MARIN WATER

Finance Committee Workshop 1A 10-Year Financial Plan

December 17, 2020

10-Year Financial Plan

Our goal is to develop a 10-year Financial Plan that provides a strategic and thoughtful approach to future investments in our water system, using strategic communications and community engagement to inform the process.

Financial Plan Development

Financial Plan development process will consider:

- Capital Investments
- Operational Needs

Financial Plan Development

- Plan developed in concert with the Board and with community engagement
- Examine a range of levels of investment in CIP and operating elements
- Scenarios will be developed for major asset classes and operating programs
- Scenarios will be evaluated against resource availability
- Provide a thoughtful, prioritized approach

Project Team

Project Managers
Jeanne Mariani-Belding and Chuck McBride

Raftelis
Melissa Elliott
Steve Gagnon
Nancy Phan
Matt Wittern

MMWD
Finance
Engineering
Operations
Facilities
Watershed

Board Workshops

Workshop #1A: Dec. 17, 2020
Building Blocks of the Financial Plan

- Introduction of asset classes, operating programs and levels of investment
- Focus on:
  Storage Tanks
  Water Supply
  Treatment Plants

Workshop #1B: Jan. 13, 2021
Building Blocks of the Financial Plan

- Discussion on asset classes, operating programs and levels of investment continues
- Focus on:
  Pipelines
  Pump Stations
  Watershed
  Facilities & Capital Equipment

Board Workshops

Workshop #2: Scenario Development

- Based on feedback from previous workshops, provide a range of scenarios for capital and operating investments
- Discuss levels of investment and resulting resource requirements
- Receive feedback on preliminary scenarios and long-term investment strategies

Board Workshops

Workshop #3: Building Out Financial Scenarios

- Based on Board feedback, scenarios are refreshed, refined, and new scenarios are potentially added to the mix
- Financial model is updated to reflect input from the previous workshop

Board Workshops

Workshop #4: Charting the Roadmap

- Finalize any outstanding issues from previous workshops
- Provide the overall picture for Financial Plan, including the district's current state and its vision for future investments
- Present the 10-year Financial Plan and a roadmap for successful implementation

Workshop #1A: Building Blocks of the Financial Plan

10 Year Capital Plan FYE 2024 - 2033

Overview

- Introduction
- Infrastructure Assets
  - Storage Tanks
  - Water Supply
  - Treatment Plants
  - Pipelines
  - Pump Stations
  - Watershed
  - Facilities & Equipment

Seismically upgrading filters at Bon Tempe Treatment Plant (2017)

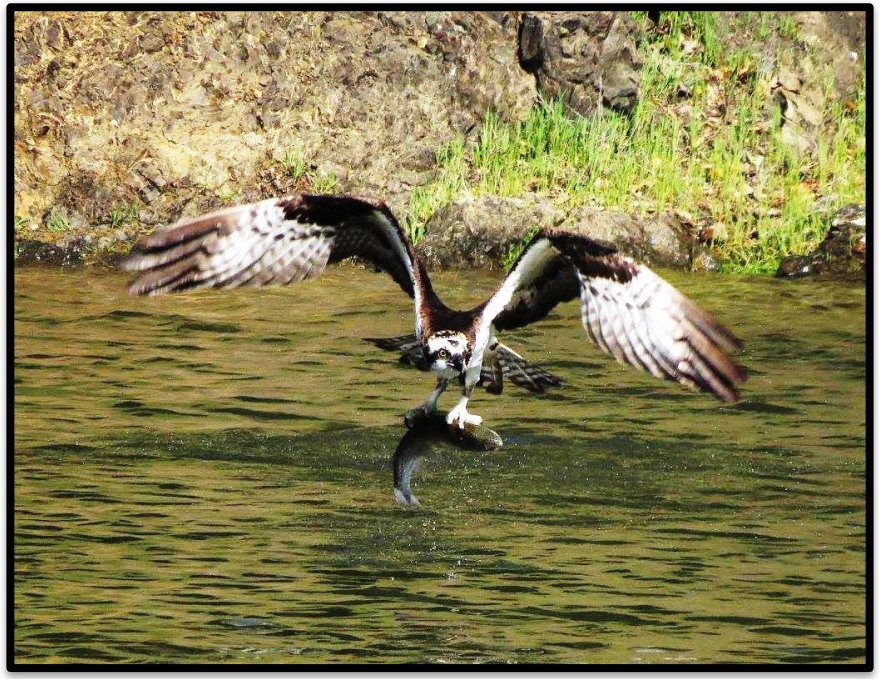
Our Water System

- 7 reservoirs
- Infrastructure
  - 3 water treatment plants
  - 128 storage tanks
  - 95 pump stations
  - 900 miles of pipe
  - Replacement value = $2 - $3B

Smith Saddle Storage Tanks Provide 10 MG of Storage

Our Watershed

- Source of 75% of water supply
- 150 miles roads & trails
- 21,600 acres of publicly accessible watershed
- Home to 400 animal species, 1,000 plant species



