SAMISH WATER DISTRICT

COMPREHENSIVE SEWER PLAN

Prepared for

Prepared by
Wilson Engineering, LLC
May 2023

Samish Water District

2195 Nulle Road
Bellingham, Washington
98229

Comprehensive Sewer Plan

BOARD OF COMMISSIONERS:
Art M. Baddorf, President
Michael F. Roberts, Secretary
Mary B. Hess, Commissioner

Ken Vogel, District Manager

Prepared By:
WILSON ENGINEERING, L.L.C.
805 Dupont Street, Suite #7
Bellingham, Washington 98225
(360) 733-6100 (office); (360) 647-9061 (fax)

Wilson ENGINEERING, LLC

May 2023

Tables

Figures

Acronyms and Abbreviations

Board	Samish Water District Board of Commissioners
BOD	Biochemical Oxygen Demand
ccf	100 cubic feet
CMOM	Capacity, Management, Operations, and Maintenance
District	Samish Water District
DOE	Washington State Department of Ecology
ERTS	Environmental Reports Tracking System
FM	Force Main
GMA	Growth Management Act
gpd	Gallons per Day
I/I, I & I	Inflow and Infiltration
LF	Lineal Foot
LSPS	Lake Samish Pump Station
LUE	Living Unit Equivalent
MG	Million Gallons
PLC	Programmable Logic Controller
PS	Pump Station
PUD	Public Utility Department
PVC	Polyvinyl Chloride
RCW	Revised Code of Washington
ROW	Right of Way
SCADA	Supervisory Control and Data Acquisition
SSO	Sanitary Sewer Overflow
SWD	Samish Water District
TSS	Total Suspended Solids
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation
WWTP	Waste Water Treatment Plant
ULID	Utility Local Improvement District
USIT	Upper Skagit Indian Tribe

1 BACKGROUND

1.1 Scope and Objective of Update

1.1.1 General

This updated Comprehensive Sewer Plan for Samish Water District (District) has been prepared at the request of the District Board of Commissioners and in accordance with the Washington State Department of Ecology (DOE) guidelines as presented in WAC 173-240-50.

In accordance with Revised Code of Washington (RCW 57.16.010), the District's Comprehensive Sewer Plan is submitted to the following persons and/or agencies for review and approval:

- Washington State Department of Ecology
- Director, Whatcom County Health Department
- County Engineer, Whatcom County Public Works Department
- Whatcom County Council

1.1.2 Scope and Objective

The purpose of this report is to provide a comprehensive overview of the existing sewage installations and treatment facilities currently operated and maintained by Samish Water District. In addition, this report addresses existing and future wastewater flows, future facilities O&M and development, rate structures, and capital improvement plans.

This comprehensive plan covers the following topics:

- system owner/operator information,
- sewer system layout, including a description of the existing system boundaries,
- description of existing collection and treatment facilities,
- discussion of development trends within sewer district boundaries,
- discussion of existing and future collection and treatment issues such as current and future sewer flows, infiltration/inflow (I/I), BOD loading, treatment performance, and sludge disposal,
- discussion of the sewer rate structure and revenue planning,
- discussion of present and future development alternatives within the district boundaries,
- outline of future improvement projects within the District.

1.2 System Ownership, Operation and Service Boundary Information

1.2.1 District Office Location and Governing Information

The sewer collection and treatment facilities covered in this report are owned and operated by:

Samish Water District
2195 Nulle Road - South Lake Samish
Bellingham, Washington 98229
(360) 734-5664 – Office Telephone
(360) 715-1626 – Office Fax

The District is administered by a three-person Board of Commissioners (Board); each commissioner being elected to a six (6) year term. This Board meets monthly and holds special meeting sessions as the need arises.

1.2.2 District Operations Information

The District is responsible for planning, construction, and operation/maintenance of all public sewer facilities within the District's boundaries around Lake Samish, Washington. In addition, the District is responsible for operation and maintenance of a 12-inch force main operating between the District's existing treatment lagoons and the City of Burlington Wastewater Treatment Plant (City of Burlington WWTP) including various branch line connections to that force main which service additional customers within the District's Skagit County service area, as negotiated with Skagit County, (reference Exhibit "A"). The operation and maintenance of the District's facilities is overseen by the District Manager who works with a two-person support staff consisting of an operator and an office assistant. The District contracts for legal counsel, consulting engineers, and auditors. The District operates out of their office at 2195 Nulle Road, Bellingham, Washington.

1.3 Existing District Boundaries and Sewer System Locations

1.3.1 General District Boundary Information

Samish Water District (formerly Whatcom County Water District No. 12) was created in 1970, and voter approval to construct a new sewer system within the District's Whatcom County district boundaries was obtained in 1972. Utility Local Improvement District No. 1 (ULID No. 1) was formed in 1973 to serve the majority of the Lake Samish area. ULID No. 1 received federal and state grant money for the design and construction of a sewer system capable of providing both immediate sewer service to those properties located inside the ULID No. 1 and future sewer service to those properties located outside the ULID No. 1 but inside the District boundaries in Whatcom County District boundaries. ULID No. 2, which serves the northwest portion of Lake Samish, was formed immediately after the formation of ULID No. 1, and provided for sewer service inside the ULID No. 2 area. Properties inside the ULIDs were assessed a fee to cover design, construction, and connection to the new sewer system at the time the ULIDs were formed. Properties located outside the ULIDs but inside the Whatcom County District boundaries were charged latecomers fees based on area assessments at the time of connection to the new sewer system.

The District's original Whatcom County boundary includes areas in southwestern Whatcom County which are situated around and/or in the immediate vicinity of Lake Samish. Subsequently, the District entered into an interlocal agreement with Skagit County relative to sewer service along the District's Burlington Force Main System which runs north/south along Old Highway 99 in Skagit County between the Lake Samish area and the City of Burlington's wastewater collection system. The extent of the District's existing sewer service boundaries are detailed on Exhibit A.

Samish Water District's wastewater system can be divided into the following three main components.

1) **Lake Samish Collection System** – The Lake Samish Collection System is located within the District's boundaries in Whatcom County and provides sewer service to the Lake Samish area. The Lake Samish collection system wastewater is pumped into the District's Lagoon Treatment Plant.

2) **Lake Samish Lagoon Treatment Plant** – The Lake Samish Lagoon Treatment Plant is located just south of the Whatcom County border in Skagit County and it provides primary treatment for the

wastewater collected from the Lake Samish Collection System. The influent wastewater is divided between two similar primary settling ponds. The treated wastewater is then pumped via a 12-inch sewer force main (Burlington Force Main) to the Burlington WWTP for final treatment. The lagoon treatment plant is located adjacent to the District's headquarters on Nulle Road.

3) **Burlington Force Main Collection System** – Samish Water District has an existing interlocal agreement with Skagit County authorizing it to provide sewer service within a specified interlocal service area adjacent to the District's existing transport force mains within Skagit County, (reference Exhibit A). The District currently owns and operates a wastewater collection and force main transport system within this Skagit County interlocal service boundary which provides sewer service to a number of Skagit County residences and businesses. Additionally, this collection system provides wastewater collection and force main transport from the Cain Lake Area in Whatcom County.

1.3.2 Public Water System Information

Samish Water District does not own or operate a public water system, however, there are currently two Group A community public water systems and one transient non-community public water system operating inside the District's Whatcom County boundary including;

1) Calmor Cove – (System ID #28050) – Group A Community System, 49 connections, Lake Source,
2) Lake Samish Terrace Park – (System ID # 44540) – Group A Community System, 65 connections, Well Source,
3) Camp Lutherwood – (System ID #12641), Group A Transient Non-Community System, 42 connections, Lake Source,
4) Samish Park (System ID 15604) – Group A Transient Non-Community System, 3 connections, Groundwater Spring Source,
5) N. Lake Samish Shell Market – (System ID #37797), Group A Transient Non-Community System, 1 connection, Well Source.

Skagit County Public Utility Department (Skagit PUD) owns and operates a public water system within Skagit County which extends all the way to the Whatcom/Skagit County border, just south of the District's existing district boundary. In addition, there are a number of small Group A public water systems located inside the Burlington Force Main service area in Skagit County, (reference Exhibit B).

1.3.3 Water Conservation Measures

Since Samish Water District does not own or operate a public water system within its district boundaries, they have limited forum within which to discuss water conservation around the lake. Most residents (~90% of the population) draw their potable water directly out of Lake Samish. Approximately 69 living unit equivalents (LUEs) are connected to the non-lake sources within public water systems listed above which represents approximately 11% of the total customer base within the district boundaries. The District conducts public outreach regarding water conservation and other issues through messages included with monthly billings. Because the District is not public water purveyor for the area, an analysis of the anticipated impact on public sewer and treatment capacity related to water conservation measures in the area cannot be provided as a part of this plan.

1.3.4 Private Septic Systems

Whatcom County GIS records show 72 onsite septic systems currently active within the Lake Samish watershed, (reference Exhibit B-3). Operational and maintenance compliance for these septic systems is the responsibility of the Whatcom County Health Department.

1.3.5 Growth Management Compliance

Samish Water District recognizes Whatcom and Skagit Counties as the regulating authorities with regard to the Chapter 36.70A RCW Growth Management with the District's service area. Currently, both Whatcom and Skagit Counties have adopted comprehensive plans addressing this statute. Chapter 57.16.010 RCW Water-Sewer Districts – General Comprehensive Plan of Improvements states the following:

1) A water-sewer district's general comprehensive plan shall not provide for the extension or location of facilities that are inconsistent with the requirements of Chapter 36.70A.110 RCW Comprehensive Plans – Urban growth areas, and

2) Before becoming effective, the general comprehensive plan shall also be submitted to, and approved by resolution of, the legislative authority of every county within whose boundaries all or a portion of the district lies. In the case of Samish Water District, whose district boundaries reside entirely within Whatcom County, review of this general comprehensive plan will be performed by the Whatcom County Board of Commissioners. Chapter 57.16.010 RCW goes on to state that the general comprehensive plan shall be approved, conditionally approved, or rejected by the county legislative authority pursuant to the criteria outlined in Chapter 57.16.040 RCW which read;

    a. Whether the proposed action in the area under consideration is in compliance with the development program that is outlined in the county comprehensive plan, or city or town comprehensive plan where appropriate, and its supporting documents;

    b. Whether the proposed action in the area under consideration is in compliance with the basin-wide water and/or sewage plan as approved by the state department of ecology and the state department of social and health services; and

    c. Whether the proposed action is in compliance with the policies expressed in the county plan for water and/or sewage facilities.

As a part of this comprehensive planning effort, this general comprehensive plan has been presented to the Whatcom County Board of Commissioners, the Whatcom County Engineer, the Whatcom County Health Department, and the Washington Department of Ecology for review under the applicable statutes. In addition, courtesy copies of this plan have been provided to the following agencies:

- Whatcom County Planning and Development Department,
- Skagit County Departments of Public Works, Health, and Planning,
- City of Burlington Department of Public Works, Wastewater Division.

Every attempt has been made to coordinate with the Whatcom County Department of Planning and Development (esp. Long-Range Planning) and the Skagit County Department of Planning regarding any growth management considerations under Chapter 36.70A RCW Growth Management. As the

regulating authority for RCW 36.70A, Whatcom County Department of Planning and Development will determine what, if any, development will occur within the District's service area in Whatcom County. Additionally, Skagit County Department of Planning will be responsible for determining growth within the District's service area inside Skagit County.

As a long-range planning document, this plan endeavors to identify any possible future service requirements which may develop with the subject service area, (see Chapter 4 – Possible Future Sewer Service Requirements). Sewer service to any of the areas outlined in Chapter 4 would be dependent upon receipt of approval from the county in which the area resides at the time sewer service was requested. With this document, Samish Water District is simply attempting to identify areas which may request or require sewer service in the future whether that be because of a change in zoning and/or land use designations or for the protection of public health and safety.

1.3.6 District Policy for Sanitary Sewer Overflow (SSO) Events

In accordance with RCW 90.48.080, the District will report any spill which occurs within their service area. In the event of a spill, District staff will call the Environmental Reports Tracking System (ERTS) at Ecology's Northwest Regional Office (425-649-7000) and report where the spill occurred, what was spilled, provide an estimate of how much was spilled, and indicate whether or not the spilled material reached surface waters. Alternatively, the District will file a spill report online at the following website:

http://www.ecy.wa.gov/programs/spills/forms/nerts_online/NWRO_nerts_online.html

In addition, the District will contact the County Health Department to report any spill within their service area

1.3.7 Limits of Samish Water District Sewer Utility

With this planning document, the Samish Water District Board of Commissioners hereby asserts its position that Samish Water District is not the sole and exclusive provider of sewer utility services for any areas outside its existing Whatcom County district boundaries. Additional connections can be added in the Skagit County service area with the approval of the Skagit County Health Department.

2 EXISTING FACILITIES

Figure 2.1 - Samish Water District Headquarters (2195 Nulle Rd., Bellingham, WA)

2.1 Wastewater Collection and Delivery System

This section provides an overview of the existing facilities which comprise the three primary sewer system components:

- Lake Samish Collection System, (Whatcom County);
- Lake Samish Lagoon Treatment Plant, (Skagit County);
- Burlington Force Main Collection System (Skagit County).

The narrative includes a detailed itemization of the physical infrastructure of each system, an overview of the District's current control and communication SCADA system, a discussion of the current wastewater treatment agreement in place between the District and the City of Burlington to treat the District's wastewater, and an overview of the District's current "reserve capacity" agreement with the Upper Skagit Indian Tribe (USIT).

