Long-Term Water Transfer Option Agreements

Planning Committee

November 12, 2025

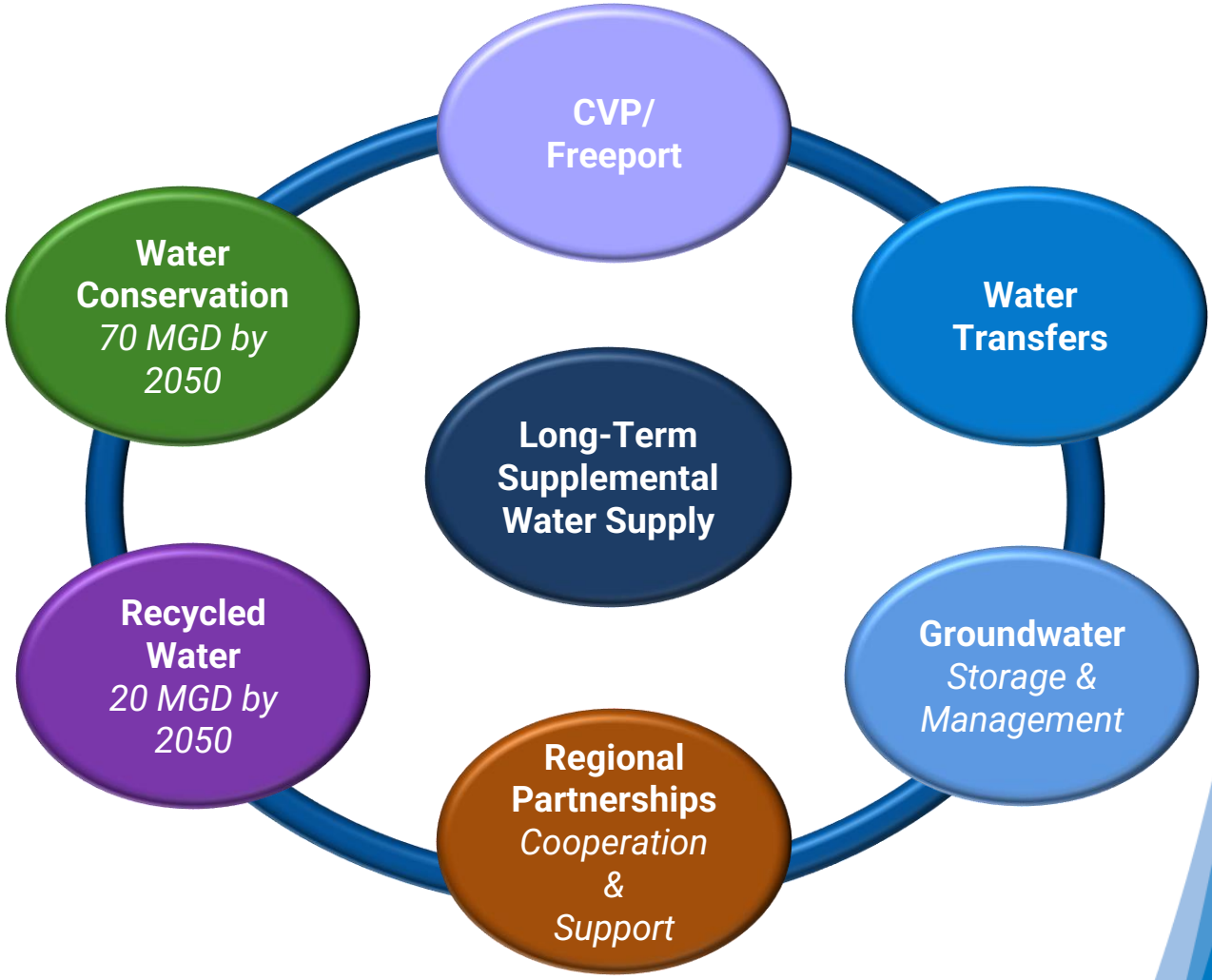
Hasan Abdullah, Senior Civil Engineer

Agenda

- Supplemental water supply strategy - water transfers
- Yuba Accord Background
- Water Transfer Option Agreement – Brief History
  - 3-way agreement between EBMUD, Yuba Water Agency and Contra Costa Water District
- Water Sharing Agreement
  - 2-way agreement between EBMUD and Contra Costa Water District
- Next Steps

Supplemental Water Supply Strategy

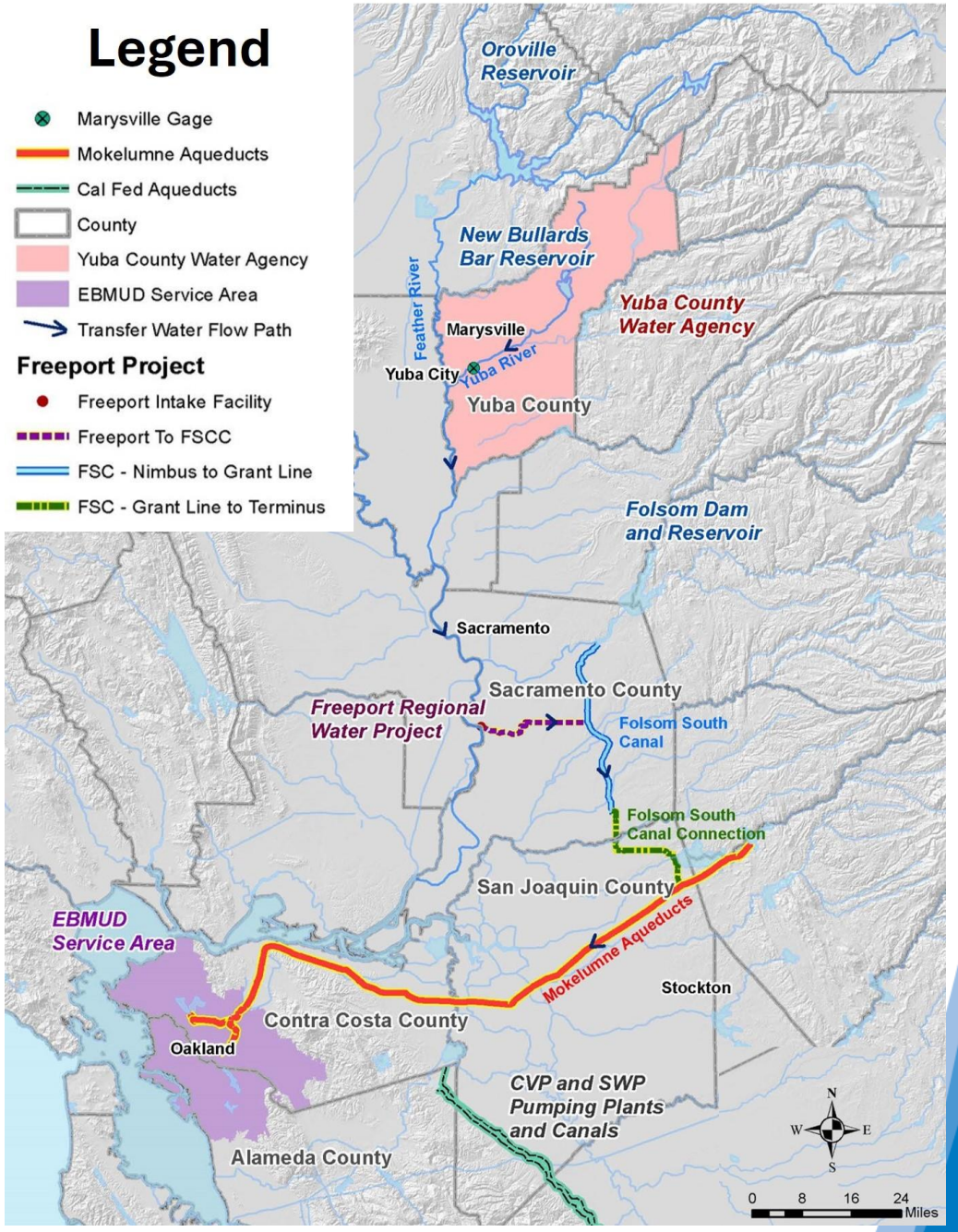
- District needs supplemental supplies in a multi-year drought
- Water transfers are important to help meet the need for water
- District is developing long-term water transfers partnerships with multiple agencies
- Today's presentation will focus on the 25-Year Water Transfer Agreements with Yuba Water Agency and Contra Costa Water District