Osprey hunting near Bon Tempe Dam

10-Year Capital Plan Investment Levels (FYE 2024 – 2033)

Group	Description
Group A	
Group B	
Group C	
Status Quo	Current investment level

10-Year Capital Plan Investment Levels (FYE 2024 – 2033)

Group	Description
Group A	
Group B	
Group C	Status quo, plus increased investment, for example: • Prioritize risk, safety, security, wildfire • Guideline: 50 – 70% of industry standards in various asset classes
Status Quo	Current investment level

10-Year Capital Plan Investment Levels (FYE 2024 – 2033)

Group	Description
Group A	
Group B 	Group C, plus increased investment, for example: • Added focus on deferred watershed maintenance and vegetation management • Guideline: 70 – 90% of industry standards in various asset classes
Group C 	Status quo, plus increased investment, for example: • Prioritize risk, safety, security, wildfire • Guideline: 50 – 70% of industry standards in various asset classes
Status Quo	Current investment level

10-Year Capital Plan Investment Levels (FYE 2024 – 2033)

Group	Description
Group A	Group B, plus increased investment, for example: • Address taste & odor issues • Guideline: 90 – 100% of industry standards in various asset classes
Group B	Group C, plus increased investment, for example: • Added focus on deferred watershed maintenance and vegetation management • Guideline: 70 – 90% of industry standards in various asset classes
Group C	Status quo, plus increased investment, for example: • Prioritize risk, safety, security, wildfire • Guideline: 50 – 70% of industry standards in various asset classes
Status Quo	Current investment level

Potable Storage Tanks

Storage Tank Investment Opportunities

Investment Level	Projects over 10 Years
Status Quo	• 10 steel tank recoatings • 4 redwood tank replacements • 2 transmission steel tank recoatings

Storage Tank Investment Opportunities

Investment Level	Projects over 10 Years
Level C	In addition to Status Quo: • Ross Reservoir/PMT • 14 seismic tank upgrades • 10 additional steel tank recoatings (total = 20)
Status Quo	• 10 steel tank recoatings • 4 redwood tank replacements • 2 transmission steel tank recoatings

Storage Tank Investment Opportunities

Investment Level	Projects over 10 Years
Level B	In addition to Level C: • 8 riveted steel tanks • 15 additional steel tank recoatings (total = 35)
Level C	In addition to Status Quo: • Ross Reservoir/PMT • 14 seismic tank upgrades • 10 additional steel tank recoatings (total = 20)
Status Quo	• 10 steel tank recoatings • 4 redwood tank replacements • 2 transmission steel tank recoatings

Storage Tank Investment Opportunities

Investment Level	Projects over 10 Years
Level A	In addition to Level B: • 7 bolted steel tanks • 15 additional steel tank recoatings (total = 50) • 1 new transmission storage project
Level B	In addition to Level C: • 8 riveted steel tanks • 15 additional steel tank recoatings (total = 35)
Level C	In addition to Status Quo: • Ross Reservoir/PMT • 14 seismic tank upgrades • 10 additional steel tank recoatings (total = 20)
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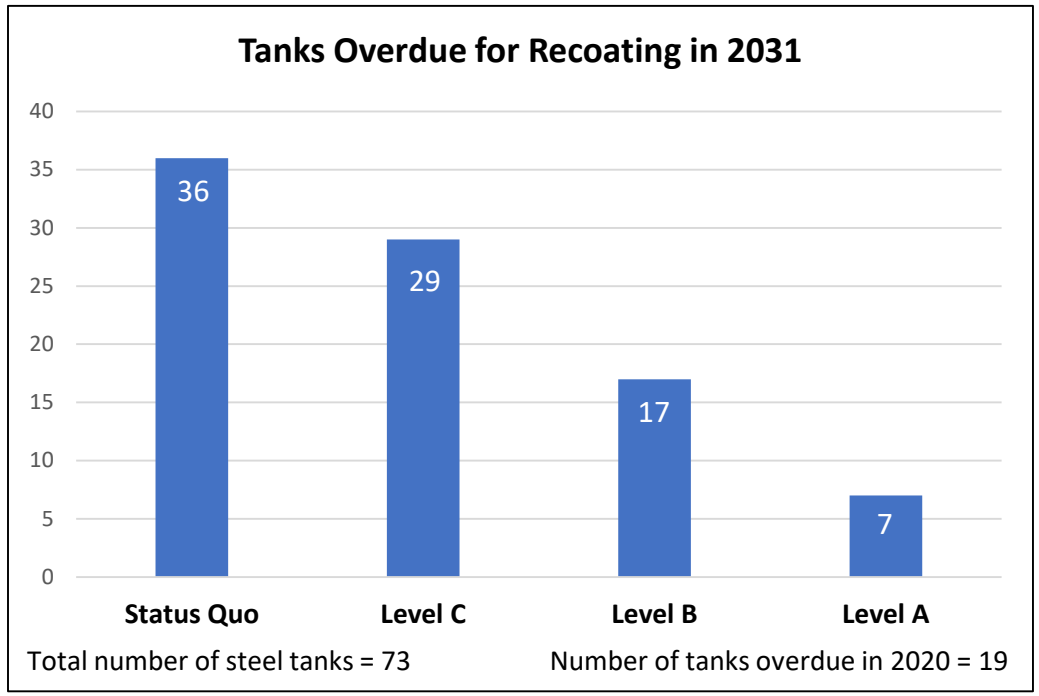
Steel Tank Recoating



