

Sandy City Council Presentation

November 4, 2024

Sandy Drinking Water Reinvestment Program (SDWRP)

Program Update

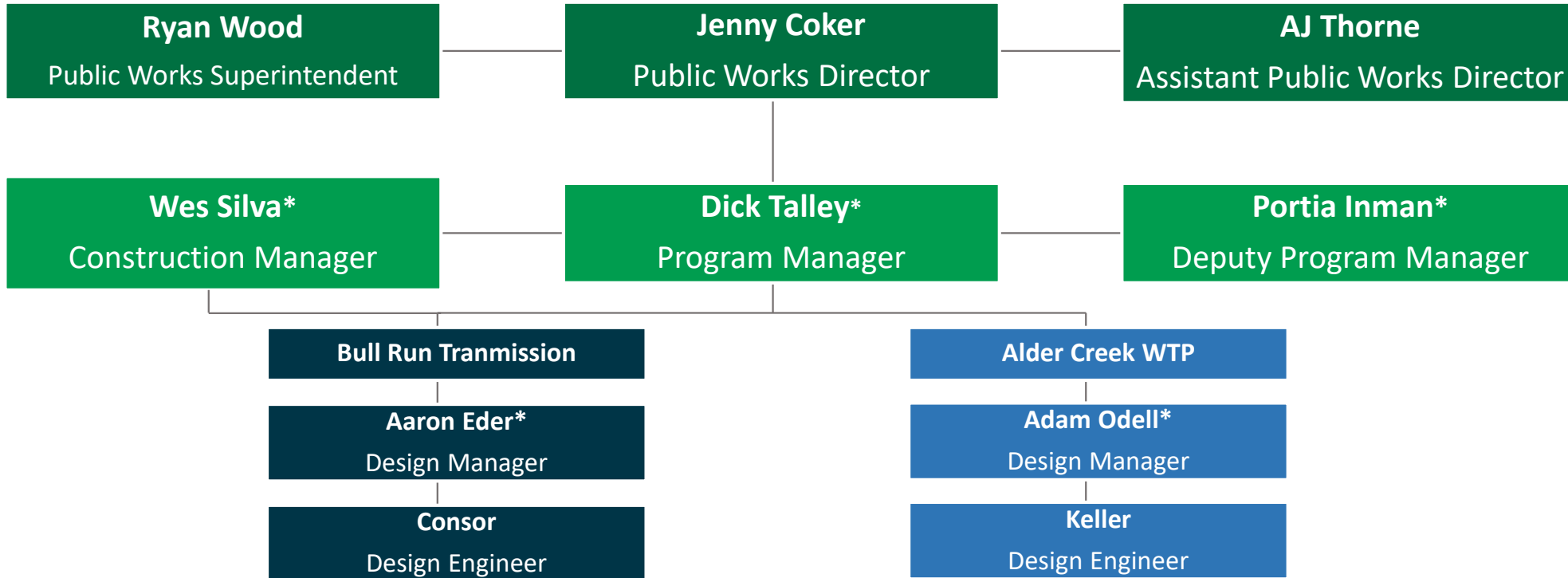
AGENDA

1. Introductions
2. Water System Condition and Overall Status
3. Project Updates
4. SDWRP Funding and Finance
5. SDWRP Next Steps



Introductions

Sandy Drinking Water Reinvestment Program Team



*Denotes Stantec staff



Water System Condition and Overall Status

2022 Drinking Water System Status

The City's water supply and distribution systems needed significant investment to replace and upgrade existing infrastructure and develop new infrastructure to meet the City's needs over a 20-year planning horizon.

