

Facility Plan Amendment

December 2, 2024

Sandy Clean Waters Program (SCWP)

City Council Work session

AGENDA

1. Facility Plan Amendment Purpose
2. Key Findings
3. Recommendations
4. Next Steps

The background is a scenic landscape photograph showing a dense forest of green trees covering a valley. A river flows through the center of the valley. In the distance, there are rolling hills and mountains under a clear blue sky. A large, dark green evergreen tree is prominent on the right side of the frame. The title text is centered over the image, flanked by two horizontal lines with a rainbow gradient.

Facility Plan Amendment Progress

Facility Plan Amendment Purpose

- Update flow projections to reflect I/I reduction efforts
- Apply information gained through 2023 Stress Testing
- Examine alternatives identified in Consent Decree
- Identify long-term treatment/discharge recommendations and near-term compliance strategy

A scenic landscape photograph of a forested valley with a river, overlaid with a white title and decorative lines. The background shows a dense forest of green and brown trees, with a river winding through the valley. The sky is a clear, light blue. Two horizontal lines, one above and one below the title, feature a rainbow gradient. A large evergreen tree is visible on the right side of the frame.

Key Findings

Key Findings: Flows & Loads

- Inflow & infiltration improvements have significantly reduced peak influent flow

Projected 2040 Design Flows

Design Condition	2019 Update	2024 Amendment
Average Dry Weather	2.0 MGD	2.2 MGD
Peak Flow	17.1 MGD	12.2 MGD

Treatment Alternatives Evaluated

- 1 Conventional Activated Sludge (CAS)**
 - Expansion of the current process with tertiary treatment and tertiary filtration
 - 2 Membrane Bioreactor (MBR)**
 - Conversion of the existing plant to MBR, combining biological treatment and membrane filtration.
 - 3 Hybrid MBR/CAS**
 - Conversion of the existing plant into a hybrid installation of CAS and MBR.
 - 4 Regional Treatment Facility**
 - Pumping wastewater to an adjacent treatment facility by constructing a new pump station and pipeline
 - 5 Collection Storage**
 - Detention of raw wastewater and then metering the sewage to treatment after peak events have passed.
- Discharge to Sandy River
- Discharge to Columbia River via Gresham

Key Findings: Preferred Treatment Alternatives

1 Conventional Activated Sludge (CAS)

- Expansion of the current process with tertiary treatment and tertiary filtration

2 Membrane Bioreactor (MBR)

- Conversion of the existing plant to MBR, combining biological treatment and membrane filtration.

3 Hybrid MBR/CAS

- Conversion of the existing plant into a hybrid installation of CAS and MBR.

4 Regional Treatment Facility

- Pumping wastewater to an adjacent treatment facility by constructing a new pump station and pipeline

5 Collection Storage

- Detention of raw wastewater and then metering the sewage to treatment after peak events have passed.

