

Emergency Firefighting Water System



February 2026

SFFD – SFPUC Coordination



- SFFD Water Supply Officer – PUC Liaison
- SFPUC Response to greater alarm fires
- Quarterly training
- Annual large-scale exercise
- SFPUC Machine Shop service of SFFD portable water supply equipment
- SFWD - EFWS Team – Maintenance and support
- Capital Improvement and Planning Coordination





Multiple Layers of Fire Protection

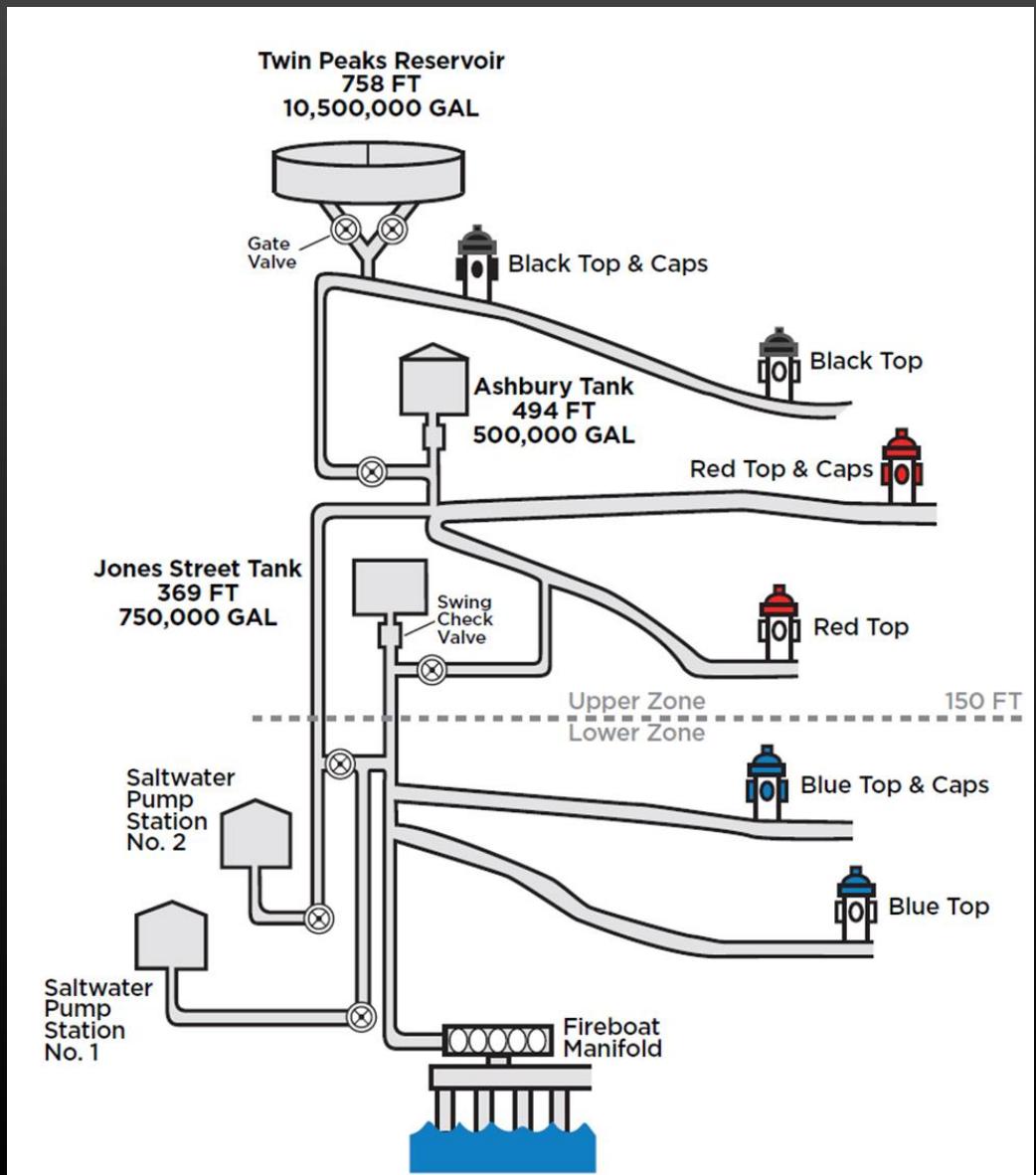
- **The standard pressure firefighting system**
 - 8,500 smaller white hydrants on every block
 - Connected to drinking water system
- **The Emergency Firefighting Water System**
 - 135 miles of resilient pipe
 - 1,500 high pressure hydrants
 - 2 saltwater pump stations
 - Fireboat manifolds
 - Saltwater suction hydrants along the waterfront
 - More than 180 cisterns which hold an average of 75,000 gallons of water
- **Future: Potable Emergency Firefighting Water System**
 - 16 miles of resilient pipe
 - Multiple sources of water for flexibility (including Lake Merced)
 - Dual Purpose adds drinking and firefighting reliability and resiliency and increases funding.



