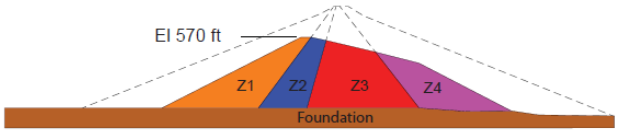


Years 1 and 2: isting Dam Dewatering



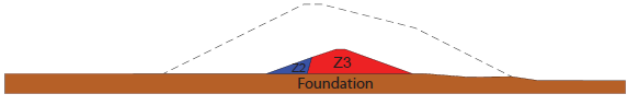
Year 3: April - October

Stage 1 Excavation



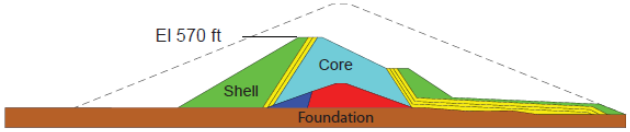
Year 4: April - June

Stage 2 Excavation



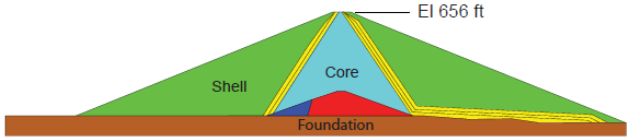
Year 4: July - October

Stage 2 Fill

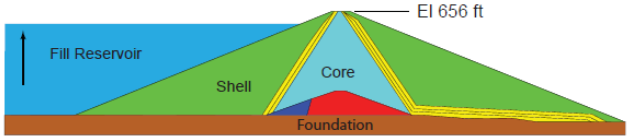


Year 5: April - October

Stage 3 Fill

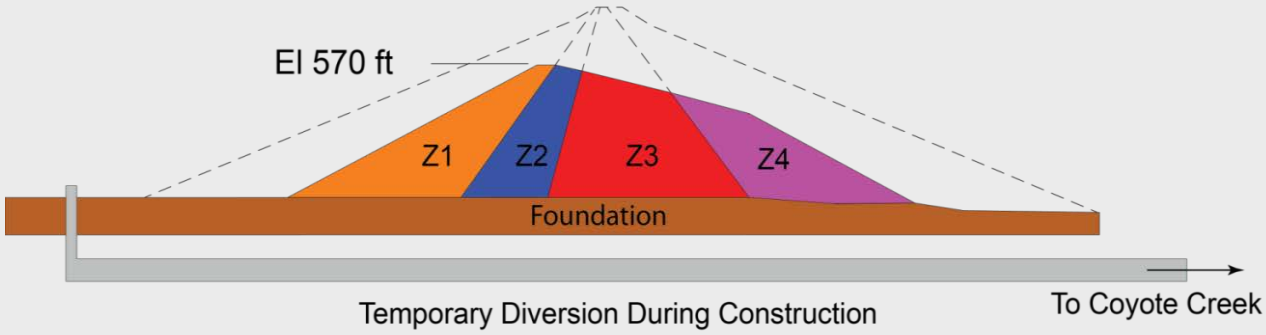


Final Configuration

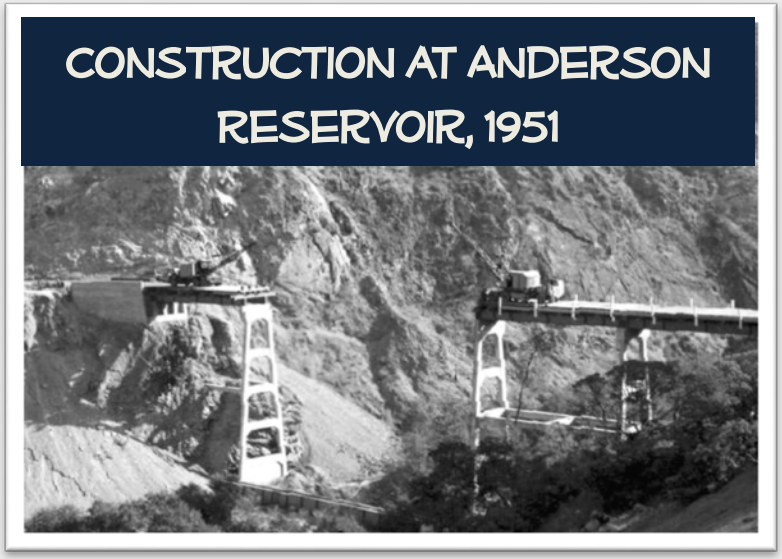


Downstream Releases during Anderson Construction

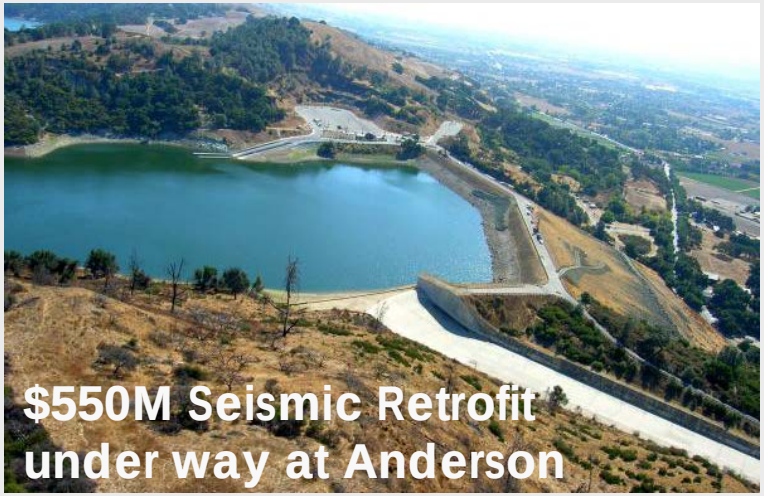
- Key Objectives:
  - Operate flow diversion pipe to minimize risk to interim dam
  - Minimize downstream flood risk.
- Based on 100,000 simulations, annual risk of diversion releases greater than:
