

# **1. Introduction**

## **1.1. Purpose**

This Wastewater Comprehensive Plan Update has been developed to address the wastewater service issues facing the sewer collection and treatment system of the City of Gig Harbor (City). The need to assess the capacity of the existing collection and treatment system facilities and to determine an effective strategy for future growth is a critical element in the management of the City's sewer and treatment services.

The purpose of this plan is to evaluate the capacity and condition of the existing sewer system, to determine required system improvements, and provide an outline for project schedules and costs.

## **1.2. Background**

The existing sewer system is owned, operated, and maintained by the City. The existing sewer service area covers approximately 1,800 acres and consists of approximately 150,000 lineal feet of various sizes and materials of gravity and force main pipe. The system serves areas within city limits and several developments outside of the city limits.

The original treatment facility was built by the City in 1975 and the wastewater from this City has historically been treated at the City's wastewater treatment plant (WWTP), which is located at the intersection of Harborview Drive and Austin Street. The WWTP was upgraded in 1994 to include major improvements for degritting, screening, aeration stabilization, and digester associated improvements. Currently, the plant also provides activated sludge to provide secondary treatment of municipal sewage.

## **1.3. Regulatory Requirement**

This Wastewater Comprehensive Plan Update has been developed in accordance with Washington Administrative Code (WAC) 173-240-050, which requires all governmental agencies providing wastewater service to submit a wastewater comprehensive plan update to the Washington State Department of Ecology for approval. Approval by the Department of Ecology allows for the preparation of Engineering Reports/Facility Plans for specific wastewater utility infrastructure improvements.

## **1.4. City Policies**

### **1.4.1. City Sewer Regulations and Planning Policies**

Gig Harbor Municipal Code chapter 13.28 and the City of Gig Harbor Public Works Standards set rules and regulations for the City's sewer system, chapter 13.32 establishes rates, and chapter 13.34 sets additional rules for sewer service outside the city limits.

Sewer collection systems shall be installed in accordance with these regulations and policies. Additionally, upon wastewater basin buildout conditions, the lift stations shall be located at the topographic low point of the basin to maximize gravity service to all properties within the basin as approximated on the Wastewater Basin Map provided in Appendix B.

The siting of any wastewater facilities such as pump stations or wastewater treatment facilities will have to adhere to the City planning and zoning policies at the time of construction.

The Pierce County General Sewage Plan prohibits the extension of City sewer facilities beyond the boundaries of the UGA except in response to a public health hazard (e.g., failing septic systems). Pierce County also approves and controls the density of developments to be served by community septic systems.

### **1.4.2. Amendments to the Wastewater Comprehensive Plan**

Amendments to policies or growth projection contained within this plan or amendments which adversely affect wastewater system capacity shall be processed through the City's Comprehensive Plan amendment procedures (Chapter 19.09.GHMC)

All other amendments, to be known as technical amendments, must be made through application to the City of Gig Harbor Public Works Department. Decisions on technical amendments will be made by the City Council and will, where accepted by the City Council, be adopted by resolution and be forwarded on to the appropriate state jurisdiction for additional review or approval. The requisite fee for proposed amendments to the Wastewater Comprehensive Plan must accompany the proposed application. Additionally, all costs incurred by the City will be reimbursed by the applicant proposing the amendment. These costs may include, but are not limited to, consultant fees, legal fees, and review fees required by other jurisdictions.

All proposed amendment applications must include a completed Sewer Hydraulics Report in City format.

### **1.4.3. On-Site Septic System Regulations**

In some cases wastewater may be treated and disposed of on-site either by individual septic systems or community on-site systems. It is the intent of the City, however, to eventually provide wastewater collection services to all residents within the UGA. In the mean time, on-site septic systems should be designed to meet the Washington Department of Health design standards. Approval of the systems will be made either by the local health department for systems under 3,500 gallons per day, or the Washington State Department of Health for systems less than 14,500 gallons per day but greater than 3,500 gallons per day, or the Washington State Department of Ecology for systems that are over 14,500 gallons per day in capacity. The State Board of Health statute that provides the authority for the Department of Health (DOH) to adopt rules for sewage is found in RCW 43.20.

#### **1.4.4. City Sewer Agreements**

The City of Gig Harbor has an agreement with Canterwood Estates to accept, convey, and treat sewage from the development's septic tank effluent pump (STEP) system. Canterwood Estates is billed by the number of customers connected to the STEP system. Under the agreement, Canterwood Estates is responsible for construction and maintenance of its STEP system.

The City of Gig Harbor has entered into a contract with the Wollochet Harbor Sewer District to provide wastewater treatment for to septic tank effluent produced in the District. The contract allows for the District to discharge an average annual flow of 16,400 gallons per day. The point of discharge is the Wagner Way pump station.

#### **1.4.5. City Wastewater Operation and Maintenance Standards**

The construction of all wastewater facilities and onsite systems within the City's corporate limits and UGA must meet the design standards as outlined in Chapter 5 of the City of Gig Harbor Public Works Standards. In addition, all wastewater facilities must meet Washington State Department of Ecology design standards as delineated in Criteria for Sewage Works Design.

### **1.5. Plan Organization and Overview**

This Wastewater Comprehensive Plan Update provides an overview of the City's existing demographics and planned growth, determines estimated wastewater flows, evaluates the capacity of the system, identifies and prioritizes necessary capital improvements within the City's existing collection and conveyance system, as well as the City's wastewater treatment plant (WWTP).

The Plan also includes preliminary engineering in adequate detail to assure technical feasibility, provides for the method of distribution of the cost and expense of the sewer system, and indicates the financial feasibility of plan implementation. The chapters in this Plan include:

Chapter 1. Introduction.

Chapter 2. Planning Criteria. Current population trends, as well as scenario developments for growth were developed based on interviews and current City land use zoning.

Chapter 3. Wastewater Flow Projections. Historic, current, and future wastewater flow estimates were calculated for sanitary or demographic flows (broken down into three total categories: households, commercial/employees, and industrial), and infiltration & inflow.

Chapter 4. Wastewater Collection System. The pump stations, forcemains, and primary gravity pipelines were evaluated to determine if capacity improvements are needed.

Chapter 5. Wastewater Treatment Plant. The WWTP chapter references specific engineering reports prepared by the City, which identify current and projected wastewater loadings, summarize plant capacity and performance, and describes needed treatment plant improvements, including the outfall.

Chapter 6. Water Reuse and Reclamation. The City's efforts regarding evaluation of the potential for reclaimed water to be a beneficial component of its wastewater management strategy is summarized on this chapter.

Chapter 7. Capital Improvement Program. The CIP prioritizes and schedules the City's wastewater improvement projects over the next 6 to 20 years, and provides estimated project costs.

Chapter 8. Financial Analysis. The financial evaluation developed scenarios and strategies for funding the City's wastewater utility and planned capital improvement projects.

As part of the State Environmental Policy Act (SEPA), environmental requirements for implementing this Plan are identified in the SEPA checklist contained in Appendix A. Specific environmental impacts for each project in the Capital Improvement Program will be evaluated in a separate SEPA process during implementation.