Lunch & Learn Webinar

SAN JOSE WATER

WELCOME

From **Source to Tap**

SJW System Operations Overview

APRIL 13, 2022

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Operations Superintendent

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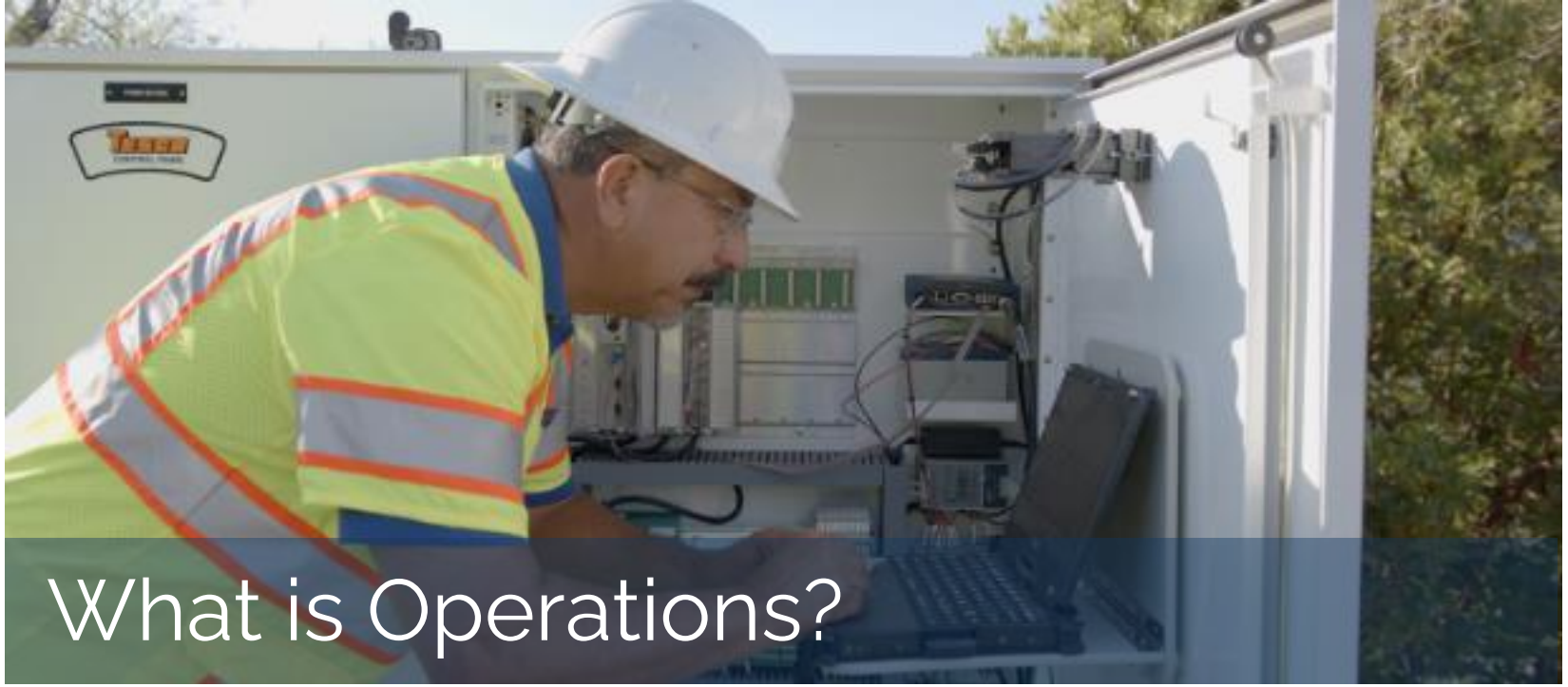
Operations Superintendent

AGENDA

- Welcome
- What is Operations?
- System Overview
- Sources of Supply
- SCADA System
- Water Distribution
- Pump Stations
- Water Quality Management
- Energy-Efficient Pumping
- Emergency Response



What is Operations?

- 24/7 Operation
- We wear many hats
  - Distribution System
  - Watershed
  - Water Quality
  - Energy Management