Industry recommended recoat interval is 20-25 years

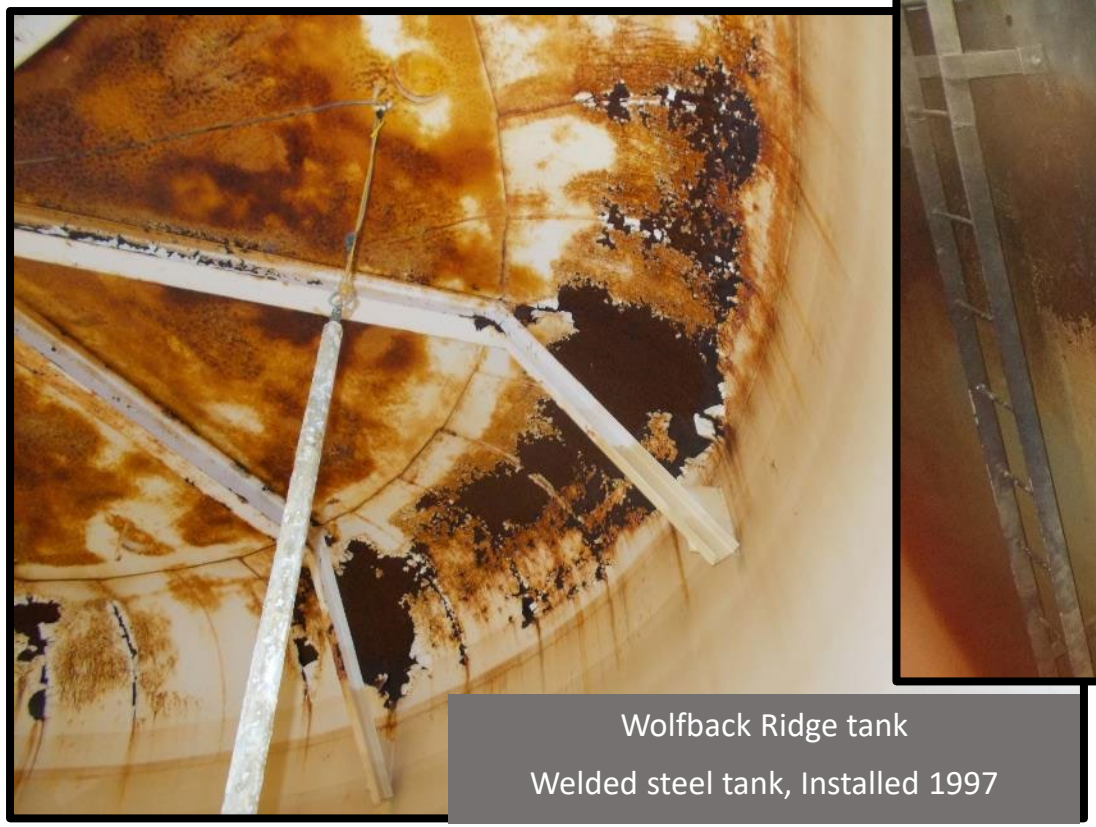
Greenbrae tank

Last interior recoat 1974, exterior 1956

Tank Examples

Smith Saddle tank

Last interior recoat 1983, exterior 1961



Wolfback Ridge tank

Welded steel tank, Installed 1997

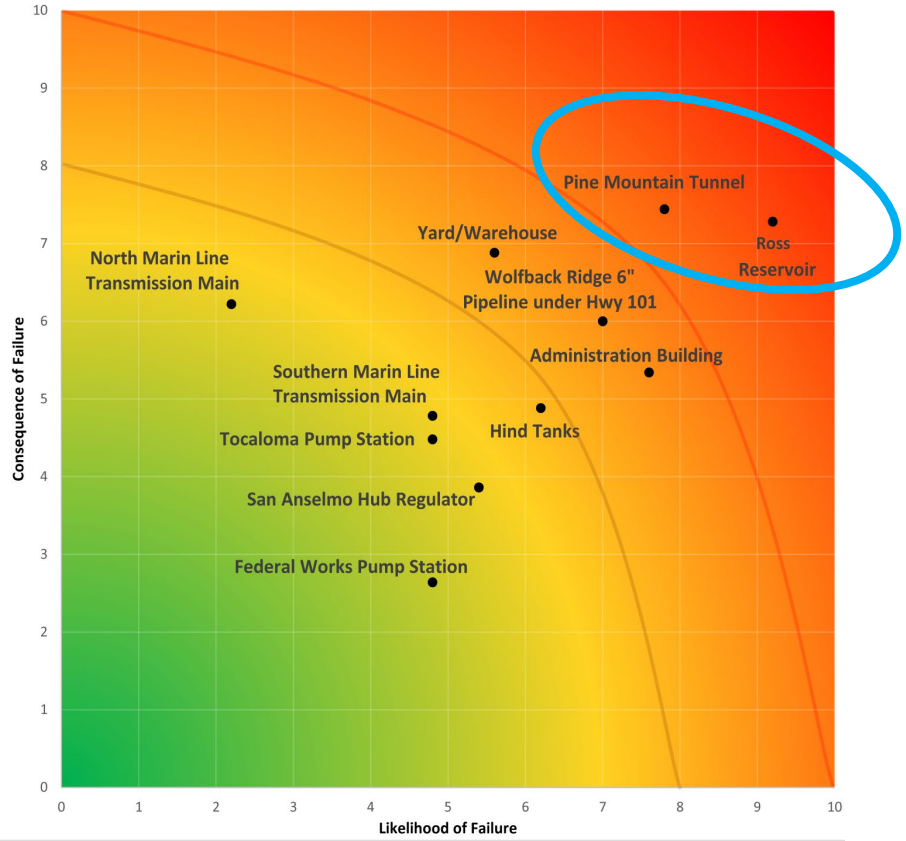
Higher Investment – Level C

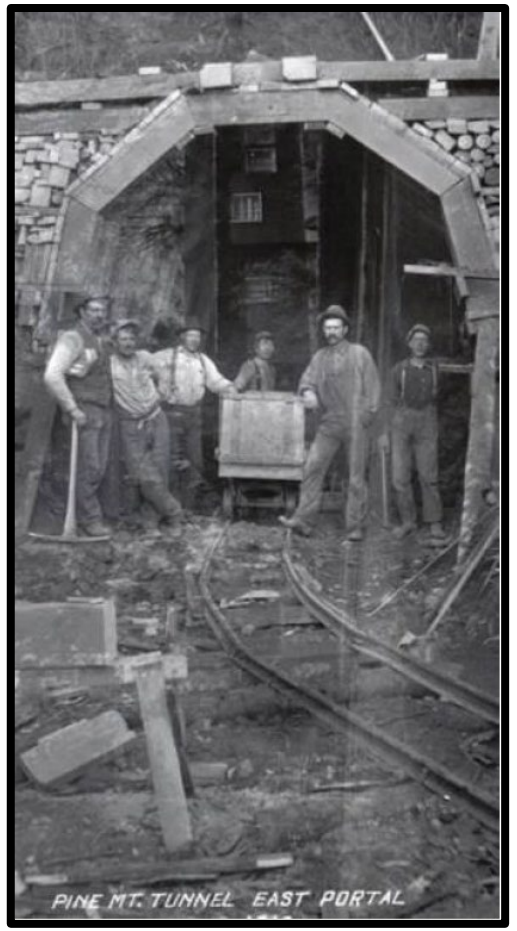
- In addition to Status Quo
- Ross reservoir / Pine Mountain Tunnel

Ross Reservoir

Concrete tank, Installed 1927

Higher Investment – Level C
Ross Reservoir / Pine Mountain Tunnel





Critical Asset risk profile
Asset Management presentation, DOC January 2019

Higher Investment – Level C

- In addition to Status Quo
- Seismic Upgrades
  - Needed on 14 welded tanks
- 2 welded steel tank recoatings per year

Santa Margarita tank

EBAA Flex-tend (inset)

Higher Investment – Level B

- In addition to Level C
- Rehab/Replace riveted tanks
  - 8 riveted tanks in system
  - 100 year useful life
  - Range in age from 91 – 111 years
- 3.5 welded steel tank recoatings per year

Hawthorne Hills Tank

Riveted tank, Installed 1929

Higher Investment – Level A

- In addition to Level B
- Bolted steel tank replacement
  - 30 year useful life
  - 35 bolted tanks in system
  - Range in age from 2 – 37 years
  - 7 tanks will be overdue by 2031
- 5 welded steel tank recoatings per year