Background: Yuba Accord

- Comprehensive settlement resolving lower Yuba River issues
  - Addressed instream flow requirements for the lower Yuba River, water transfers, conjunctive use of surface and groundwater, and fisheries management
  - Implemented as a pilot in 2006
- YWA evaluated environmental impacts and certified EIR in 2007
- Accord approved by SWRCB in 2008
  - Amended in 2014 to add Freeport

YWA – Yuba Water Agency
SWRCB - State Water Resources Control Board
EIR – Environmental Impact Report



Yuba Accord Elements

- Comprehensive management of surface and groundwater resources
- Yuba Accord has 3 primary elements:
  - DWR Long Term Water Purchase Agreement (1)
    - EBMUD/CCWD Water Transfer Option Agreement (1)
  - Conjunctive Use Agreement (1)
  - Fisheries Agreement
- Petitioned SWRCB in 2024 for extension to 2050
- SWRCB issued draft approval on October 22, 2025

Yuba River
Photo Credit: Yuba Water Agency

Note: 1: Expires on December 31, 2025
DWR – Department of Water Resources
CCWD – Contra Costa Water District

3-Way Water Transfer Option Agreement

- 3-Way Option Agreement between YWA-EBMUD-CCWD approved in 2022 for one year
- YWA offers transfer water to EBMUD and CCWD when available and requested under Yuba Accord
  - 15 TAF Spring Water
  - 10 TAF Summer Water
- No transfer water was available in 2022
- November 2022 - Board approved 3-year extension of Option Agreement to 2025
- November 25, 2025 - Board to consider Option Agreement extension from 2026 to 2050

TAF – thousand acre feet

Freeport Regional Water Project Intake, Sacramento River
Photo Credit: Freeport Regional Water Authority

Pricing – Water Transfer Option Agreement

- Transfer water pricing is based on YWA-DWR Long-Term Water Purchase Agreement
  - Volume of water sales to DWR is 200 TAF/yr
  - Prices based on water year type
  - Prices negotiated and set every 5-year period
- Current prices are valid 2026-2030
  - Consecutive Dry or Critical
    - Spring water $577.5/AF
    - Summer water $656.25/AF
- Future prices will use same methodology
  - Spring water price: YWA-DWR price + 10%
  - Summer water price: YWA-DWR price + 25%
    - Summer is available in most years unlike spring water
    - There's more potential buyers for the summer water

Table 1: Transfer Water Pricing Model

Year Type	DWR Water Purchase Agreement (2026-2030)	Spring Transfer Water (+10%)	Summer Transfer Water (+25%)
Wet	$75.00	$82.50	$93.75
Above Normal	$150.00	$165.00	$187.50
Below Normal	$225.00	$247.50	$281.25
Dry	$300.00	$330.00	$375.00
Critical	$450.00	$495.00	$562.50
Consecutive Dry or Critical	$525.00	$577.50	$656.25

TAF – thousand acre feet
AF – acre feet

2-Way Water Sharing Agreement

- 2-Way Agreement between EBMUD and CCWD to share transfer water that is offered by YWA between 2026 - 2050
- Period 1: Years 2026-2035
  - 15 TAF Spring Water
    - CCWD first priority/EBMUD second priority
  - 10 TAF Summer Water
    - EBMUD first priority/CCWD second priority
  - Offer for transfer water not claimed by first priority goes to second priority
- If CCWD receives less than 40% of transfer water offer by YWA between 2026-2035, CCWD may request a modification of water sharing terms
  - Period 2: Years 2036-2050
    - EBMUD gets priority for 60% of spring and summer water
    - CCWD gets priority for 40% of spring and summer water

Next Steps

- On November 25, EBMUD Board to consider two long-term water transfer agreements:
  - 3-way Water Transfer Option Agreement between YWA-CCWD-EBMUD
  - 2-way Water Sharing Agreement between CCWD-EBMUD
  - Up to $100,000 for preparation of permits and environmental analysis

Questions?

Bullards Bar Reservoir
Photo Credit: Yuba Water Authority

MWWTP Electrical Resiliency Master Plan

Planning Committee

November 12, 2025

Amit Mutsuddy, Director of Wastewater

MWWTP = Main Wastewater Treatment Plant

Agenda

- Drivers for the ERMP
- Study findings and recommendations
- Resulting CIP projects
- Improvements to date
- Next steps

ERMP = Electrical Resiliency Master Plan | CIP = Capital Improvement Program

ERMP Focus

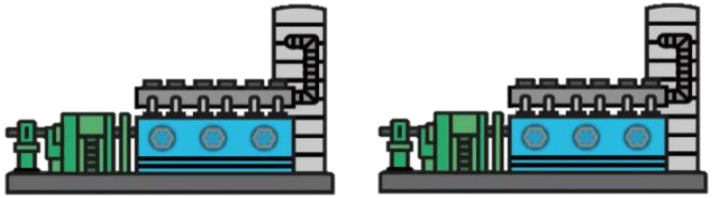
- Lack of redundancy
- Aging/obsolete electrical infrastructure
- Semi-frequent power supply outages
- Complicated system architecture
- Import/export management challenges
- Reliance on biogas
- Unknow vulnerabilities

Aging and Obsolete Electrical Infrastructure

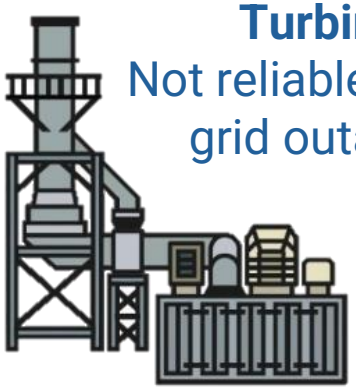
Existing Power Sources

ONSITE GENERATION

Engines
Two in service at a time
(1 standby)