Imminent risk to Sandercock Reservoir

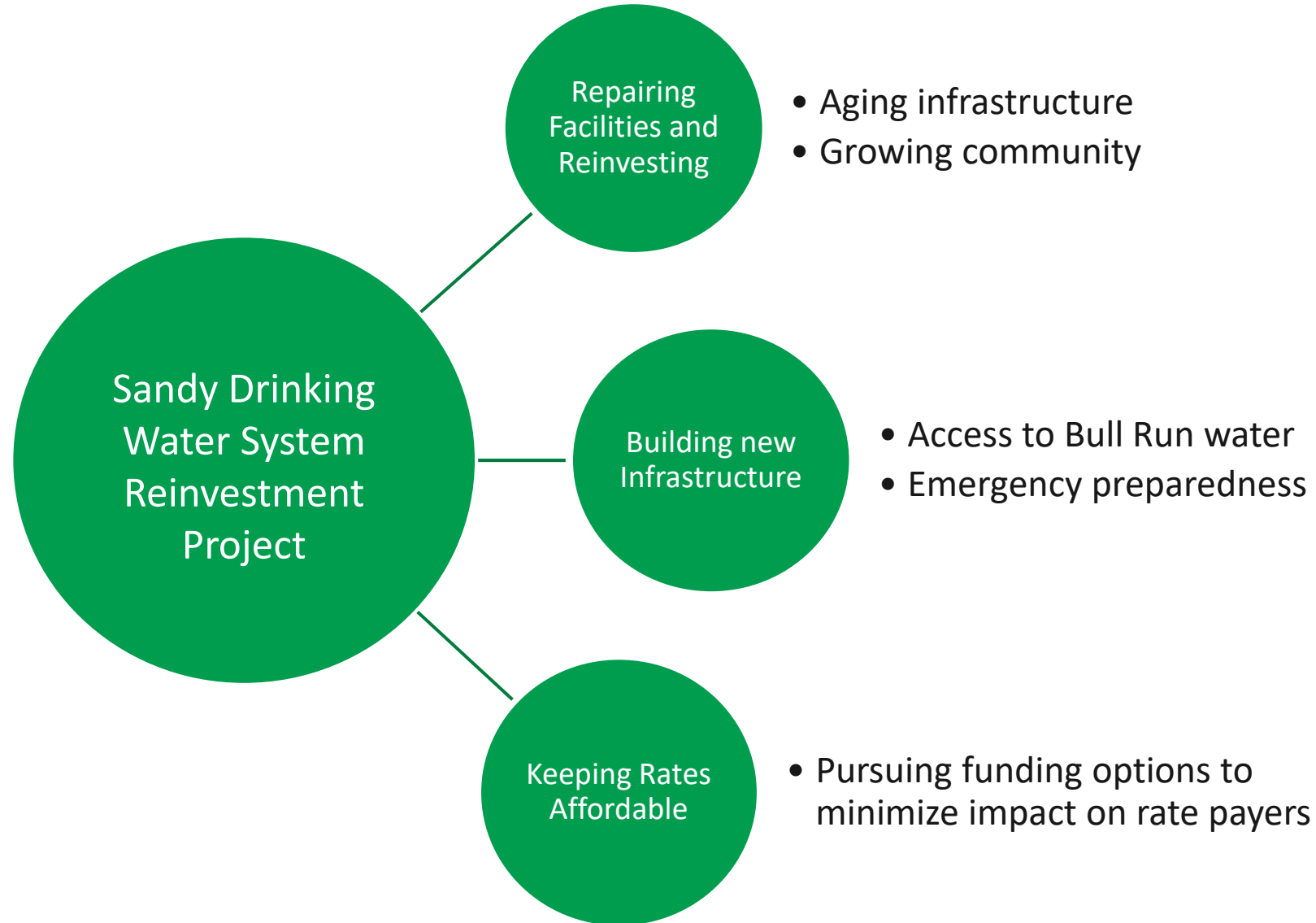
Fixed in
2023

Alder Creek WTP's unreliability due to aging infrastructure

City's wholesale agreement PWB was not favorable

EPA's September 2027 Bilateral Compliance deadline required the City to either build a new filtration facility at Hudson Intertie stop accepting unfiltered Bull Run Supply