2.1.1 Lake Samish Collection System

1) System Description

Originally put into service in 1975, the Lake Samish sewer collection system consists of 8"-10" gravity lateral sewers feeding a 12"-18" interceptor system around Lake Samish with lift stations and force mains as summarized in the table below. This system provides sewage collection for all service connections inside the District's Whatcom County boundaries and delivers this wastewater to the Lagoon Treatment Plant for primary treatment. This Lake Samish sewer collection system is equipped with eight (8) sewer pump stations which lift and transport wastewater collected around Lake Samish to the Lake Samish Lagoon Treatment Plant. Each lift station installation is comprised of a wet well, dry-pit or top-mounted pumping equipment, local pump station controls and a cellular telemetry communication system. In addition, Lift Stations #2, #3, #4, and #8 are equipped with emergency backup generator sets to insure normal pump station operation in the event of a power outage. The remaining lift stations have been fitted with onsite generator receptacle outlets for connection to the District's portable generators.

Reference Exhibit F-0 through F-8 for flow schematics and pump station layout and equipment information for the collection system.

Figure 2.2 - LSPS No. 1, Submersible

Figure 2.3 - LSPS No. 6, Top-Mount

Table 2.1 summarizes the collection and delivery system components for the Lake Samish Collection System. Reference Exhibit C for additional information and mapping for this system.

Table 2.1: Lake Samish Collection System - Component Listing

System Component	Approximate Quantity
Sewer Manholes	205
4” Force Main	1,100 LF
8” Force Main	9,200 LF
8” Gravity Branch Sewer	9,500 LF
10” Gravity Branch Sewer	6,700 LF
12” Gravity Sewer Interceptor	31,500 LF
16”-18” Gravity Sewer Interceptor	2,300 LF
Sewer Lift Stations *	8 each
Lake Samish Pump Station No. 1	Duplex, submersible
Lake Samish Pump Station No. 2	Duplex, top-mount
Lake Samish Pump Station No. 3	Duplex, submersible
Lake Samish Pump Station No. 5	Duplex, top-mount
Lake Samish Pump Station No. 6	Duplex, top-mount
Lake Samish Pump Station No. 7	Duplex, top-mount
Lake Samish Pump Station No. 7A	Duplex, top-mount
Lake Samish Pump Station No. 8	Duplex, top-mount

* See Exhibit F for additional information regarding these lift station installations.

2.1.2 Lake Samish Lagoon Treatment Plant

1) Treatment System Description

Constructed in 1975, the Lake Samish Lagoon Treatment Plant provides primary treatment for the wastewater collected in the Lake Samish Collection system. Reference Exhibit C for a schematic representation of lagoon treatment and pumping facilities.

The Lake Samish Lagoon Treatment Plant is serviced by two sewer lift stations, (LSPS #4A & LSPS #4B), each equipped with two submersible pumps. LSPS #4A receives influent wastewater from the Lake Samish Collection System and lifts it to a flow splitter box where the flow is split between the two primary treatment lagoons. LSPS #4B receives treated effluent flow from the lagoon outbox structures and pumps this flow, via the Burlington Force Main, to the City of Burlington Wastewater Treatment Plant for secondary treatment.

Reference Exhibit F-0 and F-4 for flow schematics and pump station layout and equipment information.

Figure 2.4 - Aerial View of Lake Samish Lagoon Treatment Facility

The original design of the lagoons was based on the "Recommended Standards for Sewage Works" by the Great Lakes-Upper Mississippi River Board of State Sanitary Engineers and provides for BOD and settleable solids reduction as well as storage capacity during peak flows. To allow for winter rainfall increases, lagoon levels are lowered during the late summer months to allow increased storage during the winter rains. Daily effluent lagoon pumping to the Burlington Force Main is timed to occur during off-peak, power usage periods. Since they were

put online in 1975, the treatment lagoons have never been drained and/or cleaned. The lagoons have been inspected twice in the last thirteen years to determine the level of sludge build-up each. Based on a 2009 inspection, the sludge blanket accumulation in the lagoons was between 3 and 20 inches thick with 1.43% to 1.81% solids. A follow-up inspection performed in 2015 indicated that "dry ton" estimate of the biosolids in the lagoons was very difficult to determine due to the low percent solids. The rough 2015 estimate of lagoon biosolids was given as 150 to 300 dry tons. General recommendations from the last inspection indicated that the treatment system was working as it should and meeting treatment standards and still had capacity for another five years. Copies of the Lagoon Inspection Reports are included in Exhibit D-5

Reference Exhibit D-1 for schematic and drawing details regarding the operation and layout of the existing treatment facility. Average rainfall totals, effluent BOD & TSS levels and influent/effluent flow totals for 2019 through 2022 are depicted graphically in Exhibits D-2, D-3, and D-4 respectively.

Table 2.2: Lagoon Area, Average Volumes & Detention Times

Facility	Facility Size	Ave. Volume Summer (MG)	Ave. Volume Winter (MG)	Ave. Detention Time Summer (Days)	Ave. Detention time Winter (Days)
Pump Station Facilities					
LSPS #4A - Influent Pumps	Duplex, Submersible				
LSPS #4B - Effluent Pumps	Duplex, Submersible				
Lagoon Treatment Facilities					
Lagoon #1 (260' x 700')	173,400 SF	1.57	3.41	---	---
Lagoon #2 (260' x 680')	168,200 SF	3.50	5.53	---	---
TOTAL	341,600 SF	4.6	7.0	59.0	69.2

F

2.1.3 Burlington Force Main Collection System

1) System Description

The Burlington Force Main Collection System consists of the following force main and gravity interceptor components.

- Burlington Force Main,
- Alger/Cain Lake Road Force Main,
- Buggia Force Main,
- Friday Creek Road Force Main,
- Marriott Lane Force Main,
- Bow Hill Road Gravity Main,
- Thousand Trails Force Main,
- Skagit Speedway Force Main.

The following is a brief description of the individual collection system branch components and the pumping facilities which comprise the Burlington Force Main Collection System. Table 2.3 summaries the elements of each branch force main and/or gravity interceptors and the pumping facilities that are owned and maintained by the District. Reference Exhibit E for drawing details regarding the layout of the Burlington Force Main Collection System.

Burlington Force Main - The Burlington Force Main forms the backbone of the Burlington Force Main Collection System by connecting the Lake Samish Lagoon Treatment Plant to the City of Burlington wastewater collection system. This force main serves as the primary transport conduit for all of the treated wastewater originating in the Lake Samish Collection System as well as the wastewater collected by the remaining force main and gravity interceptor branch mains in the Burlington Force Main Collection System. The Burlington Force Main is 12-inches in diameter (with the exception of a short, 8-inch diameter reach under Joe Leary Slough, reference Exhibit D) and consists of approximately 6.2 miles of asphalt concrete piping and 7.5 miles of PVC pressure piping. The force main discharges to the City of Burlington wastewater collection system at Burlington's Pump Station No. 6, (located in the Peterson Road ROW adjacent to the west ROW of Interstate 5). The 12" primary force main was constructed in 1975-76 under the original ULID No. 1 sewer improvement plan.

In 2005, the District replaced twelve (12) inline shutoff valves on the Burlington Force Main which were more than 20-years old and, in most cases, non-operational. The new valves ensure that District staff has the flexibility to shutoff and isolate sections of the force main for both routine maintenance and emergency response.

Alger/Cain Lake Road Force Main – The Alger/Cain Lake Road Force Main is a 5"/6" PVC sewer force main which transports wastewater from the Whatcom Meadows Campground to the Burlington Force Main (tie-in at approx. Sta. 581+95). Whatcom Meadows Campground is a recreational development of approximately 160 acres located just east of Reed Lake, Washington. The campground will contain approximately 1,200 camping units and sixteen (16) restroom/bathhouses at full build-out and is equipped with an internal, private gravity sewer collection system which collects wastewater and transports it to the Whatcom Meadows Pump Station No. 9 located just east of Cain Lake Road and approximately 4 miles east of Old Highway

99. This wastewater is then pumped via the Alger/Cain Lake Road Force Main to the District's Burlington Force Main.

Current District allows connections to the Alger/Cain Lake Road Force Main for parcels which directly abut the force main providing that these connections have prior approval from the governing county authorities and the parcel owners enter into a sewer service agreement with the District.

Buggia Force Main – The Buggia Force Main is a four-inch diameter, PVC force main, approximately 3,400 feet in length, which connects Alger Texaco Pump Station No. 10 to the Burlington Force Main (tie-in at approx. Sta. 580+00). The force main provides sewer service to Alger Texaco (Interstate 5 – Exit 240), a commercial storage property and one residential property adjacent to the pump station. The force main and pump station is owned and operated by the District.

For construction purposes, the cost recovery area for the Buggia Force Main was defined as all parcels abutting the force main. The District will allow connection to the Buggia Force Main for all parcels which lay within this cost recovery area. These new connections will require the property owner to enter into a sewer service agreement with the District and pay latecomers fees before connection.

Friday Creek Road Force Main – The Friday Creek Road Force Main is a 1-1/2-inch diameter, PVC force main, approximately 600 feet in length, which connects eight residential properties along Friday Creek Road to the Burlington Force Main (approx. tie-in at Sta. 510+65). The force main is owned and operated by the District up to, and including, the customer service valves for the individual services. The individual sewer grinder pump stations installed at the residences are privately owned and operated.

Marriott Lane Force Main – The Marriott Lane Force Main is a 2-inch diameter, high density polyethylene force main, approximately 600 feet in length, which will ultimately connect six residential properties along Marriott Lane to the Burlington Force Main (approx. tie-in at Sta. 626+50). The force main is owned and operated by the District up to, and including, the customer service valves for the individual services. The individual sewer grinder pump stations installed at the residences are privately owned and operated.

Bow Hill Gravity Main – The Bow Hill Branch Sewer Main is a branch gravity sewer which extends from its connection point to the Burlington Force Main (tie-in at approx. Sta. 369+50) westerly to an existing flowmeter vault located east of Darrk Lane and adjacent to the USIT's wastewater treatment plant. The Bow Hill Gravity Main serves as a gravity interceptor transporting wastewater pumped from the Thousand Trails Force Main. The gravity main also provides a backup connection for the USIT's wastewater treatment plant on Darrk Lane. See Section 2.1.6 for additional information regarding the reserve capacity agreement in place between the District and the USIT.

Thousand Trails Force Main System – The Thousand Trails Force Main System is a system of force mains connecting five sewer pump stations in the Thousand Trail Campground area and Washington Department of Transportation (WSDOT) rest areas to the Bow Hill Gravity Main. The force main system consists of approximately 6,500 feet of force main piping and connects the following pump stations to the Burlington Force Main Collection System:

Thousand Trails Pump Station Nos. 11, 12 and 13,
WSDOT Pump Station Nos. 14 and 15.

Under the District's sewer service agreement with Thousand Trails Campground, the District was granted ownership, and operation and maintenance responsibilities for all of the lift stations, gravity and force main piping, manholes, and emergency storage facilities associated with the Thousand Trails Campground internal sewer collection system.

WSDOT retains ownership, and operation and maintenance responsibilities for their private wastewater utilities at the rest area and for all underground sewer piping located between the rest stops and WSDOT Pump Station No. 15. The rest stop complex has been equipped with a 50,000 gallon storage tank, (located at the north-bound rest stop), which is utilized as a settling tank for the wastewater from both of the rest stops. The wastewater is then screened and flows by gravity to the interconnection point at WSDOT Pump Station No. 15. The District owns, operates, and maintains WSDOT Pump Station Nos. 14 and 15 and the associated force main piping.

Skagit Speedway Force Main – The Skagit Speedway Force Main is a 3-inch diameter, PVC force main, approximately 350 feet in length, which connects Skagit Speedway Pump Station No. 16 with the Burlington Force Main (tie-in at approximate Sta. 409+40). The force main services the Skagit Speedway complex and is owned and operated by the District.

Burlington Force Main Collection System – Pumping Facilities - The Burlington Force Main Collection System is equipped with eight (8) sewer pump stations which lift and transport wastewater collected in the Burlington Force Main service area to the Burlington Force Main. The Burlington Force Main then transports this wastewater to the City of Burlington's Wastewater Treatment Plant for treatment and disposal. Reference Exhibit F-0 and Exhibits F-9 through F-16 for flow schematics and pump station layout and equipment information. District pump stations located in the Burlington Force Main Collection System are listed below along with their associated force mains.