MBR Upgrade/Sandy River Outfall

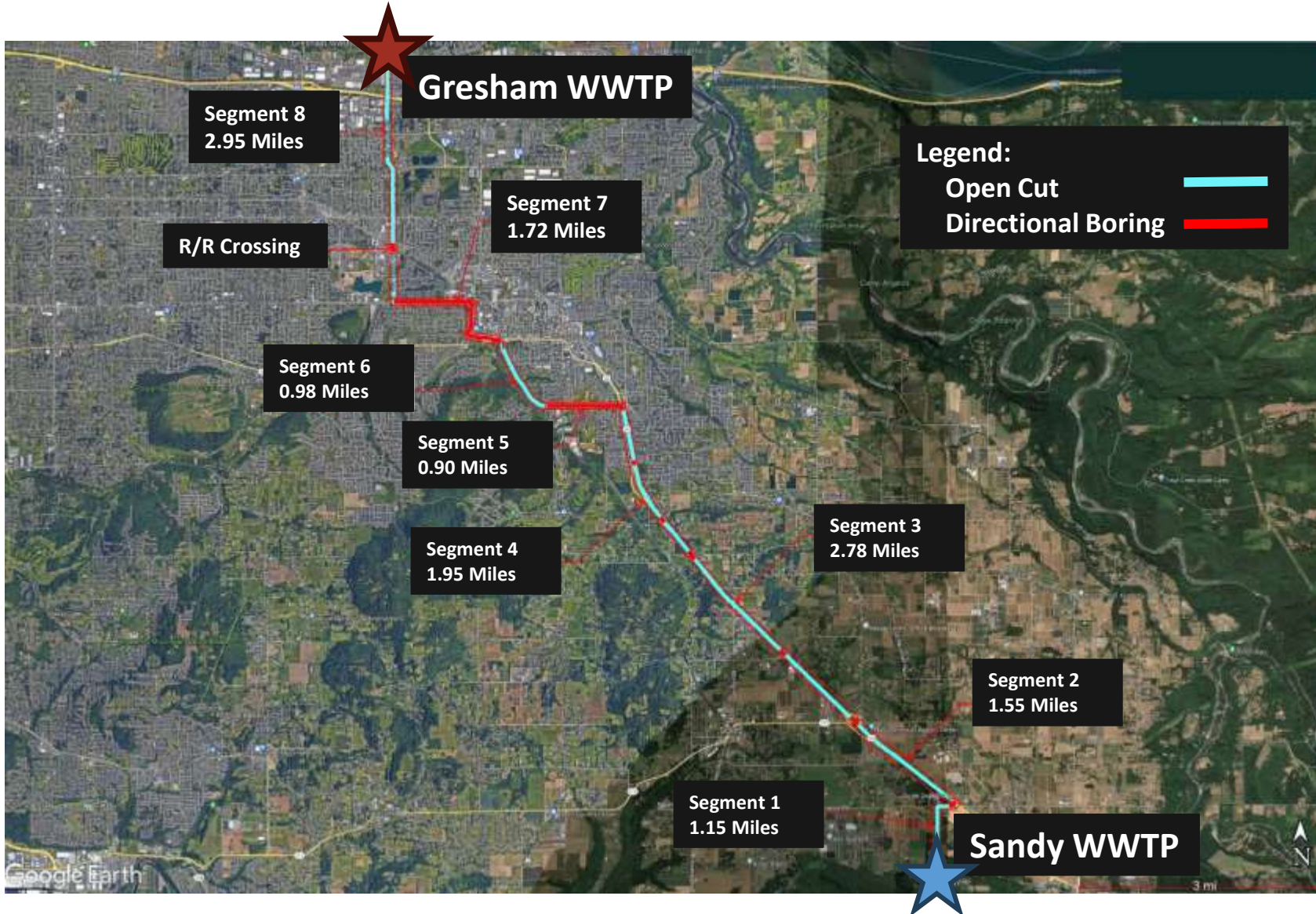
- New Headworks
- New Anoxic and MBR Basins
- Solids Dewatering, Drying, Storage
- Pumping to Bluff Road & Gravity Discharge to Revenue Bridge



WWTP MBR & Sandy River Outfall Alternative: Total Cost

Component	Cost
Phase 1A Total Costs (already spent)	\$31 M
Phase 1B	
Required WWTP Improvements	\$12 M
Collection System Improvements	\$19 M
Phase 1B Total Costs (required regardless)	\$31 M
Phase 2	
WWTP Improvements	\$78 M
Sandy River Pump Station & Outfall	\$61 M
Construction Management, Inspection, Escalation	\$9 M
Management Reserve (10%)	\$18 M
Phase 2 Total Costs	\$166 M
PROGRAM TOTAL	\$228 M

Regional Treatment Facility (Gresham) Alternative



Overview:

- Total length: 14 miles
- Costs include:
 - Pump Station
 - Force main
 - Purchasing capacity at Gresham WWTP (SDC)