Needed Investment in the Drinking Water System



Repairing Facilities and Reinvesting

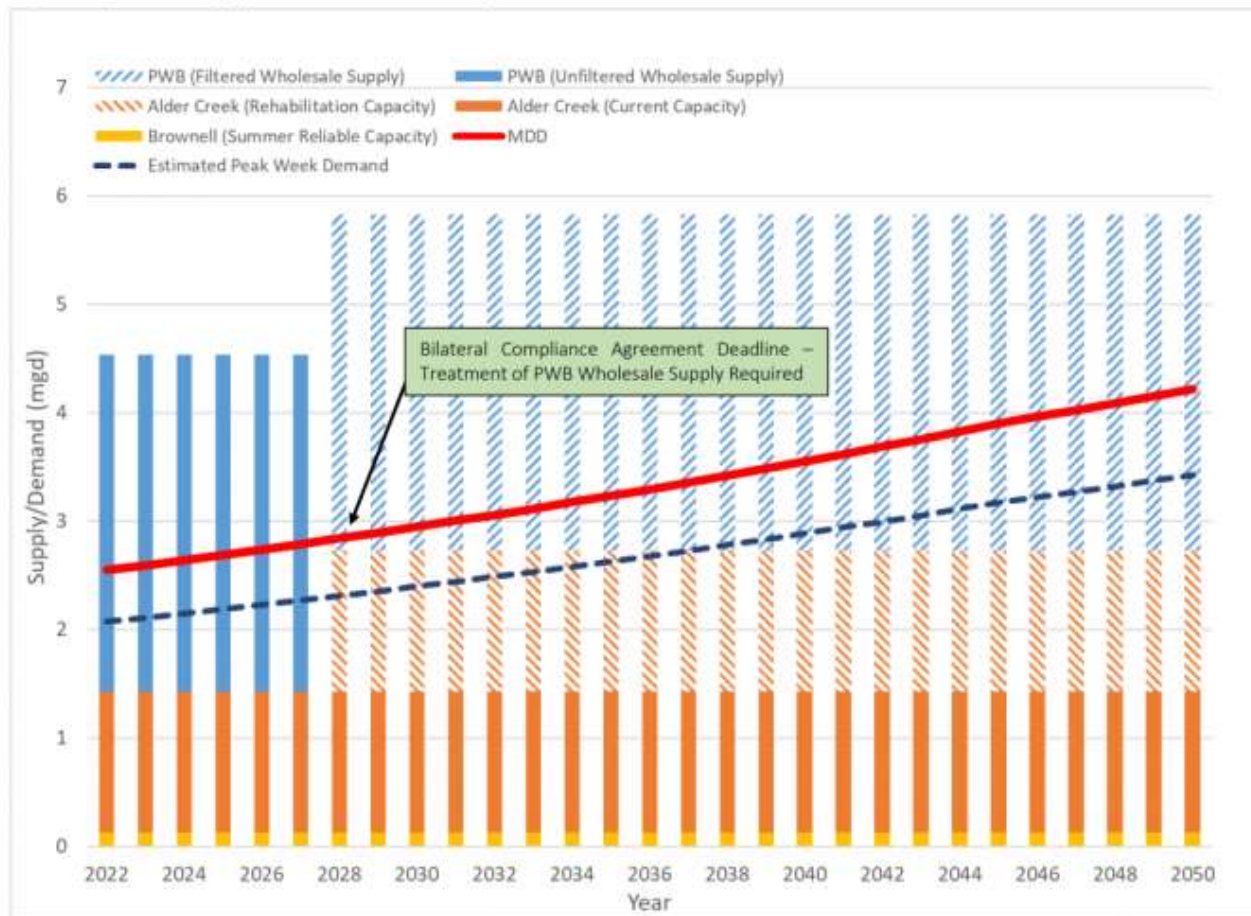
Aging Infrastructure

Repairing and upgrading the Alder Creek WTP Facility to increase Alder Creek’s water production from .9 million gallons per day (MGD) to 2.4 MGD, City’s average day demand is 1.33 MGD with maximum demand 2.59 MGD.