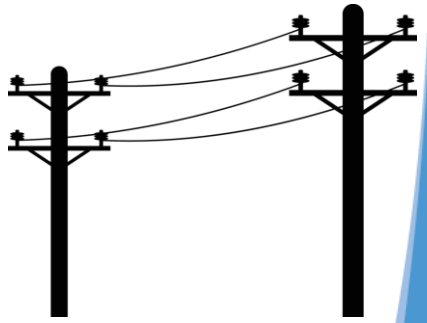


Turbine
Not reliable during
grid outages



UTILITY FEEDS

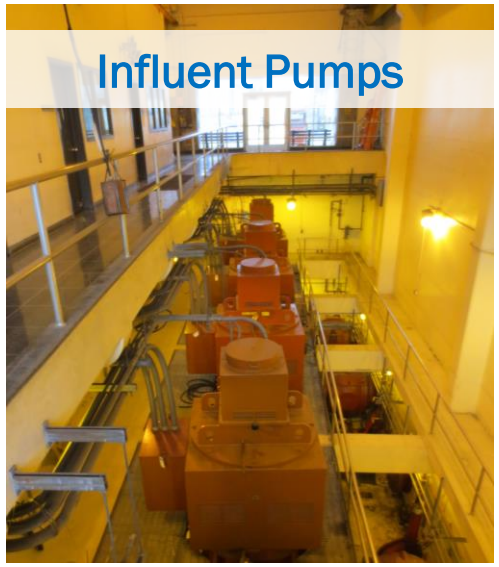
Line C

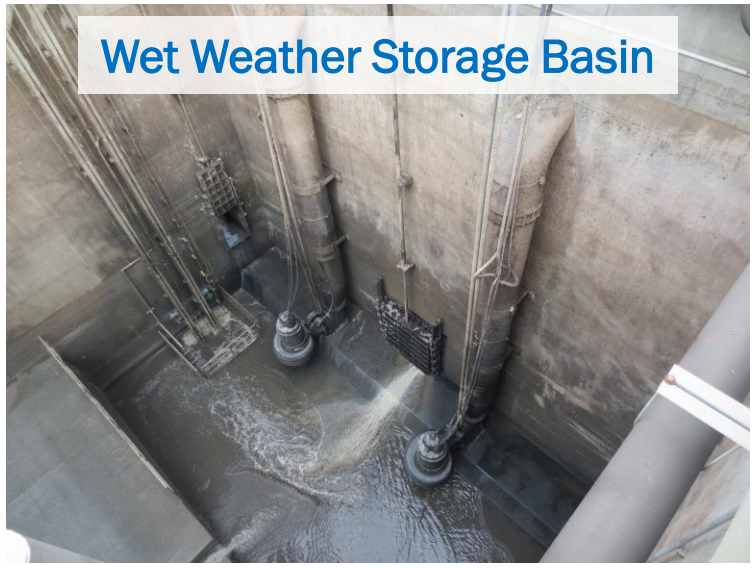


Line L

MWWTP Peak Demand is During Wet Weather Season

- The MWWTP can receive as much as six times our normal influent in wet weather, due to stormwater infiltrating the collection pipes
- Average dry weather plant power demand is 4.5 MW, wet weather demand is 10 MW



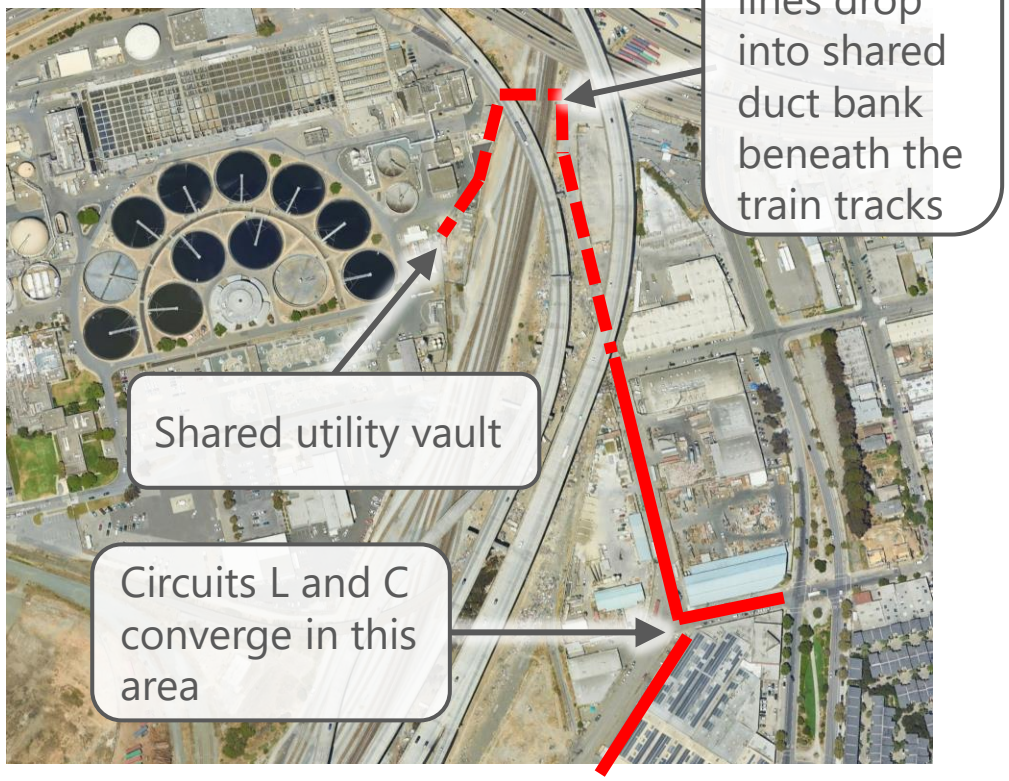


MW = Megawatt

PG&E Grid Connection Vulnerability

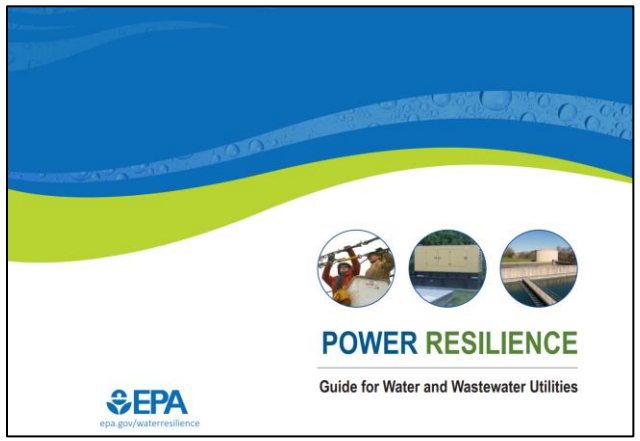
Both PG&E Grid Connections Vulnerable to Damage

Alignment of Both PG&E Grid Connections



Both Lines Shared With Other Large Customers

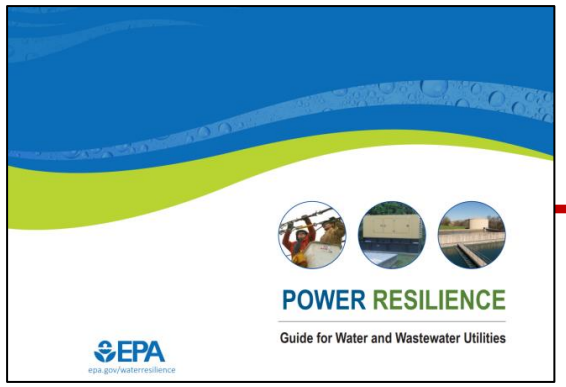
EPA Guidance Recommends Full Redundancy



- EPA 1978 Document: Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability
  - "Two separate and independent sources of electric power… from two separate utility substation or from a single substation and a works-based generator"
- EPA 2023
  - "To enable renewable energy sources to provide backup power, a method to store renewable energy for later use is needed"

