Section 2: Introduction

The City of Bremerton Department of Public Works and Utilities (City) provides wastewater services to Bremerton and its neighboring areas. To ensure both existing and future wastewater capacity of the Bremerton community is met, the City has prepared this update to the Wastewater Comprehensive Plan (WWCP). This plan, often referred to as the "general sewer plan," adheres to the requirements outlined in WAC 173-240-020 and WAC 173-240-050.

The most recent WWCP update was completed in October 2014 (2014 WWCP Update) and adopted through Ordinance No. 5268 by the City Council in December 2014. The current 2024 WWCP builds upon its predecessor, utilizing a 20-year planning horizon from 2024 to 2044. Periodic review and revisions to the WWCP may be necessary to address changes in regulations or system conditions.

2.1 Regulatory Requirements

The WWCP addresses relevant federal, state, county, and local regulatory requirements. The following sections summarize these regulations applicable to this WWCP.

2.1.1 Federal Regulations

The Federal Water Pollution Control Act of 1972 (PL 92-500), as amended by the Clean Water Act of 1977 (PL 95-217) and the Water Quality Act of 1987 (PL-100-4), commonly referred to as the Clean Water Act (CWA), are the federal laws that provide the overall regulatory construct for the development of federal rules to protect surface water quality in the Unites States. The CWA gave the United States Environmental Protection Agency (EPA) authority to implement pollution control programs and regulations associated with wastewater and effluent discharges into surface waters. The EPA has the authority to delegate enforcement to the states, when state regulations are at least as strict as the federal regulations. In the State of Washington, the Washington Department of Ecology (Ecology) has primacy from the EPA to administer and enforce the CWA. In response, the DOE has promulgated several regulations to protect human health and the environment from wastewater treatment and effluent discharge to surface water in Washington.

Federal regulations for biosolids treatment and disposal are outlined in Title 40 Part 503 of the Code of Federal Regulations (CFR). The EPA's Part 503 regulations classify biosolids as Class A or Class B based on pathogen density achieved through treatment. Biosolids beneficially used must meet one of these classifications.

Class B biosolids are produced using a Process to Significantly Reduce Pathogens (PSRP), including aerobic/anaerobic digestion, composting, lime stabilization, and drying. Restrictions apply to food crop harvesting, animal grazing, and public access to land treated with Class B biosolids. Class A biosolids, achieved through a Process to Further Reduce Pathogens (PFRP), such as composting, heat drying, and pasteurization, offer greater flexibility for use and sale due to fewer restrictions. To classify biosolids as Class A using anaerobic digestion, the process

must meet time-temperature criteria or obtain PFRP equivalency from the EPA's Pathogen Equivalency Committee (PEC).

Part 503 regulations also cover pollutant concentrations, vector attraction reduction, and management practices. Effective industrial pretreatment generally results in low pollutant levels. Biosolids that meet Class A pathogen levels, low pollutant concentrations, and vector attraction reduction criteria may qualify as Exceptional Quality (EQ).

The EPA has established guidance for states to use in enacting regulations for wastewater reuse and reclamation (i.e., reclaimed water).

2.1.2 Washington State Regulations

States are required under Section 303(d) of the CWA to identify water bodies that are impaired by pollution and to establish a priority ranking of these impaired waters. States must establish a total maximum daily load (TMDL) of pollutants for each of these water bodies including identification of sources and develop and submit an implementation plan to meet the TMDL. The primary driver for the State's TMDL program is a 1997 Memorandum of Agreement between EPA and Ecology regarding Section 303(d) implementation.

Discharges of excess nutrients to the Puget Sound from domestic wastewater treatment plants are controlled by the Puget Sound Nutrient General Permit. The first Puget Sound Nutrient General Permit was issued in December 2021 and is effective until December 2026.