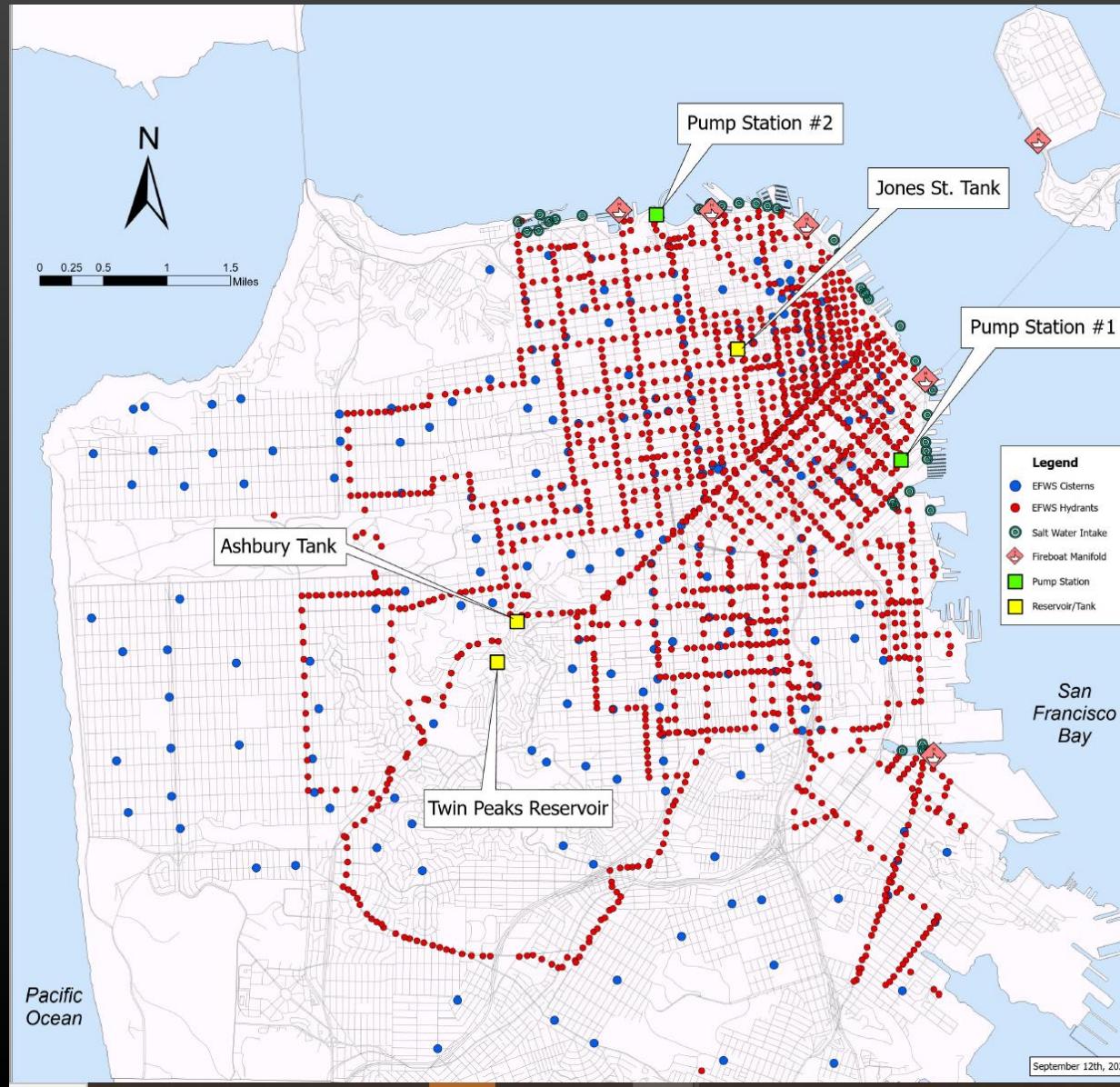
Emergency Firefighting Water System (Formerly AWSS)



