Bull Run
TREATMENT
PROJECTS

Our water: Safe and abundant for generations to come

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

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Report to Council

Date: March 29, 2024

To: Mayor Ted Wheeler
Commissioner Mingus Mapps
Commissioner Rene Gonzalez
Commissioner Carmen Rubio
Commissioner Dan Ryan
Robin Castro, Portland Utility Board Chair

From: Gabriel Solmer, Portland Water Bureau Director
Jodie Inman, P.E., Portland Water Bureau Chief Engineer

Subject: Bull Run Treatment Projects Annual Report

This Annual Report updates City Council on the status of the Portland Water Bureau's Bull Run Treatment Projects. The report highlights progress during this current fiscal year, including starting construction for the new water filtration facility and pipelines and reaching "optimized" status with the Environmental Protection Agency's Lead and Copper Rule for corrosion control treatment.

Bull Run TREATMENT PROJECTS

Our water: Safe and abundant for generations to come

The Water Bureau is making long-term investments with the Bull Run Treatment Projects to help keep Bull Run water safe and abundant for nearly one million people who rely on it today and for future generations. The new facilities are needed to protect public health and comply with safe drinking water regulations.

For our health

Making sure our water is safe for everyone.

- In 2023, the Oregon Health Authority confirmed our Improved Corrosion Control Treatment for lead is "optimized" per the federal Lead and Copper Rule.
- With these treatment upgrades, we have taken a big step to further reduce the risk of lead in water for homes with lead plumbing materials.

For our economy

Creating jobs and investing in infrastructure to help our community thrive.

- The generational investments the Water Bureau is making in the Bull Run system are creating thousands of construction jobs.
- The Bull Run Treatment Projects are estimated to generate $1.59B economic activity through construction and $14.9M annually when complete.

For our future

Providing a more resilient water system and greater protection.

- The filtration facility we are building will remove contaminants and sediment from our water, making our supply more resilient to water quality risks from events like the Camp Creek Fire in 2023 that burned 2,000+ acres in the Bull Run Watershed.
- Filtration will greatly reduce the threat of the Bull Run supply being disrupted following a wildfire or extreme weather event and is one of the ways we are preparing for a changing climate.

In FY2023-24, the Water Bureau reached "optimized" treatment in reducing levels of lead at customer taps thanks to the successful investment in Improved Corrosion Control Treatment. The Water Bureau also took a significant step forward with Bull Run Filtration and started construction of the new water filtration facility and pipelines.

Improved corrosion control

Purpose: Adjusts the chemistry of Bull Run water to make it less corrosive to lead and other metals found in some home and building plumbing.

Schedule: Completed by the Oregon Health Authority compliance deadline in April 2022.

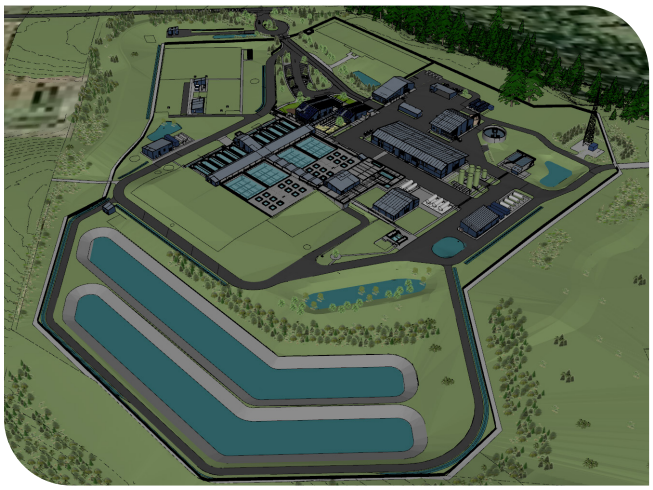
Budget: $20.2M final cost.

Filtration facility

Purpose: Removes *Cryptosporidium* and other potential contaminants from the Bull Run supply and makes the water system more resilient to future water quality risks.

Schedule: Moving forward with multi-year construction.

Budget: $102.9M spent to date (Feb. 2024).



Filtration pipelines

Purpose: Connects the water filtration facility to the existing Bull Run water system and improves resilience by allowing an aging segment of pipeline to be retired.

Schedule: Moving forward with multi-year construction.

Budget: $31.5M spent to date (Feb. 2024).

Important filtration milestones in FY2023-24

We are building the Bull Run Filtration Projects to enhance our water system's resilience, reduce future risks, and better protect our customers. The Water Bureau is working to provide the best value for our ratepayers and maximize the public health benefits and longevity of the new facilities.

