

# Morning Program Topics

Moderator – Yone Akagi

- Bull Run Project Overview (8:30)
- Communications Strategies for Customers and Neighbors (9:00)
- Break (9:30-9:45)
- Bull Run Pilot Findings (9:45)
- Break (10:45-11:00)
- Preliminary Design Update (11:00)
- Preparing Portland's Distribution System (11:30)



**Bull Run**  
TREATMENT  
PROJECTS

*Our water: Safe and abundant  
for generations to come*

PORTLAND WATER BUREAU  
**Bull Run Treatment Program**

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# Filtration Project

August 12, 2021  
Christopher Bowker



# Agenda

- Bull Run Program Background
- Bull Run Treatment Program Progress
  - Program Management
    - Piloting
    - Flushing
  - ICCT Project
  - Filtration Facility
  - Filtration Pipelines
- Program Performance
- Looking Ahead



## 12-month Milestones



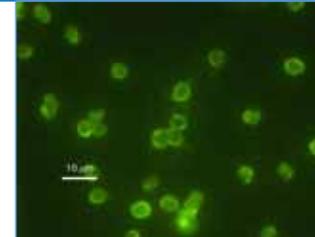
# Thanks to thoughtful planning, Bull Run has been a source of excellent water since 1895



- Serves almost 1 million people
- 2 supplies for water
- Uses 100 million gallons of water on an average day

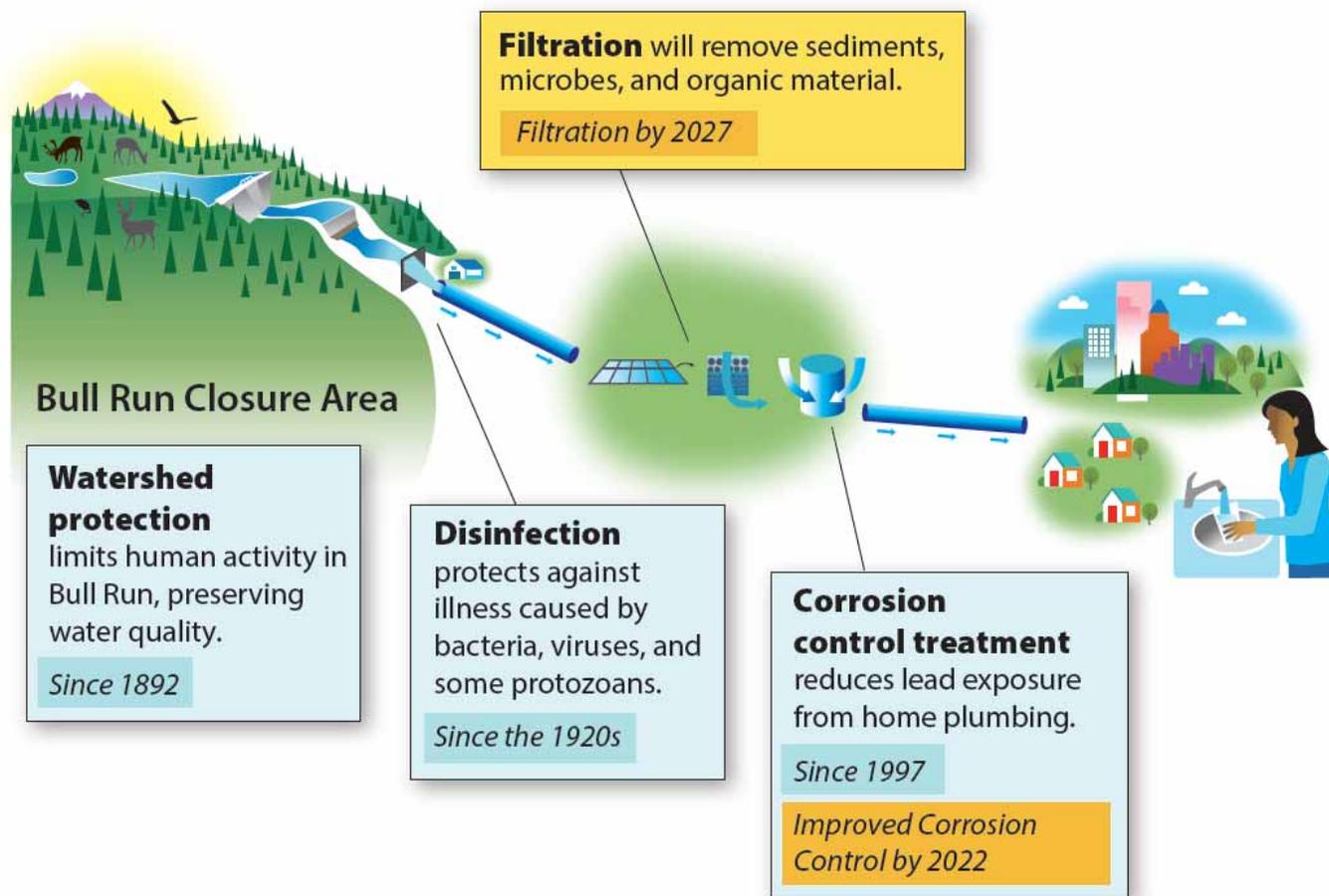
# Why do we need filtration?