Fawn Drive Tank

Bolted steel tank, installed 1985

Tomahawk Tank

Bolted steel tank, installed 1988

Storage Tank Investment Opportunities

Investment Level	Projects over 10 Years
Level A	In addition to Level B: • 7 bolted steel tanks • 15 additional steel tank recoatings (total = 50) • 1 new transmission storage project
Level B	In addition to Level C: • 8 riveted steel tanks • 15 additional steel tank recoatings (total = 35)
Level C	In addition to Status Quo: • Ross Reservoir/PMT • 14 seismic tank upgrades • 10 additional steel tank recoatings (total = 20)
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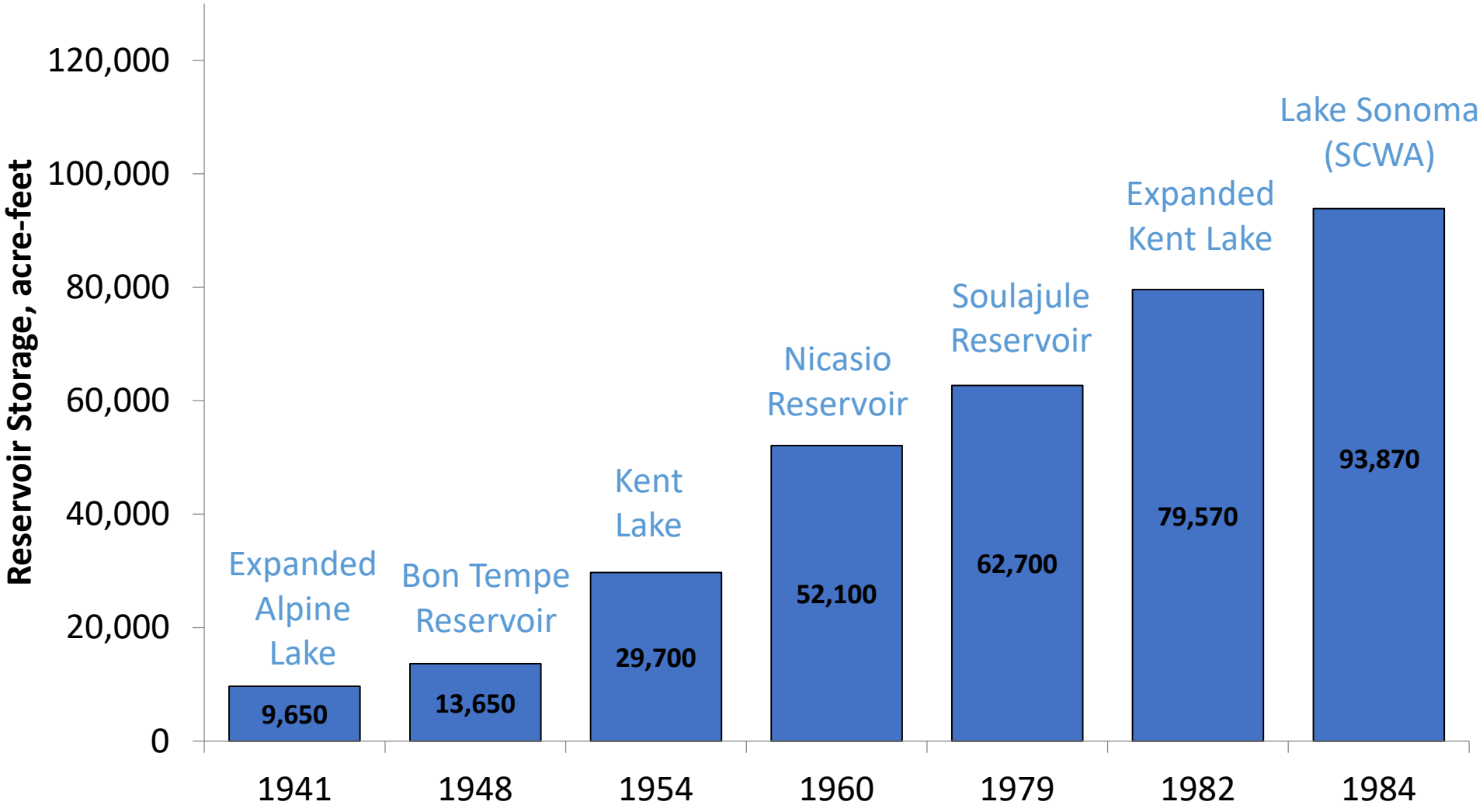
Water Supply

Investments to Improve Resiliency



+ Recycled Water Program
+ Conservation Program

Current Water Supply Investments

- Dam capital maintenance and improvements
- Reservoir water quality

Operational Initiatives

- Water Efficiency Programs
- Leak Detection

Alpine Dam

Water Supply Investment Opportunities

Investment Level	Projects over 10 Years
Status Quo	• Dam capital maintenance and improvements • Reservoir water quality

Water Supply Investment Opportunities

Investment Level	Projects over 10 Years
Level C	• Kastania Pump Station
Status Quo	• Dam capital maintenance and improvements • Reservoir water quality