- Whatcom Meadows PS No. 9 – to Alger/Cain Lake Road Force Main,
- Alger Texaco PS No. 10 – to Buggia Force Main,
- Thousand Trails PS No. 11 – to Thousand Trails Force Main,
- Thousand Trails PS No. 12 – to PS No. 11,
- Thousand Trails PS No. 13 – to PS No. 12,
- WSDOT PS No. 14 – to PS No. 13,
- WSDOT PS No. 15 – to PS No. 14,
- Skagit Speedway PS No. 16 – to Skagit Speedway Force Main,

Figure 2.6 - Thousand Trails PS No 11

Figure 2.7 - Skagit Speedway PS No 16

Table 2.3: Burlington Force Main Collection System – Component Listing

System Elements Owned and Operated by Samish Water District	Approximate Quantity
Burlington Force Main	
– 12" Pressure Force Main	72,320 LF
– 12" Inline Shutoff Valves	12
– Customer Service Shutoff Valves	45
– Air/Vacuum Relief Stations	21
– Sewer Lift Stations	1 (Lake Samish PS #4)
– Flowmeter	1
Alger/Cain Lake Road Force Main	
– 5"-6" Pressure Force Main	11,825 LF / 9,373 LF
– Air/Vacuum Relief Stations	4 stations
– Sewer Lift Stations	1 (Whatcom Meadows #9)
– Flowmeter	1
Buggia Force Main	
– 4" Pressure Force Main	3,400 LF
– Air/ Vacuum Relief Stations	1 station
– Sewer Lift Stations	1 (Alger Texaco #10)
– Flowmeter	1
Friday Creek Road Force Main	
– 1 1/2" Pressure Force Main	600 LF
– Customer Service Shutoff Valves	8
Marriott Lane Force Main	
– 2" Pressure Force Main	600 LF
– Customer Service Shutoff Valves	6
Bow Hill Gravity Main	
– 8" Gravity Main	4,000 LF
– Gravity Manholes	2
– Flowmeter	1
– Gravity Siphons	1
Thousand Trails Force Main	
– 8" Gravity Main	1,100 LF
– 2"-6" Force Main	6,330 LF
– Gravity Manholes	6
– Sewer Lift Stations	5 (Thousand Trails #11-#13, WSDOT #14 & #15)
– Flowmeter	2 (Thousand Trails #11 & WSDOT #14)
Skagit Speedway Force Main	
– 3" Pressure Force Main	350 LF
– Sewer Lift Stations	1 (Skagit Speedway #16)
– Flowmeter	1
Burlington Force Main – Pump Facilities	
– Whatcom Meadows PS No. 9	Duplex, top-mount
– Alger Texaco PS No. 10	Duplex, submersible, grinder
– Thousand Trails PS Nos. 11, 12, 13	Duplex, submersible
– WSDOT PS No. 14	Duplex, submersible
– WSDOT PS No.15	Duplex, submersible, grinder
– Skagit Speedway PS No.16	Duplex, submersible, grinder

2.1.4 Remote Communication System

In 2002, the District's existing pump control system was replaced with a new remote communications system and SCADA reporting and data recording system. At that time, the District performed the following work:

- Removal and replacement of pump station equipment, controls and instrumentation at Lake Samish Pump Station Nos. 2, 5, 6, 7, 7A and 8, Whatcom Meadows PS No. 9, Thousand Trails PS Nos. 11, 12, and 13, as well as at WSDOT Pump Station Nos. 14 & 15.
- Installation of flowmeters at Lake Samish Pump Station No. 8, Whatcom Meadows Pump Station No. 9, Alger Texaco Pump Station No. 10, Thousand Trails Pump Station No. 11, WSDOT Pump Station No. 14, and Skagit Speedway Pump Station No. 16.
- Installation of remote communications equipment at all of the District's field pump stations.
- Installation of new master communications equipment and a new SCADA reporting and data recording system at the District's headquarters.

The Samish Water District Office headquarters, located at 2195 Nulle Road, houses the District's records, communications equipment, maintenance facilities and telemetry control systems for the balance of the District's sewer system. To provide emergency backup power capability at the office site, the District purchased and installed an emergency backup generator for the facility in 2004.

The following is an overview of the District's remote communications system and SCADA reporting and data recording system. In addition, future anticipated SCADA reporting upgrades are discussed.

1) Current Remote Communication System

The District relies upon a cellular paging network to communicate with remote installations. The network allows communication to and from each remote sewer pump station and the master control unit located at the District's headquarters. To accomplish this, each remote pump station is equipped with a remote telemetry unit (AirLink Raven CDMA) which is capable of utilizing cellular technology (Verizon Network) to communicate with the District headquarters computer system. The District computer then automatically sends Outlook messages (either in text or email format) to District employees outlining the nature of error or warning.

Incoming and outgoing information at both the remote pump station sites and the District headquarters is controlled by local, programmable logic controllers (PLCs). Alarm messages received from the remote pump stations are dispatched via email or text message to the District's cell phones. On-call personnel utilize a portable laptop computer to dial-up and log-in to the headquarters' AirLink CDMA and monitor system status.

2) Current SCADA Reporting and Data Recording System

Each of the District's remote pump station and flowmeter installations are connected to a centralized SCADA (Supervisory Control and Data Acquisition) system which allows the District to monitor and control remote facility functions. Each remote facility is equipped with a PLC which controls pump station functions and reports back, via the remote communication system, to the master PLC located at the District's headquarters. The received information is organized and reported to the operator through the use of customized SCADA screens displayed on the master computer monitor. Additionally, on-call personnel may utilize the portable laptop computer to log-in and view current pump station status through the SCADA screens. The SCADA system is equipped with an archiving capability which allows for the automatic storage of historical operational data for later use.

Remote monitoring and control functions included in the SCADA reporting and data recording system are listed below. Reference Exhibit F-1 through F-16 for the current SCADA monitoring and control capabilities at each pump station.

- Alarms-
  - PA – Power Fail Alarm
  - SFA – Station Flood Alarm (drywell pump stations only)
  - HLA - High Level Alarm
  - HHLA – Redundant High Level Alarm
  - LLA – Low Level Alarm
  - LLLA – Redundant Low Level Alarm
  - IA- Intrusion Alarm
  - PFA - Pump Fail Alarm
  - PSFA - Pump Seal Fail Alarm (submersible pump stations only)
  - COMM - Communication Fail Alarm

- Monitoring Data-
  - Pump Run Time
  - Pump Status (On/Off)
  - Wet Well Level
  - Lake Samish Lake Level (Lake Samish Pump Station No. 5 only)
  - Flow – Instantaneous (pump stations equipped with flowmeters only)
  - Flow – Totalized (pump stations equipped with flowmeters only)
  - Communication Link

- Control Data-
  - Pump Start/Stop
  - Alarm Reset
  - Wet Well Control Levels

2.1.5 City of Burlington Wastewater Treatment Plant

1) Wastewater Treatment Agreement

Since beginning operations, the District has contracted with the City of Burlington to provide treatment and disposal of all wastewater originating from the District's collection facilities. Wastewater originating in the Lake Samish Collection System and the Burlington Force Main Collection System flow, via the Burlington Force Main, to the City of Burlington Wastewater Treatment Plant in Burlington, Washington.

In January 2021, the District signed a new agreement with the City of Burlington for treatment of the District's wastewater. The wastewater flow and BOD loading limits as well as the rates and charges for treatment of the wastewater flow are outlined in Exhibit B of the 2021 agreement included as Exhibit G-1.

2) Upper Skagit Indian Tribe (USIT) – Reserve Capacity Agreement

In 1995, the District entered into a "Wheeling Agreement" with the Upper Skagit Indian Tribe (USIT) to transport wastewater generated from the USIT's enterprises in the vicinity of Exit 236 of Interstate-5 in Skagit County, WA to the City of Burlington, where it is treated under a separate

agreement. From 1995 through April 2011, the District transported 100% of the USIT's wastewater to the City of Burlington under this wheeling agreement.

In May 2011, the USIT completed construction and start-up of their own membrane treatment plant which now treats all of the Tribe's wastewater flows and discharges the treated effluent to an onsite, sub-surface infiltration well. The original "Wheeling Agreement" was modified with a memorandum of understanding (dated November 2011) establishing a monthly "reserve capacity fee" to be paid by the USIT to the District to reserve backup capacity in the District system. In the case of an emergency at the USIT plant, this backup capacity can be used by the USIT tribe to transport tribal wastewater flows to the City of Burlington for treatment.

2.2 Industrial Wastewater Producing Facilities Within the District System

There are currently no existing industrial wastewater producing facilities within either the District's Whatcom County or Skagit County boundaries. At this time, the District does not anticipate the connection of any industrial wastewater producing facilities in the future. If, at some later date, a facility producing industrial wastewater connects to the District sewer facilities, pretreatment of said wastewater will be required in accordance with the District's wastewater service agreement with the City of Burlington and all applicable local, state and federal regulations.

3 SYSTEM CONNECTIONS & FLOWS – CURRENT & FUTURE

3.1 Infiltration and Inflow

3.1.1 Lake Samish Collection System

As detailed in Section 2, the Lake Samish sewer collection system consists of 8”-10” gravity lateral sewers feeding a 12” interceptor system around Lake Samish with lift stations and force mains. Months with higher rainfall are accompanied by increases in the total monthly influent flow to the lagoons. An analysis of the daily rainfall and the daily influent lagoon flow records between January 2019 and December 2022 show that the Lake Samish gravity sewer collection system shows a moderate flow increase during wet weather events. Exhibit C-3 graphically details the total monthly rainfall and the total monthly influent flow to the lagoons from January 2019 through December 2022.

The exact magnitude of the current I/I flows for the Lake Samish collection system are unknown, however for 2019 and 2022, monthly influent flows during the winter months, (November through April) increase between 17% to 22% over monthly influent flows during the summer months, (May through October). This pattern deviated in the winter of 2021 when the winter influent flows increase over 50% over the summer influent flows. After an inspection of the Lake Samish Collection System infrastructure, a significant manhole leak was discovered on Roy Road which most likely caused the increase. The manhole was repaired in the summer of 2022.

The District is committed to continued smoke testing and manual inspections throughout the collection system to identify additional sources of inflow and infiltration.

3.1.2 Lake Samish Lagoon Treatment System

Lake Samish is located in an area where regional topography generates a convergence zone resulting in high precipitation within the District’s boundaries. These high precipitation levels result in a substantial rainfall contribution to the treatment lagoons that increase the volume of wastewater pumped to and treated by the City of Burlington WWTP. Over the past 4-years, rainfall in the area of the lagoons has ranged from 34.5 to 51.4 inches per year with a pronounced seasonal cycle. The average yearly rainfall over the past 4-years is 42.0 inches. Table 3.1 calculates the average monthly and daily I/I into the lagoons based upon average rainfall and evaporation rates for the area.

Table 3.1: Calculation of Average Daily Lagoon Inflow/Infiltration Due to Rainfall/Evap

Facility	Facility Size	Ave. Yearly Rainfall (inches)	Ave. Yearly Evaporation (inches)	Ave. Monthly Inflow/ Infiltration (gal)	Ave. Daily Inflow/ Infiltration (gal)
Lagoon Treatment Facilities					
Lagoon #1 (260’ x 700’)	173,400 SF	42.0	20	198,158	6,605
Lagoon #2 (260’ x 680’)	168,200 SF	42.0	20	192,215	6,407
TOTAL	**341,600 SF**			**390,373**	**13,012**

3.1.3 Burlington Force Main Collection System

For the majority of the Burlington Force Main and its associated branch force mains which operate under pressure, inflow and infiltration (I/I) is assumed to be minimal. However, for the small percentage of gravity sewer lines associated with the Burlington Force Main primary force main, the rate of I/I is unknown. Since most of the gravity sewer lines which are ultimately connected to the Burlington Force Main are not under the District's jurisdiction, their operation and maintenance is not performed by the District staff. In most cases, however, the District did perform quality assurance inspections/testing either during the original construction of these systems or at the time of connection to the primary force main to insure that these side sewers complied with the District's minimum quality standards.

There have been ongoing issues with inflow and infiltration in the Whatcom Meadows area due to a variety of issues ranging from problems during original construction to reduced operation and maintenance effort. The Whatcom Meadows PS No. 9 is equipped with a 50,000 gallon overflow vault to equalize the inflow from the campground during large wet weather events. During these high inflow events, the Whatcom Meadows Campground is required to pay all additional costs associated with the transport and treatment of the elevated flow. The District will continue to pressure the campground to improve the integrity of their collection system to reduce the I/I issues associated with the area.

Because there is no hard data characterizing the I/I along the Burlington Force Main, this planning effort has assumed an I/I rate equal to that identified for the Lake Samish Collection System, (i.e. 17-22%).

3.2 Current Wastewater Flows

3.2.1 Lake Samish Collection System

Currently, the District serves provides sewer service to approximately 404 customers within the Lake Samish Collection System which are comprised of both residential and commercial customers. The majority of these service connections are un-metered and based upon a usage assessment of one (1) living equivalent unit (LUE) per connection while a small percentage of these connections are either commercial or represent multiple living units, (such as trailer parks or campgrounds). Overall, the 404 existing sewer connections represent 551 LUEs within the Lake Samish Collection System. Referencing Exhibit C-2, monthly influent flows to the lagoons from the Lake Samish Collection System between January 2019 and December 2022 have averaged approximately 3.15 million gallons per month (~103,135 gallons per day). Based upon a 30.5-day month, this means that the average daily flow per existing LUE is approximately 255 gallons per day including inflow and infiltration. Assuming an I/I rate of 22.6% (see section above), the average daily flow rate would be comprised of approximately 57.7 gallons per day in I/I and 312.7 gallons per day in domestic wastewater. Reference Table 3.2 for a summary of current total wastewater and I/I flows from the Lake Samish Collection System.

3.2.2 Burlington Force Main Collection System

Currently, the District provides sewer service to approximately 129 customers within the Burlington Force Main Collection System. Approximately 80 percent (80%) of these connections are un-metered and based upon a usage assessment of one (1) living equivalent unit (LUE) per connection. The remaining connections are commercial connections with sewer charges based either on water usage, existing sewer metering information or upon the LUE equivalent schedule as outlined in Exhibit H. Referencing Exhibit E-2, monthly wastewater flow along the

Burlington Force Main (excluding flows from the Lake Samish Collection System) between January 2019 and December 2022 has averaged 0.22 million gallons per month.