Maintaining our momentum through construction will best position the Water Bureau to meet our Oregon Health Authority compliance deadline and begin delivering filtered water by Sept. 2027.

1 Nov. 30, 2020 (complete)

Submit pilot study and preliminary planning.

2 Oct. 31, 2022 (complete)

Submit final filtration construction plans and schedule.

3 Sept. 30, 2027 (underway)

Water being served meets all surface water and *Cryptosporidium* treatment requirements.

Obtaining critical permits

After designing the Bull Run Filtration Projects, a key achievement was receiving land use approvals in Multnomah and Clackamas counties after a multi-year permitting process. In November 2023, Hearings Officers in both counties issued decisions approving the proposed projects.

Permitting commitments include:

- Improving pavement and turning movements on local roads that will be used as haul or detour routes for project construction traffic.
- Rerouting construction traffic during school days to avoid specific roads with direct access to a school with no bicycle or pedestrian facilities.
- Managing construction traffic impacts to prioritize and ensure farmers can access their fields as needed.
- Restoring agricultural soils to return farm operations to pre-construction conditions after pipelines are installed.

Prepared multiple applications with 3,000+ pages of supporting technical material

Took part in 2 public hearings

Responded to 100s of items in the Multnomah County and Clackamas County records

Public testimony included:

"[Drinking Water Services] would like to emphasize to the board the **public health significance** of this treatment plant and its timely completion."

— Samina Panwhar, Oregon Health Authority Drinking Water Services Manager

"This treatment facility will provide **key resiliency to the region** and community as a whole for decades to come."

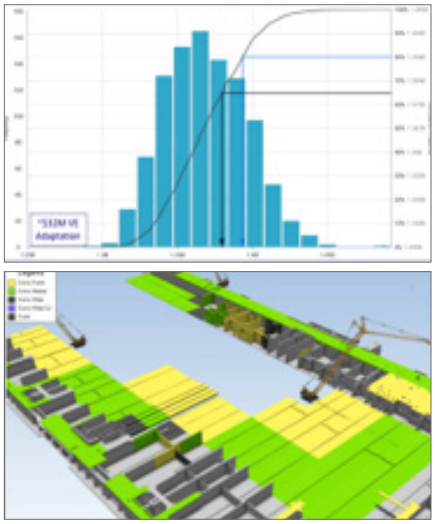
— Jenny Coker, City of Sandy Public Works Director

Getting construction rolling

We value the public health benefits filtration will provide to everyone in our community and are working to build the filtration facility and pipelines as efficiently as possible. We continue to prioritize work zone and community safety as we advance construction.

Schedule compliance strategies:

- Using state-of-the-art project controls such as virtual design and construction to plan work sequencing.
- Reviewing project schedules monthly to coordinate activities and drive the critical path.
- Optimizing planned construction shifts, labor, and support equipment.
- Ordering long-lead time materials, including electrical equipment and pipe.
- Using two-phase Guaranteed Maximum Price (GMP) contracts to allow early work to move forward.



/// Early work **Initial construction ///** **Summer 2024**

Ongoing stakeholder coordination and community outreach

- Obtain permits for initial construction
- Begin off-site facility access improvements
- Authorize GMP2 work
- Begin haul and detour route road repairs
- Verify site conditions for initial pipe construction
- Mobilize contractor equipment
- Begin facility site preparation
- Construction groundbreaking
- Start facility site excavation and grading

System Investments

More than a century ago, Portland's founders established the Bull Run as our water source and built the gravity-fed system that brings drinking water from the watershed. The existing system required long-term thinking, investment, and ongoing commitment to ensure the Bull Run supply is protected. The Bull Run Treatment Projects are a system-wide investment that provides that same opportunity to provide a lasting legacy of caring for Portlanders for generations to come by delivering the critical tools to respond to not only treatment for *Cryptosporidium* but also to prepare for climate change and other known risks – including intense storms, earthquakes, and wildfires.

Cost management

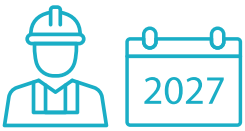
The Water Bureau is committed to making wise investments in the future of our drinking water. We continue to take steps so that the projects will not increase customer drinking water rates higher than previously forecasted.

Cost management steps:

- Revising the 10-year Capital Improvement Plan to offset project cost increases.
- Secured a Water Infrastructure Finance and Innovation Act (WIFIA) loan that significantly lowers the cost of investment for ratepayers to build these projects.
- Applying for a second WIFIA loan to help manage project costs and smooth rate impacts over time.