Growing Community

By 2050, average daily demand is forecasted at 2.1 MGD with a maximum demand of 4.2 MGD, dependent upon Sandy’s growth.

Figure 5-1 | Water Supply and Water Demand Comparison



Building New Infrastructure

Access to Bull Run Water

EPA September 2027 Bilateral Compliance deadline requires the City to build a new filtration facility at Hudson Intertie or stop accepting unfiltered Bull Run Supply



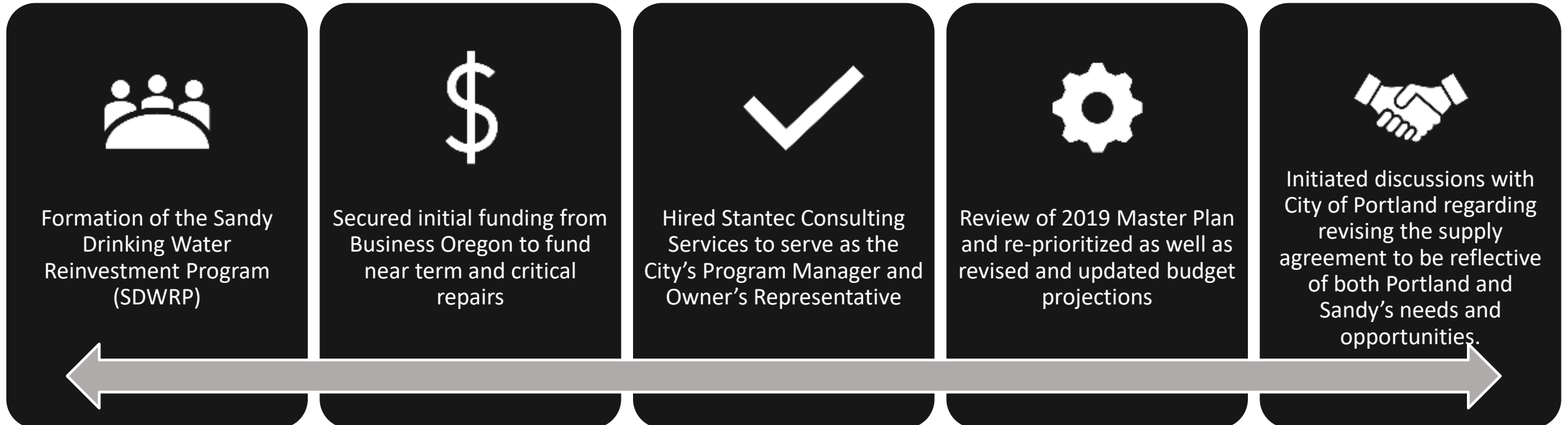
Emergency Preparedness

The Camp Creek Fire in August 2023 reinforced the critical need for emergency preparedness



Drinking Water System Moving Forward

The City adopted a programmatic approach to addressing both immediate and future concerns of all assets within the Drinking Water System:



SDWRP Risks

	Risk	Response Plan
1. Funding	\$39.5M in funding needed prior to initiation of construction	Partial Bridge funding from Biz Oregon.
2. IGA with Portland	IGA execution/Cost Savings	Loans for full price of project
3. Schedule	PWB/Sandy late in Bilateral compliance deadline – water shortage.	Alder Creek Priority, communication on curtailment.
4. Land Use Delays	Multnomah County Land use permit is delayed causing delays in construction and City doesn't complete by 9/2027.	Current schedule has accelerated Alder Creek improvements to delivery 1.5 to 2.0 MGD of reliable capacity to avoid curtailment until Summer of 2028
5. Delays to Alder Creek Upgrade	Insufficient water supply for the City and may result in curtailment of maximum day demands	Land Use Consultant have been hired and work is underway. Contractor outreach will be initiated in summer of 2025 to attract perspective bidders.