- Operations Group
  - System Operators
  - Electrical Group
  - Crews

SJW by the Numbers

2,460
MILES OF SERVICE MAINS

300+
BOOSTER PUMPS/WELLS

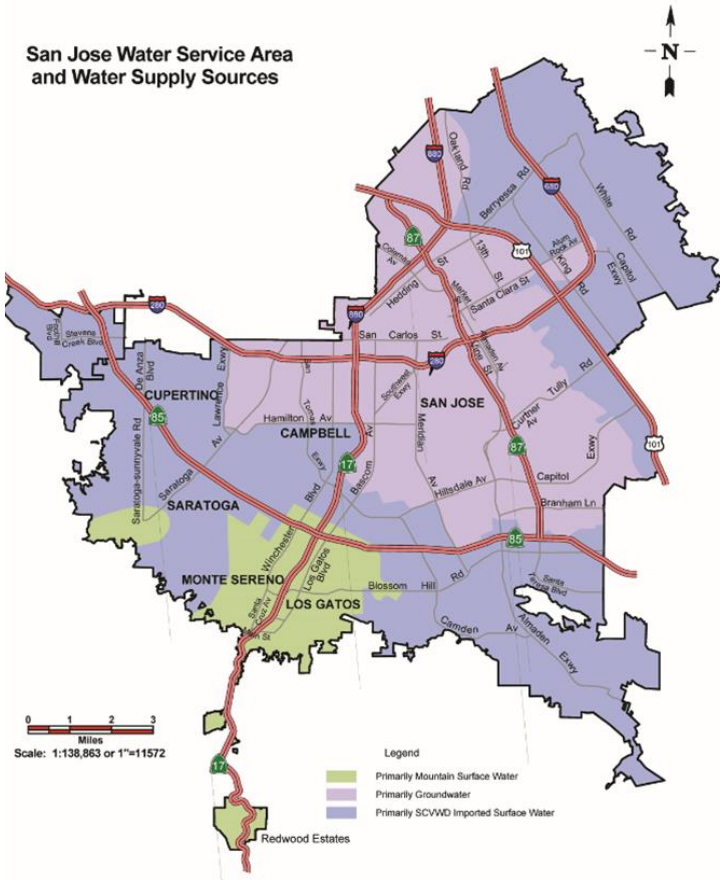
105
TREATED RESERVOIRS

1866
FOUNDED

231k
SERVICES

36.2
BG IN 2021

SJW Source of Supply



10% Surface

55% Imported

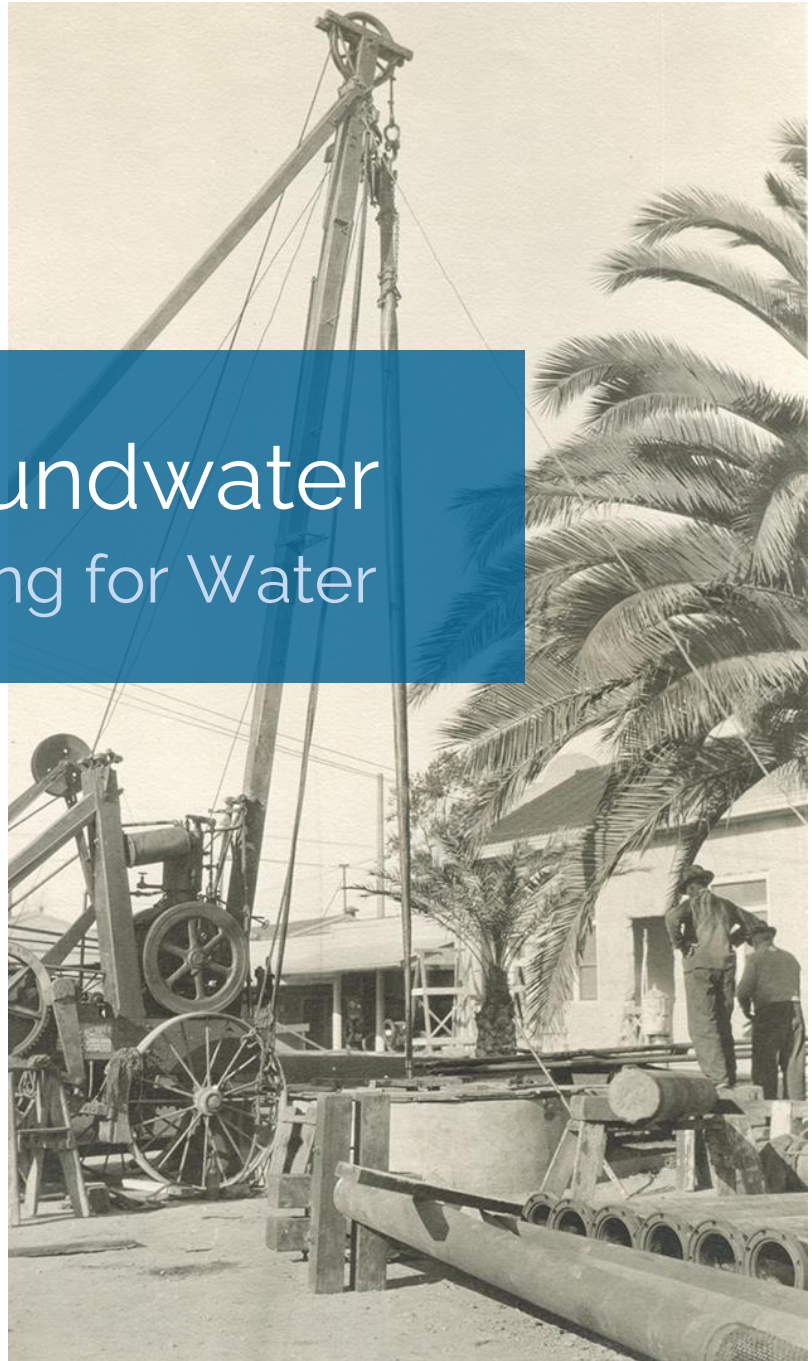
35% Ground

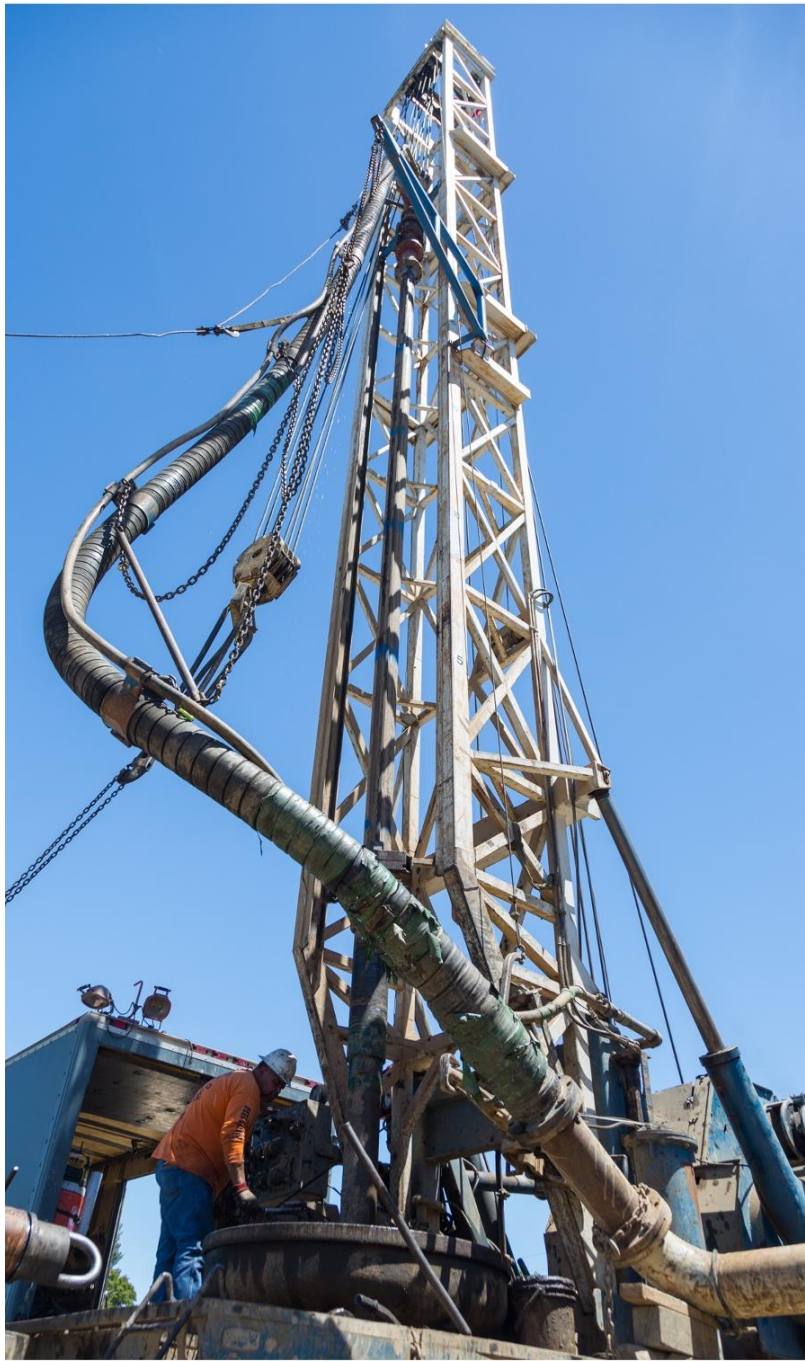
Imported Water

- Valley Water District formed in 1968
- Water wholesaler for the Santa Clara Valley region
