



Update on the Water Treatment Plant Master Plan Implementation Project (WTP MPIP) Project No. 93044001

Presented by:
James Bohan (Engineering Manager) and Barton Ching (Senior Engineer), Business Support & Asset Management Unit
Capital Improvement Program Committee
March 16, 2026

1. Project Overview
2. Coordination with the CIP
3. Master Plan Development Process
4. Capital Project Recommendations - Highlights
5. Next Steps
6. Q&A

Project Overview

Water Treatment Plant Master Plan Implementation Project (93044001)



Carollo Engineers

Consultant

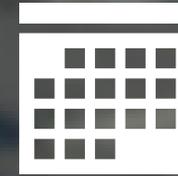


Budget

Total: \$9.46M

Carollo: \$6.46M

VW Labor: \$3.00M



Schedule

Nov 2021 – Oct 2026

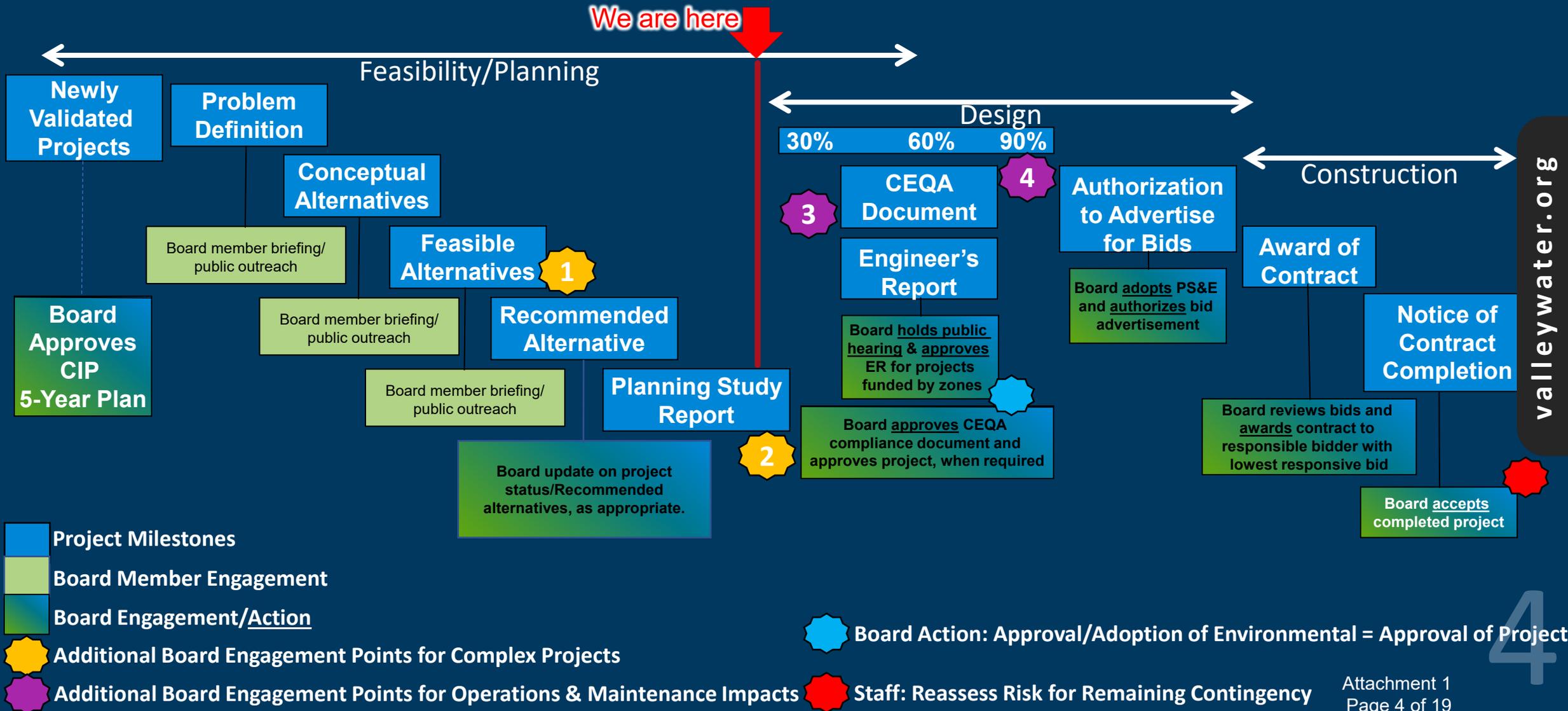
Key Deliverables:

1. 30-year WTP program of recommended capital projects for Penitencia, Rinconada, Santa Teresa Water Treatment Plants and the Advanced Water Purification Center.
2. 10% design for projects within first 10 years of planning horizon
3. Programmatic Environmental Impact Report (PEIR)

Coordination with the CIP

BOARD ACTION & ENGAGEMENT: CAPITAL PROJECT DELIVERY PROCESS*

* This is an example of the Project Delivery Process that may be followed and may not apply to all capital projects.



Coordination with the CIP

PROGRAM TIMELINE



Master plans

- WTP MPIP
- DS MPIP
- SMPIP

Master plan recommended capital projects

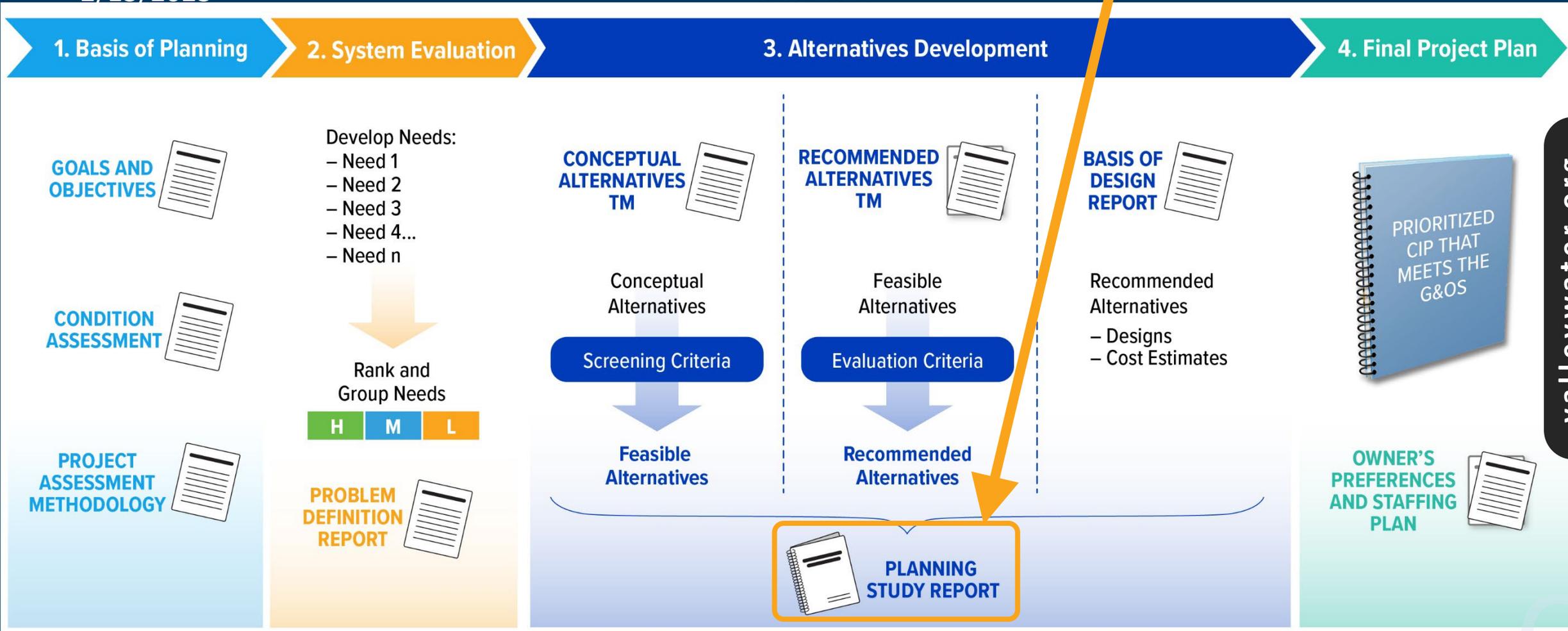
- Water Treatment Plant Rehabilitation Projects
- Distribution System projects (and projects included in Pipeline Maintenance Program)
- SCADA upgrades (Operations and Capital Projects)

