

Water Plan Review Matrix
City of Enumclaw
Water Comprehensive Plan, February 2024

Service Area

The City of Enumclaw is located approximately 32 miles southeast of Seattle on a plateau between the White and Green Rivers. The City acquired its water system from Weyerhaeuser in 1923. The City's service area has expanded through the acquisition of several small water systems. The City's current service area encompasses its municipal boundaries and surrounding unincorporated King County, totaling approximately 37.3 square miles: with 5.3 square miles within the City's municipal boundaries and approximately 32 square miles in unincorporated King County.

Water System

The City's water system includes:

- Six groundwater supply facilities
- An emergency intertie to Tacoma Water
- Four operating reservoirs
- Three pressure reducing stations
- Seven booster pump stations
- 145+ miles of water main

The City's water source comes from two springs sites, four well sites, and an emergency surface water source via an intertie with Tacoma Water. The two spring sites provide a year-round water supply. One of the four wells provides year-round water supply, while three of the wells provide a seasonable supply. The emergency intertie carries water from Tacoma Water's Green River Filtration Facility.

The water system, as of 2021, had 6,252 water service connections. Most of these connections, 4,460, are located within the City's municipal limits and the remaining 1,792 connections are in unincorporated King County.

Water Use Efficiency (WUE)

Previous water system plans established a goal to reduce per-Equivalent Residential Unit (ERU) consumption by five percent gpd per year between 2004 and 2012 and maintain a three-year rolling average per-ERU water usage of 200 gpd/ERU or less. These goals have been accomplished as water consumption decreased from 263 gpd/ERU to 200 gpd/ERU between 2004 and 2021. The plan relates this decrease to water conservation related to the City's three-tiered water rate structure for residential customers and elevated sewer rates charged to customers within the City. This is likely due to conservation resulting from the City's three-tiered water rate structure for residential customers and to the elevated sewer rates charged to customers inside the City.

Past strategies to achieve its goals have also included 1) public education, and 2) system measures - source and customer meters, and leak detection and repairs.

The plan established new program goals:

- Achieving and maintaining Distribution System Leakage below seven percent through additional steel water main replacements, by conducting annual leak surveys, and by fixing any identified leak as soon as practicable.
- Reducing the annual volume of single-family residential customer leakage billing adjustments by 10 percent from 2023 to 2029 utilizing the new automated meter reading system to identify and notify customers of leaks more quickly than possible through the manual monthly read system.

Distribution System Leakage (DSL)

In 2021, the water system's DSL was 7.1 percent, while the three-year rolling average was seven percent. This three-year rolling average is below the State's 10 percent rolling average threshold that would require the City to develop an action plan.

System Deficiencies or Capacity Limitations

The results of the water rights and water source evaluations indicate that the City has sufficient water rights and source capacity to meet the projected demands through the 20-year planning period.

The system analysis indicated that there is an existing storage deficit of approximately 142,000 gallons that will increase to 771,000 gallons by 2032, and to over one million gallons by 2043. This conclusion is from a conservative analysis as it assumes that standby storage to meet the maximum day demand must be provided; however, the Department of Health allows for a reduction in standby storage volume for systems that have multiple, reliable sources. The City sources are equipped with backup power and can be considered reliable in the event of an emergency. The use of any one of the City's sources would offset the standby storage enough to resolve the deficiency.

The Fire Flow analysis indicates that there are some areas in unincorporated King County that currently don't meet the fire flow target. There are also some areas within the City that have a designated land use, such as multi-family residential, with a target fire flow that is higher than the system can currently provide. The fire flow for the existing land use, single-family residential, is sufficient. The City plans to improve mains in these areas as needed to address development as it occurs rather than preemptively upsizing large parts of the system before new multi-family development occurs.

The peak hour model analysis indicates that the system can sustain the required 30 psi at all service locations system-wide under current demands. Under the projected 10- and 20-year demands, pressures along SE 436th Place at 284th Avenue SE are shown to fall below 30 psi. The peak hour pressure analysis also indicates that the western end of the system includes many areas where pressure exceeds 100 psi, which is higher than recommended. The CIP includes projects to address these deficiencies.