Water Supply Investment Opportunities

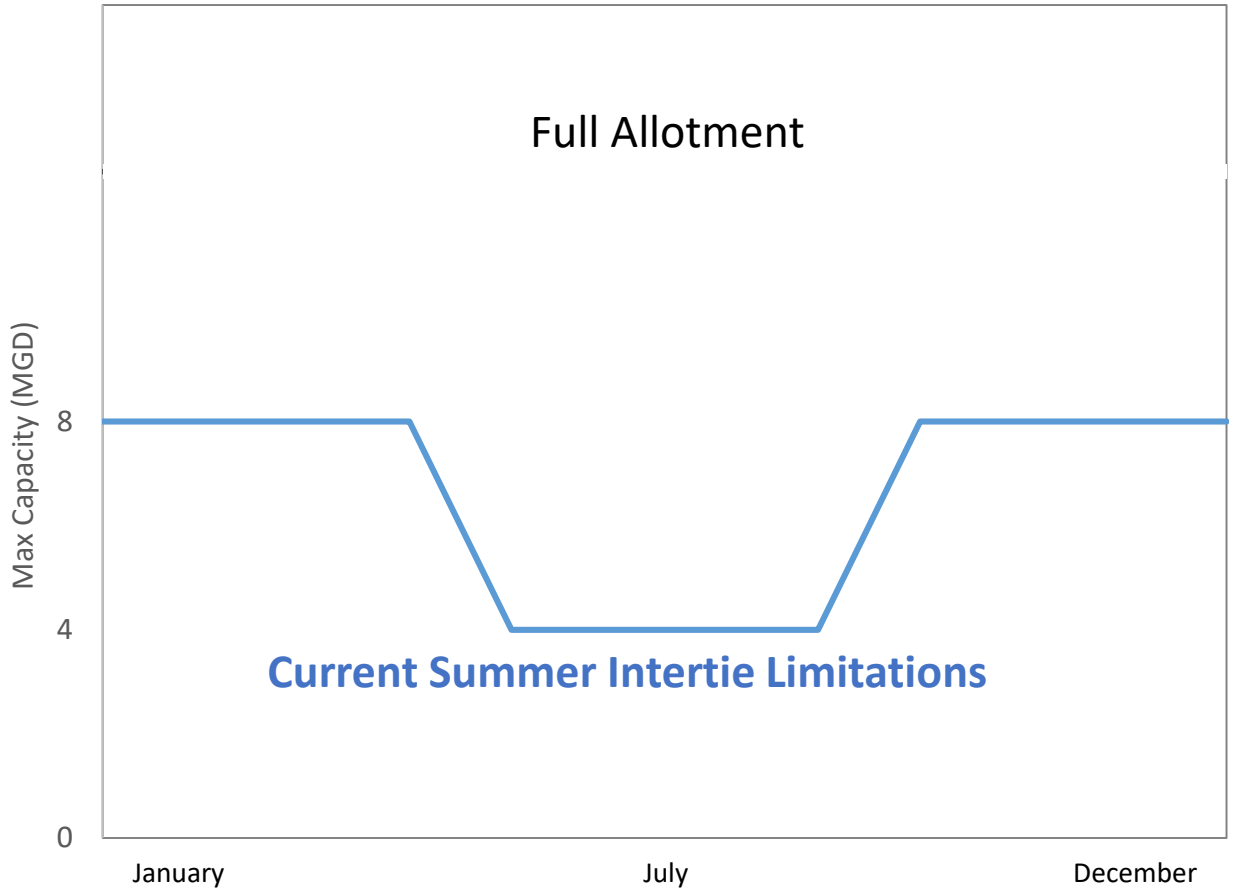
Investment Level	Projects over 10 Years
Level B	• AMI Conversion • Groundwater Conjunctive Use
Level C	• Kastania Pump Station
Status Quo	• Dam capital maintenance and improvements • Reservoir water quality

Water Supply Investment Opportunities

Investment Level	Projects over 10 Years
Level A	• Soulajule Pump Station Electrification • Recycled Water Expansion • Soulajule Environmental Enhancement
Level B	• AMI Conversion • Groundwater Conjunctive Use Study
Level C	• Kastania Pump Station
Status Quo	• Dam capital maintenance and improvements • Reservoir water quality