Master Plan Development Process

CIP Committee
2/13/2023

CIP Committee
4/15/2024

First recommended capital project for STWTP FY27



valleywater.org

Planning Process – Basis of Planning



Goals	Details
Treatment Capacity	<ul style="list-style-type: none">• Meet treated water demands through 2050
Reliability	<ul style="list-style-type: none">• Minimize unplanned downtime by building redundancy for critical systems
Water Quality	<ul style="list-style-type: none">• Prepare for future regulatory requirements related to contaminants of emerging concern• Meet and exceed State water quality requirements
Climate Mitigation	<ul style="list-style-type: none">• Minimize greenhouse gas emissions
Equity	<ul style="list-style-type: none">• Engage community to ensure affordable water rates through cost-effective investments

valleywater.org

Planning Process – System Evaluation

1. Basis of Planning

2. System Evaluation

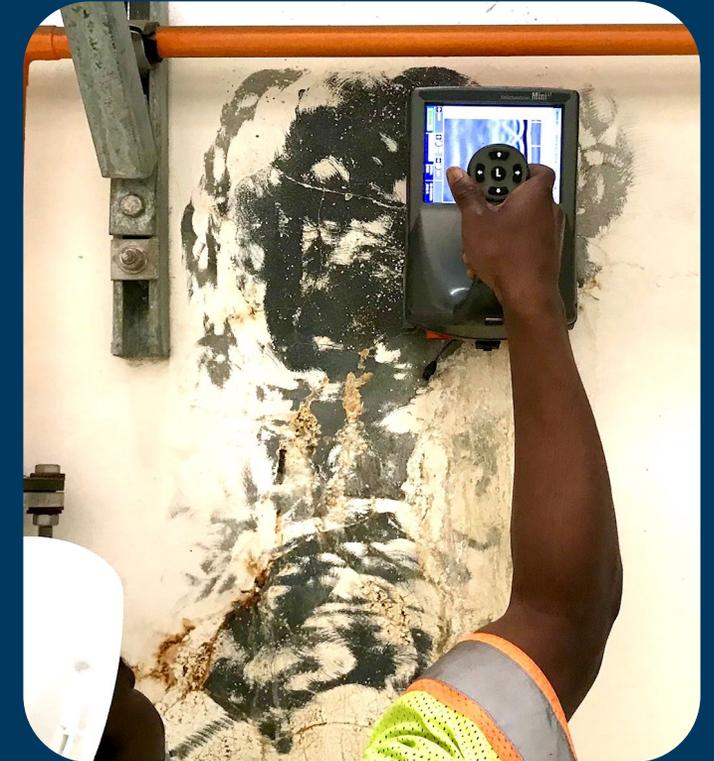
3. Alternatives Development

4. Final Project Plan

590

Unique Needs

1. Asset evaluation
 - A. Field condition assessment
 - B. Desktop assessment
2. Process improvement needs
 - A. Process evaluations
 - B. Input from subject matter experts
 - C. Goals and objectives



Planning Process – Conceptual Alternatives



1. Conceptual Designs (2%)
2. Class 5 Cost Estimates
A. -50% to +100%

Condition-Based Needs:

Replace cationic polymer tank #10 mixer (MX-1)

Replace cationic polymer tank #11 mixer (MX-2)