Filtration improves public health by removing *Cryptosporidium (crypto)* from the water

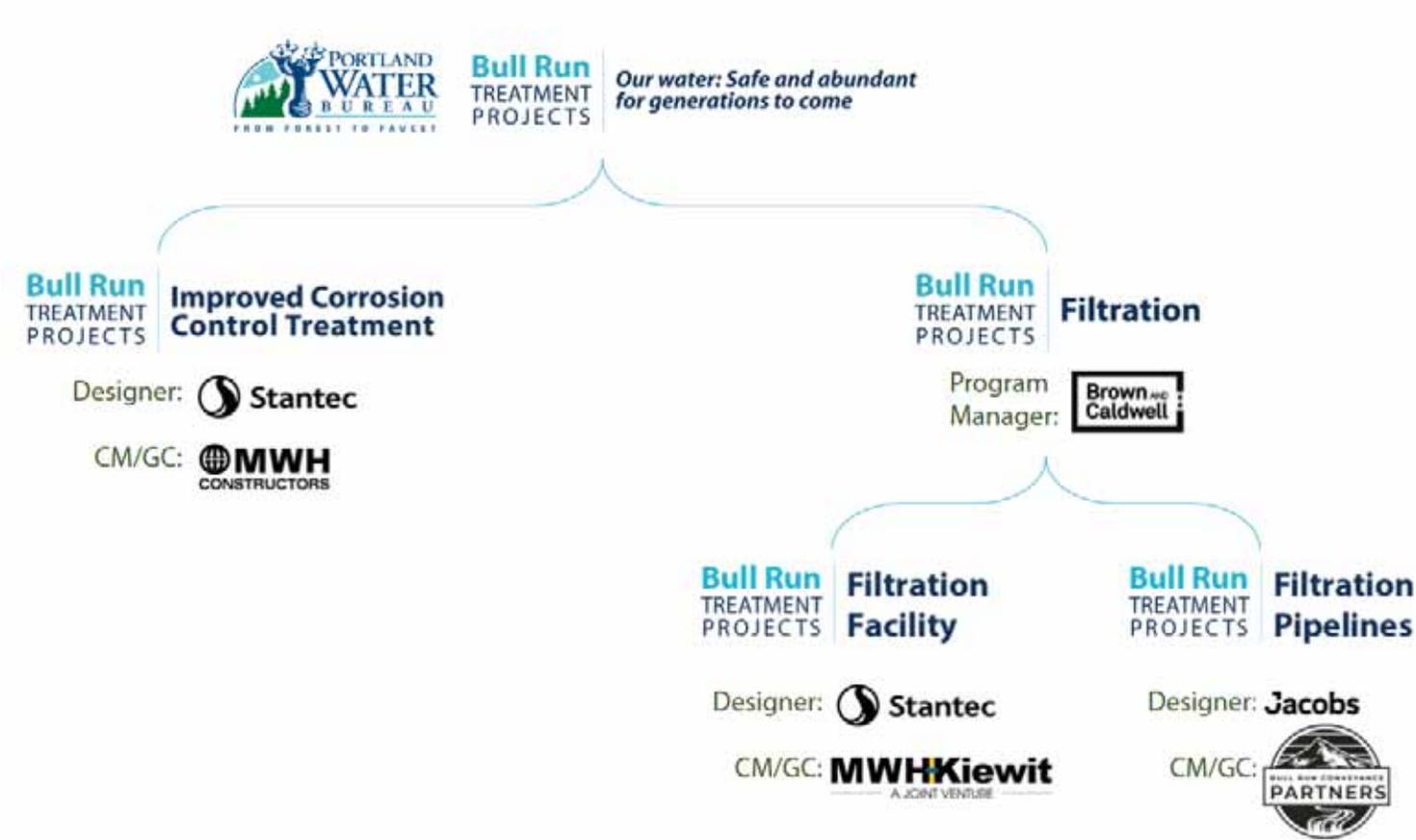


*The Bull Run Filtration Project continues the City's commitment to serving the best possible water to Portland customers.*

Improvements  
to our system  
are needed to  
meet national  
drinking water  
standards



# Bull Run Treatment Program



# One (Awesome) Team

September 17, 2019



JON HOLLAND

PROGRAM MANAGER  
BROWN AND CALDWELL



KYLE SANDERA

DEPUTY PROGRAM MANAGER  
BROWN AND CALDWELL



DAVID PETERS  
PROGRAM DIRECTOR  
PORTLAND WATER BUREAU



MICHELLE CHEEK  
DEPUTY PROGRAM DIRECTOR  
PORTLAND WATER BUREAU



# Program Progress City Council Actions

*Cryptosporidium*  
detections begin  
**2017**

**AUGUST 2017**

City Council Resolution No. 37309  
**chooses filtration as the  
selected treatment option**

Bilateral Compliance  
Agreement with the Oregon  
Health Authority  
**DECEMBER 2017**

**AUGUST 2018**

City Council Ordinance No. 189147  
**authorized program management  
support service contract**  