Regional Treatment Alternative



**COMPARABLE TOTAL
COST; ABILITY TO
NEGOTIATE SDC VALUE
AND PAYMENT TERMS
POTENTIAL REGIONAL
OPPORTUNITIES**



**AVOIDS NEED FOR NEW
OUTFALL PERMIT WITH
ASSOCIATED LENGTHY
AND UNCERTAIN PUBLIC
PROCESS**



**LOWEST ENVIRONMENT
IMPACT OF EFFLUENT
DISCHARGE**



**PROVIDES GREATEST
CERTAINTY OF LONG-
TERM RELIABILITY**

Initial Regional Treatment Discussions



Gresham is open and interested in regional solution



Fairview and Wood Village provide precedent, framework for regional treatment



High probability of lower SDC than used in alternative analysis:

- Lower wholesale customer rate

Financing agreement for payment over time

Regional Treatment Alternative: Total Cost

Component	Cost
Phase 1A Total Costs (already spent)	\$31 M
Phase 1B	
Required WWTP Improvements	\$12 M
Collection System Improvements	\$19 M
Phase 1B Total Costs (required regardless)	\$31 M
Phase 2	
Pump Station and Pipeline	\$103 M
Construction Management, Inspection, Escalation	\$6.5 M
System Development Charge (SDC)	\$25 M - \$59 M*
Management Reserve (10%)	\$14 M
Phase 2 Total Costs	\$149 M - \$183 M
PROGRAM TOTAL	\$211 M - \$245 M

*Estimated range for alternatives comparison. Negotiations are required to update SDC

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Recommendations

Recommendations

- Retain two alternatives in Facility Plan Amendment
 - Further develop Regional Alternative implementation details
 - Retaining Sandy River Alternative as secondary option

Near-term

- Minor upgrades to release additional ERUs
- Permit renewal with interim limits as bridging strategy
- Examine conveyance alternatives & potential for shared interceptors
- Pursue funding assistance



Long-term

- Complete service agreement
- Complete planning, design, and construction to for long-term discharge to the Gresham WWTP

The background is a scenic landscape photograph showing a dense forest of green and brown trees covering rolling hills. A river flows through the valley in the lower center. The sky is a clear, light blue. Two horizontal lines, one above and one below the title, are composed of a rainbow gradient. A large, dark evergreen tree is visible on the right side of the frame.

Next Steps

Key Messages

Facility Alternative Recap

- A regional treatment solution appears to be the most viable option for Sandy. It has the greatest potential to generate political and financial support, and it gets the City out of the treatment business in the long term
- A Sandy River outfall is a good secondary option to retain, though it comes with significant challenges and uncertainties
- The project team has determined that remaining on Tickle Creek over the long term is not a viable solution, even if the Three Basin Rule is revised. Tickle Creek flow levels are too low to meet dilution ratio requirements; we would max out and be out of compliance in less than 16 years
- The City is still pursuing Three Basin Rule accommodations in our permit renewal to provide near-term certainty while improvements are built

Key Messages (cont.)

Issues of Fairness: Cost Burden

- Both viable facility alternatives carry an unacceptably high cost for Sandy to bear on our own
- Sandy is subject to more stringent wastewater regulations than almost any other city in Oregon. Compliance with the Three Basin Rule raises the cost of our required capital improvements by at least \$60 million; a cost that should not be borne by a town of 13,000 residents for the benefit of 300,000 downstream water customers
- Sandy will do everything possible to communicate this message and secure substantial additional funding from the State and other entities to lessen the impact to our ratepayers

Key Messages (cont.)

Funding Sources

- Even though we are doing everything we can to secure grants, large loans will still be necessary. Lenders require Sandy to raise utility rates to ensure repayment (coverage requirements)
- The City is also pursuing raising system development charges (SDCs) to ensure that the cost of these improvements is appropriately spread

Council Considerations

- Authorize staff to conduct public outreach in Q1 2025
- Direct staff to move forward on discussions with Gresham on the Regional Treatment Alternative
- Authorize staff to begin conceptual design of pipeline routing and performance requirements for the Regional Treatment Alternative
- Direct staff to move forward with pursuing funding opportunities, with primary focus on Regional Treatment Alternative

Thank you!