- Flood protection agency, stewardship over local streams, creeks, groundwater basins
- Operates 10 local raw water reservoirs

Groundwater

Digging for Water







Groundwater

91 Groundwater wells

Flow: 1,000 to 3,500 GPM

On-Site Treatment Systems

Depth: 320 to 910 feet

Total Available: 170 MGD

Local Surface Supplies

Surface Water

6,200 Acres of Watershed

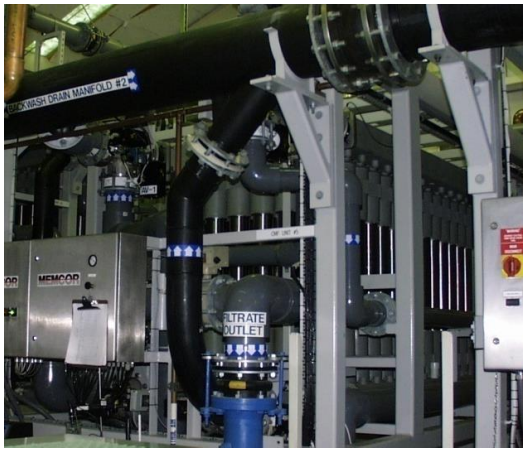
Lake Elsman (2,005 MG)

8 Raw Water Intakes

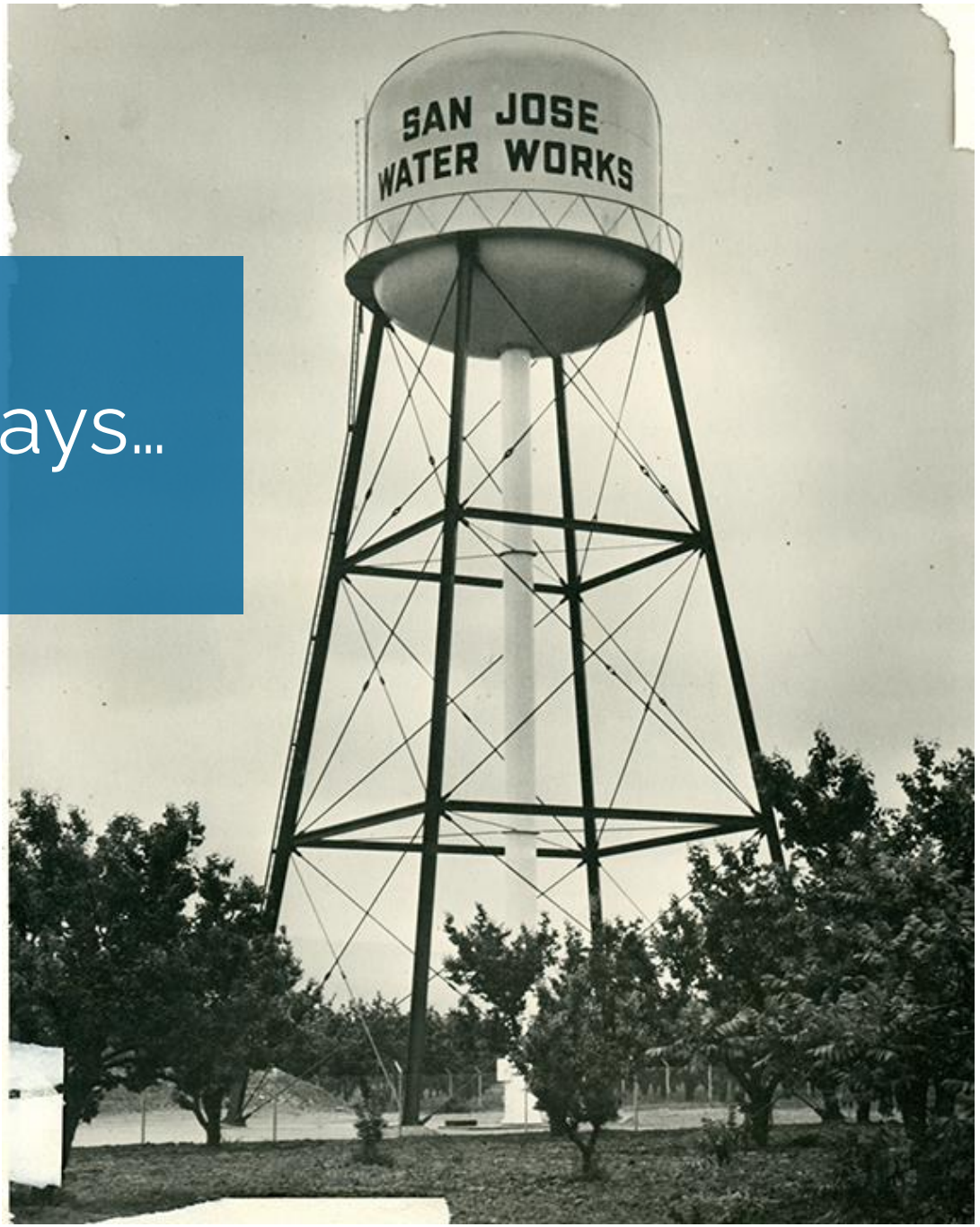
Lake McKenzie (70 MG)