Capital Improvement Plan & Financial Analysis

The capital improvement program includes approximately \$21 million of work through 2034, with an additional \$15 million planned beyond the 10-year planning period. The improvements include:

- Storage Improvements - \$5,557,000
- Source Improvements - \$2,472,000
- Booster Pump Station - \$618,000
- Distribution System - \$23,357,000
- Pressure Zone - \$1,146,000
- General Improvements - \$4,123,000

The Financial Program provides future water utility revenues and expenditures for 2023 through 2033. The estimated revenues assume a water ERU Growth rate of 2.9 percent between 2023 and 2026 and 0.3 percent afterwards and a general inflation rate of three percent. The program also assumes a rate increase of five percent per year on the City's base and consumption rates. The resulting estimated revenues shows that the City is sufficient to fund the high-priority projects in the City's CIP program over the 10-year planning cycle through its revenue sources. The other projects scheduled over the next 10 years may be implemented through other funding sources.

The Financial Program does not provide an analysis on the affordability of the City's water charges or rates. The City completed its last full rate study in 2017. It will complete an updated study in 2024 that will address

affordability of water charges and a rate structure that encourages water demand efficiency. The plan does include a comparison of its charges and rates to neighboring or similar water purveyors.

Reclaimed Water and Regional Planning

The City considered potential water reclamation opportunities in the 2007 and 2013 comprehensive water system plans. The identified water reuse opportunities would require a filtration system at the City’s Wastewater Treatment Plant at a cost over \$7 million. The plan further states that the use of reclaimed water is challenging as the costs to install the infrastructure to convey the recycled water to end users could be as costly as the needed filtration system. The City contends providing reclaimed water would exceed the cost savings that would be realized from the reduced use of potable water. Additionally, the plan reference challenges with current regulation and opposition from stakeholders would likely prevent implementation of a reuse program that would remove any of the flow that enters the White River from the City’s wastewater treatment plant.

Plan Adoption by the City

The City approved the plan through Resolution No. 1803 on February 26, 2024, prior to submission to the County for approval.

SEPA

The City completed a State Environmental Policy Act checklist and subsequently issued a Determination of Nonsignificance on September 6, 2023, for the City’s 2023 Comprehensive Plan Amendments, in which the plan was a component of; there were no appeals.

A review of the specific statutes, rules, codes, and policies to the water system plan is as follows:

	A. General water plan, King County Code (KCC) 13.24.010 and chapter 13.28	Comments/findings
(1)	Review is applicable to water utilities distributing or obtaining water in unincorporated King County, and/or utilities that are special purpose district created pursuant to Title 57 Revised Code of Washington (RCW). Is there a need to meet the consistency requirements of RCW 43.20.260?	<ul style="list-style-type: none"> • The City’s service area includes an area in unincorporated King County. • The Washington State Department of Health (DOH) needs to demonstrate consistency for the plan under RCW 43.20.260.
(2)	Consistency with King County Comprehensive plan (KCCP) and development regulations, and policies including KCC 21A.28.040 development standards, provision of adequate supplies for anticipated growth and development.	<ul style="list-style-type: none"> • The City’s plan is consistent.
(3)	Infrastructure for existing and future service areas based on adopted land use map.	<ul style="list-style-type: none"> • The plan demonstrates an ability to provide service consistent with applicable statutes, codes, rules, and regulations. • The City’s water supplies are sufficient to meet projected demand.
(4)	Review proposals for modified or expanded service areas based on compliance with utility's approved plan, and ability to meet duty to serve requirement.	<ul style="list-style-type: none"> • The City is not proposing any modification to its Retail Service area.