EPA = U.S. Environmental Protection Agency

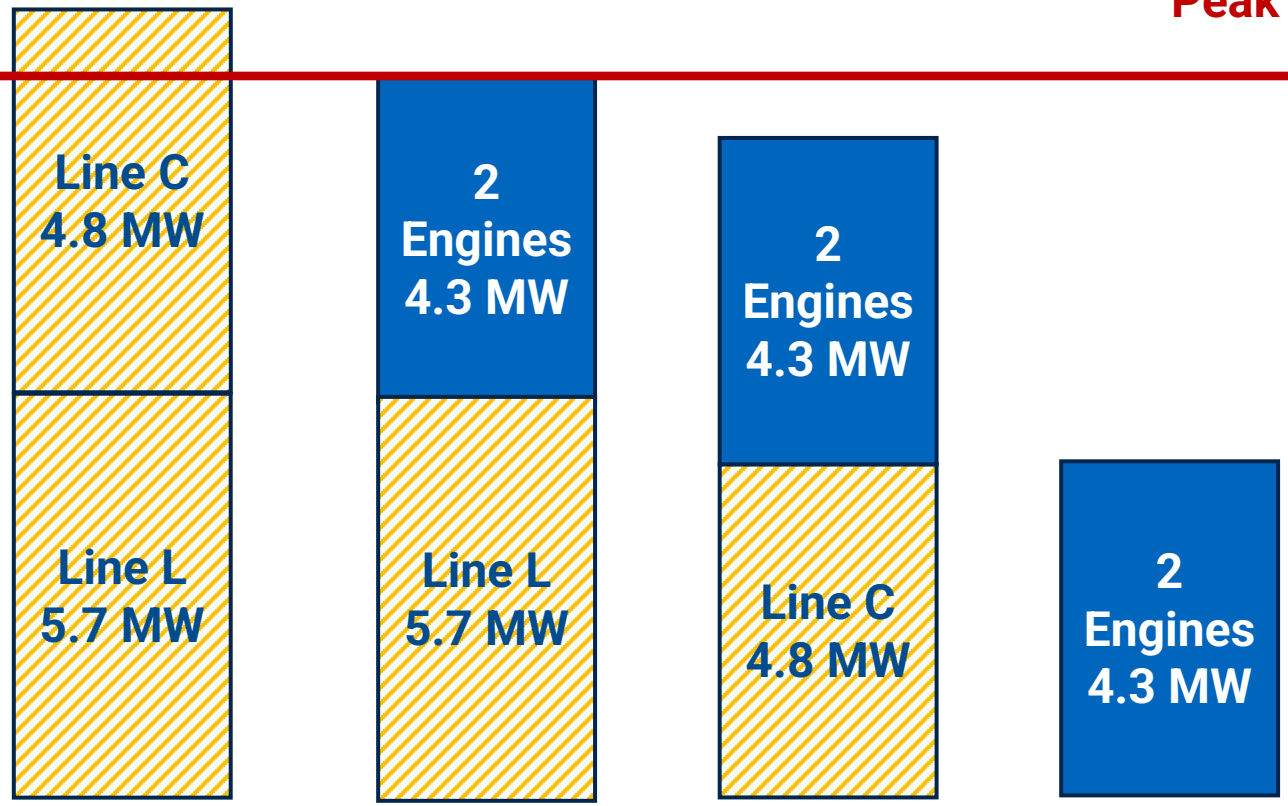
EPA Guidance Recommends Full Redundancy



PG&E grid **unreliable**

On-site generation

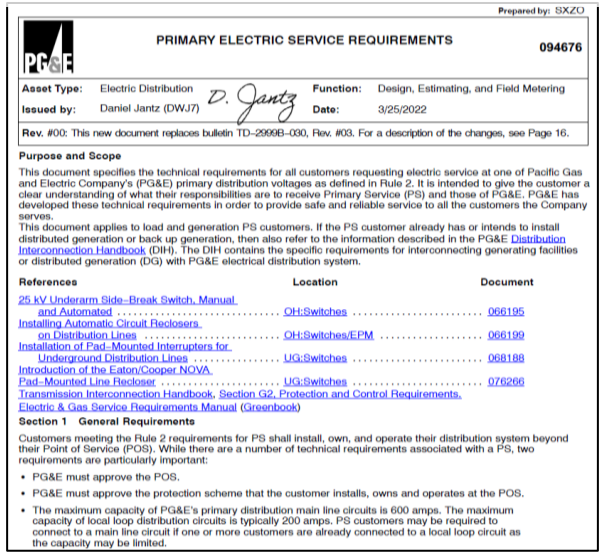
10 MW
Peak Power Demand



ERMP Recommendation: Dedicated 12 kV Service Connection

- Total CIP budget for FY 2026 to FY 2031 is $13.3M
- Begins with a $30K Engineering Advance for a Service Impact Study
- Application in process, initial site visit by PG&E conducted on Sep 12, 2025

Staff Submitted Application for New 12kV Connection



Prepared by: SXZO

PRIMARY ELECTRIC SERVICE REQUIREMENTS 094676

Asset Type: Electric Distribution Function: Design, Estimating, and Field Metering

Issued by: Daniel Jantz (DWJ7) D. Jantz Date: 3/25/2022

Rev. #00: This new document replaces bulletin TD-2999B-030, Rev. #03. For a description of the changes, see Page 16.

Purpose and Scope

This document specifies the technical requirements for all customers requesting electric service at one of Pacific Gas and Electric Company's (PG&E) primary distribution voltages as defined in Rule 2. It is intended to give the customer a clear understanding of what their responsibilities are to receive Primary Service (PS) and those of PG&E. PG&E has developed these technical requirements in order to provide safe and reliable service to all the customers the Company serves.

This document applies to load and generation PS customers. If the PS customer already has or intends to install distributed generation or back up generation, then also refer to the information described in the PG&E Distribution Interconnection Handbook (DIH). The DIH contains the specific requirements for interconnecting generating facilities or distributed generation (DG) with PG&E electrical distribution system.

References	Location	Document
25 kV Underarm Side-Break Switch, Manual and Automated	OH:Switches	066195
Installing Automatic Circuit Reclosers on Distribution Lines	OH:Switches/EPM	066199
Installation of Pad-Mounted Interrupters for Underground Distribution Lines	UG:Switches	068188
Introduction of the Eaton/Cooper NOVA Pad-Mounted Line Recloser	UG:Switches	076266

Transmission Interconnection Handbook, Section G2, Protection and Control Requirements.
Electric & Gas Service Requirements Manual (Greenbook)

Section 1 General Requirements

Customers meeting the Rule 2 requirements for PS shall install, own, and operate their distribution system beyond their Point of Service (POS). While there are a number of technical requirements associated with a PS, two requirements are particularly important:

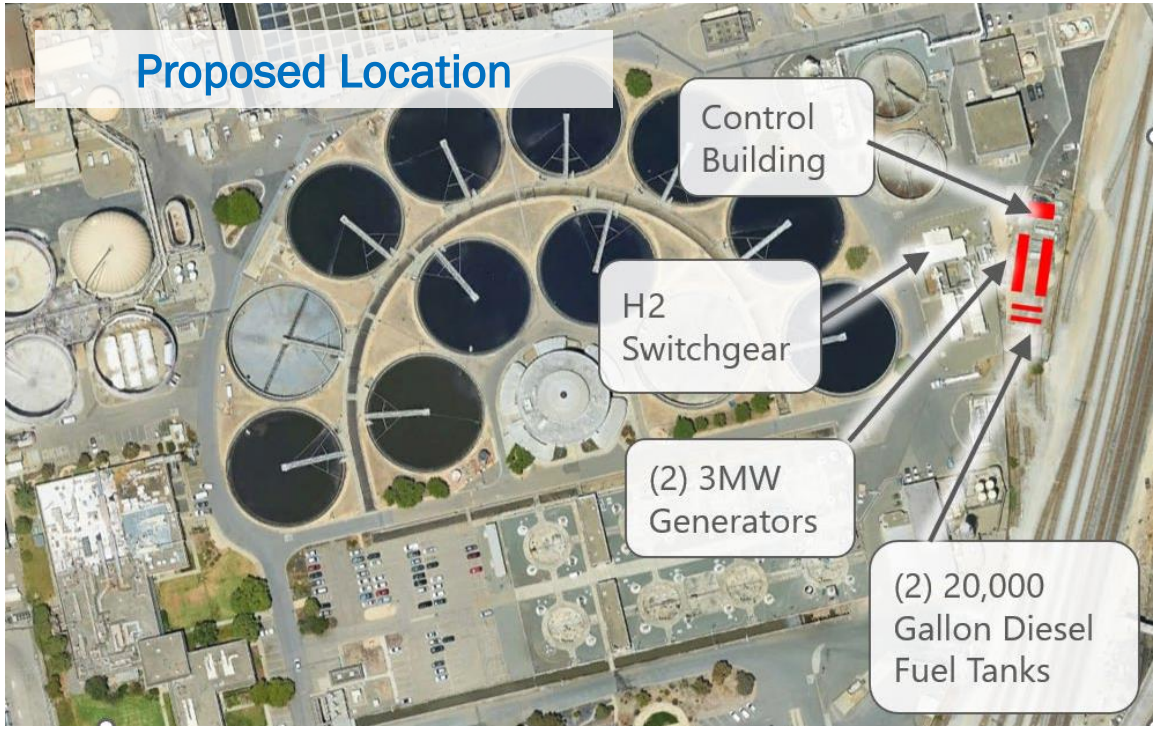
- PG&E must approve the POS.
- PG&E must approve the protection scheme that the customer installs, owns and operates at the POS.
- The maximum capacity of PG&E's primary distribution main line circuits is 600 amps. The maximum capacity of local loop distribution circuits is typically 200 amps. PS customers may be required to connect to a main line circuit if one or more customers are already connected to a local loop circuit as the capacity may be limited.