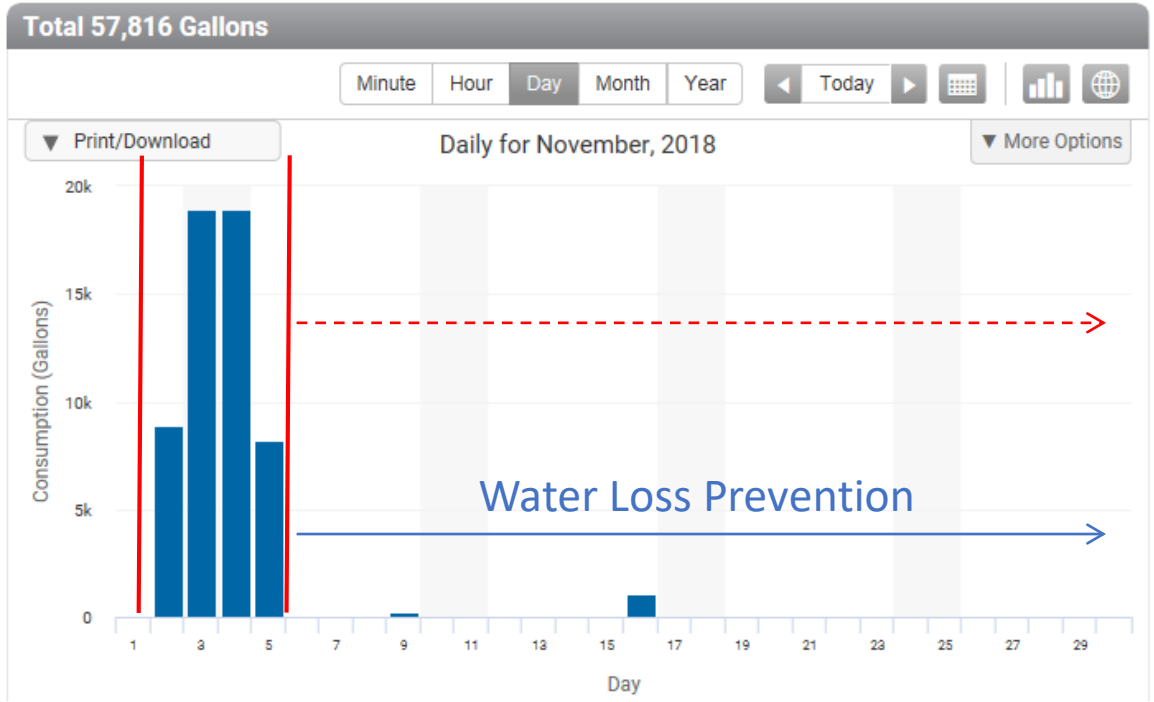
Increased Supplemental Supply – Level C

- Kastania Pump Station and Hydraulic Improvements
  - Fully access supplemental supply from North Marin Aqueduct



Distributed Infrastructure and other Opportunities – Level B

- Advanced Metering Infrastructure
  - Complete conversion of customer meters to advanced metering
  - Proactive leak identification
  - Readily available consumption data
- Groundwater Banking Study



Irrigation Meter Leak: *Next meter read was December, potentially resulting in additional 630,000 gallons of water lost*

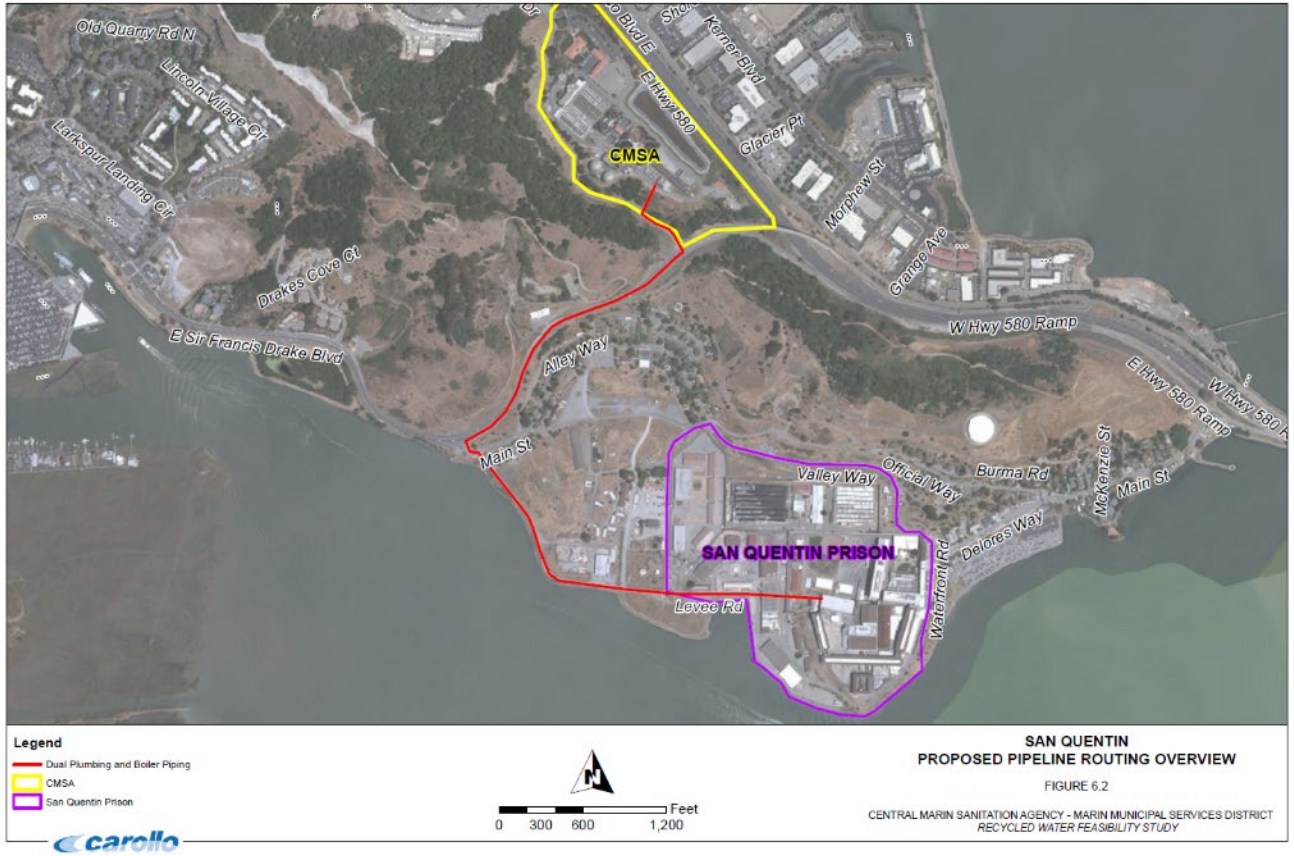
Soulajule Pump Station Electrification – Level A

