



# MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

*Rely on us.*

TO: Commissioners Barofsky, Schlossberg, Brown, Carlson, and Morris

FROM: Karen Kelley, Chief Operations Officer; Mike Masters, Water Operations Manager; Christopher Irvin, Water Engineering Supervisor; Nathan Endicott, Water Staff Engineer; Claire Wray, Communications Specialist

DATE: January 7, 2024

SUBJECT: 2025 Water System Master Plan

OBJECTIVE: Information

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## Issue

Water Operations & Engineering is currently updating the existing Water System Master Plan (WSMP) with an estimated completion in December of 2025. This memo provides an update on progress, details how the planning process is structured to align with core customer priorities and outlines future public outreach efforts.

## Background

A master plan is required for every community water system serving more than 1,000 people, per Oregon Administrative Rule (OAR) 333-061-0060(5). EWEB's WSMP is updated approximately once every ten years to serve as the basis for the Water Capital Improvement Plan (CIP). The WSMP evaluates existing water system infrastructure, identifies deficiencies or needs under current and future water demands, and provides recommendations for system improvements. EWEB staff work with outside consultants specialized in developing water system master plans, to bring a fresh set of eyes and industry best practices to help improve our system. EWEB retained Carollo Engineers and their sub-consultants to develop EWEB's 2025 WSMP update.

The master planning process culminates with the identification of improvement projects which are then prioritized and compiled in a 20-year CIP.

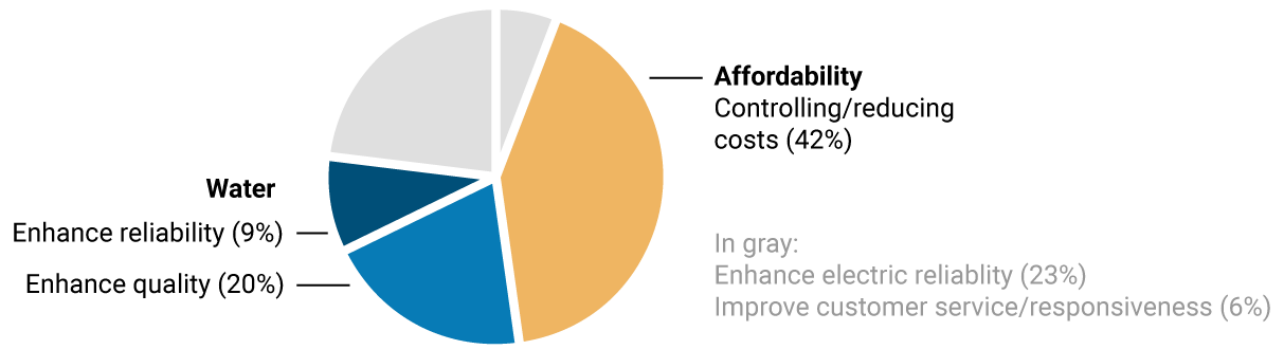
### **Aligning Master Planning Efforts with Customer Priorities**

Since the master plan will inform long-range capital investments that impact ratepayers, EWEB has structured the planning process to meet regulatory requirements, plan for growth in our service territory and be responsive to core customer priorities.

EWEB's 2022 customer survey, which returned more than 1,000 entries from a broad cross-section of residents, identified **water reliability, water quality** and **affordability** as the top priorities of our customer owners.

## Core Service Priorities from 2022 Customer Survey

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As is the challenge with many planning efforts, the cost of achieving reliability (in service and quality) often conflicts with the goal of maintaining affordability. Meeting regulatory requirements and planning for growth can further strain available resources.

The water master planning process is structured to navigate these complex tradeoffs by identifying the “universe” of potential improvements and then leveraging technology and value engineering to identify projects that deliver the greatest level of improvement at the most efficient cost.

### Increasing Reliability and Resiliency while Accommodating Growth

The EWEB project team is using a workshop approach to identify potential projects to improve the reliability of water service and water quality across the system.

Extensive planning was conducted during the 2015 WSMP update to optimize base-level storage to maximize water quality and achieve reliable operation. This includes work underway to standardize water storage tanks across the E. 40th, College Hill, and Hawkins Hill sites.

The 2025 Plan is focused on addressing upper-level distribution system deficiencies such as pipelines, pump stations, and water storage reservoirs that could benefit from similar optimization. Like the base-level improvements, upgrades to the upper-level system will enhance water quality by enabling the efficient movement of water through the system. Upgrades to the upper-level system also contain potential affordability benefits by reducing the amount of electricity required to move water and thereby reducing long-term operations costs.

