

Introduction

ES-1. SEWER SYSTEM OWNERSHIP AND MANAGEMENT

The City of Fife (City) is a municipal corporation that owns and operates a public sewer system within its corporate boundaries. Sewage collection is provided through a conventional gravity collection system. Wastewater treatment is provided by the City of Tacoma at its Central Wastewater Treatment Plant No. 1.

ES-2. OVERVIEW OF EXISTING SYSTEM

The sewer service area is the same as the City limits except for several parcels located in the northeastern portion of the City that are served by Pierce County Sewer Utility as part of its Contract Service Area. The City's sanitary sewer collection system consists of 13 pump stations, 7.5 miles of force main, and 28.8 miles of gravity sewer main. Approximately half of the system is 8-inch-diameter gravity main. The City's sanitary sewer is conveyed to either Pump Station 1 or Pump Station 5 located in the western portion of the City. Pump Stations 1 and 5 pump the wastewater over the Puyallup River on the City of Tacoma's Puyallup River Bridge for treatment at the City of Tacoma's Central Wastewater Treatment Plant. A summary of Fife's sewer system is presented in **Table ES-1**.

**Table ES-1
2014 Sewer System Data**

Description	Data
Population (2014)	9,290
Sewer Service Area	6.0 sq. miles
Total Connections	3,932
Total Customers (ERU)	5,065
Total Length of Gravity Main	28.8 miles
Total Length of Force Main	7.5 miles
Number of Pump Stations	13
Average Day Flow (8 Years)	0.96 MGD
Treatment Capacity	1.75 MGD

ES-3. AUTHORIZATION AND PURPOSE

In March 2014, the City authorized RH2 Engineering, Inc., (RH2) to update its General Sewer Plan (Plan) in accordance with Washington Administrative Code (WAC) 173-240-050. The previous Plan was prepared for the City in 1998. The purpose of this updated Plan is as follows.

- To evaluate existing sewer flow data and project future flows.

Executive Summary

- To analyze the existing sewer system to determine if it meets minimum requirements mandated by the Washington State Department of Ecology (Ecology), and the City's own policies and design criteria.
- To determine the overall reliability and vulnerability of existing wastewater lift stations.
- To identify sewer system improvements that will resolve existing system deficiencies and accommodate future system needs.
- To prepare a schedule of improvements that meets the goals of the City's financial program.

ES-4. RELATED PLANS AND STUDIES

As part of preparing this Plan, several plans and studies were examined, including the following.

- City of Fife *Comprehensive Sewer Plan* (Parametrix March 1998)
- *City of Fife 2014 Sewer System Plan Amendment* (PACE June 2014)

SUMMARY OF PLAN CONTENTS

A brief summary of the content of the chapters in this Plan is as follows.

- **Chapter 1** presents the sewer service area and describes the existing sewer system.
- **Chapter 2** presents related plans, land use, and population characteristics.
- **Chapter 3** presents the City's operational policies and design criteria.
- **Chapter 4** identifies existing wastewater flow rates and projects future rates.
- **Chapter 5** discusses the sewer system analyses and existing system deficiencies.
- **Chapter 6** presents the proposed sewer system improvements, their estimated costs, and an implementation schedule.
- **Chapter 7** discusses the City's operations and maintenance program.
- **Chapter 8** summarizes the financial status of the sewer utility and presents a plan for funding the sewer improvements.

ES-5. LIST OF ABBREVIATIONS

The abbreviations listed in **Table ES-2** are used throughout this Plan.

**Table ES-2
Abbreviations**

Abbreviation	Description
AAF	Average Annual Flow
BOD	Biochemical Oxygen Demand
CIP	Capital Improvement Plan
City	City of Stanwood
DOH	Department of Health
Ecology	Department of Ecology
EPA	Environmental Protection Agency
fps	feet per second
GMA	Growth Management Act
gpcd	gallons per capita per day
gpd	gallons per day
gpm	gallons per minute
HDPE	High Density Polyethylene
hp	horsepower
I/I	Infiltration and Inflow
L&I	Labor and Industries
MGD	million gallons per day
mg/L	milligrams per liter
MUTCD	Manual on Uniform Traffic Control Devices
NH ₃ -N	Ammonia as Nitrate
NPDES	National Pollutant Discharge Elimination System
OFM	Office of Financial Management
OSHA	Occupational Safety and Health Administration
Plan	Comprehensive Sewer System Plan
ppd	pounds per day
PVC	Polyvinyl Chloride
RCW	Revised Code of Washington
SMC	Stanwood Municipal Code
TDH	Total Dynamic Head
TSS	Total Suspended Solids
UGA	Urban Growth Area
WAC	Washington Administrative Code
WISHA	Washington Industrial Safety and Health Act