The 129 sewer connections represent 540.96 LUEs within the Burlington Force Main Collection. The monthly wastewater flows from the Burlington FM Collection System customers alone (excluding the treatment lagoon effluent flows) have averaged approximately 0.22 million gallons per month (~7,213 gallons per day). Based upon a 30.5-day month, this means that the average daily flow per existing LUE is approximately 185 gallons per day including inflow and infiltration. Assuming an I/I rate of 22.6% (see section above), the average daily flow rate would be comprised of approximately 42 gallons per day in I/I and 143 gallons per day in domestic wastewater. Reference Table 3.2 for a summary of current total wastewater and I/I flows from the Burlington Force Main Collection System.

Table 3.2: Current Totals for LUEs and Flow Statistics

2010- CURRENT TOTAL SYSTEM CUSTOMER, LUE & FLOW STATISTICS (approximate quantities)						
	A	B	C	D	E	F
	Customers	LUEs	Current Ave. Daily Flows (gpd)	Ave. Daily Inflow/Infiltration Flows (gpd)	Ave. Daily Evaporation (gpd)	Total Ave. Daily Flows (gpd)
Lake Samish Collection System	404	551.00	79,827	23,308	--	103,135
Lagoon Treatment Facility	--	--	--	24,502	11,667	12,836
Burlington Force Main System	129	540.96	5,687	1,586	--	7,213
TOTAL SYSTEM	**533**	**1,091.96**	**85,514**	**49,396**	**11,667**	**123,243**
Lake Samish Collection System	Calculated Average Daily Flow per LUE – (78,827gpd/551 LUEs = 143.23 gpd/LUE)					**144.88 gpd/LUE**
Burlington Force Main System	Calculated Average Daily Flow per LUE – (gpd/540.96 LUEs = 10.51 gpd/LUE)					**10.51 gpd/LUE**

3.3 Future Wastewater Flows (6-Yr Projection)

The purpose of this section is to provide 6-yr projections for both the customer/LUE connections and the overall flow within the system. Projections are based upon the historical growth within the system over the last planning period (2014-2022).

3.3.1 Projected Customer/LUE Growth Within the System(6-Yr Projection)

Table 3.3 provides a summary of the historical growth in customers/LUEs over the most recent planning period spanning from 2004 to 2010. Calculated growth rates for customers/LUEs are then used to project the growth expected over the future 6-year planning period of 2010 to 2016. By the end of 2016, the Lake Samish Collection System is projected to have a total of 433 customers with 546.5 associated LUEs. In addition, by the end of the 6-yr planning period, the Burlington Force Main Collection System is projected to have a total of 159 customers with 649.8 associated LUEs. At the end of the 2016, the Samish Water District, as a whole, is projected to have a total of 592 customers with 1,196.3 associated LUEs. These growth

numbers have been used in the following sections to project expected average day flows for both the Lake Samish Collection System and the Burlington Force Main Collection System. Because the USIT has redirected their wastewater flows to their new treatment plant on Darrk Lane, there are no projected flows included for the Tribe.

Table 3.3: Summary of Projected Customer and LUE Growth

CALCULATED SYSTEM GROWTH RATES FOR CUSTOMERS & LUEs – 2013 to 2022				
	Lake Samish Collection System		Burlington Force Main System	
	Customers	LUEs	Customers	LUEs
2013 Comprehensive Planning Period	403	516.50	111	522.00
2022 Comprehensive Planning Period	404	551.00	129	540.96
Net Change During Planning Period	+1	+34.5	+18	+18.96
Growth Rate During Planning Period	0 customers/yr	0 LUEs/yr	+2 customers/yr (*)	+2 LUEs/yr (*)
2028 – Project Growth	404	516.50	141	552.96

* Assuming only residential connections over the next six years, (1 LUE/customer)

3.3.2 Lake Samish Collection System – 6-yr Flow Projections

Given the limited amount of growth expected within the Lake Samish Collection System, the future 6-yr flow is projected to remain the same.

3.3.3 Burlington Force Main Collection System – 6-yr Flow Projections

In contrast to sewer service inside the District's Whatcom County boundaries, the decisions to allow new connection to the Burlington Force Main Collection System are made on a case by case basis. In 1980, the District entered into an "Interlocal Cooperative Agreement" with Skagit County whereby the District agrees not to enter into a sewer agreement with any property owner located within the District's Skagit County boundaries without that property owner first obtaining written approval to build from Skagit County. After this written approval is obtained from Skagit County, the District makes a case-by-case determination regarding sewer service for the applicant.

At this time, the Burlington Force Main System has 129 customers representing 540.96 LUEs. Over the future 6-yr planning period, the Burlington Force Main Collection System customers are project to increase by approximately 10% to 141 customers and 552.96 LUEs. Average daily flows for that period are expected to increase by approximately 10%.

4 POSSIBLE FUTURE SEWER SERVICE REQUIREMENTS

Potential developer extension/ULID facilities are not included in the Future Improvement Projects, because their occurrence is more speculative in nature than the planned infrastructure improvement projects outlined in this section. Please refer back to the earlier general discussion of GMA impacts with respect to extension of public sewer into undeveloped areas outside of Urban Growth Areas. The District may only provide sewer service where it is legally possible to do so considering then current County zoning and development regulations as enforced by Whatcom County and Skagit County. Every attempt has been made to coordinate with the Whatcom County Department of Planning and Development (esp. Long Range Planning) and the Skagit County Department of Planning regarding any growth management considerations under Chapter 36.70A RCW Growth Management.

4.1 Possible Future Sewer Service Requirements Within the Lake Samish Collection System

The District may be required to provide sewer service within the existing Lake Samish sewer collection system on an "as-needed" basis in those areas within the District boundaries not currently served by the gravity sewer collection system. At this time, there is one potential area where public sewer may be required (Reference Exhibit I for a map of this potential extension).

4.1.1 Manley Road / Pacific Highway

Along Manley Road and Pacific Highway, (north of the I-5 Corridor) exists several residences which are currently served by individual, onsite septic systems. All of these existing residences are located inside the District's original Whatcom County boundaries. In the event that any of the onsite systems for these residences failed and replacement of said system was not possible (RCW 36.70A.110), the Whatcom County Health Department may decide that connection to the District's public sewer system was warranted. One option for providing District sewer service to this area could include formation of a ULID with construction of the sewer extension paid for by residence owners along the new line. Reimbursement for a portion of the original construction costs could be recouped through "late-comers" agreement. The new branch sewer force main could either be routed to the existing Lake Samish Lagoon Treatment Plant for treatment or tie directly to the 12" primary force main. Connection of the Manley Road / Pacific Highway properties could only occur if the County Health Department deemed it was warranted within the specific requirements of RCW 36.70A.110.

4.2 Potential Sewer Growth Along the Burlington FM Collection System

4.2.1 Glenhaven Lakes

Glenhaven Lakes Development is an existing residential property development located immediately east of Cain Lake on Alger/ Cain Lake Rd. With a 1,250 lot potential at full build-out, the area is currently approximately 50% developed with all of the occupied lots serviced by individual septic systems. If lake pollution becomes an issue, the District may be approached to provide public sewer service in the interest of public health and safety. With its close proximity to the Alger/ Cain Lake Rd. Force Main, Glenhaven Lakes would be a prime candidate for addition to the District's service area. Improvements associated with this addition would include a local gravity sewer collection system within the development limits that would discharge to a new grinder pump station facility for transport to the existing Alger/ Cain Lake Road Force Main. As the GMA regulatory authority for

this area, Whatcom County would need to approve any sewer extension required to service the Glenhaven Lakes area. The District has no existing commitment to provide sewer service to the Glenhaven Lakes area.

5 SEWER RATE STRUCTURE AND REVENUE PLANNING

5.1 Requirements for Connection to the District System

Properties within the District's original Whatcom County boundaries which were not charged a special assessment when the District was formed may connect to the District's sewer, or any other sewer where the District has an agreement with another agency and obtain sewer service by either paying a latecomer charge in cash or entering into a sewer service agreement with the District.

Properties which lay within the District's Skagit County boundaries may connect to the District's sewer or any other sewer where the District has an agreement with another agency and obtain sewer service by entering into a sewer service agreement or a developer's contract with the District.

Under current District policy, on the Alger Force Main, only new customers that are abutting the existing main can connect to the force main.

5.2 Revenue Planning

In accordance with the District's current, adopted code (Samish Water District Code, 2001), the District performs an internal review of the sewer rate schedule annually to determine that these charges are sufficient to generate revenue to offset the cost of all necessary operation and maintenance of the District.

In the event this internal review indicates potential future shortfalls, the District will engage an outside consultant to perform a more detail financial study to determine if connection fees and rate adjustments will be required. that this annual review indicates a necessary revision of user charges, the District shall promptly amend the rates set forth herein by formal resolution of the board of commissioners. The last wastewater fee and rate examination was performed in 2014 by FCS Group in Redmond, WA. Utilizing the District's existing cash and investment balances, future expense and revenue forecasts, and existing debt service obligations, FCS Group provided a recommended schedule for fee and rate increases. An updated wastewater fee and rate study is expected within the next three years.

5.3 Sewer Rate Structure

The District sewer service rates and charges outlined below shall be subject to change by resolution of the board of directors as conditions warrant.

5.3.1 Sewer Service Rates

The District's monthly charge for sewer service is comprised of two components; a District sewer service charge and a treatment charge. Customers are assigned into one of three classification types; residential, commercial and reserve capacity. The calculation of monthly sewer charges is based either on metered flow or on the assigned number of living unit equivalents (LUEs) for a particular customer. The following is a discussion of the classification types.

1. Residential Classification – Customers in this classification are single family residences connected to the District system within either the Lake Samish Collection System or the Burlington Force Main Collection System. Residential customers are considered as one LUE per connection.
2. Commercial Classification – This classification refers to non-residential customers whose monthly sewer charges are computed based upon water or sewer meter records. In the

event that metering data is not available for a non-residential customer, the District calculates the monthly charges using an LUE multiplying factor appropriate to the facility type. Reference Exhibit H for a complete listing of the Living Unit Equivalent (LUE) Factors used for each facility type.

Reference Exhibit H, Resolution 10-11 for a tabulation of the current classification and sewer rate schedule for the District.

5.3.2 General Facilities Charge (GFC)

The District assesses the following GFCs (reference Exhibit H, Resolution 10-11):

1) GFC for sewer connection within the District's original Whatcom County boundaries is $5,183 per LUE.

2) GFC for property within the original District ULID receive a credit of 185 percent of the original area assessment against the $5,183 per LUE.

3) GFC for sewer connection outside the District's original Whatcom County boundaries is $5,183 per LUE plus a capacity charge for the City of Burlington Wastewater Treatment Plant. This capacity charge is calculated as the City of Burlington's general facilities charge for a single family residential connection, (currently $4,705 per LUE).

5.3.3 Consumer Price Index (CPI)

The District utilizes the following CPIs for fiscal planning and rate/wage adjustments (reference Resolution 06-03):

1) Annual adjustments for sewer service rates – Bellingham CPI,

2) Recommended cost of living allowance adjustments for District employee wages and salaries – Seattle/Everett/Bellevue CPI,

3) Budget preparation – Bellingham CPI.

6 FUTURE IMPROVEMENT PROJECTS

6.1 Future Maintenance and Operational Improvements

6.1.1 Lake Samish Treatment Lagoons – Sludge Monitoring & Testing

Biosolids Monitoring - In 2009, the District commissioned Fire Mountain Farms to perform an evaluation of the wastewater treatment lagoons to determine the quantity and quality of the existing lagoon sludge blankets. Based upon this evaluation, the contractor provided recommendations as to the current and/or future need to remove biosolids from the lagoons. Report recommendations indicated that the current biosolid load in both lagoons was insufficient to warrant cleaning at this time. The report went on to recommend annual monitoring of the sludge blanket thickness to be performed by District personnel with a handheld field device (Sludge Judge or approved equal), and that annual samples of the sludge should be collected and tested for 503 metals to determine if copper contents are increasing. A follow-up 2015 inspection of the lagoons indicated a minimal increase in the thickness lagoon sludge blankets, but did indicate that the District should start planning for the either the rehabilitation of the existing lagoon liners or a replacement of the existing treatment system.

In 2022, the District will complete a preliminary engineering study to confirm the rebuild strategies, funding, and timeline for relining the existing lagoons. As a part of that work, the District will commission a new round of monitoring and testing of the lagoon sludge blankets.

6.1.2 CTV Inspection & Vac Cleaning Program

The District has an ongoing sewer inspection program. As a part of the regular maintenance program for their facilities, the District will continue to video portions of the collector system annually in an effort to identify possible points of I & I into the system. Areas to video are targeted based on pump run times (as an indication of I & I severity) and the majority of the work will be performed during the wet season in order to see active leaks. The District is also able to inspect manholes with the camera as they pass through them. If repair work is deemed necessary, the District will perform the work as part of their regular maintenance program.

6.1.3 Smoke Testing Program

The District plans to perform future smoke testing within the Lake Samish Collection System to identify potential sources of inflow and infiltration within the system. To date, the collection system at the northern part of Lake Samish has been tested. As a part of the ongoing maintenance program for their facilities, the District will continue to smoke test previously untested portions of the collection system in an effort to identify possible points of inflow and infiltration into the system. In the event that a significant, potential I/I source is identified through the smoke testing program, the District will follow-up with a CCTV camera inspection of the subject area to determine if repair work is required. If repair work is deemed necessary, the District will perform said work as part of their regular maintenance improvement program.