- High-pressure fire-suppression water system
- Primary source of water: Non-drinking water tanks, reservoir, cisterns
- Backup source: pumped salt water
- Ownership transferred from SF Fire Department to SFPUC in 2010



Existing - Emergency Firefighting Water System

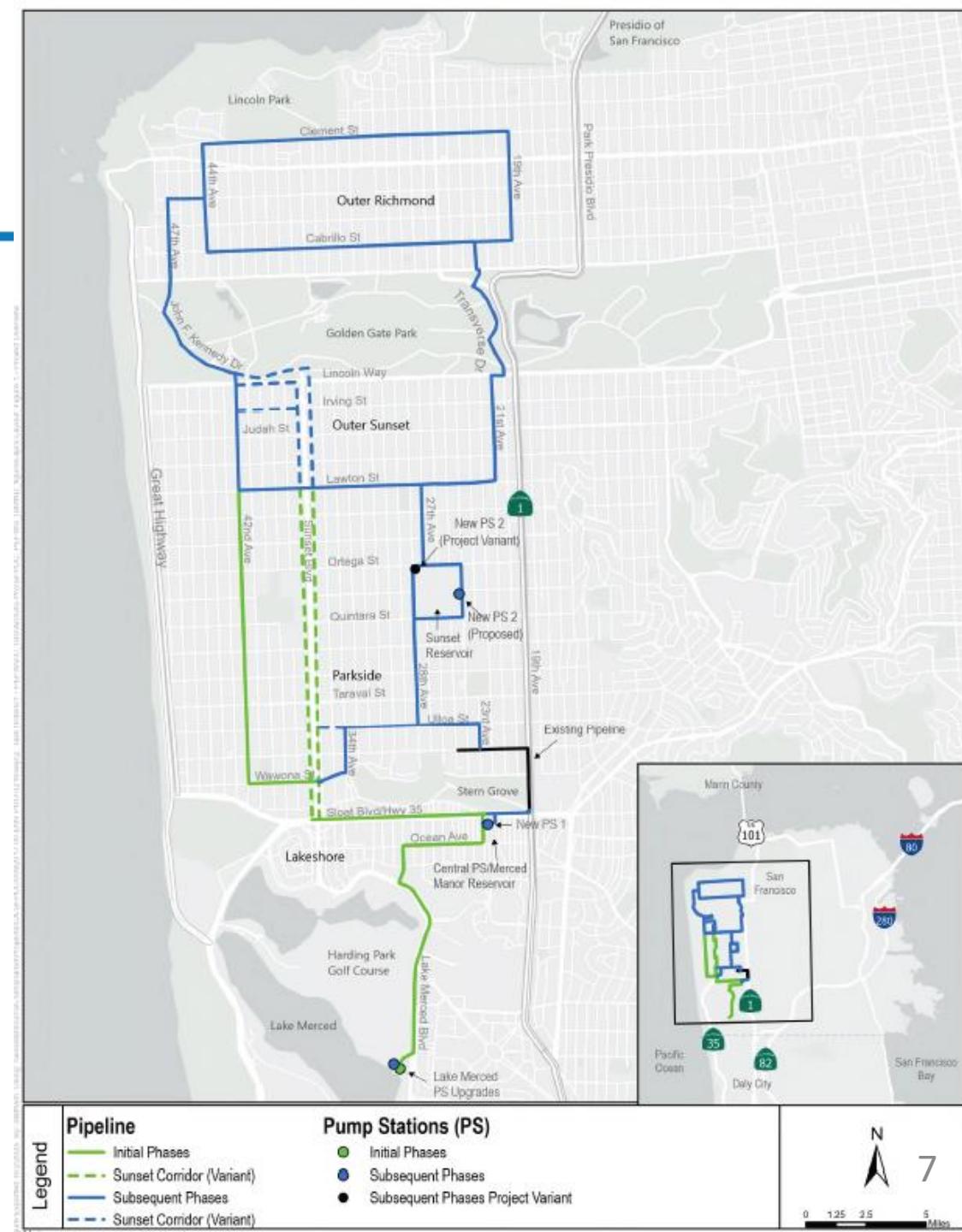


Potable Emergency Firefighting Water System

- Earthquake-resistant high-pressure water transmission pipeline within existing public right-of-way
- Serve drinking water and switch to high pressure firefighting water when needed.
- Multiple sources of water
- Back up water source would be Lake Merced.
 - Easy to access and weeks worth of firefighting water contained there.
- This system is being planned and developed in coordination with the San Francisco Fire Department.

PEFWS Alignment for Westside

- Green has been funded, underway.
- Blue – significant planning underway and future construction projects.
- Dotted lines are alignment variants. Multiple alignments are under consideration in design.