Surface Water Filtration Plants

- Montevina Filter Plant (Los Gatos, 30 MGD)
- Saratoga Filter Plant (Saratoga, 5 MGD)
- Howell Filter Plant (Los Gatos, 14k GPD)



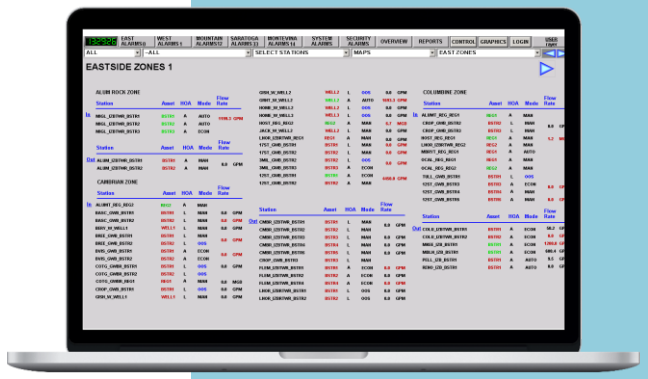
Back in the Old Days...

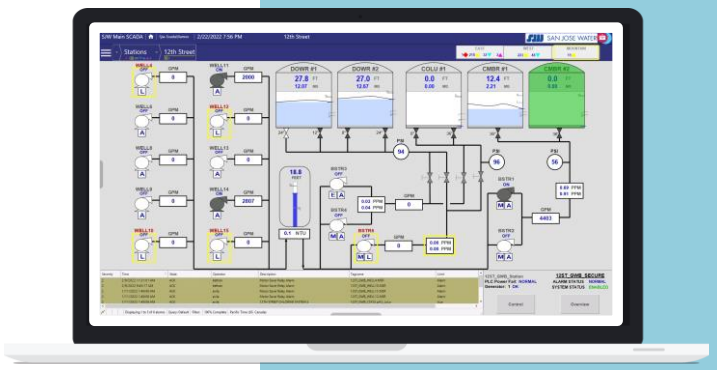


SCADA System

(Supervisory Control and Data Acquisition)

- Leading U.S. urban water management system
- Real-time monitoring & control of 105 reservoirs & 300+ pumps
- 50,000+ information points
- Real-time water quality monitoring, including hazmat & environmental compliance
- Automated energy management