6.1.4 District Office Roof Replacement

The existing membrane roof system on the District Office structure has reached the end of its useful life and has experienced freezing and flooding issued during heavy wet weather events. In 2023, the District will have roof structure modified to mitigate past freezing and flooding issues, and the roof membrane system will be replaced

6.1.5 Periodic Tree Trimming

The District includes a perioding budget line item to cover tree trimming and removal around critical infrastructure including; District office, treatment lagoons, and pump station installations. This work is performed by a contractor on an "as needed" basis.

6.2 Future Administrative, Financial and Planning Improvements

6.2.1 Geographical Information System (GIS) Development

In 2003, the District began preliminary development of a system-wide GIS to aid in planning, administration, and operation and maintenance record keeping for the District's facilities. To date, the GIS includes information regarding topography, property parcel, customer locations, zoning, and schematic locations of District facilities within the District's Whatcom County and Skagit County boundaries. As a part of this ongoing development program, the District will continue to augment and update the GIS to include some, or all, of the following:

1) watershed boundaries,
2) operation and maintenance record information,
3) facility specifications,
4) billing information,
5) customer service agreement information.

6.2.2 Connection Fee & Rate Study

Periodically the District contracts with an outside firm to perform a more detail financial study to determine if connection fees and rate adjustments are required. The last wastewater fee and rate examination was performed in 2014 by FCS Group in Redmond, WA. Utilizing the District's existing cash and investment balances, future expense and revenue forecasts, and existing debt service obligations, FCS Group provided a recommended schedule for fee and rate increases. An updated wastewater fee and rate study is expected within the next three years.

6.2.3 Vehicle Replacement (3 Vehicles in Fleet)

Periodically the District will include budgetary line items to the replace the service vehicles in the District fleet.

6.2.4 Computer & Server Upgrades

Periodically the District will include budgetary line items to the upgrade and/or replace the District's office computer hardware.

6.2.5 Office Software Upgrades

Periodically the District will include budgetary line items to the upgrade and/or replace the District's office computer software.

6.3 Future Capital Improvement Projects

6.3.1 North Lake Samish Force Main Relocation Project

Per an existing interlocal agreement, the District will coordinate with Whatcom County for the removal and replacement of the existing 8-in sewer force main mounted on the existing North Lake Samish Bridge. The bridge is scheduled for replacement in 2023-2024, and the force main replacement work will occur as part of the overall bridge construction project. Work will include the temporary sewer bypass while the bridge is demolished and replaced, and the final force main line.

6.3.2 SCADA & Telemetry Upgrades - All Pump Stations

The District will undertake to replace twenty existing telemetry panels at various District installations with upgraded panels and SCADA & alarming programming.

6.3.3 Sewer I & I Projects – Miscellaneous Sewer Line Replacement and Repair

The bulk of District's sewer collection and force main systems are close to 50-years old and approaching the end of their expected design life. As a part of ongoing regular maintenance on the system, the District monitors the existing underground sewer lines for signs of leakage and/or failure. As a part of this project, the District will perform sewer repair and/or replacement work as necessary to ensure a functional and environmentally safe system. The line repairs include both trenchless spot repairs as well as repairs that require excavation.

The District staff have observed I & I that originates in the sewer manholes. The District is inspecting manholes for deterioration and leaks as part of their ongoing sewer videoing program and will develop a priority list of manholes in need of rehabilitation. Manhole rehabs within the County maintained roadway will include adjusting rims and covers as necessary to match the road grade.

6.3.4 Miscellaneous Pump Station Repairs

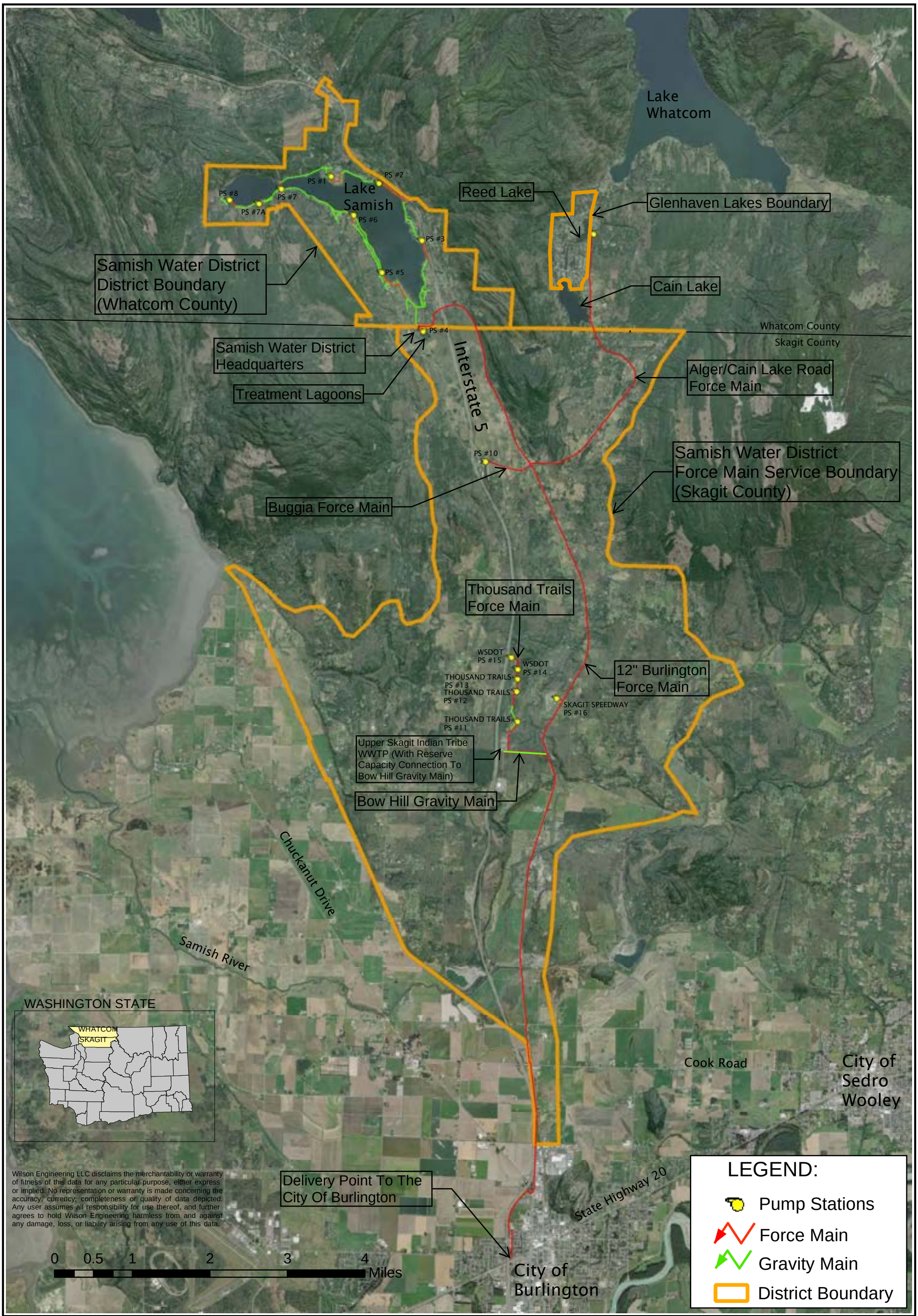
The District includes an annual budget line item to address periodic repairs to the system's pump station installations.

6.3.5 Treatment Lagoon Rehabilitation or Replacement Project

The existing Lake Samish Treatment Lagoons are reaching the end of their design life. This CIP project will include the planning, funding, engineering design, and construction phases required to either rehabilitate and refit the existing lagoon infrastructure for additional service, or to replace the existing treatment plant system with an alternative treatment system. Planning, funding and design are scheduled for 2023-2025 with construction scheduled for 2026.

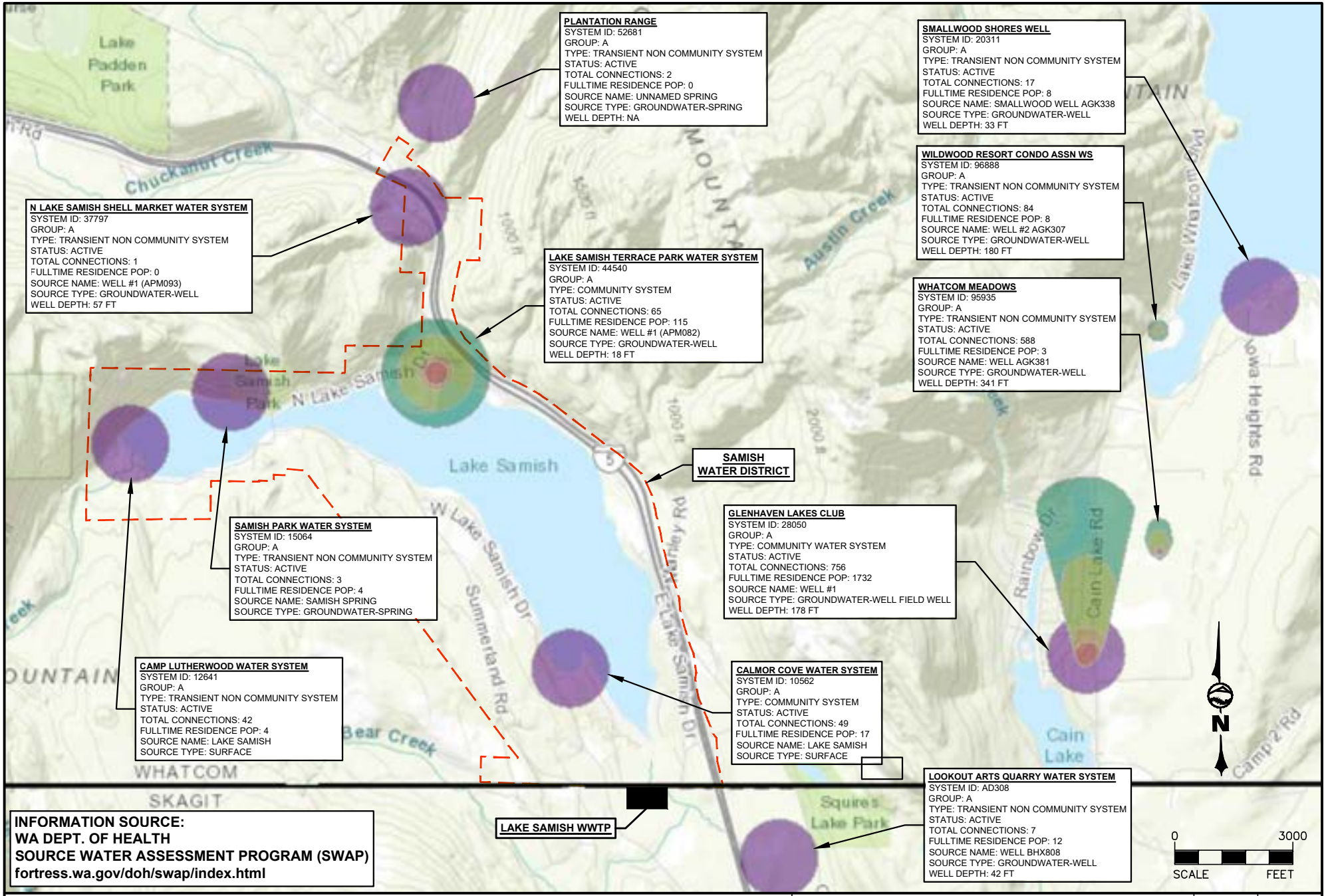
EXHIBITS

Exhibit A - General Sewer Facilities Map



SHEET	DATE	SAMISH WATER DISTRICT	DESIGNED BY	WILSON ENGINEERING	CIVIL STRUCTURAL SURVEY
	NOV 2021				
	SCALE	WASHINGTON	DRAWN BY		
PAGE	AS SHOWN	Comprehensive Sewer Plan	BGG		
OF	JOB NUMBER	Exhibit A - General Sewer Facilities Map	CHECKED BY	WILSONENGINEERING.COM	
	2021-062				

Exhibit B – Public Water & Septic Systems



INFORMATION SOURCE:
WA DEPT. OF HEALTH
SOURCE WATER ASSESSMENT PROGRAM (SWAP)
fortress.wa.gov/doh/swap/index.html

