PUBLIC WORKS DEPARTMENT

SEMI-ANNUAL REPORT – APRIL 20, 2022

MOUHAMAD ZAHER
PUBLIC WORKS DIRECTOR

SHARON DARROUX - ENGINEERING MANAGER
DAVE ELDER - PUBLIC WORKS SUPERVISOR
BUCK TUPPER - FACILITIES MAINTENANCE SUPERVISOR
AARON KUNDERS - WATER QUALITY MANAGER



PRESENTATION OUTLINE

Water Quality Division

- New Organizational Structure
- Department Efficiencies
- Accomplishment
- Future Projects

Facilities & Joint Maintenance Division

- New Division
- Training Investment
- Infrastructure
- Behind the seen work.
- City Projects

Operations Division

- Division Projects
- Team Pride
- Accomplishments
- City Solutions
- Unseen Projects/Work

Engineering Division

- Engineering Services
- Universal FEE Schedule
- Accomplishments
- 2022 Goals
- Engineering the future

Water System Leakage

- Current System
- Issues/Challenges
- New System
- Benefits.
- Cost

PUBLIC WORKS DEPARTMENT MISSION

The City of St. Helens Public Works
Department Strives To Provide A World
Class Service To Our Citizens & Community.

Action Oriented Team That Provides Essential Public Services Promptly, Efficiently & Effectively.

WATER QUALITY DIVISION

TWO FACILITIES UNDER ONE DEPARTMENT ALREADY PAYING OFF

- Both facilities use the same chemicals
 - In the Bleach shortage in 2021, both facilities-maintained disinfection with no interruption
 - Both plants use the same chemical.
 - Will be able to tote bleach to the Water Filtration Facility if needed.
- Chemical Pumps
 - New chemical pumps will work at both locations
 - Only difference is the tubing size
 - One set of spare parts
 - New style makes it easier to control the dosage
 - Less than half the price of the pumps originally installed.





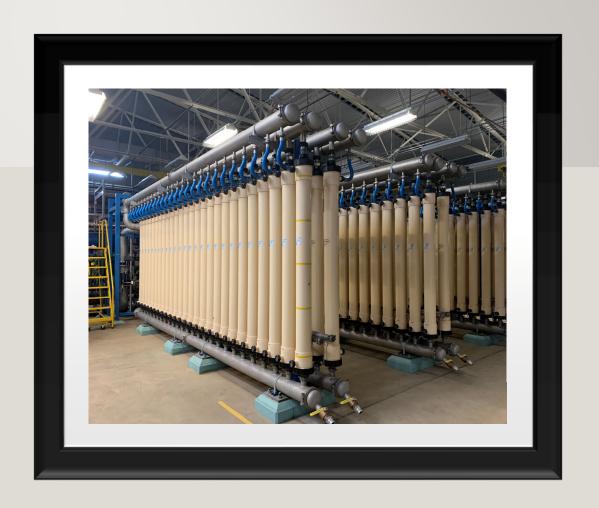
SCADA UPGRADE

PROJECT WAS FINISHED IN LATE DECEMBER

- BOTH PLANTS CAN BE MONITORED FROM THE SAME LOCATION
- NEW HARDWARE AND SOFTWARE KEY FOR CONTINUITY OF OPERATIONS
- THIS PIECE OF CRITICAL INFRASTRUCTURE IS NOW ON THE LATEST SOFTWARE
- NEW, MORE SECURE REMOTE ACCESS

FUTURE PROJECTS

- Membrane Replacement
 - Typical life expectancy of 10-15 years.
 - Ours are the original and 16 years old.
 - Still making excellent water and showing no signs of failure.
 - Will replace one rack a year for the next five years.
 - The key to the plant running optimally is being proactive with maintenance and replacement.



FUTURE PROJECTS

- Move Disinfection System
 - Currently pumps move bleach through 150 feet of piping
 - New system will be within 15 feet of injection point, reducing chance of failure dramatically
 - The new pumps connected to the new SCADA will make operation much simpler and more predictable





FUTURE PROJECTS

- Headworks Screen Rebuild
 - Two screens were installed in 2010
 - Each screen cleans 150-200 cans of garbage out of the sewer each year
 - The manufacturer will send out a technician and repair/replace needed parts
 - This will add a number of years of service at a fraction of the replacement cost of the screen.



RESPONSIBILITY

 Maintenance and construction of City facilities and maintenance of City fleet vehicles and equipment.



FACILITIES MAINTENANCE

300 plus completed work requests since the inception of the PW maintenance service request system. A constant list of requests is prioritized and scheduled, increasing customer service and response time. Over 30 facilities are maintained by I FTE and assistance from P/W operations. Proudly, these tasks have been completed with 0 injuries or accidents.