SDWRP Roadmap

The Program Team determined a three-phased approach to best fit the City:

1

Complete **immediate** repairs and stabilize the existing assets at Sandercock Reservoir and Alder Creek WTP.
0 – 3 years

2

Intermediate upgrades and improved assets to secure water supply through 2045, replace Alder Creek equipment and secure access to PWB supplies.
3 - 5 years

3

Long-term planning to determine options for Sandy's drinking water include the Salmon River water right, potential to expand Alder Creek WTP, potential to increase supply from PWB and to focus on resilience for wildfire, demand growth for 2045 to 2075. Planning now for future execution.



Project Status Updates

Sandercock Reservoir Emergency Repairs

Sandercock Reservoir was suffering from significant structural failures in the subgrade and floor of the reservoir:

- Failure would have been catastrophic
- City secured a \$1M loan from Business Oregon – Special Public Works Fund
- Field repairs were initiated consisting of isolating the reservoir from the system, completing structural repairs, stabilizing and securing the reservoir's foundation, cleaning and disinfecting the reservoir, and returning to service.
- 6-month completion and total project expenditures were \$800 thousand

Alder Creek WTP Updates



Sandy Public Works Department began a series of repairs and individual equipment replacements to stabilize operations and near-term reliability of the Alder Creek treatment plant.



Efforts consisted of pump and motor replacements, instruments replacements, cleaning and repair of existing filter equipment



Resulted in stabilized operations that are currently capable of producing 1+ MGD on a consistent basis



However, single points of failure currently remain throughout the plant and the longer-term reliability of the plant is questionable



Significant effort by Public Works teams with excellent response and return on investment to alleviate interruptions in plant treatment and flow supply.



Intermediate recommendations were to install new membrane filtration modules and replace the aged and failing existing filtration units and to establish a reliable 1.5 to 2.0 MGD capacity

Alder Creek Water System Updates



Vendor engineering of the membrane modules is anticipated to be complete by December 2024. Notice to Fabricate issued shortly thereafter.



Fabrication complete by October 2025 and delivery in November 2025.



Engineer of Record is under contract and moving forward with balance of plant improvements. 30% design is due December 2024.



A Land Use Permit will be required for Alder Creek WTP expansion. Permitting consultant is now under contract to assist.



Team is continuing to monitor and record flow stream data for Alder Creek.