City Council Ordinance No. 189146  
**filtration facility alternative  
procurement findings**

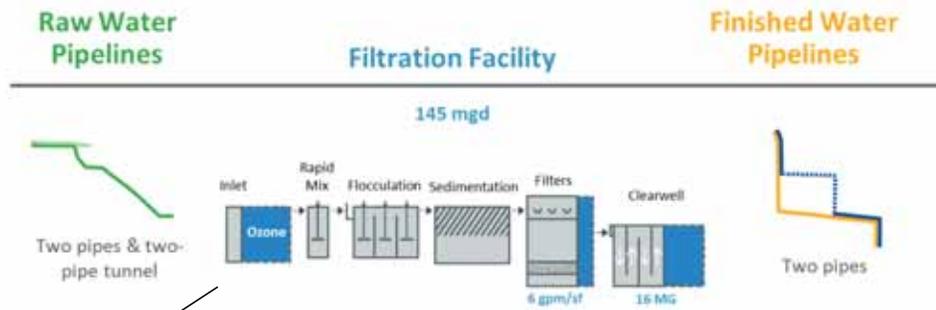
City Council Resolution  
No. 37402  
**decided on location,  
technology, capacity,  
procurement method**  
**DECEMBER 2018**



# Program Progress

## City Council Actions

City Council Ordinance No. 190242  
**authorized pipeline design  
 services contract**  
 City Council Ordinance No. 190245  
**pipeline alternative procurement  
 findings**  
**DECEMBER 2020**



**NOVEMBER 2019**

City Council Ordinance No. 189778  
**authorized filtration facility design services contract**  
 City Council Resolution No. 37460  
**adopted priority values, expectations, recommended option**

**FEBRUARY 2021**  
**WIFIA Loan**  
 agreement signed  
 with EPA

# Program Management Progress

## Focus on “One Team”

- Coordination
  - Land Use
  - Permitting
  - Traffic
  - Ag Studies
  - Outreach
  - Sustainability
  - Federal Agencies
  - Regional Agencies
  - Wetland and Sensitive Species Evaluation
  - (and more!)