COMPLETED PROJECTS

- Remodel Community Center- flooring, trim, restrooms and concrete work
- Auditorium at Library- remove/install all seating for carpeting
- Halloweentown-every year several repairs to props
- Rec Center-cabinets, sinks, plumbing
- Building new offices at city hall
- Remodel upstairs at P/W ops building
- Dalton lake kiosks, benches and signage







The remodel of city hall took a once cluttered and unorganized space and turned it into a flowing, functional and professional space. Thanks to the skillset and talents of the public works team the estimated savings on this project by not using contracted labor was over \$200,000 dollars.



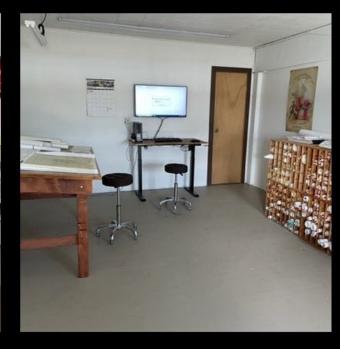


FACILITIES MAINTENANCE BUILDING

Created an office and lunch/meeting room for the facilities and maintenance team out of a building used for storage of outdated items. This space was created on a very low budget and is now an operating building.





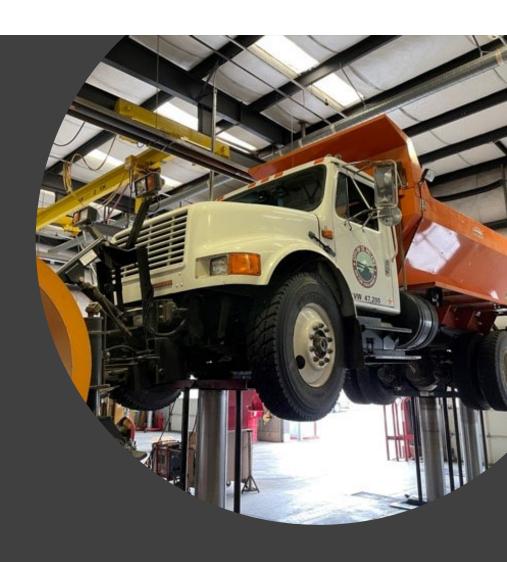


Public Works Upstairs

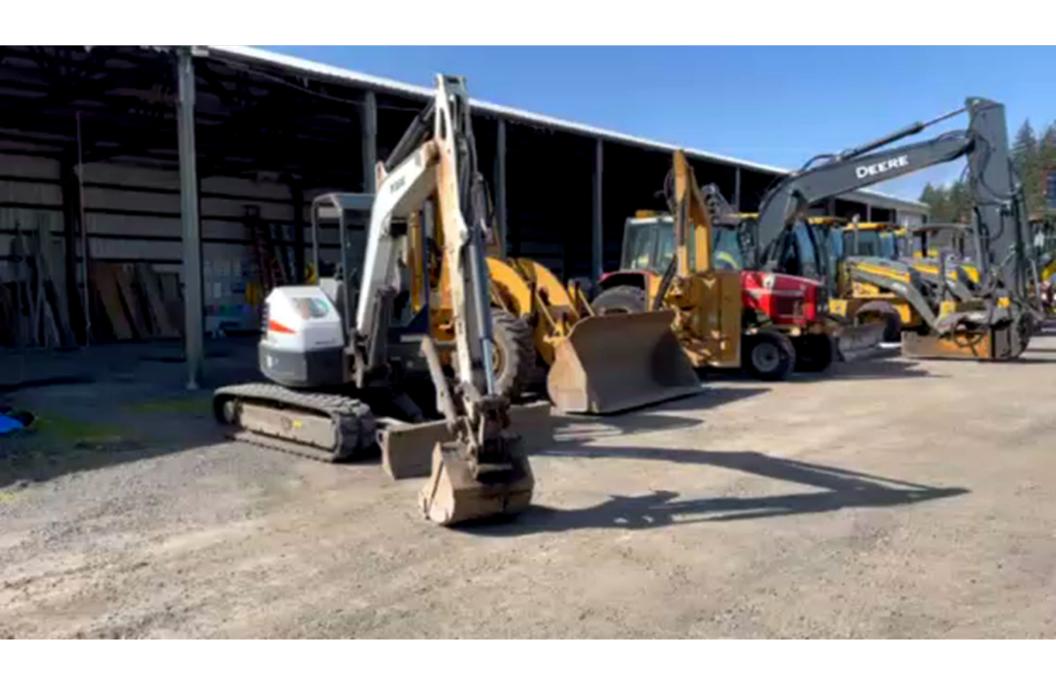
• Remodeled cluttered space into 2 organized highly functional spaces for GIS mapping, backflow testing and inventory storage.