  - ❖ 500 cfs = 30%
  - ❖ 1,000 cfs = 2%
  - ❖ 2,000 cfs = 0.4%
  - ❖ 5,000 cfs = 0.03%



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



- **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**

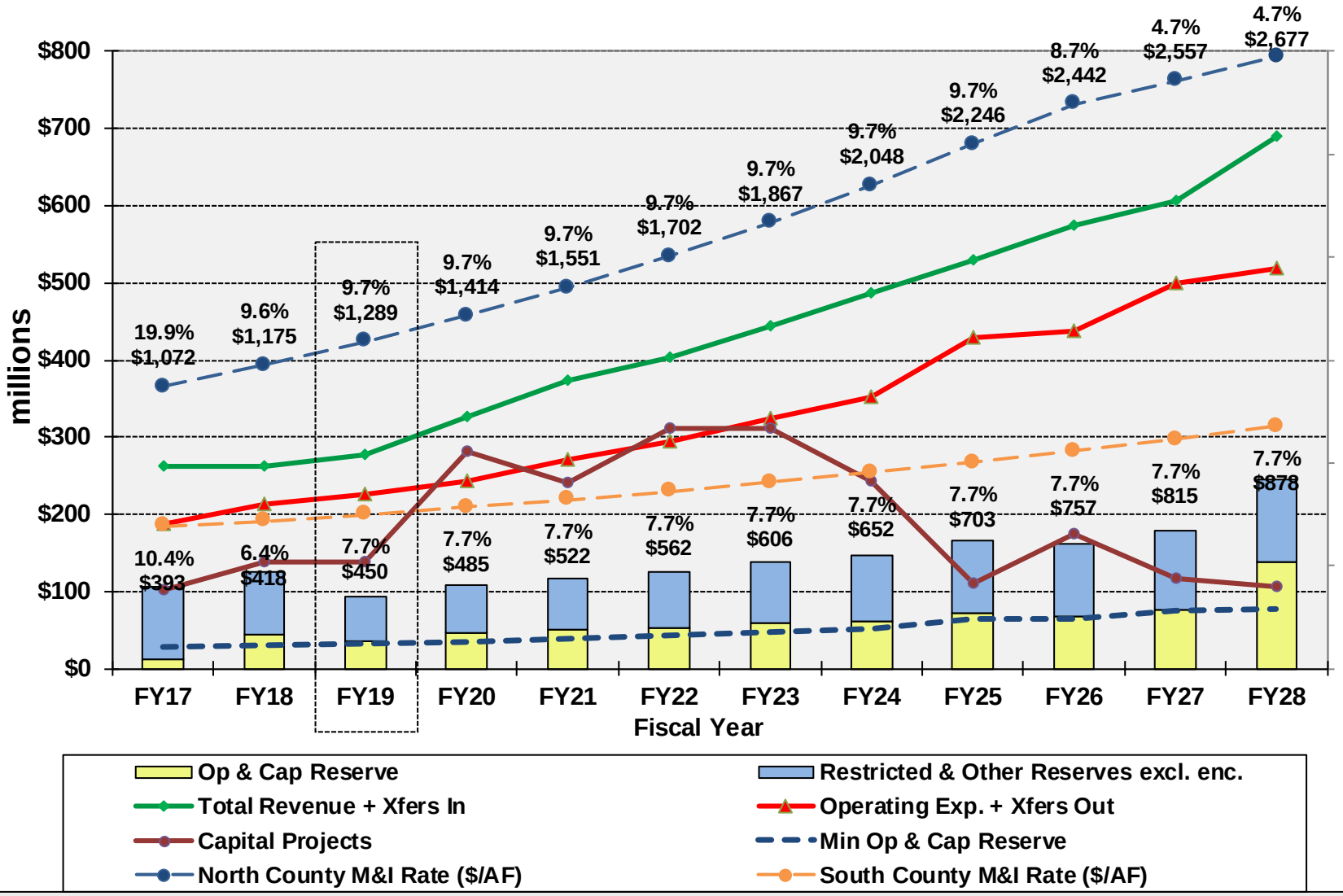


- **Groundwater Production Charge is a reimbursement mechanism**
  - **pays for efforts to protect and augment water supply**

Many activities ensure safe, reliable groundwater supplies

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

Financial Analysis: Proposed Groundwater Production Charge Projection



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**

- **Proposed FY 19 Groundwater Production Charge increase equates to an increase of $3.92 per month in North County to average household**