The governing Washington State laws for the planning and designing of wastewater facilities are the Revised Code of Washington (RCW) 90.48.110. Washington Administrative Code (WAC) Section 173-240 implements the "plans and specifications" from RCW 90.48.110 and includes the requirements for engineering reports, plans and specifications, and general sewer plans. WAC 173-240 includes the following regarding planning requirements and review procedures:

- Plan contents,
- Requirements for engineering reports for specific projects, ownerships, operation and maintenance, and
- Public notification procedures for construction of wastewater facilities.

Title 90.26 of the RCW establishes Washington State law governing the use of reclaimed wastewater including treatment requirements according to types of use. WAC 173-308 is the state regulation that governs the management, beneficial use, and disposal of biosolids generated by wastewater treatment processes.

Combined sewer overflow (CSO) regulations are addressed in RCW 90.48.480 and WAC 173-245. These regulations call for "the greatest reasonable reduction in CSOs at the earliest possible date." The WAC 173-245 regulations developed from this law allow only one CSO per year per CSO site. The City of Bremerton is allowed to meet this requirement based on a 20-year rolling average. The CSO regulations have been addressed in the City of Bremerton's CSO Reduction Plan, October 2000 (addendum July 2003). Ecology determined in February 2011 the City had fulfilled the obligations of the CSO Reduction Plan. Overall reduction by volume and

frequency of events is 99% and compliance has been obtained at all sites. The City has continued to minimize CSO events by addressing sanitary sewer discharges as they are identified, enhancing the collection system with cured-in-place pipelining for aging mains, and eliminating sewer lateral connections and decommissioning sewers in marine areas. Each year, the City submits a CSO Annual Report to the Ecology, detailing ongoing monitoring, the volume, location, and duration of CSO events, and the activities performed to further reduce such occurrences.

2.2 Growth Management Act

The State of Washington's Growth Management Act (GMA) was enacted by the 1990 Legislature and its administrative regulations were adopted by Ecology in 1992. The GMA regulations are contained in WAC 365-195 and require all counties and cities with specified populations and growth rates to meet the requirements of the Act. One of the requirements of the GMA is development of a comprehensive plan. Wastewater Comprehensive Plans must include maps and descriptive text covering the objectives, principles, and standards used to develop the plan. One of the required elements of the comprehensive plan, which relates to the planning for and construction of wastewater collection and treatment facilities, is the capital facilities plan element. The capital facilities plan element must meet the requirements of RCW 36.70A.070. These requirements include:

- An inventory of existing capital facilities owned by public entities, including the locations and capacities of these facilities,
- A forecast of the future needs for the capital facilities,
- The proposed locations and capacities of expanded or new capital facilities,
- At least a six-year plan that will finance such capital facilities within projected funding capacities and clearly identifies sources of public money for such purposes, and
- A requirement to reassess the land use element if the probable funding falls short of meeting existing needs.

2.3 Compliance Status

The City's WWTP continues to operate under the National Pollutant Discharge Elimination System (NPDES) Permit (WA-002928-9), issued by the Ecology, which administers the Clean Water Act regulations.

The plant has consistently met weekly and monthly effluent biochemical oxygen demand (BOD) and total suspended solids (TSS) permit standards since 2005. It has received the Department of Ecology's Outstanding Performance Award for operational excellence every year from 2005 through 2023 (the award was not received in 2014, 2015, and 2019). This recognition underscores the facility's ongoing commitment to compliance and water quality management. Table 2-1 provides a summary of the requirements under the current NPDES permit. Copies of the NPDES permit and fact sheet are included in Appendix A.