Replace cationic polymer piping

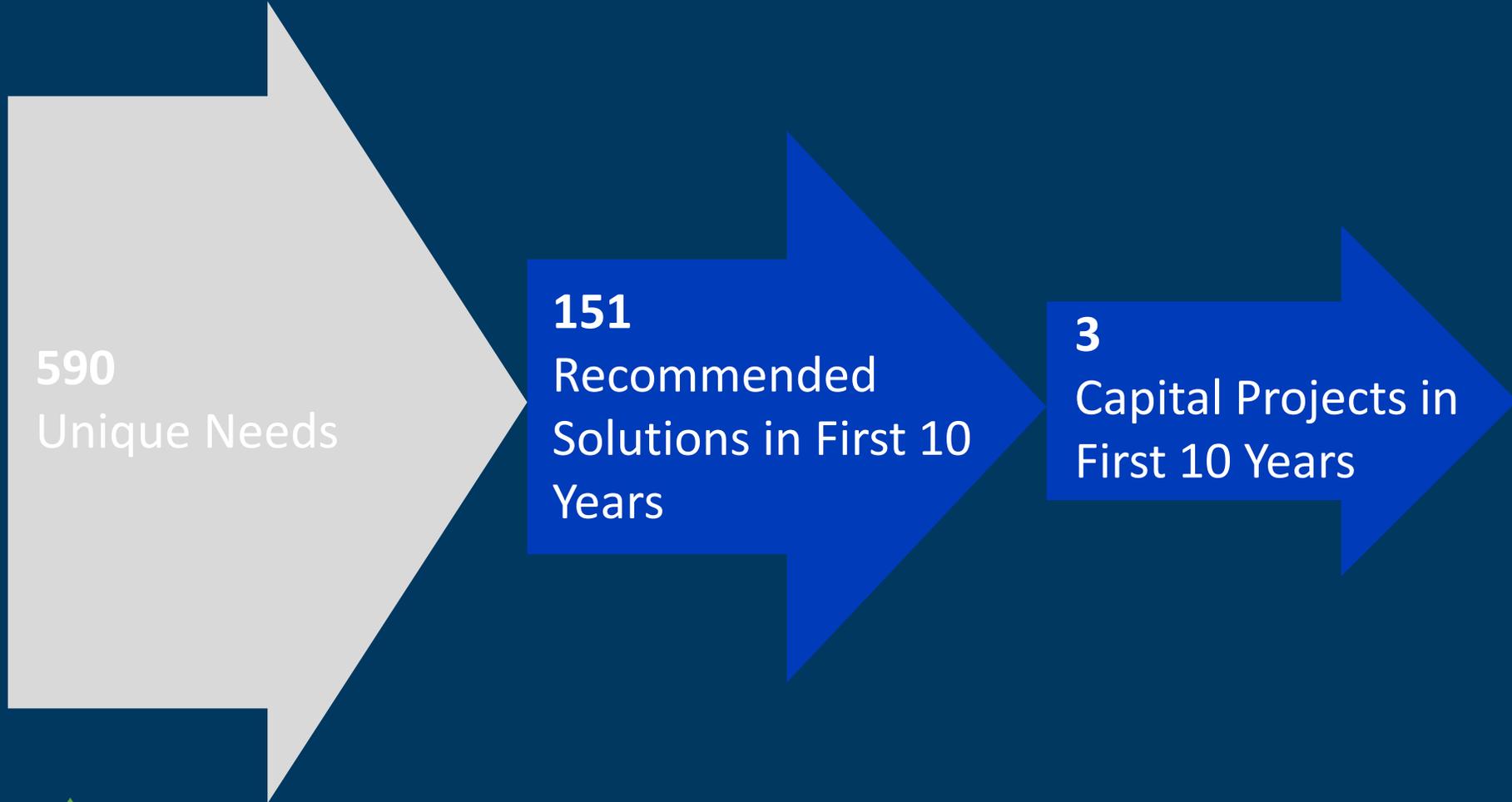
Reliability Need:

Cationic polymer blending unit with no standby shelf spare



Related needs bundled together to be addressed under one project

Planning Process – Recommended Alternatives



Current:

1. Preliminary Design (10%)
2. Class 4 Cost Estimates
A. -30% to +50%

valleywater.org

Planning Process – Final Project Plan

Updated WTP Capital Projects (FY27-36)

Total: \$404M
Uninflated in the first
ten years

\$377M in CIP Placeholders for
Infrastructure Master Plan
Implementation Projects

STWTP
\$186M*

PWTP
\$141M

RWTP
\$77M

STWTP Rehabilitation Project (93284014) - Overview

TPC: \$242.67M

Funding: Fund 61*

Duration: 8 Years

Location: San Jose, CA

Project Site



*Image generated using ChatGPT

Protect and Maintain Existing Water Infrastructure

Objectives:

1. Replace aging assets throughout the treatment plant.
2. Implement process improvements to increase plant reliability.

STWTP Rehabilitation Project (93284014) - Benefits

Ozone System Replacements STWTP & PWTP



Pipe and Valve Replacements



*Images generated using ChatGPT

Benefits:

1. Enhances disinfection flexibility while improving regulatory compliance and monitoring
2. Upgrades operational flexibility and reliability by improving electrical and chemical systems
3. Renews ozone generation equipment at both STWTP and PWTP, while ensuring a single supplier

STWTP Rehabilitation Project (93284014) - Elements

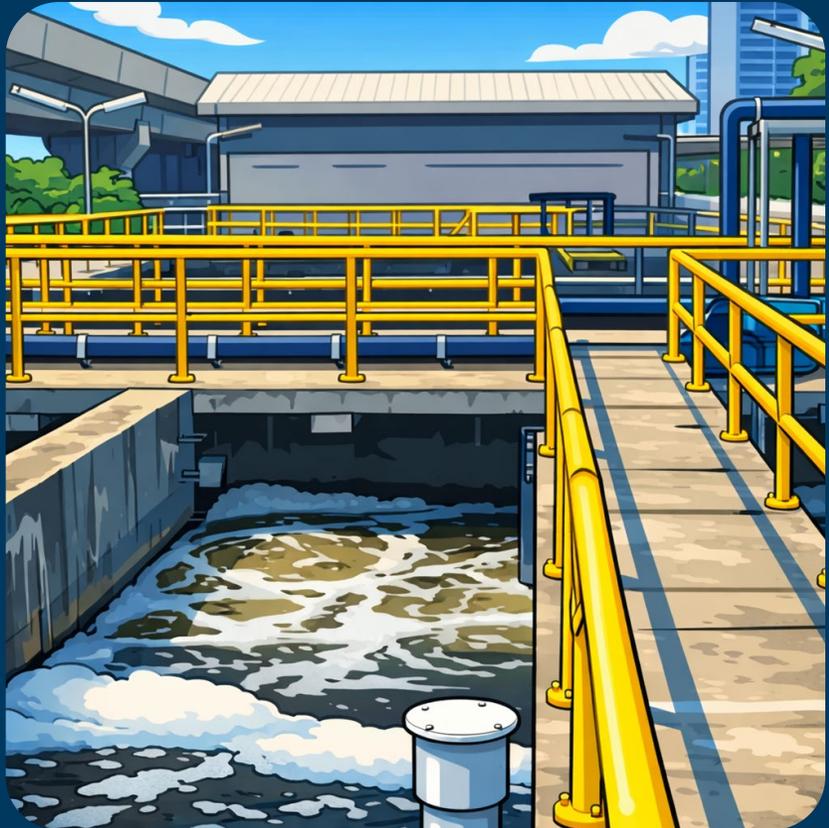
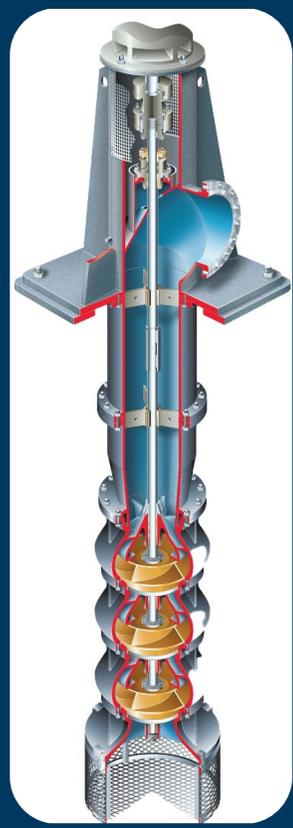
Package for Implementation