- WQ & Distribution
  - Pilot testing: Findings of the Filtration Pilot
  - Unidirectional Flushing Program



Wetland Delineation

- Tools/Process
  - Decision Making Process
  - PMIS
    - PWB, PM, 2 Designers, 2 CM/GC
  - Developing Guidelines/Standards
  - Comment adjudication
  - **Good Neighbor Agreement**
  - **WIFIA** loan



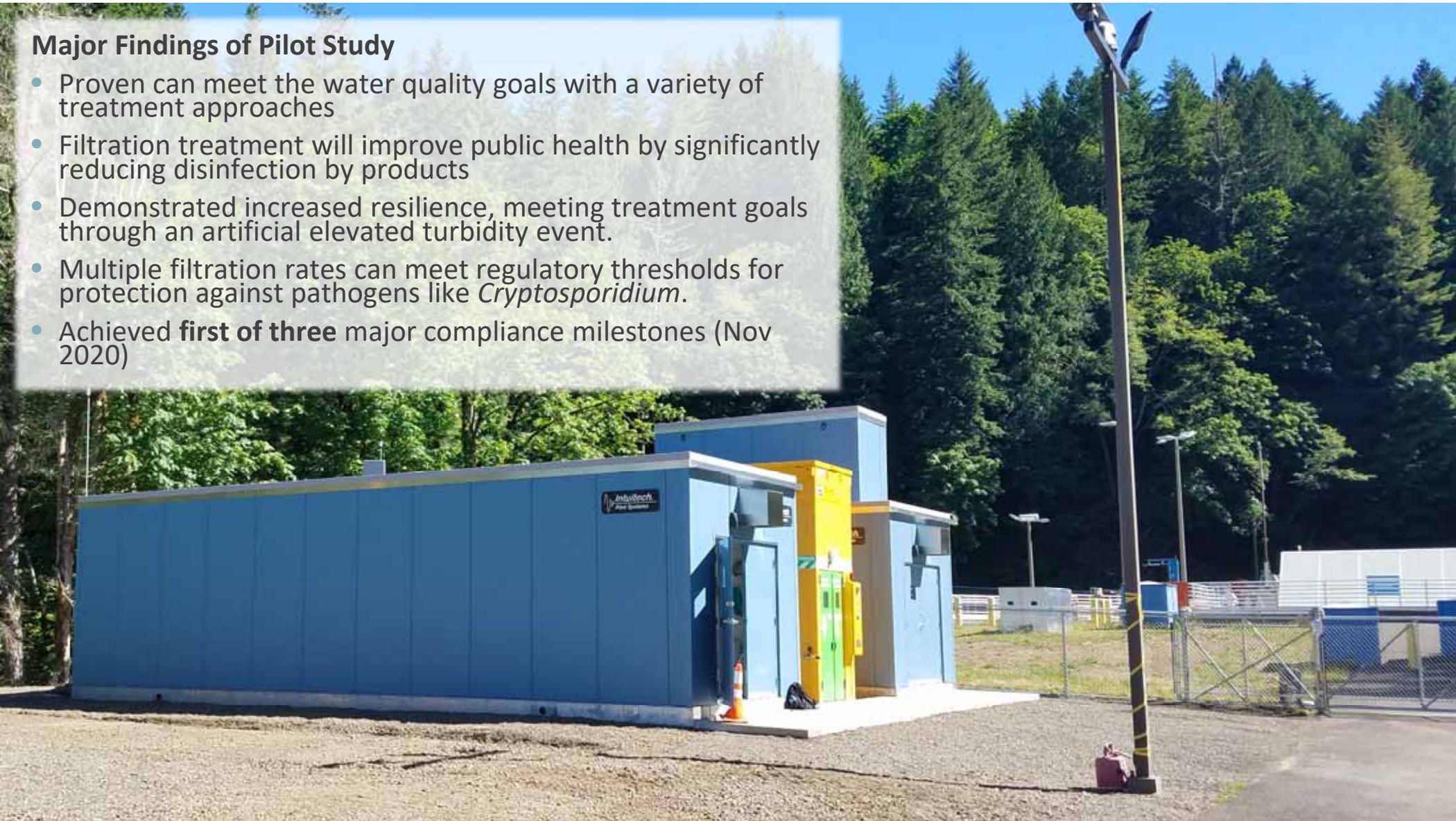
**Major Findings of Pilot Study**

- Proven can meet the **water quality** goals with a variety of treatment approaches.
- Filtration treatment will **improve public health** by significantly reducing disinfection-by-products.
- Demonstrated **increased resilience**, meeting treatment goals through an artificial elevated turbidity event.
- Multiple filtration rates can meet **regulatory thresholds** against pathogens like *Cryptosporidium*.

# Polling Question #1

## Major Findings of Pilot Study

- Proven can meet the water quality goals with a variety of treatment approaches
- Filtration treatment will improve public health by significantly reducing disinfection by products
- Demonstrated increased resilience, meeting treatment goals through an artificial elevated turbidity event.
- Multiple filtration rates can meet regulatory thresholds for protection against pathogens like *Cryptosporidium*.
- Achieved **first of three** major compliance milestones (Nov 2020)