Key drivers for increase in estimated costs

- Schedule compression
- Limited market and competition
- Labor shortages and wage increases
- Construction escalation and supply chain issues



Budget Status

In the past year the Bull Run Treatment Projects have completed several important milestones, such as land use approvals and bidding of the Guaranteed Maximum Prices for the second phase of construction, or GMP2s. These milestones provide additional clarity for cost and scope. As a result program costs have increased from $1.834B to $2.134B. The national average for water and wastewater projects across the country is a 44% increase from estimate to GMP, and the Bull Run Treatment Program at 47% is consistent with that average.

Even though the costs have increased, **there is no increase to rates as a result of these increases**. The Water Bureau and the project team are working hard to minimize the impact of increases in costs on the ratepayers without sacrificing this essential tool that will serve our community.

WIFIA PROGRAM

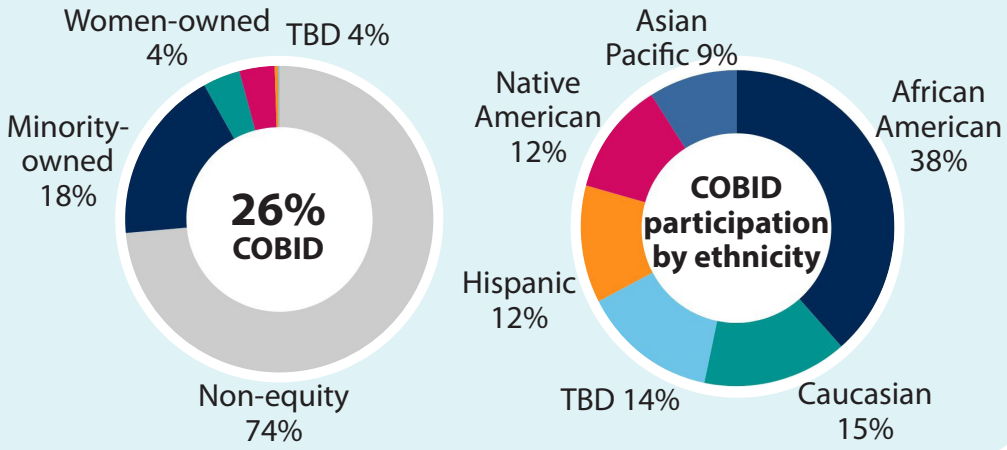
First WIFIA loan benefits Portland ratepayers:

- Interest rate of 1.89 percent is locked in for the life of the loan.
- Saves ratepayers $247M+ of debt service over the loan term.
- Flexible repayment schedule means loan payments can begin after customers are getting facility benefits.

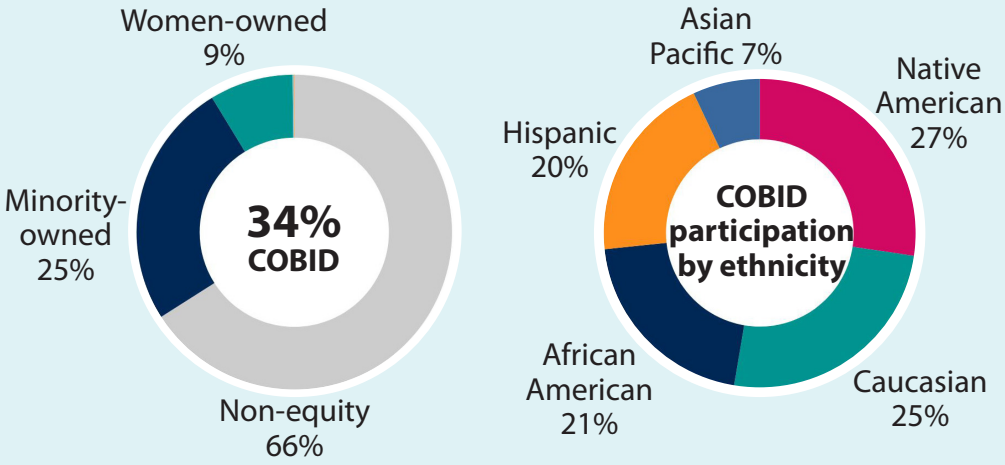
Workforce and COBID Commitments

The construction contracts include strong participation of firms certified by the Certification Office for Business Inclusion and Diversity (COBID) along with commitments to diverse workforces and anti-hate workspaces. With this focus on equity, we are working to stimulate the local economy, address historical inequities, and ensure our workforce reflects the diversity of the communities we serve.