(5)	Sufficient information to demonstrate the ability to provide service consistent with the requirements of all applicable statutes, codes, rules, and regulations.	<ul style="list-style-type: none"> • The plan demonstrates an ability to provide service consistent with applicable statutes, codes, rules, and regulations. • The plan provides detailed information on the operational and preventative maintenance activities that demonstrates the City’s ability to provide service consistent with applicable provisions. • The City’s water supplies are sufficient to meet projected annual demand.
(6)	Monitor and review effectiveness of purveyor conservation plans if within area covered by an approved Coordinated Water System Plan (CWSP).	<ul style="list-style-type: none"> • The City is within the South King County Coordinated Water System Plan. • The City has adopted water use efficiency goals and taking actions to meet them through education and capital facility planning.
B. Consistency requirements: KCC 13.24.060		
(7)	State and local health requirements.	<ul style="list-style-type: none"> • The water purveyor meets State and local health requirements per reporting in the SENTRY system. • The Plan has not yet been approved by the Department of Health (DOH). • The Utilities Technical Review Committee (UTRC) review process included a representative of Public Health-Seattle and King County.
(8)	Creation and maintenance of logical service areas.	<ul style="list-style-type: none"> • The service area boundary itself is logical.
(9)	Elimination or prevention of duplicate facilities.	<ul style="list-style-type: none"> • The City intends to provide service within its service area through direct connection.
(10)	Promotion of most healthful and reliable services to the public.	<ul style="list-style-type: none"> • Water purveyed by the City complies with DOH requirements.
(11)	Provision of service at a reasonable cost, and maximization of use of public facilities.	<ul style="list-style-type: none"> • The Financial Program does not provide an analysis on the affordability of the City’s water charges or rates. It will complete an updated rate study in 2024 that will address affordability of water charges and a rate structure that encourages water demand efficiency. • The plan does include a comparison of its charges and rates to neighboring or similar water purveyors. The City’s monthly rates appear to be less than the most neighboring city water purveyors.
(12)	King County Comprehensive Plan and other pertinent county adopted plans and policies.	<ul style="list-style-type: none"> • The plan is consistent with the King County Comprehensive Plan.
(13)	Basin-wide or multi-basin water plans, sewerage plans, or both when approved by the Washington State Department of Ecology (Ecology) or DOH.	<ul style="list-style-type: none"> • The City does collect and treat wastewater. • The current sewer plan was completed in 2016 with a recent amendment to its capital improvement program 20-year plan in 2023.
(14)	Applicable state water quality, water conservation, and waste management standards.	<ul style="list-style-type: none"> • Applicable standards are met.

		<ul style="list-style-type: none"> In 2021 the City’s Distribution System Loss (DSL) was 7.1 percent of production, while the 3-year rolling average was 7 percent of production.
(15)	Water Resources Act (RCW 90.54).	<ul style="list-style-type: none"> The City plans to continue and improve upon its existing conservation (efficiency) program in compliance with DOH’s Water Use Efficiency Rule. The City has adopted 2023 – 2029 Water Use Efficiency Program Goals (WUE): Goal 1: Achieve and maintain DSL below 7 percent through additional steel water main replacements, by conducting annual leak surveys and fixing any identified leak as soon as practicable. Goal 2: Reduce the annual volume of single-family residential customer leakage billing adjustments by 10 percent from 2023 to 2029 utilizing the new automated meter reading system to identify and notify customers of leaks more quickly than possible through the manual monthly read system.
(16)	Growth Management Act (GMA) (RCW 36.70A).	<ul style="list-style-type: none"> The plan is consistent with the Growth Management Act. See #20 - #41 below.
(17)	Groundwater management plans.	<ul style="list-style-type: none"> The plan acknowledges the Watershed Restoration and Enhancement Plans for WRIA 9 and WRIA 10.
(18)	Federally approved habitat conservation plans and recovery plans under the Endangered Species Act (ESA).	<ul style="list-style-type: none"> The plan does not reference any habitat conservation plans.
(19)	Requirements for salmon recovery under Ch. 77.85 RCW, and other plans, including regional water supply or water resource management plans.	<ul style="list-style-type: none"> The plan acknowledges the Watershed Restoration and Enhancement Plans for WRIA 9 and WRIA 10.
	C: Countywide Planning Policies	
(20)	FW-5: Adopt comprehensive plans that are consistent with the Countywide Planning Policies as required by the Growth Management Act.	<ul style="list-style-type: none"> The Plan does recognize and utilize the growth targets in the 2021 King County Countywide Planning Policies for the water systems growth projections.
(21)	DP-14: All jurisdictions shall accommodate housing and employment targets by ensuring water, sewer, transportation and other infrastructure plans and investments among agencies, including special purpose districts, are consistent in location and timing with adopted targets as well as regional and countywide plans.	<ul style="list-style-type: none"> The Plan utilizes the growth targets in the 2021 King County Countywide Planning Policies for the water systems growth projections.
(22)	PF-3: Coordinate among jurisdictions and service providers to provide reliable and cost-effective services to the public.	<ul style="list-style-type: none"> The City has an emergency intertie with the City of Tacoma. The City has a service area agreement in place with the Remolif Addition Water System, the only Group