FLEET MAINTENANCE

Two full time mechanics maintain 153 pieces of equipment ranging from dump trucks to chainsaws. Over 100 equipment repair requests have been completed since the inception of the PW maintenance service request system. Mechanics have gone over 2 years without injury or accident.

















PUBLIC WORKS OPERATIONS

THE MISSION OF THE DEPARTMENT IS TO ENHANCE AND SUSTAIN THE LIVABILITY AND OUALITY OF LIFE FOR CITIZENS IN THE COMMUNITY OF ST. HELENS.

WORKING EFFICIENTLY AND EFFECTIVELY TO FULFILL THE GOALS AS SET BY THE CITY COUNCIL AND PUBLIC WORKS DIRECTOR.



 Our Team: Supervisor, Field Supervisor/Safety Coordinator, Water System Operator, and Office Assistant/Dispatcher.

 Eight crew members are cross trained in water distribution, sewer/storm collections, roadway maintenance among many other responsibilities throughout the City.

 PW Operations always has someone on standby for calls afterhours 24/7.



PW OPERATIONS: TRAINING

- Our crews stay up to date on a wide variety of specialized safety and health training requirements:
 - Confined Space
 - Traffic Control and Flagging
 - Aerial Lift
 - Incident Command System (ICS)
 - Customer Service
 - Water Distribution Certifications
 - Collection System Certifications
 - Backflow & Cross Connection Specialist Certifications

PUBLIC WORKS OPERATIONS IS RESPONSIBLE FOR A WIDE VARIETY OF ACTIVITIES INVOLVING THE DEVELOPMENT AND MAINTENANCE OF THE CITY'S INFRASTRUCTURE, WHICH INCLUDES:

Streets, Sidewalks, Gutters

Storm Drainage

Sewer Collection

Water Line Construction and Maintenance

Traffic Control
Device
Maintenance

Street Signage and Striping

Safety of City Public Rights-of-Way





PW OPERATIONS: PRIDE

- Public Works Operations crews take pride in every project they are given.
- If it's cleaning up a vacant city lot to clearing out the Highway 30 strip making it more inviting for people coming into our city.

PW OPERATIONS: SOLUTIONS

- Ashwood Storm Ditch Improvements
 - A hot spot for flooding.
 - We produced a plan to make the overflow of storm water travel with more ease and away from homes.











PW OPERATIONS: UNSEEN WORK

 Our work is often behind the scenes, you may not even think about them until they are repairing or maintaining a water, sewer or storm line in front of your home.



PW OPERATIONS: PROJECTS

Outstanding Performers - Sanitary Survey

 We received an award for one of the Outstanding Performers in the State of Oregon.

Umatilla Water Line Installation

PW Ops crews installed a new 6" water main, this saved the city thousands of dollars doing it ourselves.

Elk Ridge Pump Station On-Line

Bringing this new Pump Station on-line helps to boost water pressure to homes in the Elk Ridge sub-division.

North 11th Valve Repair

Pre-planning and excellent crew were able to accomplish this repair in 2 hours.



PW OPERATIONS: LOOKING FORWARD

Ridgeway Loop Storm Ditch Improvements

 Hard piping the open storm ditch for less maintenance and better storm water flow.

Tualatin & South 22nd Water Main Replacement

• Installing a new 6" water main, connecting South 22nd to Dubois Lane for better fire flow and distribution of our water system.

I 00 Block of North 9th Water Main Replacement

Replacement of the existing old small water line with a new upsized mainline.

Storm Water Swale Preparation

• PW Ops crews continue work on the storm swale near the newly install sports courts for better storm water detention and flows.

Godfrey Park Canyon Storm Water

 Public Works Operation crews looking to help the storm water outfall flows into the canyon.

ENGINEERING DIVISION

WHAT WE DO AND THE SERVICES WE OFFER



ENGINEERING BY THE NUMBERS

All Managed by a Team of Three!



Public and Private Public Improvement Construction Projects Managed 35

Public & Private Public Infrastructure Inspections 220

Permits 30

\$53,600 Saved
Performing
In-House
Design

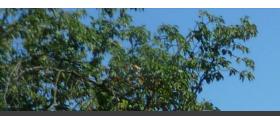
Over \$30,000
Received for Plan
Review / Public
Improvement Permits

Over \$1,400
Received since
January for
R-O-W Permits

ENGINEERING FEE CHANGES

Engineering Fees have not been updated since 2003 – resulting in an estimated revenue loss of approximately \$1.2 Million Dollars in just the past ten years alone!