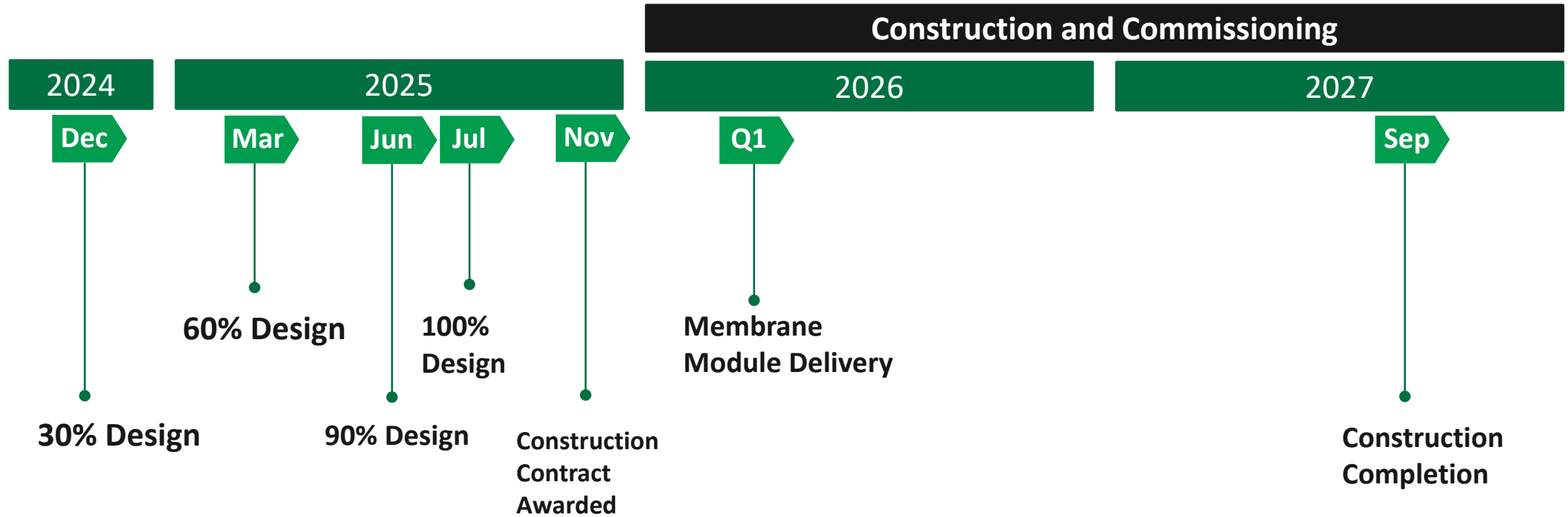


Team will prep for eventual condition assessment of the raw water pipeline during Alder Creek construction



Cost estimates remain within the anticipated \$30M budgetary projections.

Alder Creek Water System Schedule of Completion



Coordination with the Portland Water Bureau

- Portland Water Bureau is currently underway with the construction of the new Bull Run Filtration Facility (BRFF)
- BRFF is located approximately 2.25 miles west of Sandy's connection at the Hudson Intertie. Sandy's filtered supply is needed to be conveyed back to the east to reconnect to the Hudson Transmission Line at intersection of Bluff Road and Hudson Road.
- Additionally, the BRFF filtered water needs to be pumped or lifted to Sandy's existing Revenue Avenue Reservoir which is approximately 270 feet higher than BRFF.

Shared Assets – Sandy and PWB

- Given the interconnectivity between the PWB BRFF system and Sandy's transmission and storage systems, the concept of shared assets to reduce construction costs for both agencies was a key driver in early discussions
- Sandy and PWB consummated a revised supply agreement in the Summer of 2024 where Sandy's charge is based on demand and accounts for a fluctuating demand capacity based on time of year
- PWB was planning to construct a smaller diameter water pipeline to extend to Bluff Road as well as planning to install fire protection pump station to maintain water pressure at BRFF in the event of power failure.

Shared Assets – Sandy and PWB

- Discussions resulted in Sandy providing gravity supply from their Revenue Avenue Reservoir due to its higher elevation which would eliminate the need for the fire supply pump station and in exchange, PWB would enlarge the pipeline from BRFF to Bluff Road to accommodate Sandy's demand
- The result will be two Intergovernmental Agreements (IGAs) that document the agreement to share assets to save construction costs and impacts to rate payers, for PWB to lease land to Sandy to construct Sandy's new pump station at BRFF and to provide long term access agreements for operations and maintenance.

PWB to Sandy Water Supply Update



100% Design Package for Pipeline Section along Bluff Road is complete. Project is ready for procurement of a construction contractor.



60% Design Package for Bull Run Pump Station is complete. Refinements are being made for land use amendment. 90% Design Package is anticipated for Q1 2025 submittal.



Discussions regarding treatment options concluded in October. Current approach is to advance straight to 60% Design in Q1 2025.



Initial IGA has gone through PWB contracts group and is now under review by Portland's City Attorney.