		<p>A water system within the boundaries of the City’s water service area.</p> <ul style="list-style-type: none"> • Adjacent Group A water purveyors include Marion Water System, Muckleshoot Water System, Walczak Water System, Remolif Addition Water System, and the City of Buckley.
(23)	<p>PF-5: Develop plans for long-term water provision to support growth and to address the potential impacts of climate change on regional water resources.</p>	<ul style="list-style-type: none"> • The increased water usage associated with population growth within the City’s RSA can be met using existing water supply sources, and wholesale water from the City of Tacoma. • The plan does discuss potential impacts of climate change on water demand and supply and steps the City may take.
(24)	<p>PF-8: Plan and locate water systems in the Rural Area that are appropriate for rural uses and densities and do not increase the development potential of the Rural Area.</p>	<ul style="list-style-type: none"> • The City’s service area includes an area of rural zoned property. • The provision of water service does not increase the development potential within the rural area as permitted land uses and densities are regulated through King County’s Comprehensive Plan and associated development regulations.
(25)	<p>PF-9: Recognize and support agreements with water purveyors in adjacent cities and counties to promote effective conveyance of water supplies and to secure adequate supplies for emergencies.</p>	<ul style="list-style-type: none"> • The City has an agreement with the City of Tacoma for an emergency source.
(26)	<p>PF-10: Implement water conservation and efficiency efforts to protect natural resources, reduce environmental impacts, and support a sustainable long-term water supply to serve the growing population.</p>	<ul style="list-style-type: none"> • The water conservation and efficiency efforts of the City meet the statutory minimum required (10%) by WAC Ch. 246-290. • In 2021 the City’s Distribution System Loss (DSL) was 7.1 percent of production, while the three-year rolling average was 7 percent of production.
(27)	<p>PF- 11: Encourage water reuse and reclamation, especially for high-volume non-potable water users such as parks, schools, and golf courses.</p>	<ul style="list-style-type: none"> • The Plan does consider reclaimed water use as the City does own and operate a sanitary sewer system. • The high cost of infrastructure for distribution makes it cost-prohibitive. • The plan indicates community stakeholders may be apprehensive as water reuse would decrease water being released into White River.
	<p>D: King County Comprehensive Plan (KCCP)</p>	
(28)	<p>F-107: With special purpose districts or local service providers, plan for provision of services to rural areas and Natural Resource Lands, consistent with rural standards and needs.</p>	<ul style="list-style-type: none"> • The City’s service area includes a rural area. • The plan recognizes the rural land use designation and zoning.

(29)	F-201: All facilities and services should be provided in compliance with provisions and requirements of the ESA and the Clean Water Act.	<ul style="list-style-type: none"> • DOH ruled that the Boise Creek and Watercress Spring sources are not considered to be surface water or groundwater under the influence of surface water (GWI). • The City is not required to prepare a Watershed Control Plan under WAC 246 290-135(4). • The City meets the Clean Water Act through its compliance with DOH regulations.
(30)	F-209: In the Rural Area, services provided by agencies should support a rural level of development and not facilitate urbanization.	<ul style="list-style-type: none"> • See #26 above.
(31)	F-210: Capital facility plans, and capital improvement programs prepared by all other agencies for services to unincorporated King County are consistent with the KC Comprehensive Plan.	<ul style="list-style-type: none"> • The modeling that identified potential capital improvement incorporated land use and growth assumptions that reflected King County zoning and considered PSRC growth forecasts, consistent with the KC Comprehensive Plan.
(32)	F-221: King County shall initiate a sub-area planning process with any service provider that declares, in its capital facilities plan, an inability to meet service needs within service area.	<ul style="list-style-type: none"> • Not applicable as the City did not identify an inability to meet service needs within its service area.
(33)	F-223: If a service deficiency is identified in a service provider's existing service area, King County and the applicable service provider shall remedy the deficiency through a joint planning process addressing capital improvement programs and long-term funding strategies.	<ul style="list-style-type: none"> • Not applicable as the City did not identify an inability to meet service needs within its service area.
(34)	F-231: King County supports coordination of regional water supply planning, sales of excess water supplies among municipalities in the region, water quality programs and water conservation, reuse, and reclaimed water programs to support growth in the UGA and ensuring water availability for resource lands.	<ul style="list-style-type: none"> • The City signed a Wholesale Water Supply Agreement in 1997 with the City of Tacoma. Through this agreement the City currently receives water from the City as an emergency source. The agreement also allows this source to be used when the City has future water capacity needs. • The City is committed to continuing its water conservation efforts.
(35)	F-232: Water utilities that obtain water from, or distribute water in unincorporated King County, and water utilities formed as special purpose districts under Title 57 RCW are required to submit water system plans to the County for review and approval and shall describe in their plans how they intend to meet their duty to provide service within their retail service area.	<ul style="list-style-type: none"> • The City does provide water to unincorporated King County areas. • The plan demonstrates that the City can meet its duty to serve in the designated retail service area. • The plan does include a service policy that addresses the process for dispute resolution related to timely and reasonable service with the City's Retail Service Area.
(36)	F-246: King County supports interties that allow the transfer of water resources among water utilities to meet the projected demands for growth where such interties meet the requirements of RCW 90.03.383 and are also	<ul style="list-style-type: none"> • See #24 above.