# Unidirectional Flushing



# Maintaining water rate affordability with low-cost, long-term federal financing

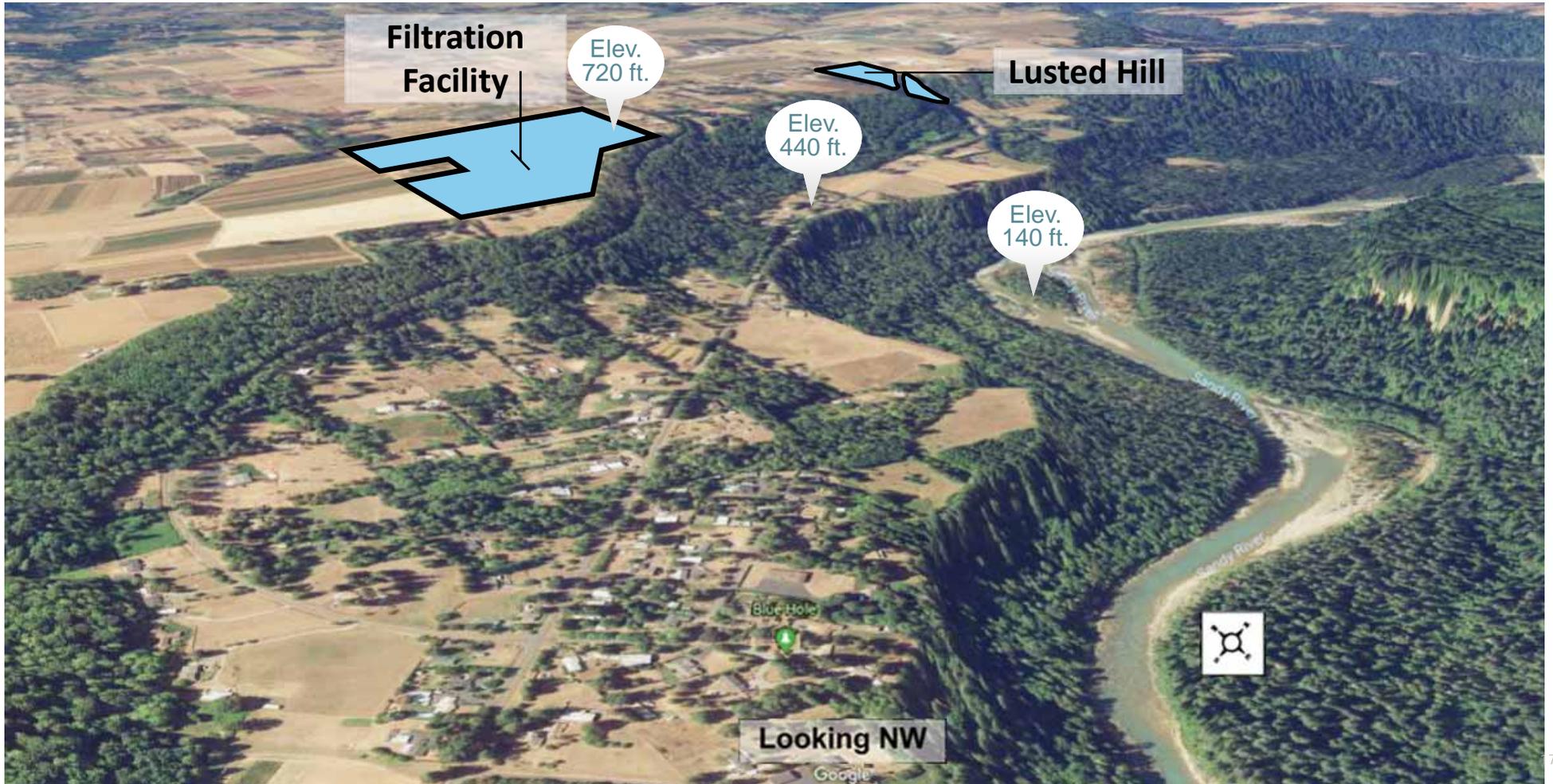


- Invited to WIFIA and closed Feb 2021
- **Very low 1.89% interest rate** is locked in for the life of the loan
- **Saves ratepayers at least \$247 million** of debt service over the loan term
- **Repayment can begin in 2032** after customers are getting facility benefits

# Project Location



# Project Locations



COMING APRIL 2022

# Improved Corrosion Control Treatment

Making Bull Run water less corrosive to lead and other metals found in some home plumbing.



*Improved Corrosion Control Treatment (ICCT) construction at Lusted Hill facility.*