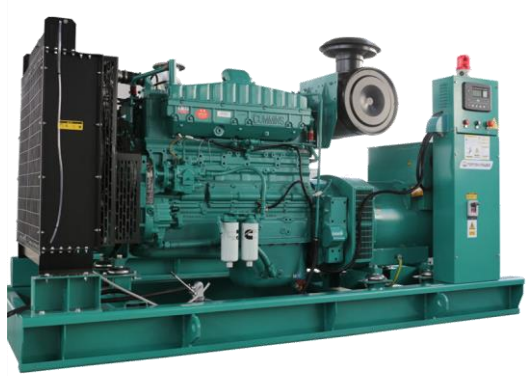
Site Visit from PG&E to Assess Existing Transformer

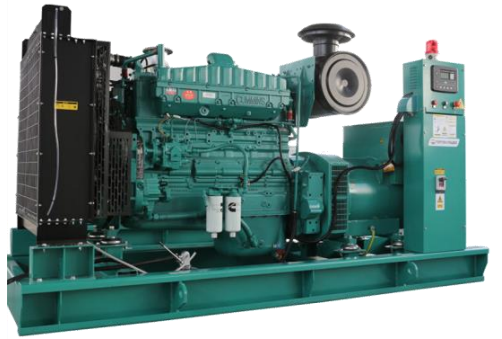
kV = Kilovolt | FY = Fiscal Year | M = Million | K = Thousand

ERMP Recommendation: 6 MW of Emergency Generators

FY 2026-2030: $17M

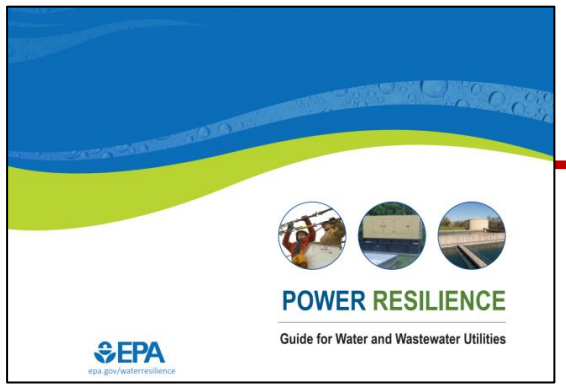






H2 = Switchgear Identification Number

ERMP Result: Full Power Redundancy

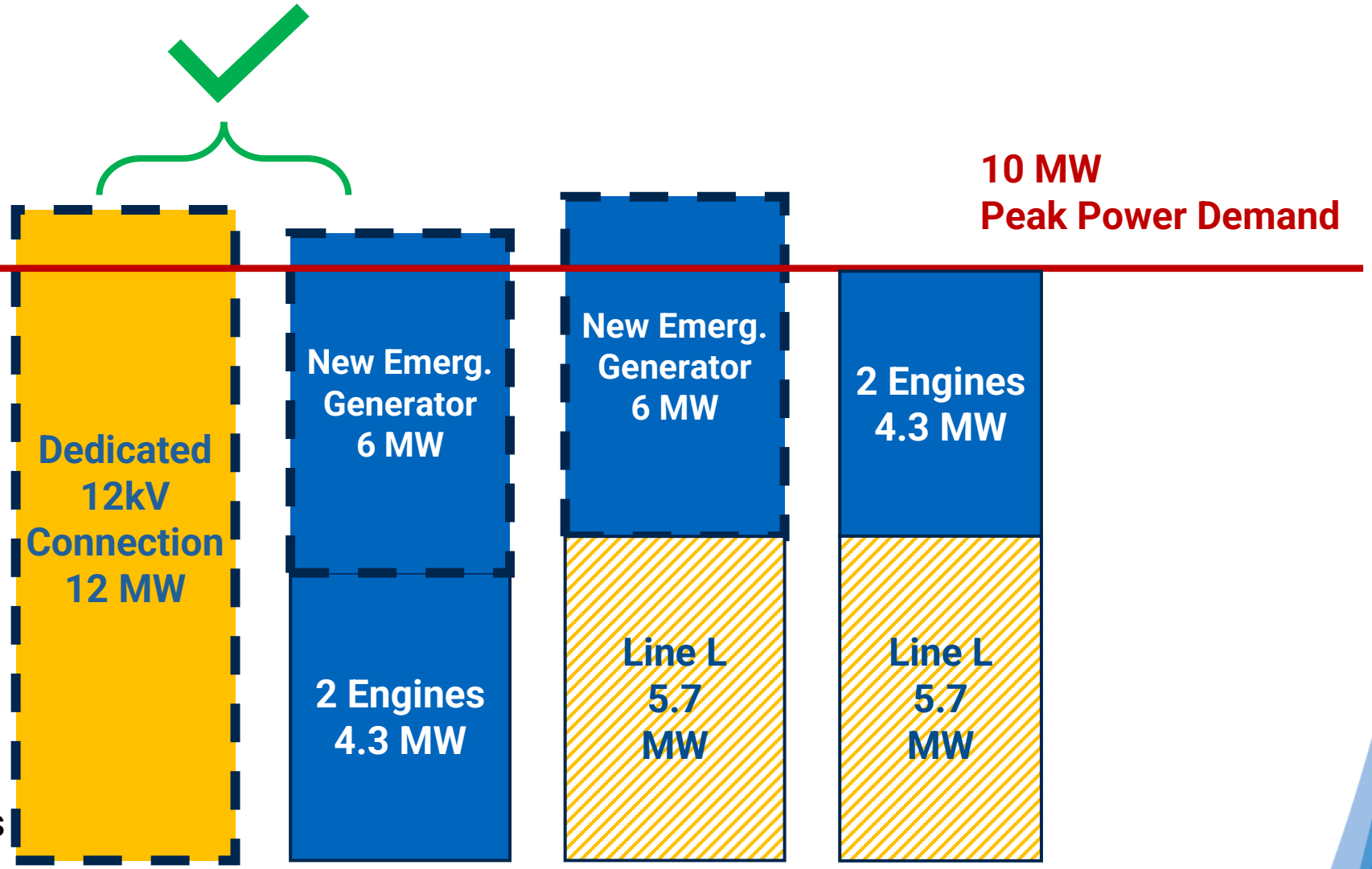


PG&E, **reliable** feed

PG&E, **unreliable** feed

On-site generation

Future Capital Projects



ERMP Recommended Electrical Reliability Improvements Project

- In CIP for FY 2026-2032, total estimate $25M
- Add redundant transformers where only one exists
- Replace deteriorated medium voltage cables

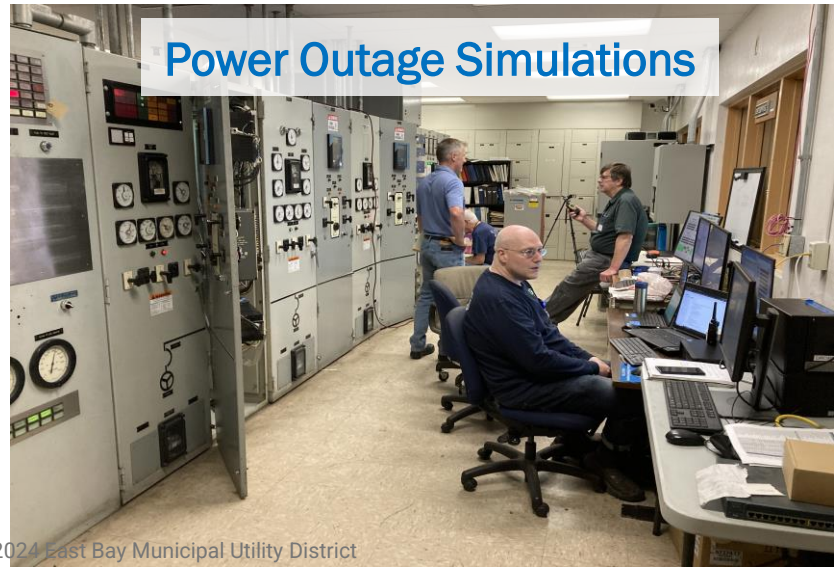
Existing configuration with only one transformer

Optimal configuration with two transformers

Ongoing Improvements Since 2020

New Black-Start Generator

Power Outage Simulations



New Voltage Regulators

Training On Load-Shed Controls

Next steps

- Obtain a dedicated 12kV PG&E line (FY 2026-2031)
- Install emergency generators (FY 2026- 2030)
- Complete Electrical Reliability Improvements Project (FY 2026-2032)
  - Transformers
  - Cables
- Ongoing training

Questions?