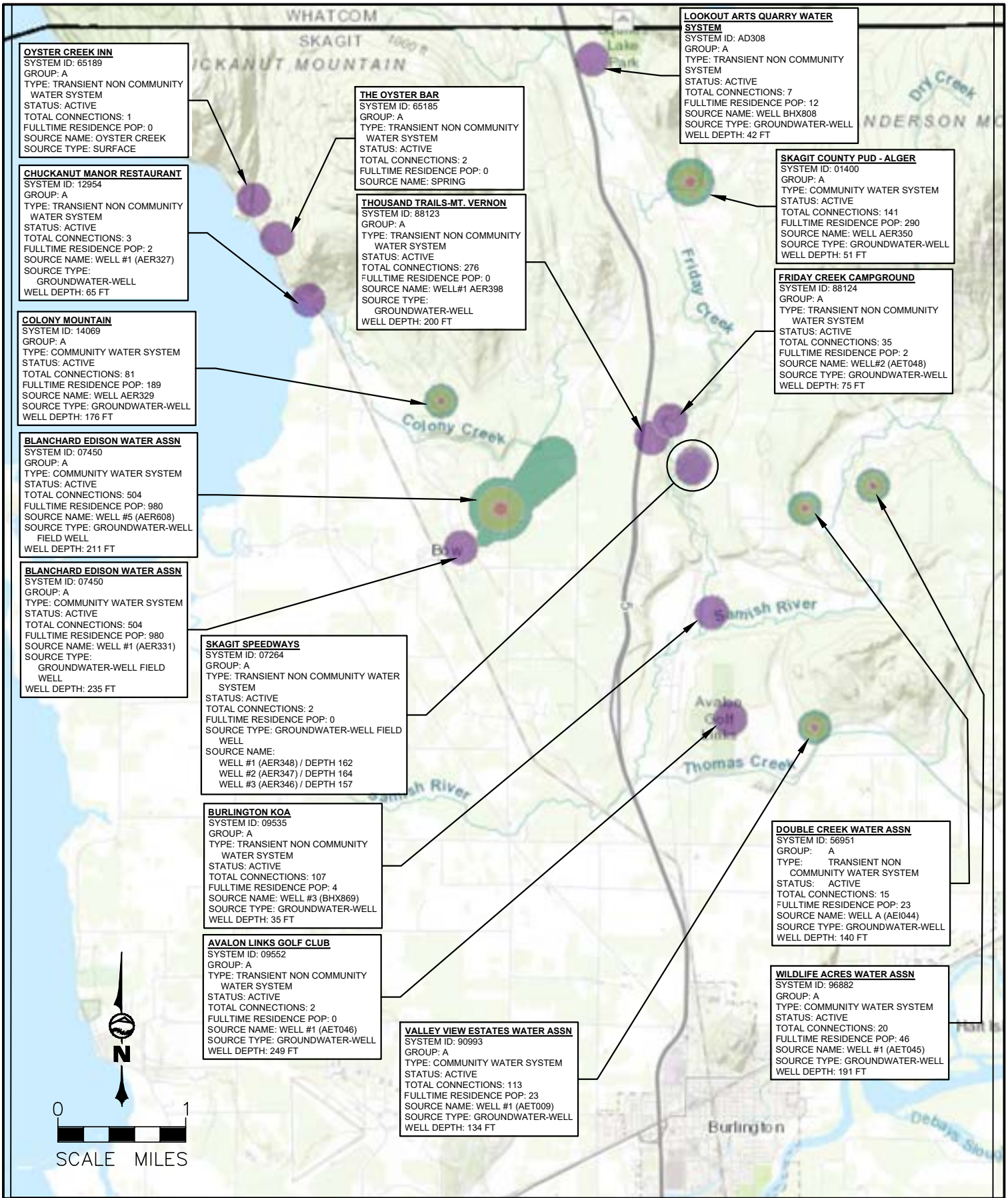
WILSON ENGINEERING
WILSONENGINEERING.COM

SAMISH WATER DISTRICT
SEWER COMPREHENSIVE PLAN

BELLINGHAM WASHINGTON

EXHIBIT B PUBLIC WATER SYSTEMS
B-1 LAKE SAMISH AREA

DATE	SHEET
6/7/22	B-1
SCALE	OF
AS SHOWN	2
JOB NO.	
2021-062	



OYSTER CREEK INN
SYSTEM ID: 65189
GROUP: A
TYPE: TRANSIENT NON COMMUNITY WATER SYSTEM
STATUS: ACTIVE
TOTAL CONNECTIONS: 1
FULLTIME RESIDENCE POP: 0
SOURCE NAME: OYSTER CREEK
SOURCE TYPE: SURFACE

CHUCKANUT MANOR RESTAURANT
SYSTEM ID: 12954
GROUP: A
TYPE: TRANSIENT NON COMMUNITY WATER SYSTEM
STATUS: ACTIVE
TOTAL CONNECTIONS: 3
FULLTIME RESIDENCE POP: 2
SOURCE NAME: WELL #1 (AER327)
SOURCE TYPE: GROUNDWATER-WELL
WELL DEPTH: 65 FT

COLONY MOUNTAIN
SYSTEM ID: 14069
GROUP: A
TYPE: COMMUNITY WATER SYSTEM
STATUS: ACTIVE
TOTAL CONNECTIONS: 81
FULLTIME RESIDENCE POP: 189
SOURCE NAME: WELL AER329
SOURCE TYPE: GROUNDWATER-WELL
WELL DEPTH: 176 FT

BLANCHARD EDISON WATER ASSN
SYSTEM ID: 07450
GROUP: A
TYPE: COMMUNITY WATER SYSTEM
STATUS: ACTIVE
TOTAL CONNECTIONS: 504
FULLTIME RESIDENCE POP: 980
SOURCE NAME: WELL #5 (AER608)
SOURCE TYPE: GROUNDWATER-WELL FIELD WELL
WELL DEPTH: 211 FT

BLANCHARD EDISON WATER ASSN
SYSTEM ID: 07450
GROUP: A
TYPE: COMMUNITY WATER SYSTEM
STATUS: ACTIVE
TOTAL CONNECTIONS: 504
FULLTIME RESIDENCE POP: 980
SOURCE NAME: WELL #1 (AER331)
SOURCE TYPE: GROUNDWATER-WELL FIELD WELL
WELL DEPTH: 235 FT

THE OYSTER BAR
SYSTEM ID: 65185
GROUP: A
TYPE: TRANSIENT NON COMMUNITY WATER SYSTEM
STATUS: ACTIVE
TOTAL CONNECTIONS: 2
FULLTIME RESIDENCE POP: 0
SOURCE NAME: SPRING

THOUSAND TRAILS-MT. VERNON
SYSTEM ID: 88123
GROUP: A
TYPE: TRANSIENT NON COMMUNITY WATER SYSTEM
STATUS: ACTIVE
TOTAL CONNECTIONS: 276
FULLTIME RESIDENCE POP: 0
SOURCE NAME: WELL#1 AER398
SOURCE TYPE: GROUNDWATER-WELL
WELL DEPTH: 200 FT

SKAGIT SPEEDWAYS
SYSTEM ID: 07264
GROUP: A
TYPE: TRANSIENT NON COMMUNITY WATER SYSTEM
STATUS: ACTIVE
TOTAL CONNECTIONS: 2
FULLTIME RESIDENCE POP: 0
SOURCE TYPE: GROUNDWATER-WELL FIELD WELL
SOURCE NAME:
WELL #1 (AER348) / DEPTH 162
WELL #2 (AER347) / DEPTH 164
WELL #3 (AER346) / DEPTH 157

BURLINGTON KOA
SYSTEM ID: 09535
GROUP: A
TYPE: TRANSIENT NON COMMUNITY WATER SYSTEM
STATUS: ACTIVE
TOTAL CONNECTIONS: 107
FULLTIME RESIDENCE POP: 4
SOURCE NAME: WELL #3 (BHX869)
SOURCE TYPE: GROUNDWATER-WELL
WELL DEPTH: 35 FT

AVALON LINKS GOLF CLUB
SYSTEM ID: 09552
GROUP: A
TYPE: TRANSIENT NON COMMUNITY WATER SYSTEM
STATUS: ACTIVE
TOTAL CONNECTIONS: 2
FULLTIME RESIDENCE POP: 0
SOURCE NAME: WELL #1 (AET046)
SOURCE TYPE: GROUNDWATER-WELL
WELL DEPTH: 249 FT

VALLEY VIEW ESTATES WATER ASSN
SYSTEM ID: 90993
GROUP: A
TYPE: COMMUNITY WATER SYSTEM
STATUS: ACTIVE
TOTAL CONNECTIONS: 113
FULLTIME RESIDENCE POP: 23
SOURCE NAME: WELL #1 (AET009)
SOURCE TYPE: GROUNDWATER-WELL
WELL DEPTH: 134 FT

LOOKOUT ARTS QUARRY WATER SYSTEM
SYSTEM ID: AD308
GROUP: A
TYPE: TRANSIENT NON COMMUNITY SYSTEM
STATUS: ACTIVE
TOTAL CONNECTIONS: 7
FULLTIME RESIDENCE POP: 12
SOURCE NAME: WELL BHX808
SOURCE TYPE: GROUNDWATER-WELL
WELL DEPTH: 42 FT

SKAGIT COUNTY PUD - ALGER
SYSTEM ID: 01400
GROUP: A
TYPE: COMMUNITY WATER SYSTEM
STATUS: ACTIVE
TOTAL CONNECTIONS: 141
FULLTIME RESIDENCE POP: 290
SOURCE NAME: WELL AER350
SOURCE TYPE: GROUNDWATER-WELL
WELL DEPTH: 51 FT

FRIDAY CREEK CAMPGROUND
SYSTEM ID: 88124
GROUP: A
TYPE: TRANSIENT NON COMMUNITY WATER SYSTEM
STATUS: ACTIVE
TOTAL CONNECTIONS: 35
FULLTIME RESIDENCE POP: 2
SOURCE NAME: WELL#2 (AET048)
SOURCE TYPE: GROUNDWATER-WELL
WELL DEPTH: 75 FT

DOUBLE CREEK WATER ASSN
SYSTEM ID: 56951
GROUP: A
TYPE: TRANSIENT NON COMMUNITY WATER SYSTEM
STATUS: ACTIVE
TOTAL CONNECTIONS: 15
FULLTIME RESIDENCE POP: 23
SOURCE NAME: WELL A (AEI044)
SOURCE TYPE: GROUNDWATER-WELL
WELL DEPTH: 140 FT

WILDLIFE ACRES WATER ASSN
SYSTEM ID: 96882
GROUP: A
TYPE: COMMUNITY WATER SYSTEM
STATUS: ACTIVE
TOTAL CONNECTIONS: 20
FULLTIME RESIDENCE POP: 46
SOURCE NAME: WELL #1 (AET045)
SOURCE TYPE: GROUNDWATER-WELL
WELL DEPTH: 191 FT