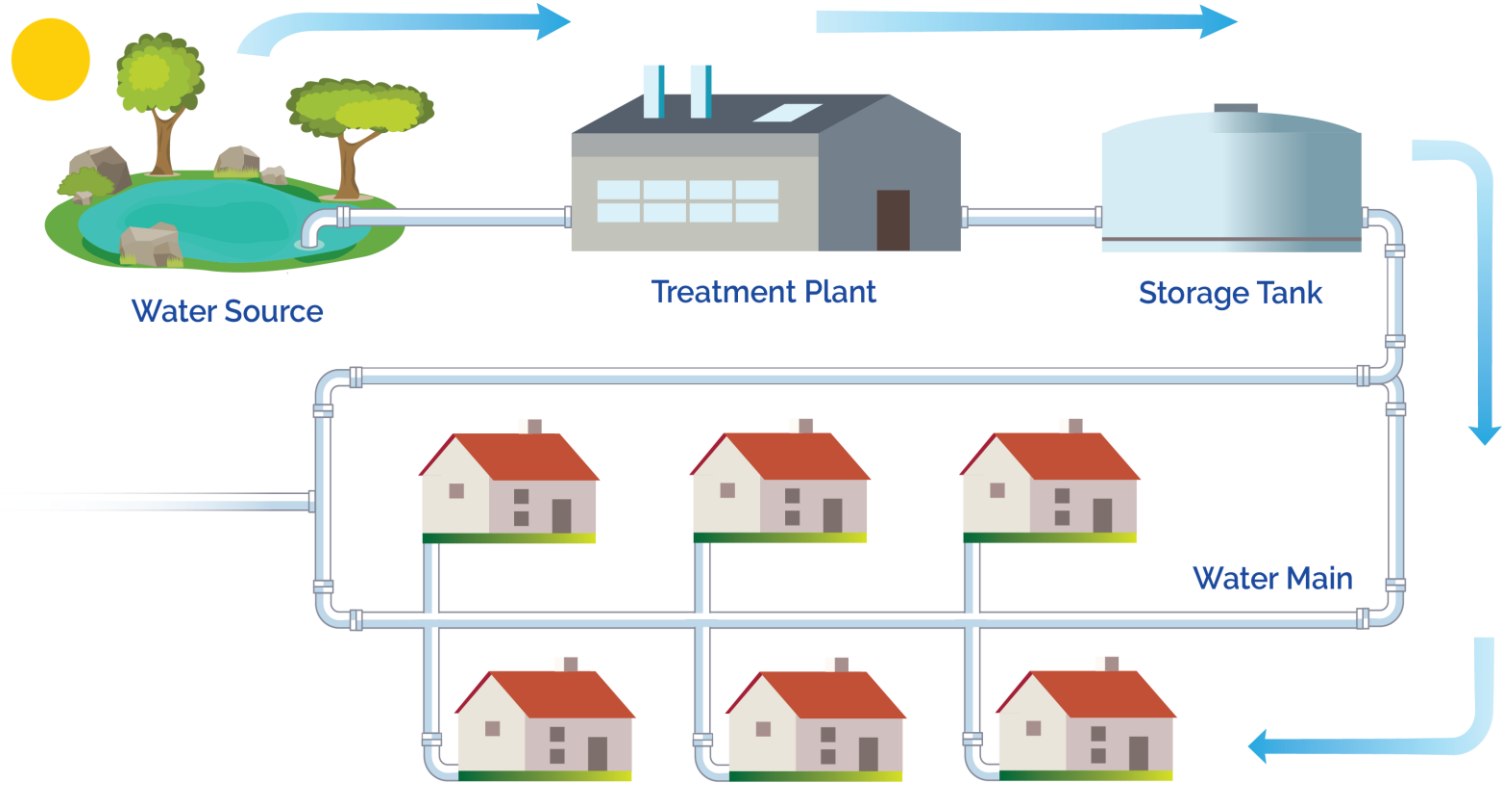




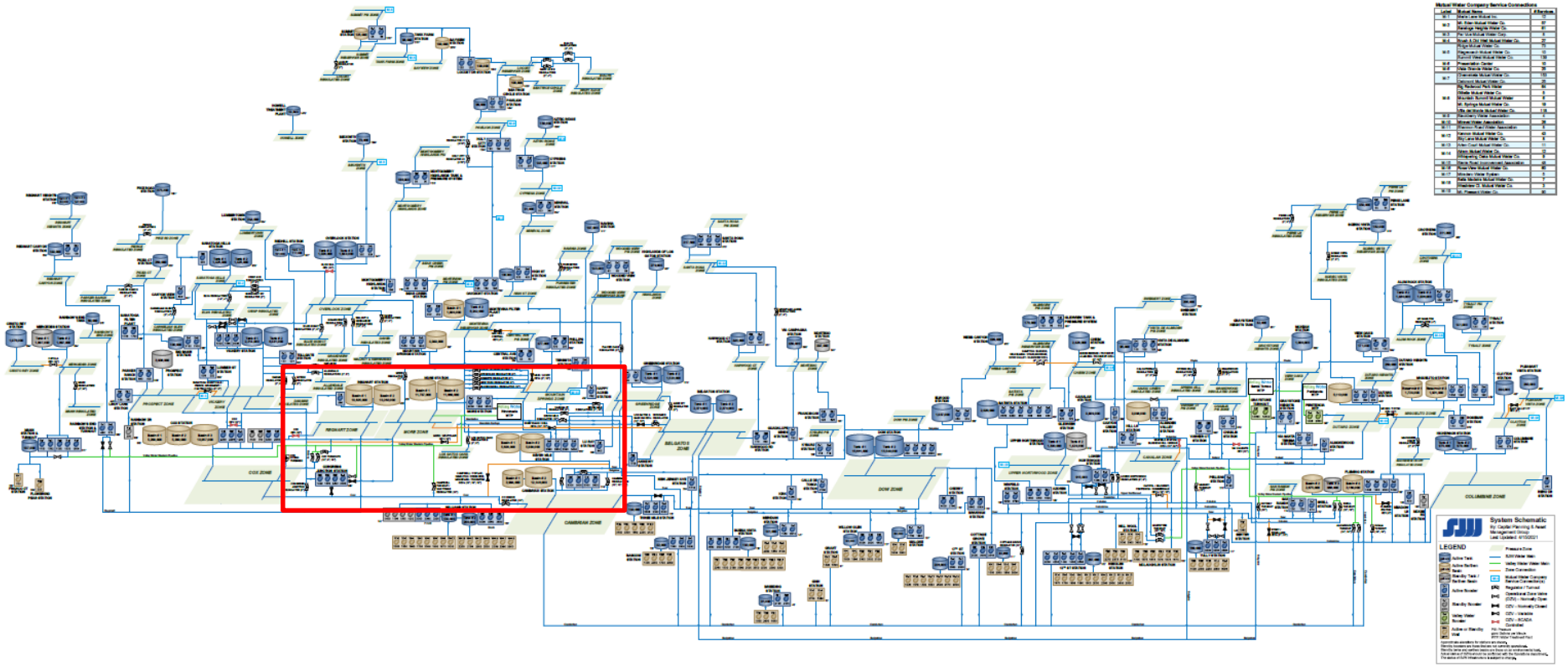
Behind the Scenes

- 28-member Operations team oversees 140 sq miles of infrastructure including 300+ wells and boosters, 105 reservoirs, and 100 pressure zones
- 24/7 monitoring with 99.9% reliability