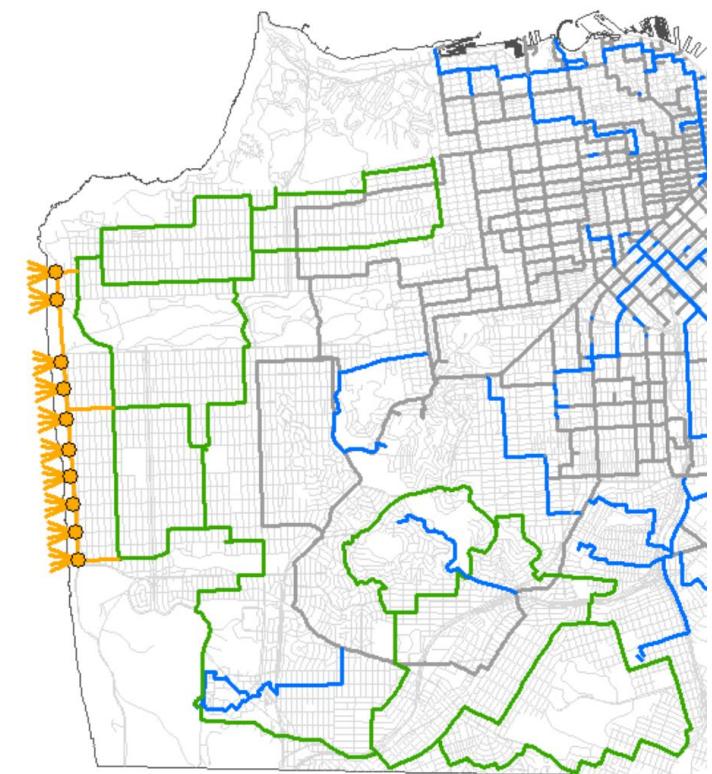


Potable EFWS - Preferred Alternative

- Uses existing water supply reservoirs and weeks of water supply in Lake Merced in an emergency.
- More cost effective and has immediate benefit to public safety as the system is built out over time.
- Using earthquake resistant ductile iron pipe or welded steel for seismic resilience.
- Detailed hydraulic modeling ensures that there will be sufficient water for firefighting and drinking.
- Water System Improvement Program (2014 to present) Level of Service (LOS) projects ensure water to our reservoirs within 24 hours after a major earthquake.
- Enables cost sharing from SFPUC

Why not Saltwater for the Westside?

- Existing pump station at Lake Merced. Lake Merced provides weeks of backup emergency water supply (as backup to potable supply)
- Ocean Beach has difficult construction and stringent environmental protection requirements
- Requires five to ten new pump stations, power, diesel backup, significant new infrastructure required along Ocean Beach
 - Difficult to permit/maintain/construct
 - Very expensive
 - Can't utilize SFPUC funds
- History:
 - SFPUC and SFFD thoroughly investigated 12 potential options for this system including saltwater and potable water.
 - Joint recommendation in 2018 was new Potable EFWS.



Legend

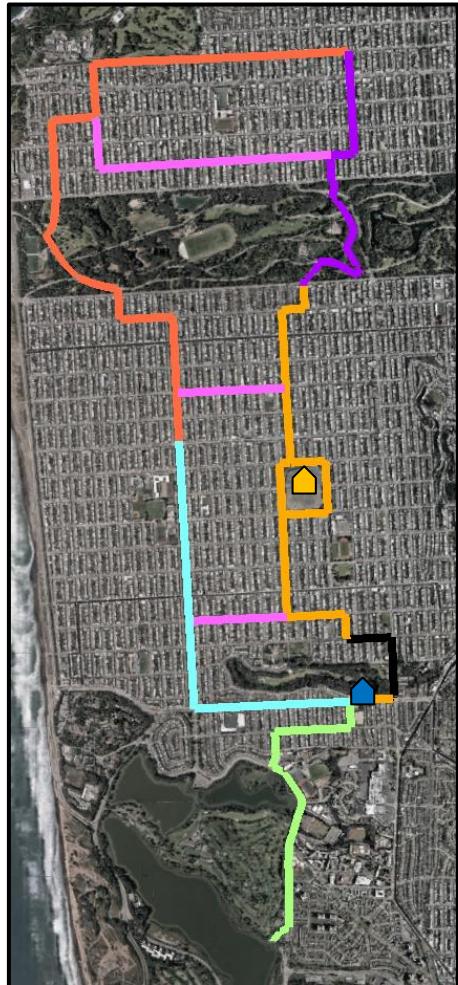
- Westside Seawater Well Station
- Westside Seawater Supply Pipeline
- Existing Conventional EFWS
- Future Conventional EFWS
- PEFWS
- Streets
- Shoreline

Funding

- Earthquake Safety and Emergency Response (ESER) General Obligation Bonds – approximately 25% of the total ESER bonds
- Match with SFPUC Water Capital Improvement Plan bonds.
- Cost sharing doubles the fire coverage/distance.



PEFWS Contract A Schedule Impact



ESER 2026							
2024	2025	2026	2027	2028	2029	2030	2031
Contract A - Design			Bid & Award	Contract A - Construction			
Contract B - Study		Contract B - Design	Bid & Award	Contract B - Construction			

• CEQA Appeal could delay schedule above and subsequent contracts by minimum of 6 months to 1 year

■ A – Lake Merced

■ B – Sunset West

■ Constructed

■ C/D - Richmond-GG

■ E – Richmond-GG

■ F – Sunset East

■ G – Loops/Connectors

■ Central Pump Station

■ Sunset Pump Station



Questions?