In terms of growth, new residential service connections have grown by approximately 0.6% each year for the last decade, but water demands have remained relatively stable. The EWEB hydraulic model will be used to identify water distribution system upgrades needed to maintain adequate water service based on population forecasts and water demand projections.

One factor that could have a larger impact on the distribution system is the City’s potential expansion of the urban growth boundary. The city is currently analyzing options as part of the [Urban Growth](#)

[Strategies](#) project, with a decision expected by the end of 2026. If an expansion is necessary, EWEB will work with the city to analyze the serviceability of new areas.

A final major focus related to reliability is system resiliency. Because Eugene is in a light to moderate seismic area based on the Map of Earthquake and Tsunami Damage Potential for a Simulated Magnitude 9 Cascadia Earthquake, EWEB is required by regulation to complete a seismic risk assessment and mitigation plan. The project team has enlisted [Kent Yu, PhD, PE, SE](#), an earthquake/tsunami engineering expert, and Chairman of the Oregon Resilience Plan to assist with these tasks.

The goal is to identify critical facilities capable of supplying key community needs — such as fire suppression, health and emergency response and community drinking water supply points — and prioritize resiliency-related upgrades across a 50-year planning timeline based on the likelihood and consequence of seismic failure of each facility.



Gaining compliance with mandated resiliency goals will be costly and finding smart ways to couple resiliency improvements with other upgrades is a key focus of the planning team.

### Controlling Costs

Determining the final set of projects for inclusion in the CIP is the final and most critical step in the master planning process.

The EWEB project team is planning to use a software called Optimizer which uses artificial intelligence to rapidly analyze thousands of trial solutions to help pinpoint projects that are most impactful and cost-efficient. For example, Optimizer can review thousands of iterations and combinations of pumping, storage and pipeline upgrades to pinpoint projects that best balance hydraulic efficiency, minimize total cost, and optimize water quality throughout all the upper-level zones. The project team will cross-check recommended projects from Optimizer with growth and resiliency-related upgrades to identify overlap and determine whether projects can be combined to further maximize efficiency.

An additional benefit of Optimizer is that it can simulate future-state conditions to identify optimal solutions not just for today, but for EWEB's system years from now. This is particularly important as EWEB continues to implement approved projects from the 2015 Water Master Plan, including base-level storage upgrades and building a new Water Treatment Plant on the Willamette River, that will significantly alter how the water system functions when brought online.

### **Public Outreach**

The WSMP update and resulting CIP will have a direct impact on customer rates and will dictate the timing and location of future capital projects. While not a requirement of the process, informing customers about the WSMP update and the reasoning behind decisions is an important step to build confidence and support for planned system improvements.

EWEB's outreach approach is built on the following principles:

1. **Considering customer priorities during plan development.** A foundational element of our work for the public is considering data from the customer survey at the planning table, especially as decisions relate to balancing reliability with affordability.
2. **Providing transparent information on planning decisions.** Information about the plan and how the team reached outcomes will be added to the EWEB website.
3. **Making the planning team available for in-person presentations.** The team will offer to present to Neighborhood Associations and other organizations with wide local reach to diverse populations.

Outreach efforts will be focused on educating the public about the water system, explaining why planning and improvement projects are needed, and detailing how the planning process protects customer interests. The team will use the following channels to complete outreach efforts.

- Project Website – Create a virtual hub on EWEB’s website that holds all project information, answers to frequently asked questions (FAQs), and documents/studies that support planning decisions.
- Presentations and community events - Provide information at existing Neighborhood Association meetings, social/civic groups, and other organizations.
- Email distribution list - Maintain an email distribution list to keep the public informed and send notifications about planning progress and outcomes.
- Newsletters, social media, and local news media outreach – Use a mix of print and digital communication methods to reach a diverse audience across Eugene.

#### Anticipated Public Outreach Timeline

The project team will approach public outreach in two phases.

*Phase 1: April-July. Launch the project website, build an email list, and deliver presentations to Neighborhood Associations.* This phase will serve as an information distribution and information gathering phase. We will document questions from neighborhood presentations to enrich the FAQ and other information on the website.

*Phase 2: August-December. Share planning outcomes with the broader community.* Information about the WSMP update will be shared with the wider EWEB community through updates sent in our monthly newsletter, Current Connections, and local media coverage.

#### **Requested Board Action**

Information only.