Planning Complete  
2017-2018



Design Complete  
2018-2020

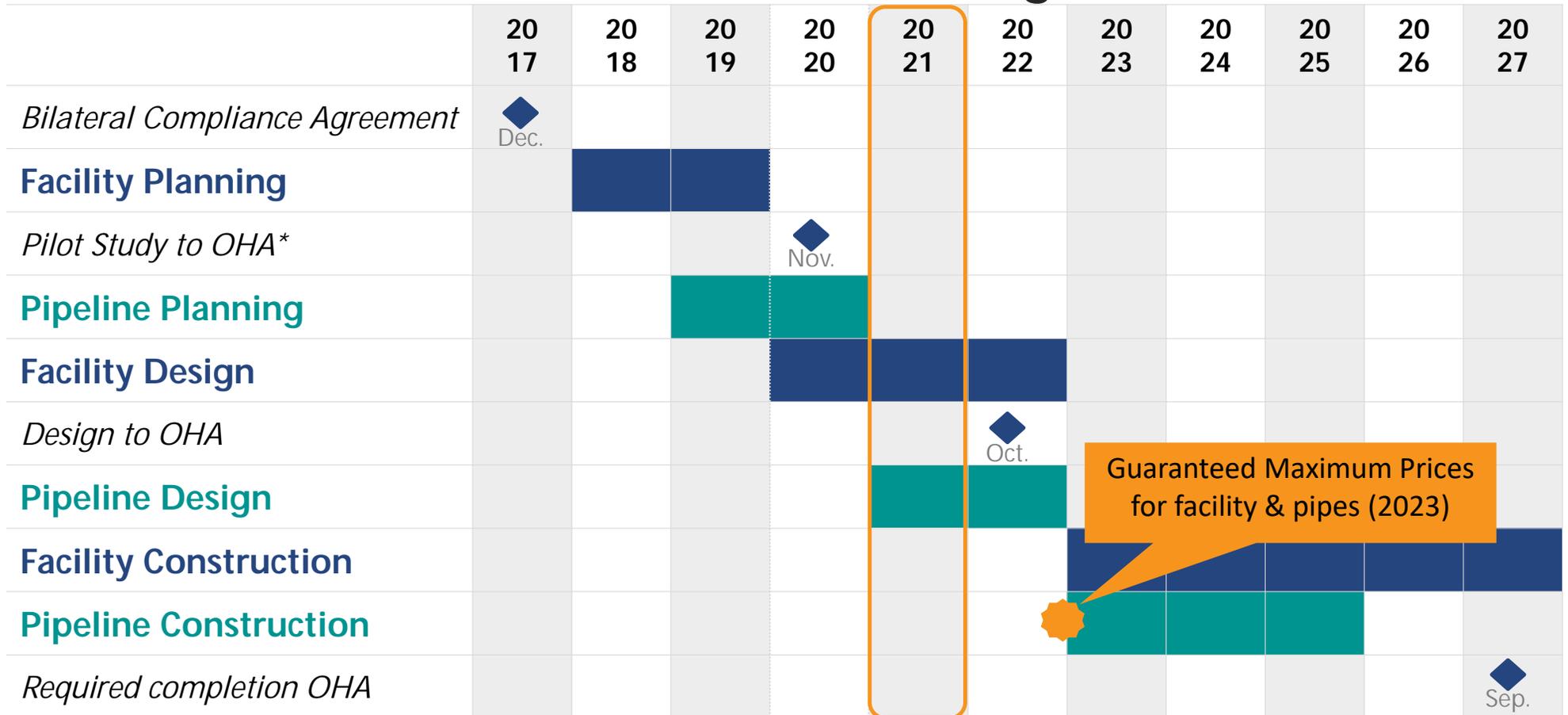


Construction Underway  
2020-2022

# Improved Corrosion Control Treatment



## Continued value engineering through 30%, 60% and 90% design



\*OHA = Oregon Health Authority

# Bull Run Filtration Facility Progress

## Program

- **Project Definition Report** (March 2020)
- **Received approval of pilot study** from Oregon Health Authority (Spring 2021)

## Design

- **Basis of Design Report** (spring 2021)
  - Comment adjudication process
  - VE effort and OPCC update
- **Started Preliminary Design**
  - Bi-weekly discipline meetings
  - 30% Design (submitted)
  - Bluebeam review process

## CM/GC

- MWH-Kiewit JV onboarded
- Beginning to involve at 30% review



*Conceptual site design for filtration facility.*



# Filtration Pipelines Progress

## Program

- Field work
  - Neighbor outreach
  - Surveying
  - Geotech Eval
  - Environmental Studies
  - Cultural Resources Assessments
  - Accessing easements

## Design

- Completed BDR
  - 65 geotechnical borings along pipe routes (Fall 2020)
- Updated Hydraulic modeling
  - Near-term 145 mgd
  - Long-term 220 mgd
  - Dual 72-inch RW pipelines
  - Dual 66-inch FW pipelines
- Workshops
  - Preferred Alignment
  - Tunneling
  - Connections
- 30% Design (Nov 2021)

## CM/GC

- Notice of Intent to Award Summer 2021
- JWF-MWH Constructors JV in contract negotiations