Orinda Water Treatment Plant Disinfection Improvements and Chemical Systems Safety Update and Agreement Amendments

Planning Committee

November 12, 2025

Ellen Heile, Assistant Engineer

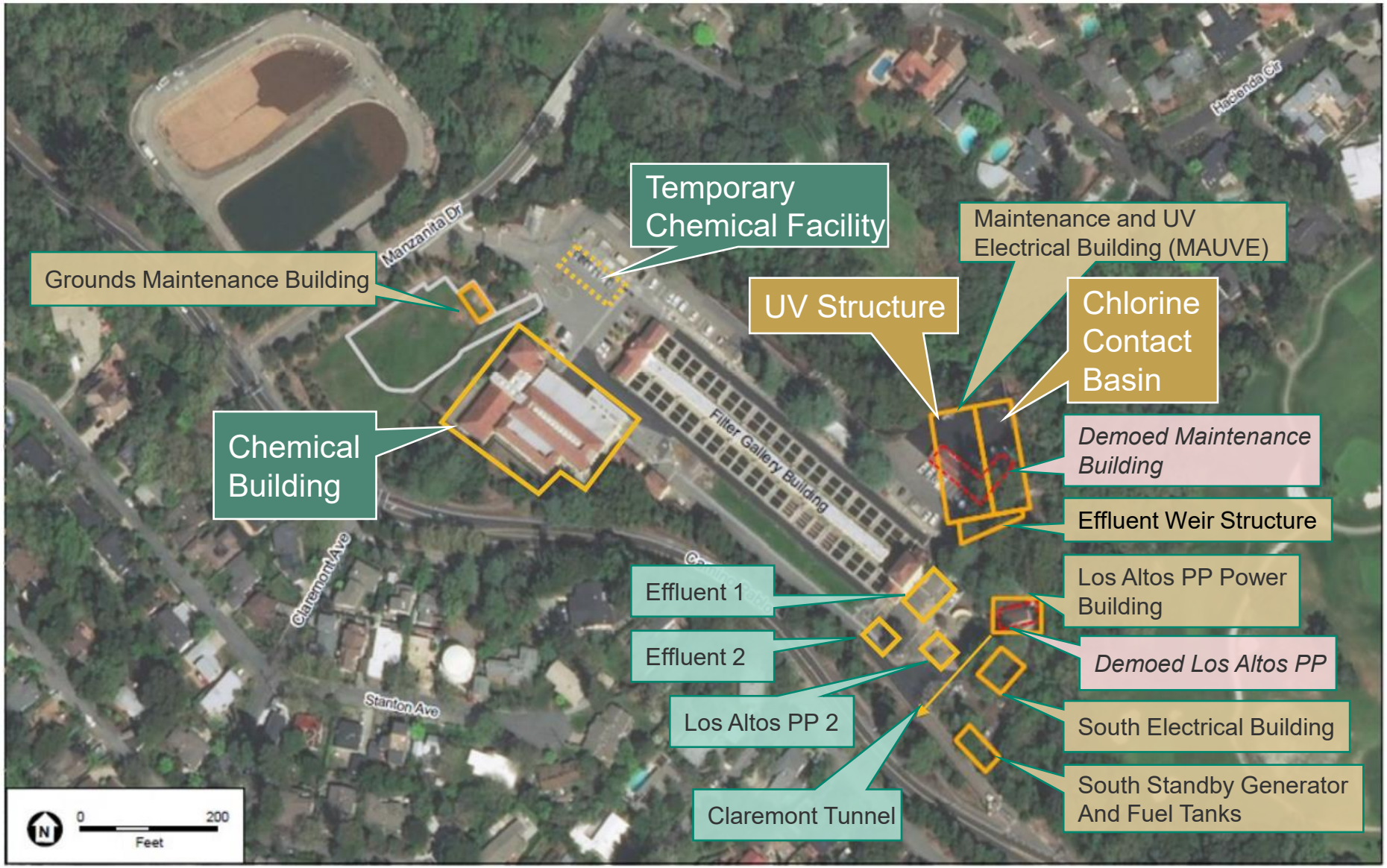
Agenda

- Project Overview
- District Blended Project Team
- Project Comparison & Change Order Status
- Next Steps

Contractor setting a section of 36-inch pipe in the UV/CCB

Temporary chemical system at Orinda WTP

Orinda WTP Project Site Plan



Orinda WTP Disinfection Improvements Project

- New post filter disinfection process
- Overhaul major electrical and back-up power systems

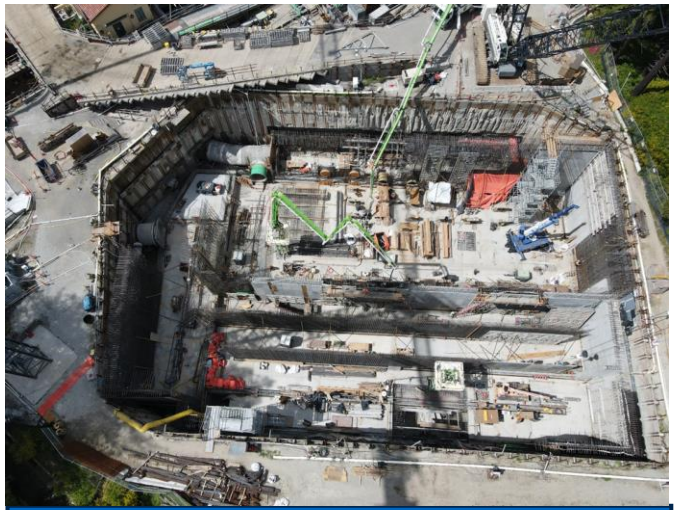
Why is this project critical?

- Improve robustness of treatment to 800,000 customers.
- Minimize disinfection by-products and improve reliability.
- Resiliency against climate change and changing water quality.

WTP = Water treatment plant
UV = Ultraviolet

UV Room (Rendering)

Maintenance and UV Building (Rendering)



New UV and Chlorine Contact Basin Structure

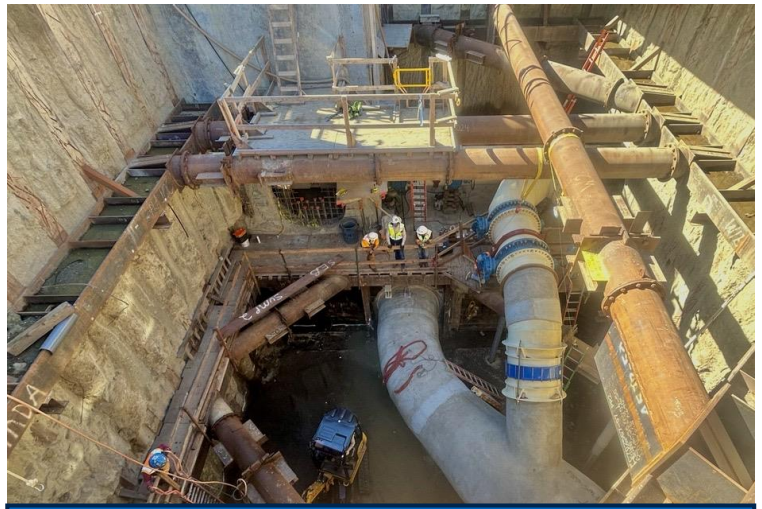
UV and CCB Structure Rebar and Piping

Orinda WTP Project Complexities

- Differing site conditions
  - → Some facilities in worse condition than expected
  - → Site conditions not as documented
- Completing construction at an in-service treatment plant
  - → Extensive temporary facilities
  - → Congested work areas and complex chemical piping
  - → Some systems could not be shut down until construction
  - → Coordination with other capital improvements