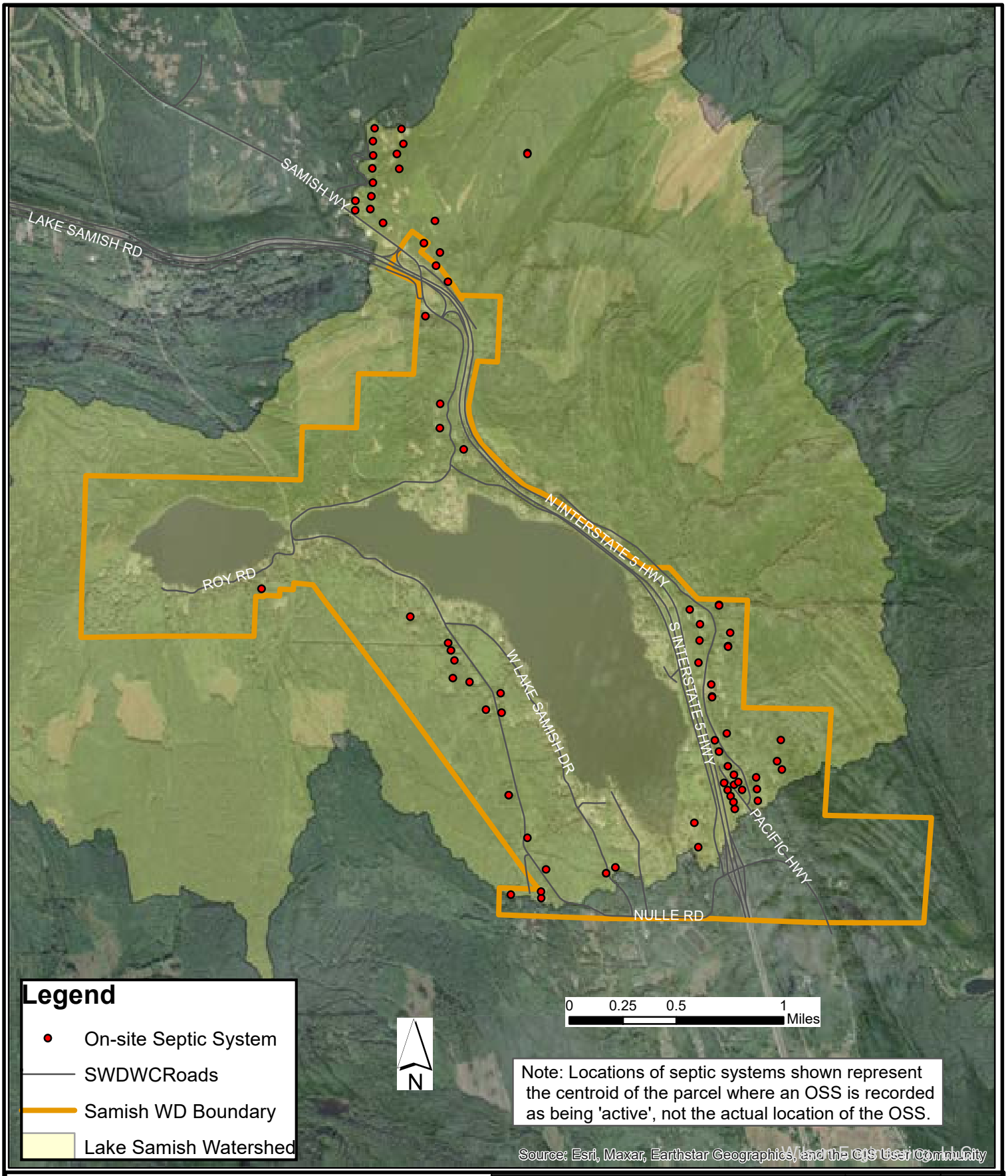
WILSON ENGINEERING
WILSONENGINEERING.COM

SAMISH WATER DISTRICT
SEWER COMPREHENSIVE PLAN

BELLINGHAM WASHINGTON

EXHIBIT B PUBLIC WATER SYSTEMS
B-2 BURLINGTON FORCE MAIN AREA

DATE	SHEET
6/7/22	B-2
SCALE	OF
AS SHOWN	2
JOB NO.	
2021-062	



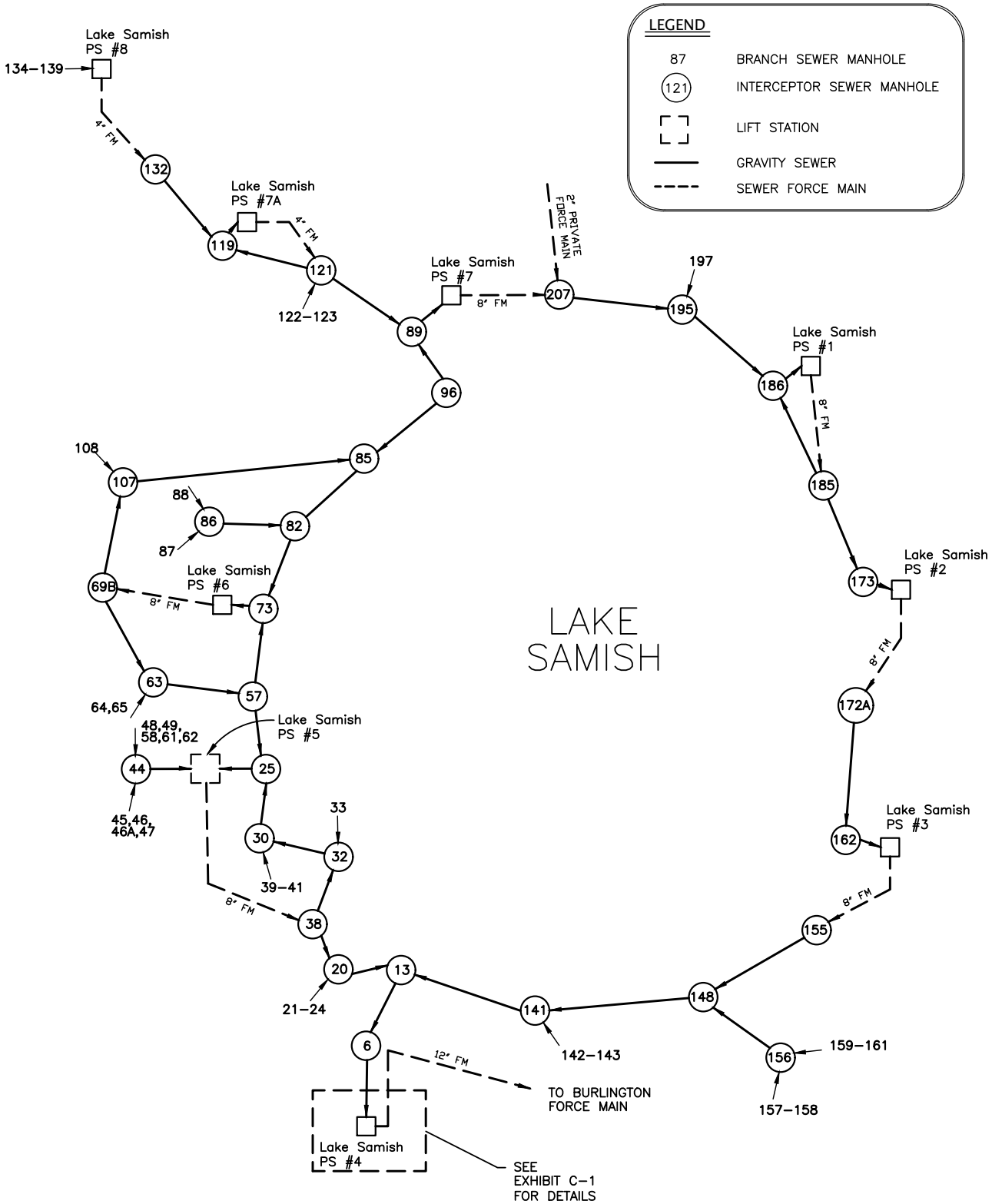
WILSON ENGINEERING
WILSONENGINEERING.COM
CIVIL
STRUCTURAL
SURVEY

SAMISH WATER DISTRICT
SEWER COMPREHENSIVE PLAN
WHATCOM COUNTY WASHINGTON

EXHIBIT B-3
ON-SITE SEWAGE SYSTEMS
WITHIN LAKE SAMISH WATERSHED

DATE	SHEET
5/24/23	B-3
SCALE: AS SHOWN	OF: 1
JOB NUMBER: 2021-062	

Exhibit C - Lake Samish Collection System

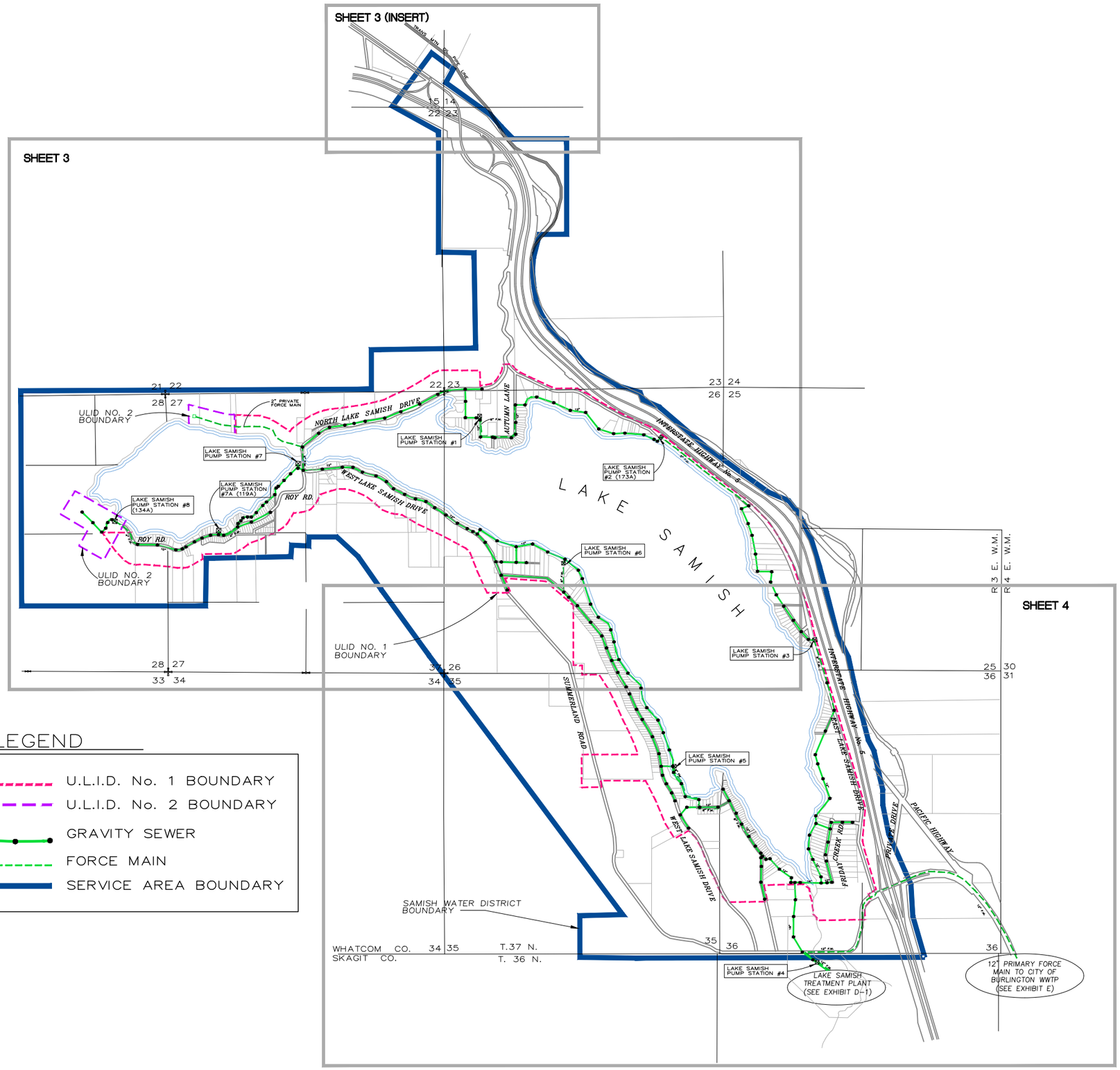


SAMISH WATER DISTRICT – SCHEMATIC OF LAKE SAMISH COLLECTION SYSTEM

NOT TO SCALE

WILSON ENGINEERING
WILSONENGINEERING.COM

SAMISH WATER DISTRICT	DATE: DEC. 2022
WHATCOM COUNTY WASHINGTON	SCALE: NONE
EXHIBIT C–1 – SYSTEM MAPS SEWER FACILITIES WITHIN THE LAKE SAMISH COLLECTION SYSTEM	JOB NO.: 2021–062
	SHEET: 1 OF 4



LEGEND

- U.L.I.D. No. 1 BOUNDARY
- U.L.I.D. No. 2 BOUNDARY
- GRAVITY SEWER
- FORCE MAIN
- SERVICE AREA BOUNDARY

LAKE SAMISH TRUNK SEWERS

WEST LAKE SAMISH

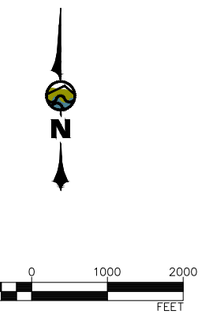
SECTION	LENGTH (LF)	DIAMETER	GRAVITY/ FORCE	MINIMUM SLOPE (GM)	CAPACITY (GPM)
MH96 TO MH85	2084	12-INCH	GM	0.0024	3525
MH85 TO MH82	787	12-INCH	GM	0.0030	3525
MH86 TO MH82	259	8-INCH	GM	0.0849	1567
MH82 TO MH73(PS#6)	937	12-INCH	GM	0.0030	3525
PS#6(MH73) TO MH69B	570	8-INCH	FM	NA	600
MH69B TO MH107	680	10-INCH	GM	0.0075	924
MH107 TO MH85	898	8-INCH	GM	0.0220	1567
MH69B TO MH63	1584	10-INCH	GM	0.0080	2448
MH63 TO MH57	117	10-INCH	GM	0.1487	2448
MH57 TO MH73	2202	12-INCH	GM	0.0030	3525
MH57 TO MH25(PS#5)	2331	12-INCH	GM	0.0030	3525
MH44 TO MH25(PS#5)	129	8-INCH	GM	0.0000	1567
PS#5(MH25) TO MH38	2834	8-INCH	FM	NA	600
MH38 TO MH32	1038	12-INCH	GM	0.0030	3525
MH32 TO MH30	601	12-INCH	GM	0.0030	3525
MH30 TO MH25	1167	12-INCH	GM	0.0030	3525
MH38 TO MH22	224	8-INCH	GM	0.0491	1305
MH22 TO MH24	630	8-INCH	GM	0.0055	436
MH38 TO MH13	927	12-INCH	GM	0.0030	3525

EAST LAKE SAMISH

SECTION	LENGTH (LF)	DIAMETER	GRAVITY/ FORCE	MINIMUM SLOPE (GM)	CAPACITY (GPM)
PS#8 TO MH132	618	4-INCH	FM	NA	150
MH132 TO MH119	1644	10-INCH	GM	0.0026	2448
MH119 TO PS#7A	30	10-INCH	GM	0.0113	2448
PS#7A TO MH121	430	4-INCH	FM	NA	150
MH121 TOMH119	432	8-IN. & 10-IN.	GM	0.0115	1567 (MIN)
MH121 TO MH89	1418	10-INCH	GM	0.0056	799
MH96 TO MH89	1695	12-INCH	GM	0.0025	3525
MH89 TO PS#7	36	12-INCH	GM	0.0190	3525
PS#7 TO MH207	409	8-INCH	FM	NA	600
MH207 TO MH195	3335	12-INCH	GM	0.0030	3525
MH195 TO MH186	821	12-INCH	GM	0.0030	3525
MH186 TO PS#1	35	12-INCH	GM	0.0030	3525
PS#1 TO MH185	1830	8-INCH	FM	NA	900
MH185 TO MH186	1593	12-INCH	GM	0.0030	3525
MH185 TO MH173(PS#2)	2909	12-INCH	GM	0.0025	3525
PS#2(MH173) TO MH172A	2415	8-IN. & 10-IN.	FM	NA	600
MH172A TO MH162	3223	12-INCH	GM	0.0024	3525
MH162 TO PS#3	35	12-INCH	GM	0.0290	3525
PS#3 TO MH155	1434	8-INCH	FM	NA	635
MH155 TO MH148	2291	12-INCH	GM	0.0025	3525
MH156 TO MH148	268	8-INCH	GM	0.0620	1567
MH148 TO MH141	1152	12-INCH	GM	0.0025	3525
MH141 TO MH13	435	16-INCH	GM	0.0020	6267