	<p>consistent with any applicable locally adopted comprehensive plans, regional water supply plans, adopted groundwater management plans, watershed plans, approved Coordinated Water System Plans, E response requirements and Clean Water Act requirements.</p>	
(37)	<p>F-249: Utilities with more than one thousand service connections required to submit water system plans for approval to King County shall include an evaluation of reclaimed water use opportunities by completing King County's Water Reclamation Evaluation Checklist.</p>	<ul style="list-style-type: none"> • A King County water reclamation evaluation checklist has been provided.
(38)	<p>F-251: In its review of water system plans, the UTRC shall consider the criteria provided in K.C.C. 13.24.010, 13.24.060, and 13.24.070, and determine the plan's consistency with the following:</p> <ol style="list-style-type: none"> a. Applicable provisions of the King County Comprehensive Plan, land use plans, and development regulations adopted under the Growth Management Act; b. Approved or adopted regional water resource plans, such as basin plans, groundwater plans, watershed-based conservation and recovery plans developed under ESA, salmon recovery plans developed under chapter 77.85 RCW, water resource plans developed under chapter 90.54 RCW, watershed plans developed under chapter 90.82 RCW, and a regional water supply plan or water resource management plan; c. The county's Regional Wastewater Services Plan; and d. Other applicable provisions of countywide plans managed by King County, as specified in UTRC guidance or checklists. 	<ul style="list-style-type: none"> • The UTRC has reviewed the planning data and the District's operations and has found the Plan is consistent with: <ol style="list-style-type: none"> a. the King County Comprehensive Plan, land use plans and development regulations; b. to the extent applicable, the basin plans, groundwater plans, watershed-based conservation and recovery plans for the service area, and c. other applicable provisions.
(39)	<p>F-252: In reviewing proposals for modified and expanded service area boundaries for municipal water suppliers, the UTRC shall consider, in addition to Policy F-251:</p> <ol style="list-style-type: none"> a. Compliance by the water system with its water system comprehensive plan, including water conservation elements; b. Whether it can meet its duty to provide service within its service area, as required under chapter 43.20 RCW; and 	<ul style="list-style-type: none"> • Not applicable as the City is not modifying its Retail Service area.

	<p>c. Consistency with the service provisions of any applicable Coordinated Water System Plan, as adopted in King County Code Chapter 13.28.</p>	
(40)	<p>F-253: Consistent with Countywide Planning Policies, public drinking water system surface water reservoirs and their watersheds should be managed primarily for the protection of drinking water, but should allow for multiple uses, including recreation, when such uses do not jeopardize drinking water quality standards. Public watersheds must be managed to protect downstream fish and agriculture resources.</p>	<ul style="list-style-type: none"> • Not applicable as the City does not control any surface water reservoirs or watersheds. • DOH ruled that the Boise Creek and Watercress Spring sources are not considered to be surface water or groundwater under the influence of surface water (GWI). • The City is not required to prepare a Watershed Control Plan under WAC 246 290-135(4).
(41)	<p>F-254: Groundwater-based public water supplies should be protected by preventing land uses that may adversely affect groundwater quality or quantity to the extent that the supply might be jeopardized. The County shall protect the quality and quantity of groundwater used as water supplies through implementation of Policies E-493 through E-497 where applicable.</p>	<ul style="list-style-type: none"> • The City has a Wellhead Protection Program. • The Wellhead Protection Plan includes protection strategies, implementation tasks, a spill response plan, and a contingency plan.