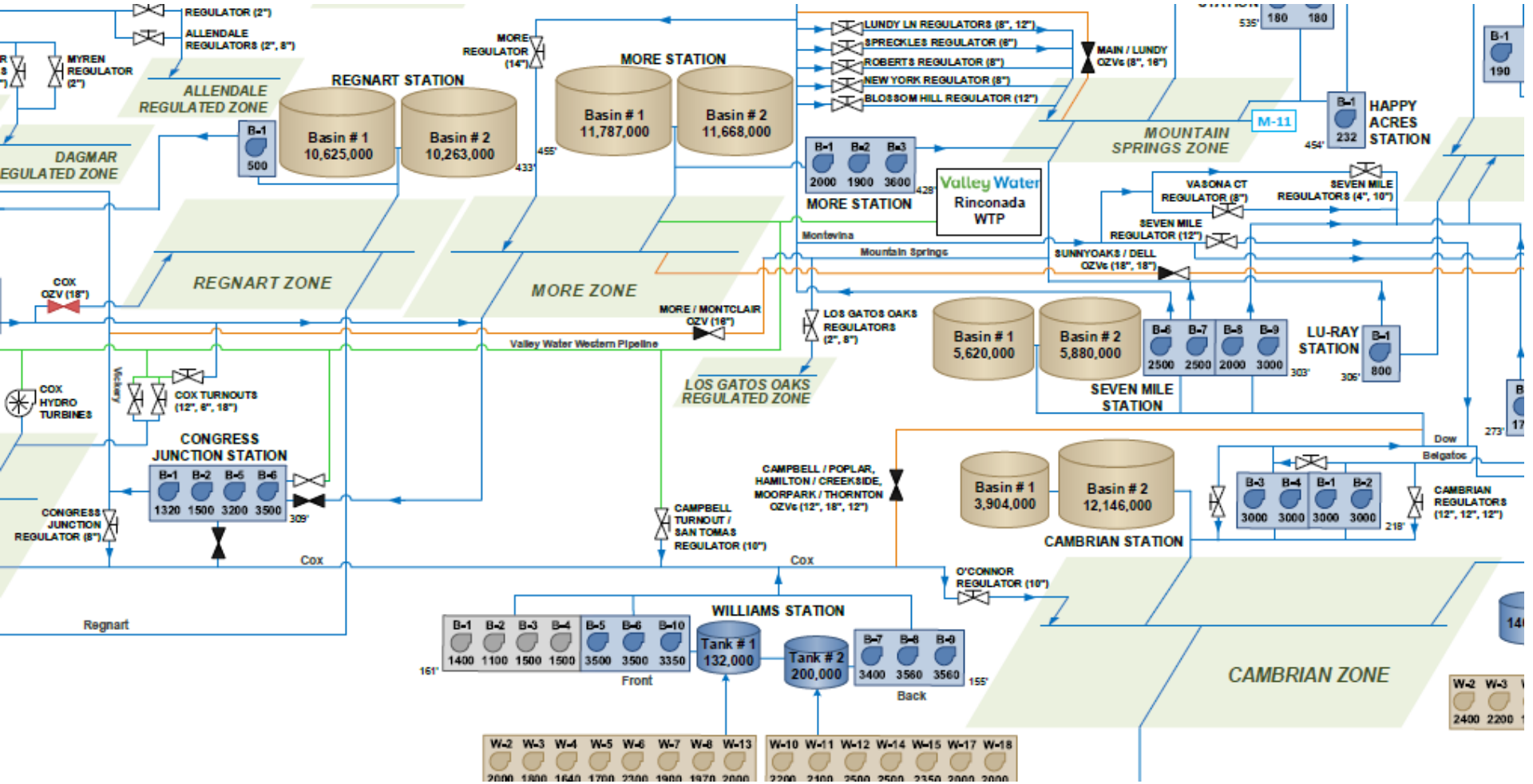
Water Distribution System



SJW's Water Distribution

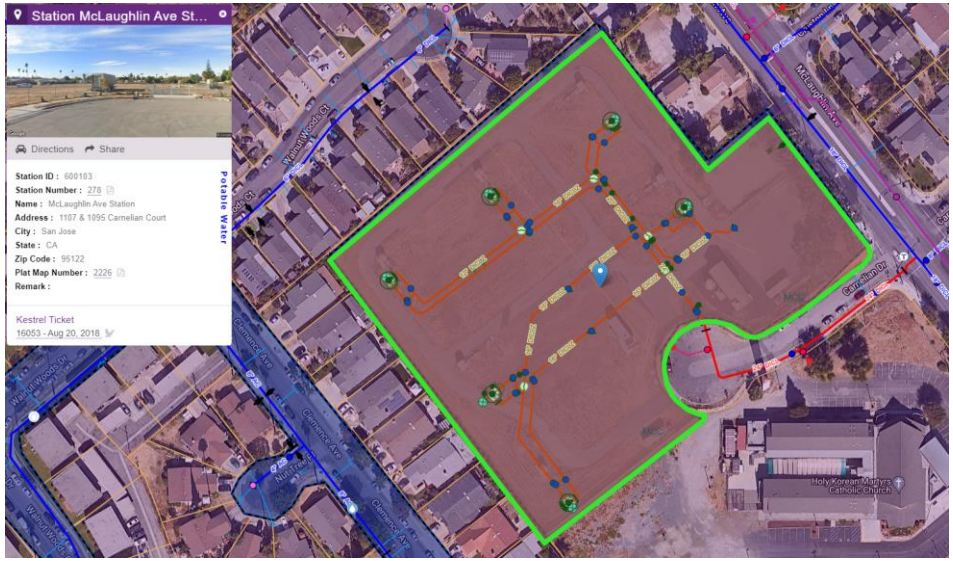


SJW's Water Distribution

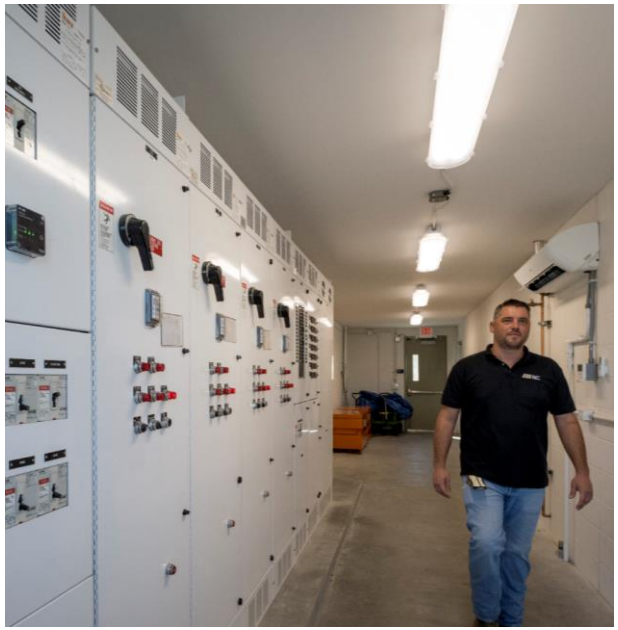


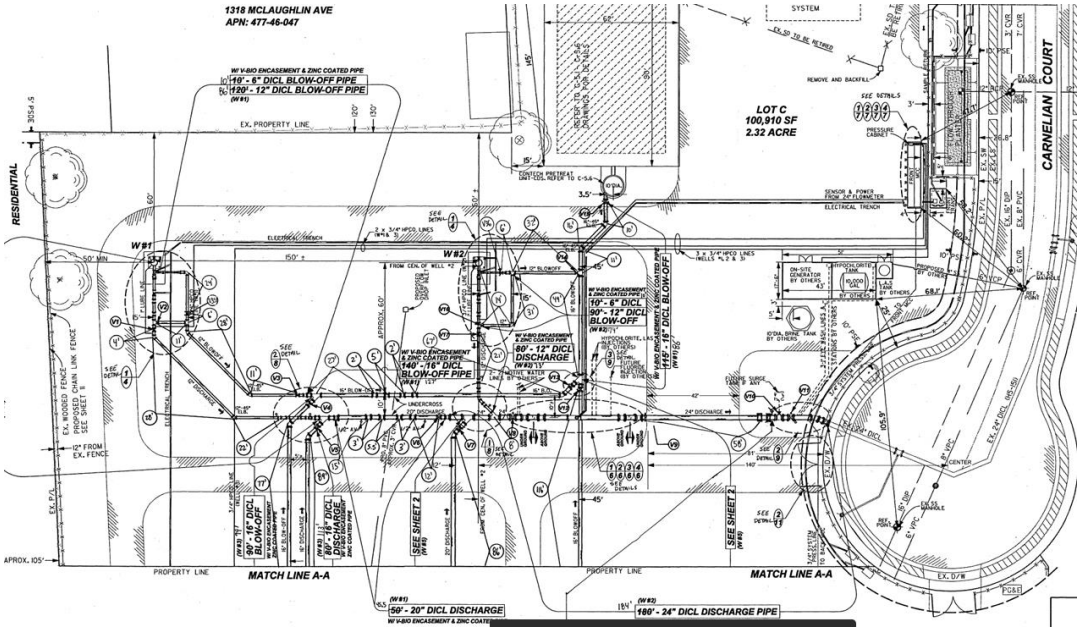
Operation Stations

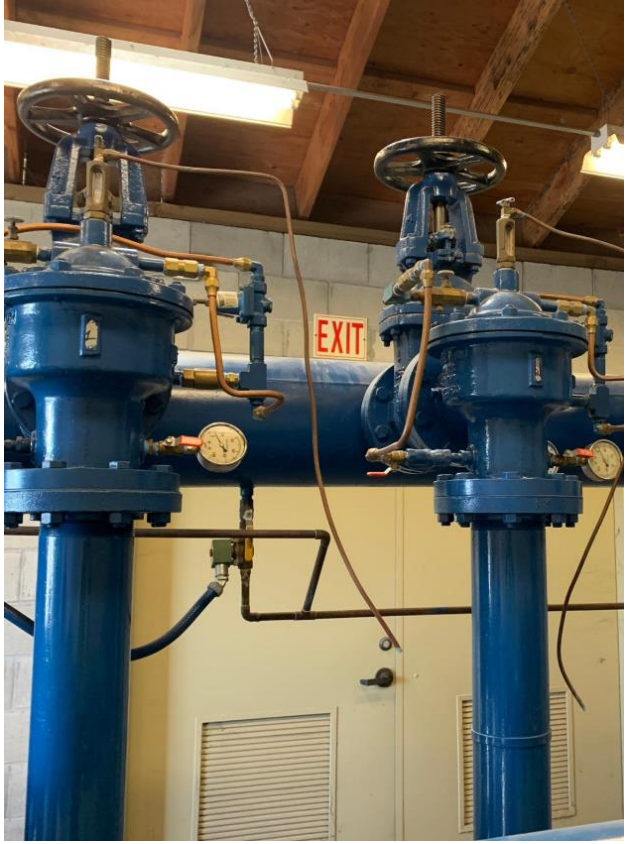
190+ stations provide supply and move water through the system


Station McLaughlin Ave St...
Directions
Share
Station ID : 600103
Station Number : 278
Name : McLaughlin Ave Station
Address : 1107 & 1095 Carnelian Court
City : San Jose
State : CA
Zip Code : 95122
Plat Map Number : 2226
Remark :
Potable Water
Kestrel Ticket
16053 - Aug 20, 2018
McLaughlin Ave
Carnelian Dr
Holy Korean Martyrs Catholic Church