Filtration facility construction COBID participation:



Pipeline construction COBID participation:



One of the 1st large regional projects to implement the Regional Workforce Equity Agreement

44 unique minority-owned firms

25 unique women-owned firms

4 unique disadvantaged businesses

6 unique emerging small businesses

$294M to COBID-certified firms for filtration facility construction

$102M to COBID-certified firms for pipeline construction

"These opportunities come along, and we are able to share with the community that they can build **generational wealth.**"

— Faye Burch, F.M. Burch & Associates Principal

""[These projects] pay well and give people **economic independence**. If you have that experience, that gives you an opportunity to start your own company and hire other people and grow."

— Andre Baugh, Group AGB Principal

Looking ahead to FY2024-25

This next fiscal year will focus on initial phases of construction for the water filtration facility and pipelines. Keeping our construction momentum is the best opportunity to achieve our compliance deadline and begin providing filtered Bull Run water in September 2027.

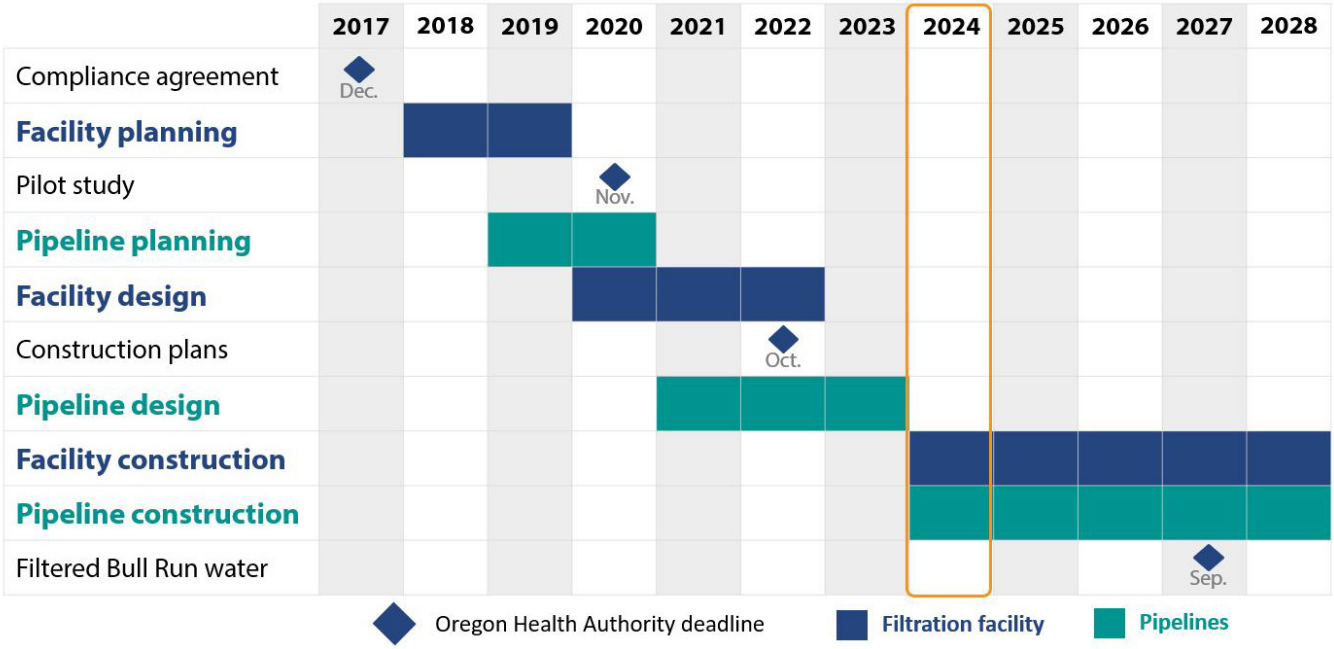
Key project activities include:

- Complete procurement for long-lead time materials and equipment.
- Complete site preparation and contractor mobilization.
- Begin excavation for facility process basins.
- Complete installation of local distribution water main.
- Begin tunneling for the raw water pipeline and installing the large-diameter raw and finished water pipelines.
- Apply for second WIFIA loan to help manage rate impacts from project costs.
- Collaborate with the contracting community to maximize equity participation in construction.
- Continue multi-step process with the Land Use Board of Appeals.
- Continue engagement with customers, site neighbors, and other interested parties.