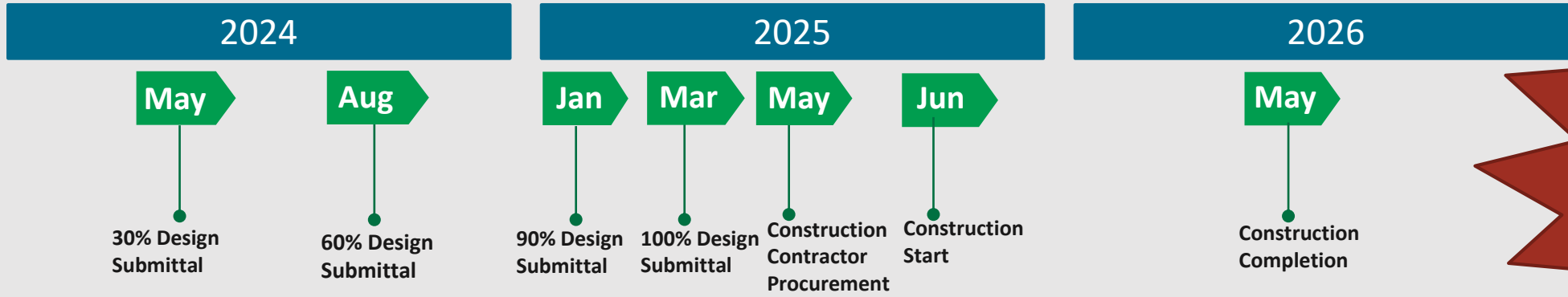
Land Use discussions are ongoing. Will require a Land Use Amendment in both Clackamas and Multnomah Counties. Applications for pipeline will be late fall/early winter 2024 and pump station will be December/January timeframe.

PWB to Sandy Water Supply Update

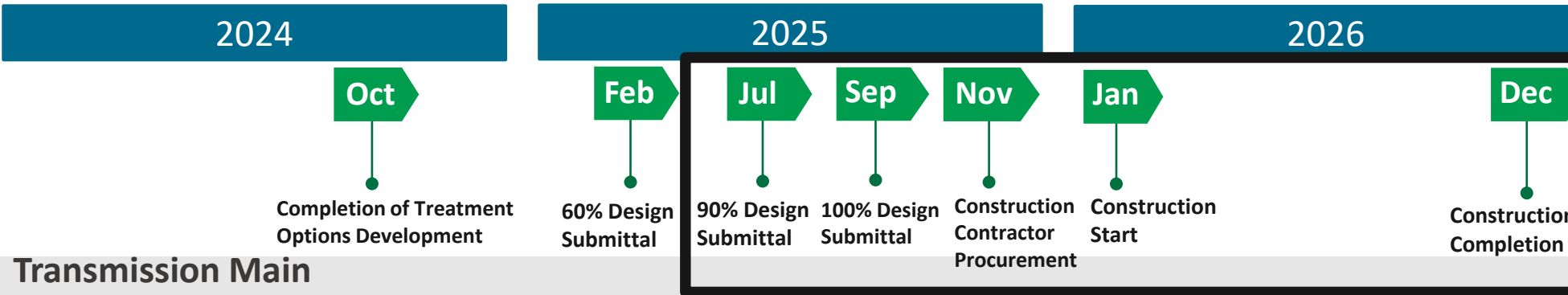
- Current schedule anticipates bidding pipeline project in late 2024/early 2025 with construction completion by Fall 2025.
- Current schedule anticipated bidding Bull Run Pump Station project in Q22025 with construction completion by Q3 2027 and Revenue Avenue Treatment System in Q4 2025 with construction completion by Q4 2026.
- Current cost estimates remain within the anticipated \$40M budgetary projections.
- As a risk mitigation, we are concerned that either the Bull Run Filtration Plant or Sandy's connection and pump station may not be functional by the EPA Bilateral Compliance date of September 2027. As such, we are planning to have Alder Creek WTP at full capacity of 2+ MGD in 2076 so that we can meet Sandy's daily demand with no curtailment until June/July of 2028.