*Spring 2020 field investigations*

# Program Performance

## Schedule

- Projects are on schedule



## Scope

- One change to Council approved scope – 135 vs 145 mgd



## Budget

- Costs are increasing, but **within amount funded in rate forecast**

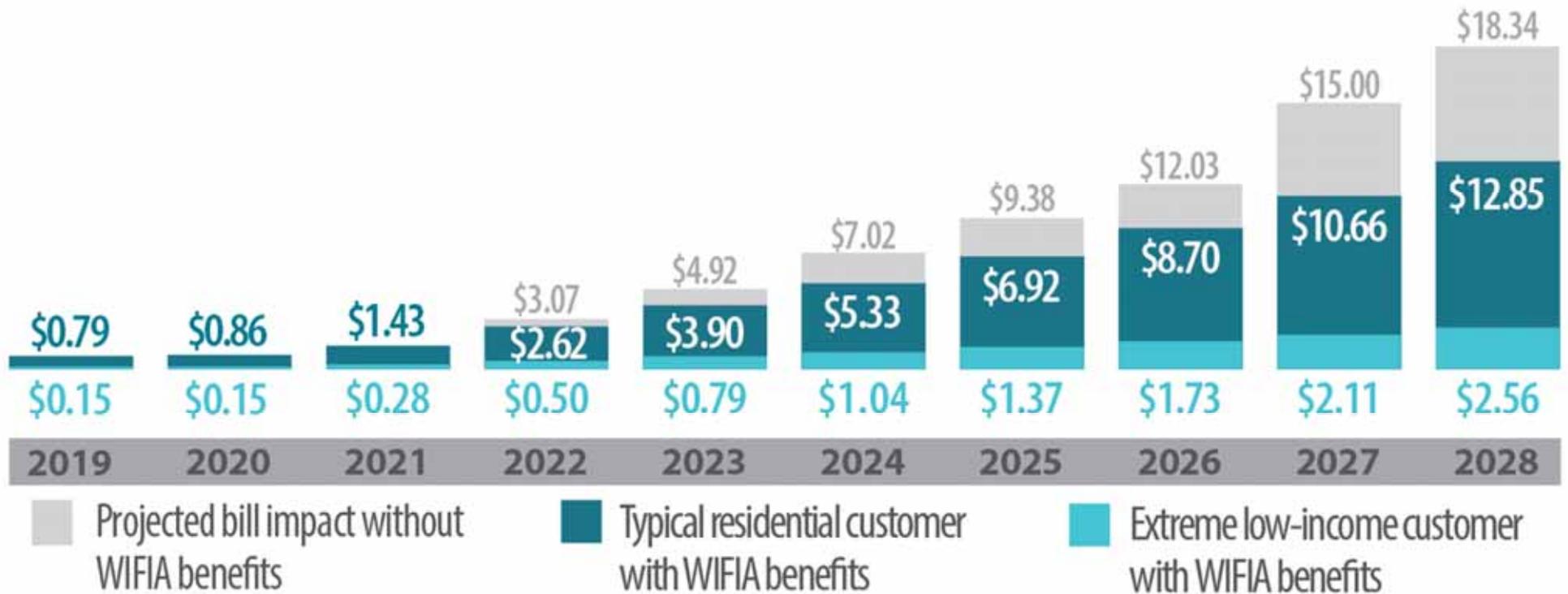


# Polling Question #2

# Current estimated program costs

	WIFIA Application & Funding Plan	Estimated Costs
Capital Costs	\$840M	\$1,024M
Other WIFIA-eligible Costs (financing costs, inflation, overhead, and interest)	\$233M	\$255M
Available Contingency	\$410M	\$204M
<b>TOTAL PROGRAM FUNDING</b>	<b>\$1,483M</b>	<b>\$1,483M</b>

# WIFIA lowers projected monthly water bill impacts from the Bull Run Treatment Projects



# Looking forward

- Filtration pipelines **Value Engineering**
- **Designing** facility and pipelines
- Submit **Land Use** application
- Continued **cost management**, balanced with performance and reliability
- **Regular updates** to Council, PUB, and others
- Working towards **guaranteed maximum prices**

*"I'm super excited and thankful for the opportunity to work with the Bull Run Filtration project team... they are working to build genuine relationships and support the goals of Indigenous community members. The implications of what could emerge from this work is inspiring."*

— Serina Fast Horse, Kimimela Consulting



## Keeping the community informed and involved

- Sharing **regular updates** through project e-news, online events, social media, and more...
- Providing **project briefings** to cultural organizations, local tribes, watershed councils, neighboring water utilities, and more...
- Using **community values** and the **Good Neighbor Agreement** to inform project decisions.
- Continue to be a good neighbor once the facility is operating
- Started Urban Tribal Engagement Circle

Bull Run Treatment Projects will help keep our water **safe and abundant** for the next century and beyond



**For our  
health**



**For our  
economy**



**For our  
future**



**Bull Run  
TREATMENT  
PROJECTS**

*Our water: Safe and abundant  
for generations to come*

**Thank you!**

Learn More [portland.gov/bullrunprojects](http://portland.gov/bullrunprojects)