Table 2-1: NPDES Permit Requirements

Parameter	Units[1]	Design Quantity	
		May – September	**October – April**
Influent Limitations			
Maximum Month Flow	MGD	11.0	15.5
Maximum Month Influent BOD_5 Loading	ppd	18,100	
Maximum Month Influent TSS Loading	ppd	22,600	
Effluent Limitations			
Average Monthly Carbonaceous BOD_5 ($CBOD_5$)	mg/L	25	
	ppd	2,294	3,232
		85% removal of influent $CBOD_5$	65% removal of influent $CBOD_5$
Average Monthly TSS	mg/L	30	30
	ppd	2,752	3,878
		85% removal of influent TSS	65% removal of influent TSS
Monthly Geometric Mean Fecal Coliform	# Colonies	200 per 100 mL	
pH		Between 6.0 and 9.0	

Notes:
(1) MGD – million gallons per day
ppd – pounds per day
mg/L – milligrams per liter

The City has also successfully reduced its combined sewer overflows (CSOs) by over 99%, as required by the City's CSO Reduction Plan, leading to the reopening of shellfish harvesting areas in Dyes Inlet. This reduction was instrumental in the termination of the Federal Consent Decree in 2011, which resulted from the 1992 lawsuit filed by the Puget Soundkeeper Alliance. All projects listed in the 1993 Ecology Order on Consent were completed by February 2011.

2.4 Planning Information Sources

Information sources used in preparation of the following WWCP elements include:

Population:

United States Census Bureau, 2020 census data.

Land Use:

City of Bremerton Comprehensive Plan, December 2014.
City of Bremerton Wastewater Treatment Comprehensive Plan, December 2005.
City of Bremerton Zoning Ordinance, May 18, 2016.

Other Reports:

City of Bremerton Wastewater Comprehensive Plan (2005, CDM).
City of Bremerton Wastewater Comprehensive Plan (2014, HDR).
WWTP Rerating Study (2008, MWH).
Nitrogen Removal Planning Study (2021, HDR).
Nitrogen Optimization Plan and Report (2023, HDR).
CSO Reduction Plan Update (2000, HDR)
Sewer UGA Planning (2008, HDR)
Sewer Planning Reports for Marine Drive, SKIA, East Bremerton and West Hills (2008, HDR)
Outfall Evaluation (2018, Cosmopolitan Engineering for WWTP only).

2.5 WWCP Organization

The objective of the WWCP is to provide a comprehensive summary of planning strategies, policies, and regulatory compliance efforts for the City's wastewater utility. The WWCP outlines long-term planning and service criteria, and assesses the capacity, condition, and regulatory compliance of the City's wastewater utility facilities in alignment with the Washington State Growth Management Act and the City's Comprehensive Plan.

Specific plan components include the following Sections:

Section 1: Executive Summary

Section 2: Introduction – Provides a summary of relevant background information, describes the existing system, including applicable regulatory and other requirements, and identifies related documents and sources of planning information.

Section 3: Service Area and System Description – Details the characteristics of the surrounding vicinity, the sewer service area, and the existing infrastructure.

Section 4: Business Risk and Vulnerability Analysis - Baselines unit process and system performance, vulnerabilities, and failure modes based on input from stakeholders. Institutional knowledge is collected from City staff along with record data to review performance objectives and identify known functional failures and risks.

Section 5: Historical and Projected Flows and Loads – Documents current and projected future population, land use, sewer flows, loads, and their impacts on the utility within the sewer service area.

Section 6: WWTP Collection System Evaluation – Evaluates necessary improvements to the sanitary sewer system based on the proposed expansion of the City's sewer service area to incorporate new service zones.

Section 7: Wastewater Treatment Facilities Evaluation – Establishes planning and design criteria, assesses the effects of anticipated sewage flows on treatment processes and facilities, and identifies necessary improvements to accommodate expected waste flows and loadings, including those required for effective use and disposal of effluents and solids.

Section 8: Capital Improvement Program – Summarizes, schedules, and prioritizes the improvements identified in the WWCP, including implementation timelines, cost estimates, and the financial plan.

Section 9: Operation and Maintenance – Outlines the wastewater utility's organizational structure and details the operations, maintenance procedures, and programs in place.

Section 10: Implementation – Discusses the coordination process for implementing the WWCP, as well as the environmental impacts associated with the implementation of current and future WWCPs.

Section 11: References