GOALS ACCOMPLISHED 2021 – 2022

- COMPLETED: Waterline Improvements on Tualatin St, Little St, Deer Island Rd, and N 7th St
- COMPLETED: Wastewater Master Plan Update
- COMPLETED: Stormwater Master Plan Update
- COMPLETED: 2022 Asphalt Patching
- COMPLETED: Abandonment of Storm Drain on Milton Way and Replacement of Failing Storm Structure at the WWTP
- COMPLETED: Water Master Plan Update (Adoption Set for May 4th)
- Ist Draft: Mercury TMDL Implementation Plan For The Willamette River Watershed
- Design Complete: S 3rd & Tualatin Sewer Replacement
- In Design: Water Main Replacements for 2022 2023
- Managing Public Improvements for the Broadleaf (Gable Rd) Apartments and the Columbia Commons Commercial Subdivision
- Formation and Continued Training to Maintain a High Performing Engineering Team
- Improved customer communication through the City's website

INCREASED EFFICIENCY & CUSTOMER SERVICE

ENGINEERING
DIVISION EMAIL
ADDRESS ONLINE
AND ON FORMS
ENSURES NO
MISSED
COMMUNICATIONS

ENGINEERING
WEBPAGE
UPDATED WITH
MASTER PLANS,
PERMIT FORMS,
DETAIL DRAWINGS,
& DESIGN MANUAL

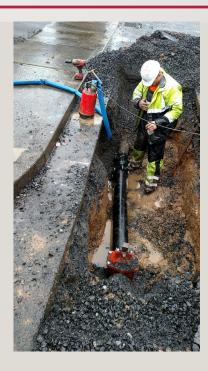
CROSS-TRAINING
ENSURES WORK STILL
GETS DONE EVEN WHEN
A TEAM MEMBER IS OUT
OR HAS A HEAVY
WORKLOAD

PROJECT HIGH LIGHTS

WATERLINE IMPROVEMENTS Tualatin Street and Little Street





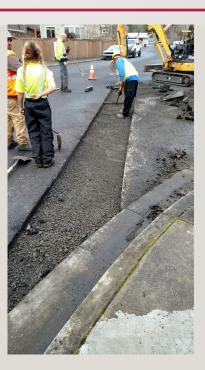




ASPHALT TRENCH PATCHING Campbell Park and Other Miscellaneous Locations









STORM DRAIN ABANDONMENT & STRUCTURE REPLACEMENT









COMING UP





WATER MASTER PLAN

- On the May 4th Regular Session Agenda for Adoption
- Fire Flow Demands
- Seismic & Emergency
- Capital Improvement Plan





CURRENT WATER SYSTEM LEAKAGE

City owns ~ 4500 -5000 Meters.

Meters constantly break and needs to be replaced.

We typically order ~200 meters every few months to stay a head of the faulty one's.

Reading the meters is labor intensive.

Takes a whole week to get a reading.

Outdated technology.

Time consuming.

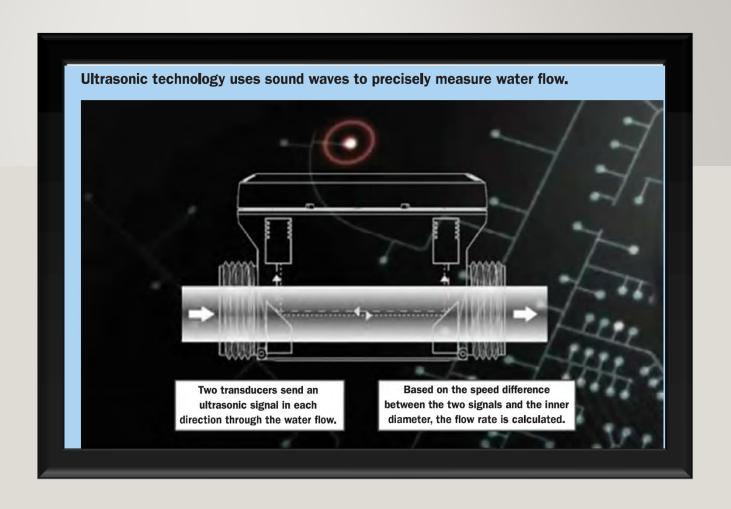


NEW SYSTEM APPROACH

- PW team had several meetings in 2021 & discussed current issues/challenges.
- PW team is a head of the curve.
- Conducted in-depth review of best technology.
- Had several demos done past few months.

NEW SYSTEM

ULTRASONIC TECHNOLOGY



REMOTE READING BENIFIT

 Dual band radio integrated into each meter transmit data via drive-by (AMR) or network remote AMI reading.







AMI System Half Deployment \$905,640.00



AMI System Full Deployment \$1,535,526.00

PUBLIC WORKS

DEPARTMENT PROMOTIONS











Engineering
Division
Manager

Sharon Darroux

Water Quality
Manager

Aaron Kunders Facilities & Joint Maintenance Supervisor

Buck Tupper

Field & Safety
Supervisor

Ethan Stirling