Unforeseen underground conditions at Sump 2

Temporary chemical lines tied into live lines



Temporary shoring supports an excavation around new 3’ and 9’ piping at Effluent 1

Key Takeaways

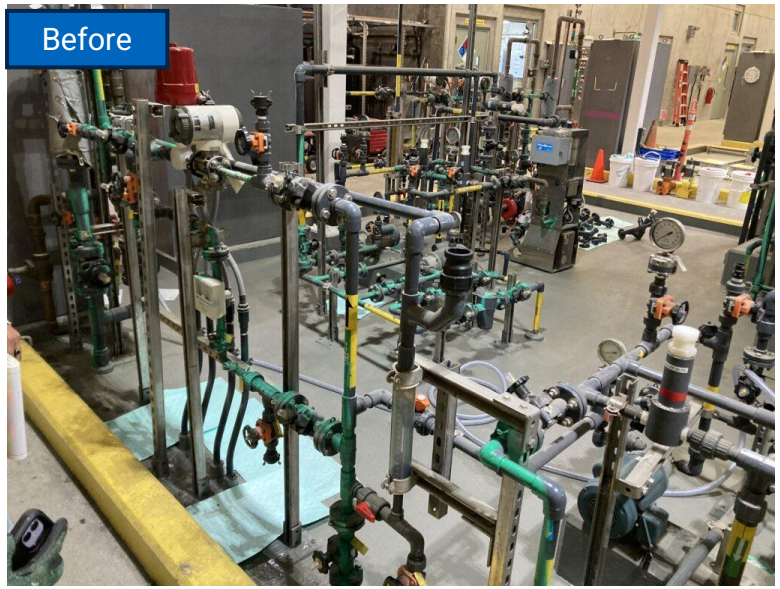
- These unique complexities require project support

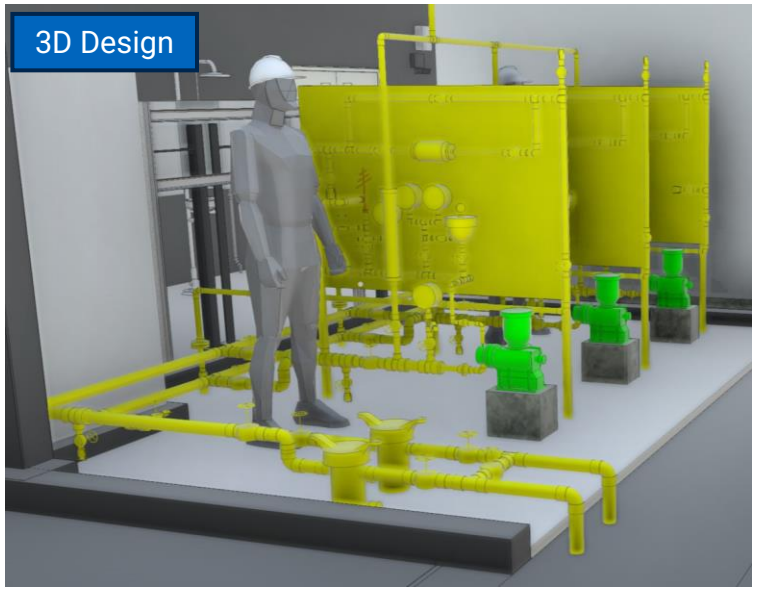
WTPs Chemical Systems Safety Improvements Project (CSSIP)

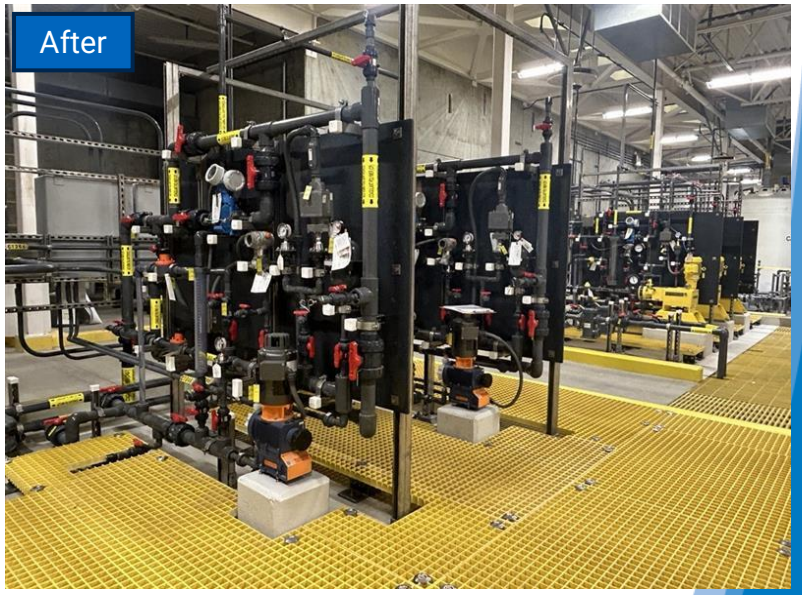
- Replace and upgrade chemical storage, feed, piping, and injectors
- Construct temporary facilities to maintain operation during construction
- HVAC, fire, electrical, containment, and seismic improvements
- Update all WTPs to current safety standards
- Stantec supports this part of the project

Why is this project critical?

- WTPs do not meet current safety standards
- Improved maintenance and reliability of chemical systems
- Reduced environmental hazards





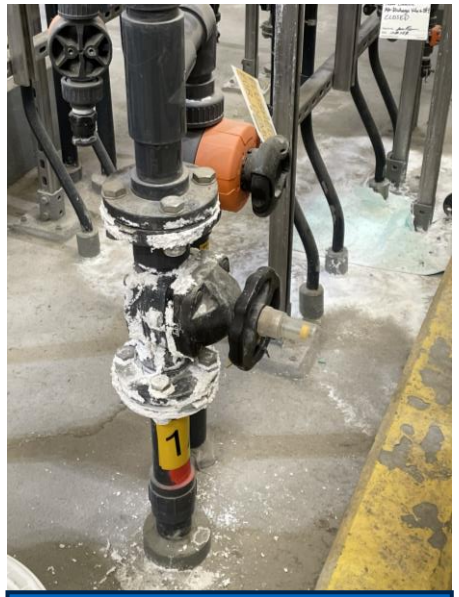


Orinda WTP Chemical Facility

WTP = Water treatment plant
HVAC = Heating, ventilation, and air conditioning

CSSIP Urgency

- Growing number of chemical system issues
  - Piping failures
  - Tank failures
- Requires outages for corrective maintenance
- 2017 Safety audit observed 61 separate deficiencies in safety, regulatory, or codes



Existing chemical system (leaky caustic pipe)