Sample List of Improvements/Replacements Projects
Ammonia Mixing
Carbon System
Tepid Water for Emergency Shower and Eye Wash Systems
Bromate Control & Backup Disinfection System
Air Handling Unit
Flocculation Basin Valve and Pump Mixer
Sludge Pumps
Control Panels
Large Valves
Polymer, Liquid Oxygen, Phosphoric Acid, Ammonia, Caustic Storage Tanks
Graystone Pumps, Motors, and Drives

valleywater.org

PWTP Rehabilitation Project (future CIP)

Backwash Pump Improvement



*Image generated using ChatGPT

Plant Water Pump Station Replacement



© www.tate.com

RWTP Rehabilitation Project (future CIP)

Carbon building rehabilitation



Reservoir Roof Replacement



*Images generated using ChatGPT

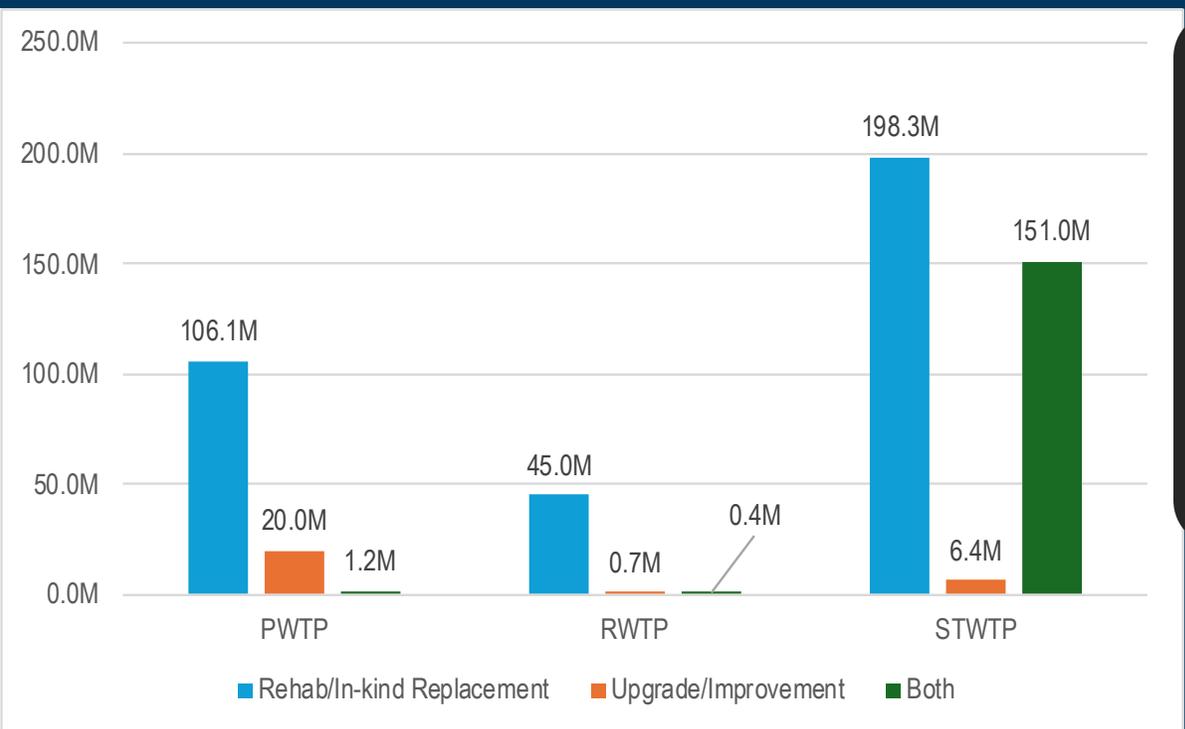
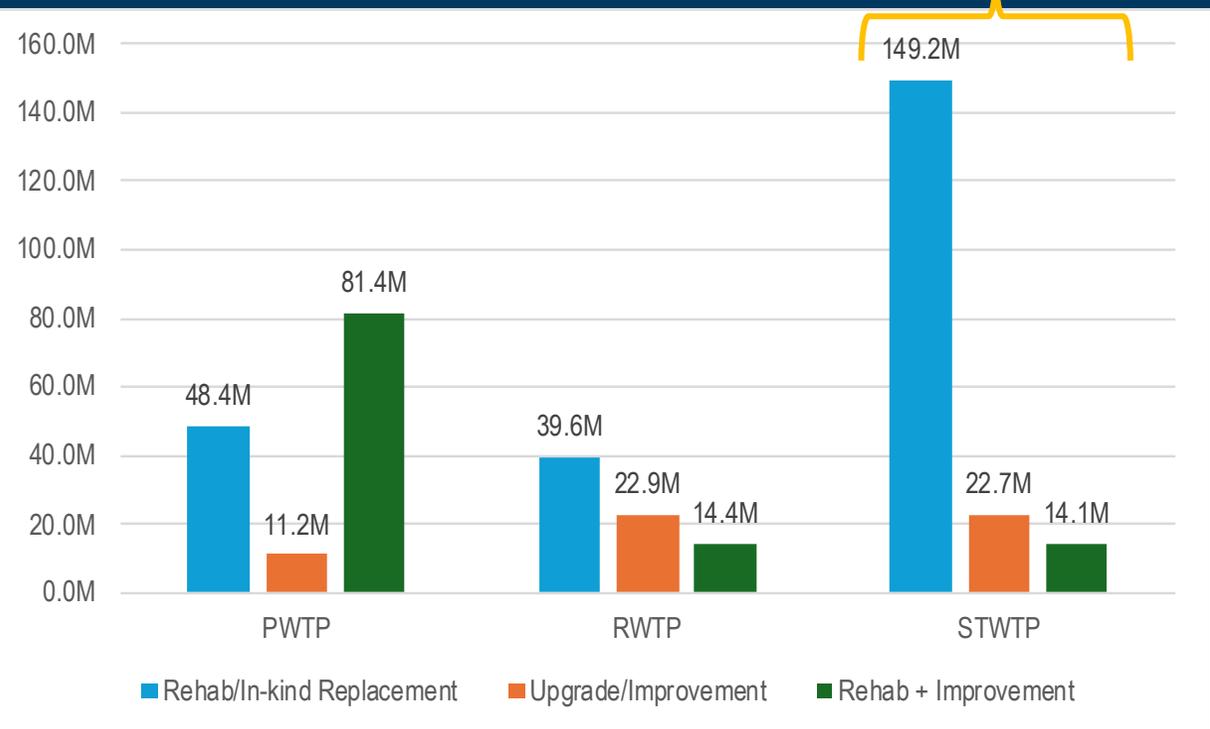
valleywater.org

CIP project costs shown by drivers for the work

2025-2034 Projects High Priority

2035-2054 Projects Medium & Low Priority

Projected for FY27 CIP



valleywater.org

Ongoing Activities & Next Steps



Ongoing Activities:

1. Finalize Planning Study Report
2. Develop Program Management Amendment
3. Final Program Environmental Impact Report in Fall 2026
4. Introduce projects to CIP: PWTP in FY28 CIP & RWTP in FY29 CIP

QUESTIONS



THIS PAGE INTENTIONALLY LEFT BLANK