- Long-term solution to utilize local water source more frequently and cost-effectively
- + 3,000 acre-feet per year reliably

Soulajule Dam and Pump Station

Reuse and Future Considerations – Level A

- Recycled Water Expansion
  - San Quentin Recycled Water Expansion
  - + 150 acre-feet per year
- Other future considerations



San Quentin Recycled Water Recycled Water Feasibility Overview

Water Supply Investment Opportunities

Investment Level	Projects over 10 Years
Level A	• Soulajule Pump Station Electrification • Recycled Water Expansion • Soulajule Environmental Enhancement
Level B	• AMI Conversion • Groundwater Conjunctive Use Study
Level C	• Kastania Pump Station
Status Quo	• Dam capital maintenance and improvements • Reservoir water quality

Treatment Plants

Treatment Plant Investment Opportunities

Investment Level	Projects over 10 Years
Status Quo	Preventative maintenance, minor projects

SGTP – San Geronimo Treatment Plant; BTTP – Bon Tempe Treatment Plant

Treatment Plant Investment Opportunities

Investment Level	Projects over 10 Years
Level C	In addition to Status Quo: • Structure Hardening (Wildfire Resiliency) • SGTP Roof • SGTP Clarifier (Seismic Reliability)
Status Quo	Preventative maintenance, minor projects

SGTP – San Geronimo Treatment Plant; BTTP – Bon Tempe Treatment Plant

Treatment Plant Investment Opportunities

Investment Level	Projects over 10 Years
Level B	In addition to Level C: • BTTP Clarifier (Seismic Reliability) & Solids • SGTP/BTTP Fill-Settle-Draw • SGTP Solids Handling • SGTP/BTTP Electrical System Replacement
Level C	In addition to Status Quo: • Structure Hardening (Wildfire Resiliency) • SGTP Roof • SGTP Clarifier (Seismic Reliability)
Status Quo	Preventative maintenance, minor projects

SGTP – San Geronimo Treatment Plant; BTTP – Bon Tempe Treatment Plant

Treatment Plant Investment Opportunities

Investment Level	Projects over 10 Years
Level A	In addition to Level B: • Ozone at SGTP & BTTP
Level B	In addition to Level C: • BTTP Clarifier (Seismic Reliability) & Solids • SGTP/BTTP Fill-Settle-Draw • SGTP Solids Handling • SGTP/BTTP Electrical System Replacement
Level C	In addition to Status Quo: • Structure Hardening (Wildfire Resiliency) • SGTP Roof • SGTP Clarifier (Seismic Reliability)
Status Quo	Preventative maintenance, minor projects

SGTP – San Geronimo Treatment Plant; BTTP – Bon Tempe Treatment Plant

Seismic Reliability – Levels C & B

Existing Clarifiers lack lateral resistance, SGTP Clarifiers shown

Rinconada WTP Clarifier
After Loma Prieta EQ, 1989

Process Improvements – Level B

Bon Tempe WTP

- BTTP Clarifier
  - Actiflo process combines unit processes in smaller footprint
  - Increases reliable capacity up to 20 MGD
- Fill-Settle-Draw & Solids
- Electrical system upgrades

Customer Satisfaction – Level A

- Taste & Odor
- Water Quality Emerging Issues
  - Disinfection By-Products

Ozone generation building & ozone contactor, Del Valle WTP

Treatment Plant Investment Opportunities

Investment Level	Projects over 10 Years
Level A	In addition to Level B: • Ozone at SGTP & BTTP
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Summary and Next Steps

- Workshop 1B, January 13, 2021:
  - Infrastructure assets cont'd:
    - Pipelines
    - Pump Stations
    - Watershed
    - Facilities & Capital Equipment
  - Operational Needs
  - Financial Model