Failed tank at Walnut Creek WTP

Failed tank at Oakport

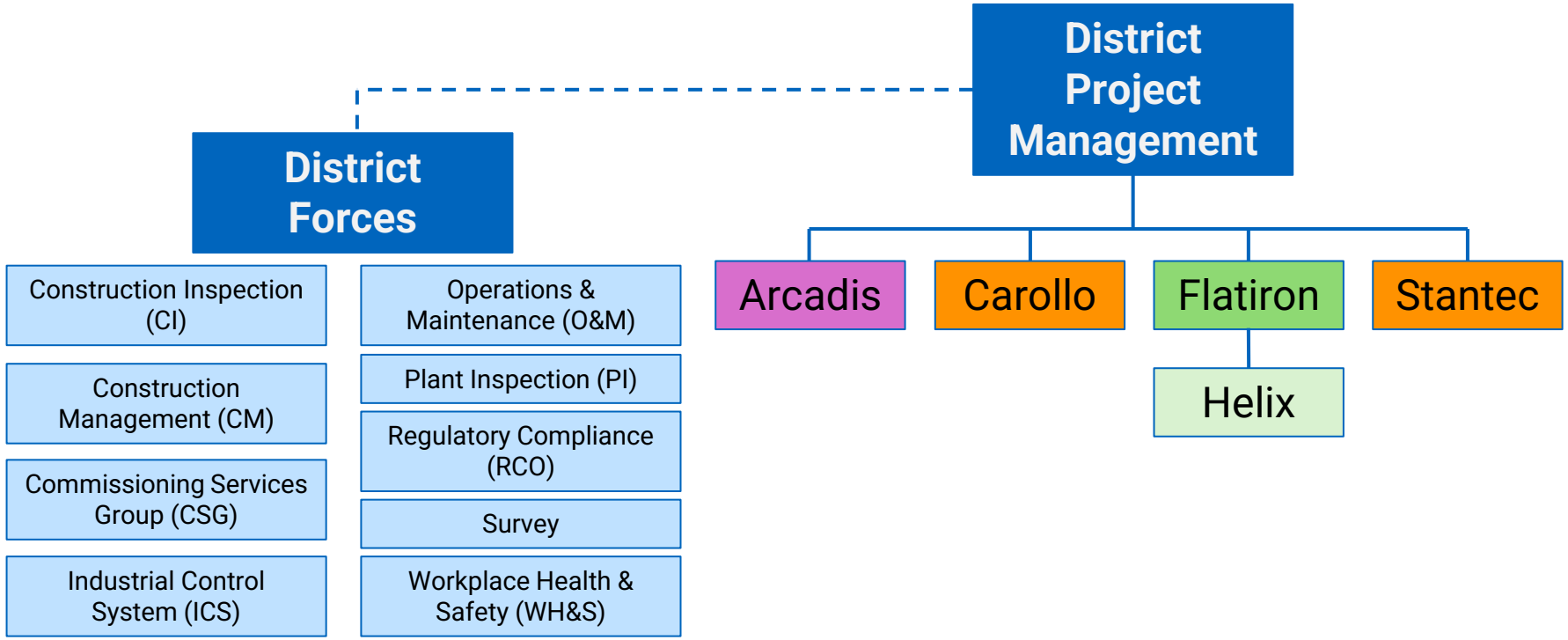
Key Takeaways

- Safety audit identified the need to make these chemical system improvements as soon as possible.

Chemical tank exterior

Interior conditions of tank found during construction

Project Team - Overview



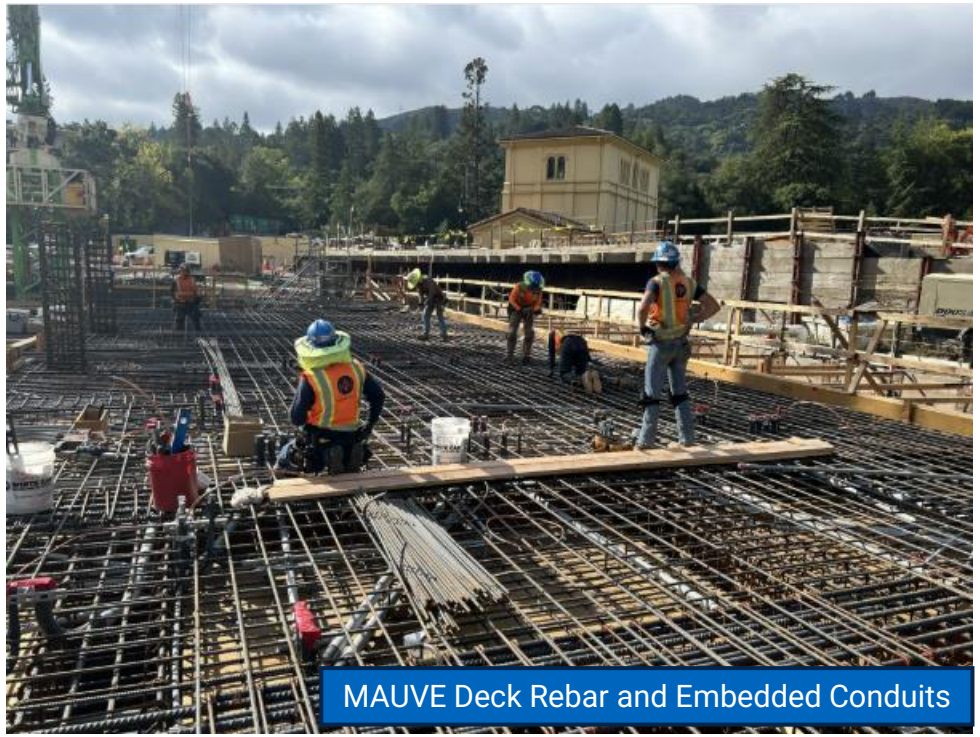
Highlights of Arcadis Team

Arcadis is currently providing 4 fulltime and 11 part-time team members to ensure construction quality

90” tunnel for pipe from Effluent 1 to Effluent 2

Example: MAUVE Deck

- Inspections of weekly concrete pours
- 33,000 pounds of rebar
- 1200 feet of conduit
- 200 cubic yards of concrete



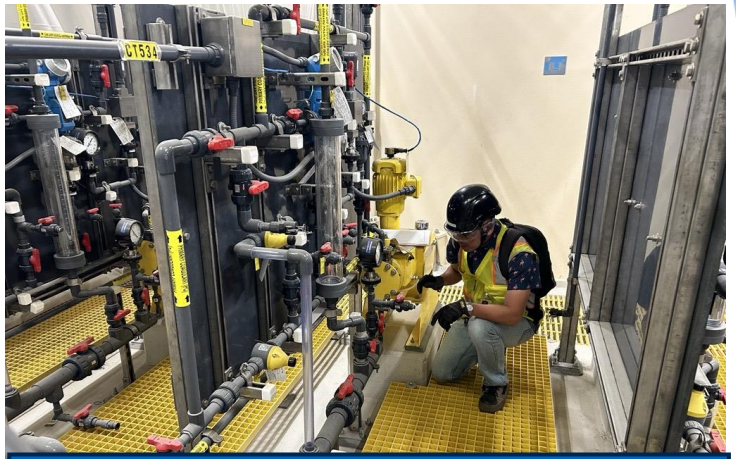
MAUVE Deck Rebar and Embedded Conduits

Example: Tunneling

- 320 feet of tunnels for 48"-108“ diameter pipe
- Crossing beneath critical live facilities

Highlights of Stantec Team

- Stantec is providing project team members with key subject matter experts during construction to ensure that design intent is met, and that we have a reliable, safe system.



Stantec Project Engineer checks equipment for a submittal review

Example: Power Routing

- Differing Site Condition: A spare conduit was unavailable
- Solution: Install new underground conduit, minimizing impact to operations.
- Phased design took advantage of concurrent construction in the area

Example: HVAC Air Unit

- Unforeseen Condition: Capacity of existing HVAC air unit was different than expected.
- Solution: Redesigned HVAC air unit with found conditions.
- Took the opportunity to design a section of HVAC to be more constructable and improve operations

Stantec Project Engineer discusses an RFI with the Contractor

Project Comparison & Change Order Status

Project	USL WTP Maintenance & Reliability and USL & Sobrante WTP CSSIP	Orinda WTP Disinfection Improvements & CSSIP	District 15-year Average
Make-up of Design Team	District-led design	Consultant-led design	
Total Bid Price	$237,332,710	$267,721,132	
Total CO Amount to Date	$9,545,052	$8,782,895	
% CO Amount to Date	**4.02%**	**3.28%**	**13.40%**
% Completion	64%	69%	

Key Takeaways

- Both projects are tracking well below the District 15-year change order average
- Change order percentage and costs to date are well below industry standard, which typically ranges from 10% to 15% of the total contract value for major construction projects

Next Steps

- November 25, 2025 Board consideration of following contract amendments:
  - $2.6 million amendment to ESDC agreement with Stantec
  - $4.5 million amendment to CM/inspection agreement with Arcadis
- Continue to incorporate lessons-learned from the Orinda WTP Disinfection Improvements and CSSIP into other current and upcoming District projects

View inside chemical building at Orinda WTP, showing wall of piping entering a chemical trench

UV/CCB Construction at Ground Level (structure continues 65-feet below ground)

Questions?