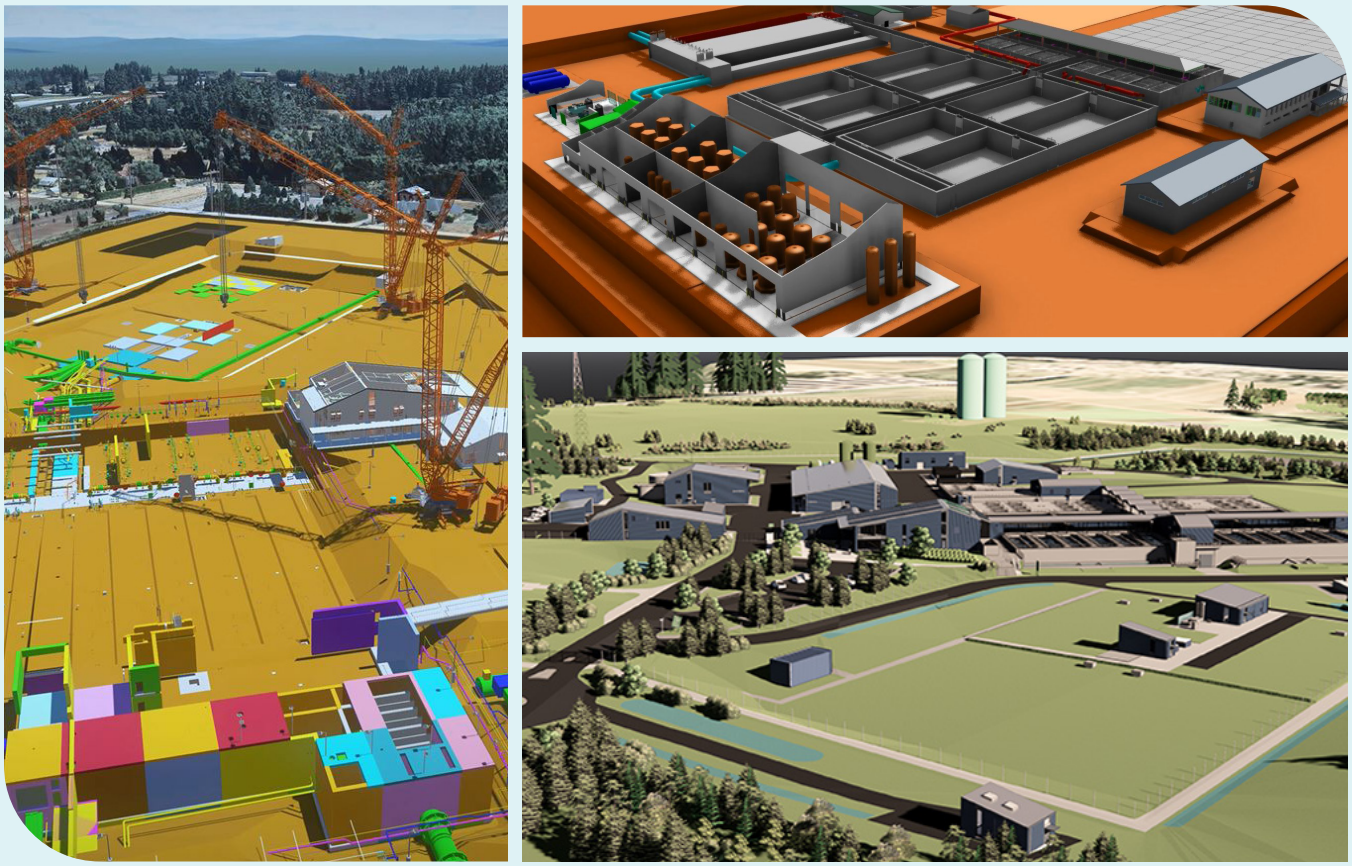
Bull Run Filtration schedule

We are working toward substantial completion of the water filtration facility and pipelines by September 2027, with some work continuing at the facility site into 2028.

Resolution of land use appeals, land use conditions of approval, and other permit approvals will inform the final schedule and project completion date.



Bull Run Filtration will enhance resilience of the Water Bureau's Bull Run supply, helping Portland comply with federal and state drinking water regulations and continue to provide clean and safe water for generations to come.



Water filtration facility conceptual renderings: process basins being built, structures being built, completed facility with existing water towers in background (clockwise from left).

Design complete 2020-23

Construction underway 2024-28

Filtered water Sept. 2027

Learn more: portland.gov/bullrunprojects

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FROM FOREST TO FAUCET

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