Portland to Sandy Schedule

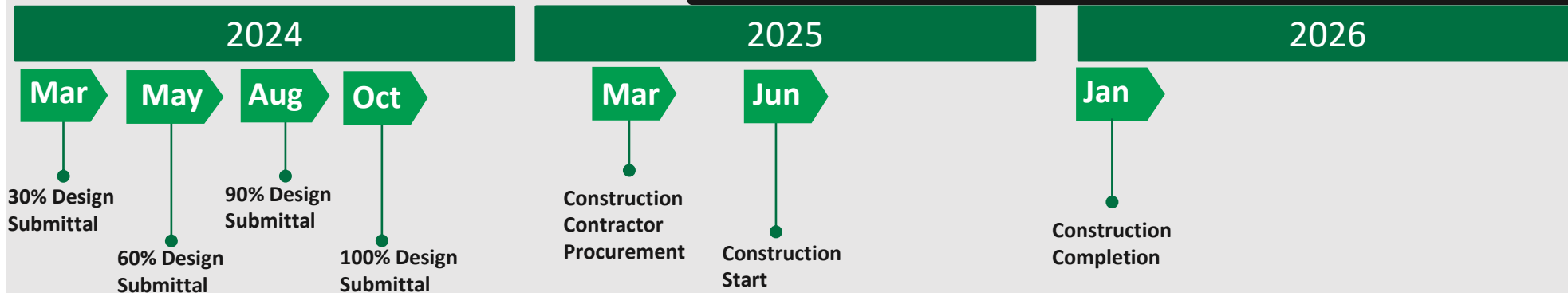
Pump Station



Revenue Avenue Reservoir Treatment Improvements



Transmission Main



Depending on Land Use and Financing

Tentative Schedule (TBD)



SDWRP Funding and Finance Update

SDWRP Funding Report

Funding Source	Project #	Funding	To Fund
Special Public Works Fund	A23007	\$7,000,000	Portland to Sandy Conceptual Design, Design, and Bid Documents
Special Public Works Fund	B24002	\$2,000,000	Alder Creek WTP Conceptual Design, Design Management, and Fiber Optic Design, and Construction
Special Public Works Fund	B24004	\$9,500,000	Alder Creek Membrane Procurement, Design of Plant Improvements, Construction, and Construction Management
Special Public Works Fund	Pending	\$6,000,000	Bridge Funding for Early Procurement and Construction for Transmission Main subcomponent of the Portland to Sandy
Safe Drinking Water Revolving Loan Fund	SR4005	\$6,029,100	Alder Creek Raw Water Upgrades Design, Construction, Construction Management.
WIFIA	Pending	\$39,470,900	Outstanding Construction Costs for both the Portland to Sandy and Alder Creek WTP Improvements
TOTAL		\$70,000,000	

SDWRP Budget Report

Project	Budget	Spent to Date	Estimate at Completion
Alder Creek WTP	\$21,883,462	\$296,305	\$21,883,462
Portland to Sandy	\$42,632,550	\$1,700,984	\$42,632,550
Management Reserve	\$5,483,988	\$0	\$5,483,988
SDWRP Total	\$70,000,000	\$1,991,289	\$70,000,000

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. In the distance, there are rolling hills and mountains under a clear blue sky. A large evergreen tree is visible on the right side of the frame. The title 'SDWRP Next Steps' is centered in a large, white, sans-serif font. Two horizontal lines, one above and one below the title, feature a rainbow color gradient from green on the left to red on the right.

SDWRP Next Steps

Next Steps

Maintain focus on next 36 months:

- Secure remaining funding to complete construction
- Finalize design documents for both PWB and Alder Creek Water Supply Systems
- Secure Land Use approvals in both Multnomah and Clackamas Counties
- Solicit public construction bids on improvements over the next 6 to 18 months
- Complete construction and commissioning of Alder Creek System by Spring of 2027
- Complete construction and commissioning of PWB Water Supply System by Fall of 2027

Next Steps

Amendment to 2019 Master Plan:

- Reflect new Alder Creek Water System and new PWB Water Supply Connection
- Revise condition assessments of remaining assets
- Re-assess water demand projections for next 40-year period
- Implement recommendations from the Water System SCADA Master Plan to automate management and operations of water system to maximum extent possible that is cost effective
- Study and report plan for developing Salmon Creek Water Right and develop conceptual plans and anticipated cost for future expansion of water capacity
- Complete condition assessment of the Alder Creek Raw Water Pipeline from intake to WTP and develop remaining service life estimates
- Adopt Amendment in Spring of 2026

Questions?

Thank you