B2




1318 MCLAUGHLIN AVE
APN: 477-46-047
LOT C
100,910 SF
2.32 ACRE
CARNELIAN COURT
RESIDENTIAL
EX. PROPERTY LINE
W #1
W #2
MATCH LINE A-A
MATCH LINE A-A
PROPERTY LINE
PROPERTY LINE
SEE SHEET 2
SEE SHEET 2
50' - 20" DICL DISCHARGE
180' - 24" DICL DISCHARGE PIPE



Operation Stations (cont'd)

- Pressure Systems
- Regulators
- Intakes & Turnouts

Water Quality Management

- Goal: keep water as natural as possible, while maintaining the highest water quality
- Minimizing reservoir “water age” reduces chemical use
- SCADA enables 24/7 quality monitoring & real-time intervention
- Disinfectant isolation & residual monitoring keeps water safe

Water Quality Management (cont'd)

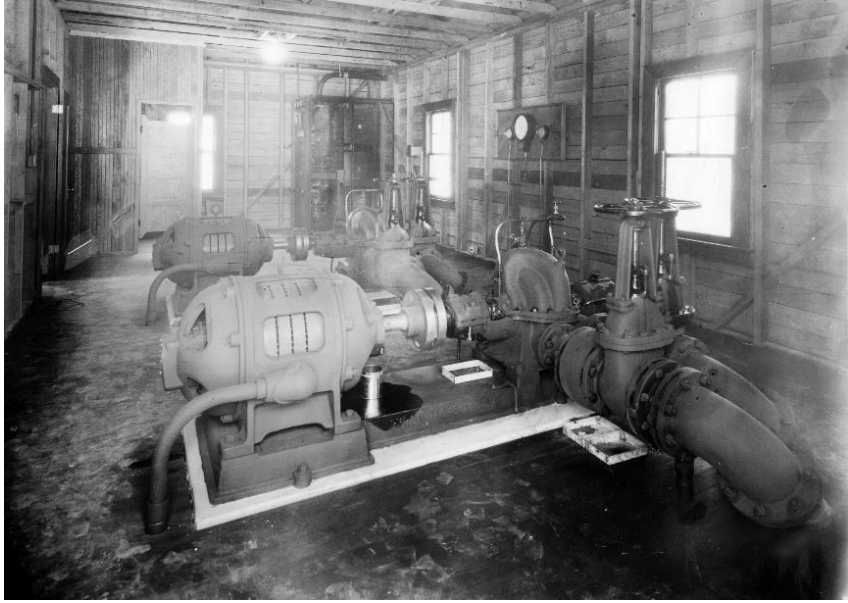
- Scheduled tank inspections & cleaning minimize microbial growth
- Remote operated vehicle program increases efficiency and cuts costs

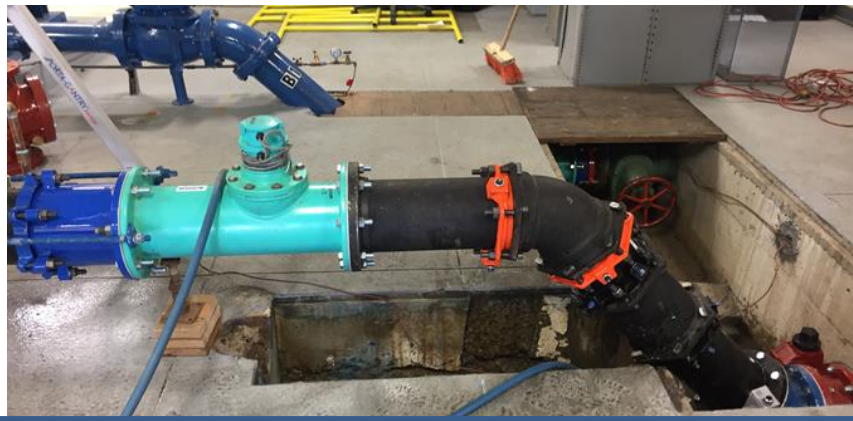
Water Quality Management (cont'd)

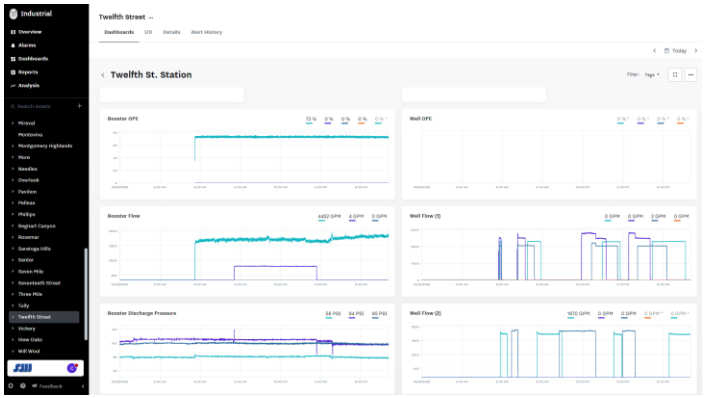
CHLORINE GENERATION SYSTEMS

Asset Management

- Careful planning keeps our 157-year-old system state-of-the-art
- Operations optimizes the useful life of 6,000+ useful assets through 12,000 ongoing preventative maintenance tasks
- Enterprise Asset Management (EAM) system reduces costs







Energy-efficient Pumping

- IOT technology monitors pumping efficiency in real-time
- Reducing energy costs is good for the environment and our customers
- SCADA integration optimizes energy use with “time-of-use factoring” pumping strategy

Emergency Response

- Always ready to respond
- PSPS Events
- Natural Disasters
- Import Supplier Shutdowns
- Pandemics
- Emergency Partnerships

Questions?

Thank You!

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