COMBINED TO PS#4

SECTION	LENGTH (LF)	DIAMETER	GRAVITY/ FORCE	MINIMUM SLOPE (GM)	CAPACITY (GPM)
MH13 TO MH6	1338	18-INCH	GM	0.0020	7931
MH6 TO PS#4	150	18-INCH	GM	0.0079	7931



WILSON ENGINEERING
WILSONENGINEERING.COM

DESIGNED BY EAS
DRAWN BY JCS/LMH

SAMISH WATER DISTRICT

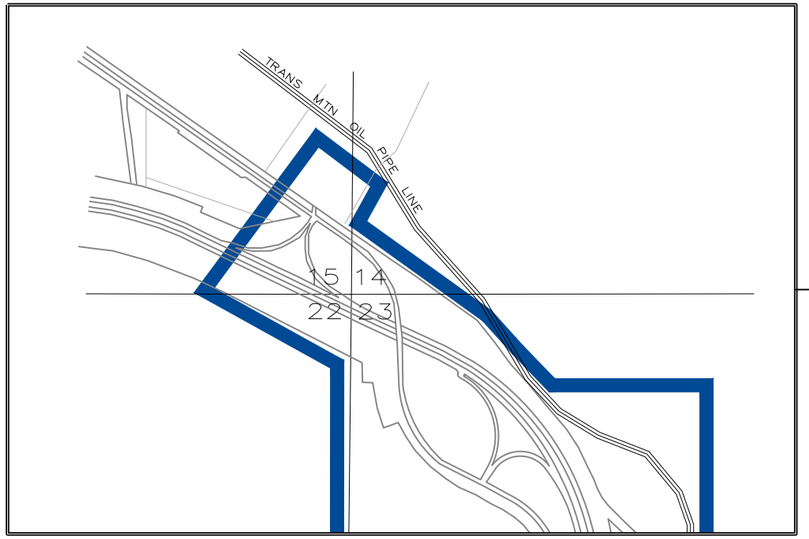
BELLINGHAM WASHINGTON

EXHIBIT C-1 SYSTEM MAPS

SEWER FACILITIES WITHIN THE LAKE SAMISH COLLECTION SYSTEM

DATE DEC. 2022
SCALE AS SHOWN
JOB NUMBER 2021-062
SHEET 2 OF 4

INSERT



N

500 0 500 1000
SCALE FEET

21 22
28 27

23 24
26 25

ULID NO. 2 BOUNDARY

SAMISH WATER DISTRICT BOUNDARY (ULID No. 2)

2" PRIVATE FORCE MAIN

NORTH LAKE SAMISH DRIVE

AUTUMN LANE

INTERSTATE HIGHWAY No. 5

LAKE SAMISH PUMP STATION #7

LAKE SAMISH PUMP STATION #1

LAKE SAMISH PUMP STATION #8 (134A)

LAKE SAMISH PUMP STATION #7A (119A)

LAKE SAMISH PUMP STATION #6

LAKE SAMISH PUMP STATION #2 (173A)

AV #20 MH 173A

LAKE SAMISH PUMP STATION #3

155A– AIR/VACUUM RELIEF MANHOLE

WEST LAKE SAMISH ROAD

WEST LAKE SAMISH DRIVE

ROY RD.

LIMITS OF SMOKE TESTING

LEGEND
=LIMITS OF SMOKE TESTING

ULID NO. 2 BOUNDARY

SAMISH WATER DISTRICT BOUNDARY (ULID No. 1)

ULID NO. 1 BOUNDARY

LAKE SAMISH

SUMMERLAND

37 26
34 35

LEGEND

- PUMP STATION 1
- PUMP STATION 2
- PUMP STATION 3
- PUMP STATION 6
- PUMP STATION 7
- PUMP STATION 7A
- PUMP STATION 8
- U.L.I.D. No. 1 BOUNDARY
- U.L.I.D. No. 2 BOUNDARY
- FORCE MAIN
- SERVICE AREA BOUNDARY

WILSON ENGINEERING
WILSONENGINEERING.COM

DESIGNED BY EAS
DRAWN BY JCS/LMH

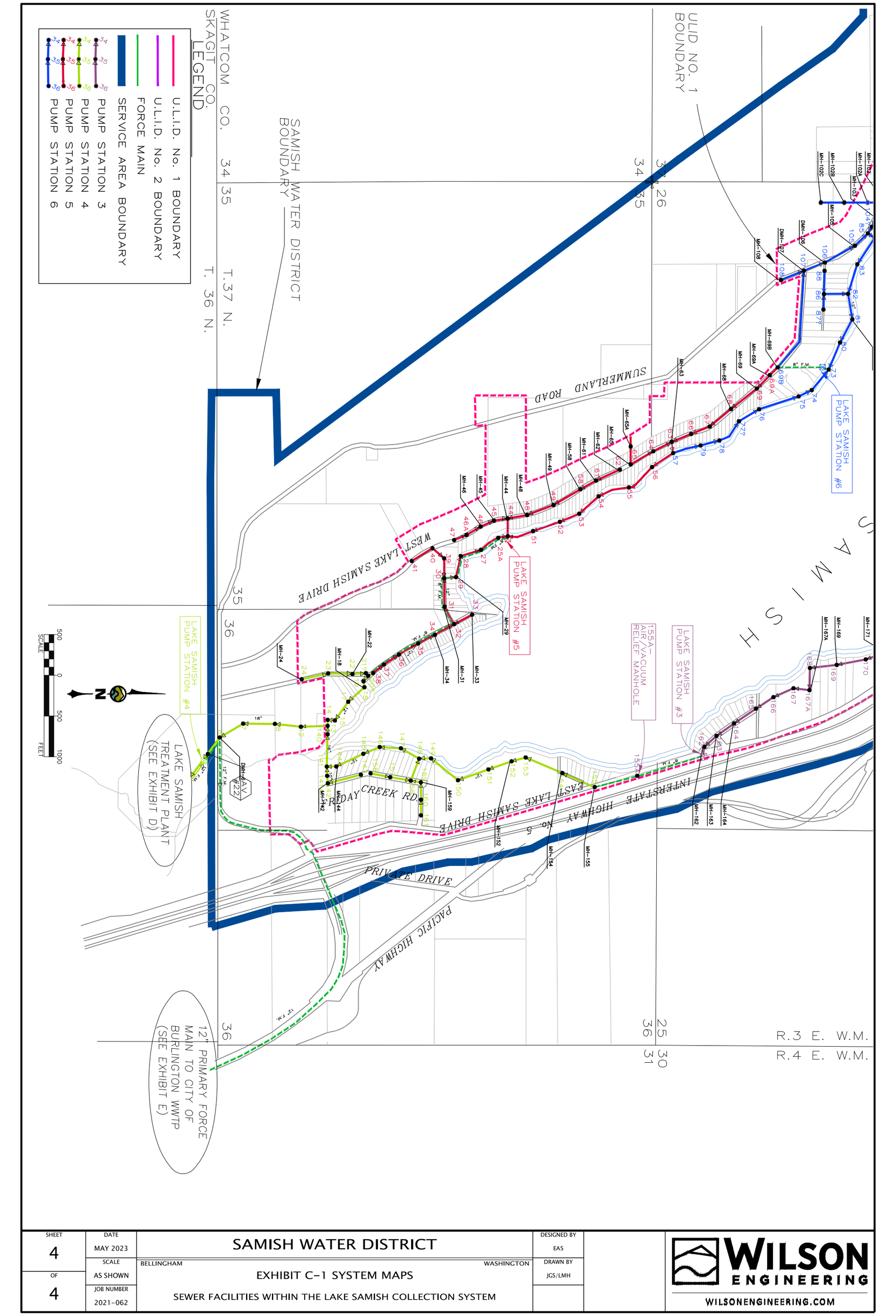
SAMISH WATER DISTRICT
WASHINGTON
BELLINGHAM

EXHIBIT C-1 SYSTEM MAPS
SEWER FACILITIES WITHIN THE LAKE SAMISH COLLECTION SYSTEM

DATE MAY 2023
SCALE AS SHOWN
JOB NUMBER 2021-062

SHEET 3 OF 4

PLOT SETTINGS: W: AutoCAD PDF (General Documentation).pc3, ANSI full bleed A (11.00 x 8.50 Inches), Landscape, 1:1.03, W: \APWA_UNSCREENED COLOR.ctb
W:\2021\2021-062 SAMISH WD - 2021 SEWER COMPREHENSIVE PLAN\DWG\EXHIBITS\EXHIBIT C\2021-062 EXHIBIT C-1 SHT3-4.DWG - 5/10/2023 3:12 PM - Lisa Heatherly



SHEET	DATE	SAMISH WATER DISTRICT	DESIGNED BY
4	MAY 2023		EAS
OF	SCALE	BELLINGHAM WASHINGTON	DRAWN BY
4	AS SHOWN	EXHIBIT C-1 SYSTEM MAPS	JGS/LMH
	JOB NUMBER	SEWER FACILITIES WITHIN THE LAKE SAMISH COLLECTION SYSTEM	
	2021-062		

WILSON ENGINEERING
WILSONENGINEERING.COM

Exhibit C-2 - Rainfall, Lake Samish Influent Lagoon Flow, & Burlington Collection System Flow
Operational Data - January 2019 through December 2022
Prepared by: Elizabeth Sterling, P.E.; Wilson Engineering LLC
Date: May 2023

DATE	RAINFALL (IN.)	RAINFALL FLOW TO LAGOONS (GAL)	RAINFALL FLOW TO LAGOONS (MG)	TOTAL YEARLY RAINFALL (IN)	INFLUENT LAGOON FLOW (Gal)	INFLUENT LAGOON FLOW (MG)	BURLINGTON SYSTEM FLOW (Gal)	BURLINGTON SYSTEM FLOW (MG)
1/1/2019	3.78	804,878	0.80		3,274,996	3.27		
2/1/2019	1.15	244,870	0.24		2,734,296	2.73		
3/1/2019	1.08	229,965	0.23		2,954,704	2.95		
4/1/2019	3.68	783,585	0.78		3,100,600	3.10		
5/1/2019	1.23	261,905	0.26		2,704,696	2.70		
6/1/2019	1.69	359,853	0.36		3,108,504	3.11		
7/1/2019	1.32	281,068	0.28		3,208,696	3.21		
8/1/2019	1.27	270,422	0.27		3,152,800	3.15	221,086	0.22
9/1/2019	4.14	881,533	0.88		3,652,104	3.65	185,883	0.19
10/1/2019	5.78	1,230,739	1.23		4,865,704	4.87	274,085	0.27
11/1/2019	3.40	723,964	0.72		4,467,696	4.47	234,389	0.23
12/1/2019	6.06	1,290,360	1.29	34.58	5,249,600	5.25	254,979	0.25
1/1/2020	7.72	1,643,825	1.64		6,685,608	6.69	349,505	0.35
2/1/2020	6.24	1,328,687	1.33		3,810,288	3.81	279,847	0.28
3/1/2020	1.51	321,525	0.32		3,132,496	3.13	143,768	0.14
4/1/2020	0.99	210,801	0.21		2,969,008	2.97	143,768	0.14
5/1/2020	3.31	704,801	0.70		2,950,608	2.95	167,138	0.17
6/1/2020	1.44	306,620	0.31		2,916,800	2.92	145,212	0.15
7/1/2020	0.06	12,776	0.01		3,566,992	3.57	199,360	0.20
8/1/2020	0.66	140,534	0.14		3,078,896	3.08	162,459	0.16
9/1/2020	1.19	253,387	0.25		2,692,896	2.69	177,861	0.18
10/1/2020	3.04	647,309	0.65		1,921,008	1.92	167,152	0.17
11/1/2020	5.60	1,192,412	1.19		2,842,096	2.84	611,784	0.61
12/1/2020	6.73	1,433,023	1.43	38.49	3,796,800	3.80	250,794	0.25
1/1/2021	4.67	994,386	0.99		4,002,304	4.00	238,882	0.24
2/1/2021	8.72	1,856,755	1.86		3,977,904	3.98	239,818	0.24
3/1/2021	2.79	594,077	0.59		3,265,296	3.27	249,538	0.25
4/1/2021	1.89	402,439	0.40		2,975,904	2.98	202,005	0.20
5/1/2021	1.37	291,715	0.29		2,010,992	2.01	172,781	0.17
6/1/2021	1.15	244,870	0.24		1,739,200	1.74	150,533	0.15
7/1/2021	0.01	2,129	0.00		1,841,008	1.84	200,069	0.20
8/1/2021	0.90	191,638	0.19		1,804,178	1.80	216,166	0.22
9/1/2021	4.18	890,050	0.89		1,645,004	1.65	214,695	0.21
10/1/2021	5.85	1,245,644	1.25		2,058,400	2.06	227,537	0.23
11/1/2021	13.09	2,787,262	2.79		5,787,100	5.79	397,544	0.40
12/1/2021	6.52	1,388,308	1.39	51.14	4,368,704	4.37	232,451	0.23
1/1/2022	6.75	1,437,282	1.44		4,115,898	4.12	301,574	0.30
2/1/2022	3.93	836,818	0.84		2,925,488	2.93	147,017	0.15
3/1/2022	3.95	841,076	0.84		3,498,238	3.50	269,459	0.27
4/1/2022	2.74	583,430	0.58		3,177,600	3.18	202,422	0.20
5/1/2022	2.96	630,275	0.63		3,522,992	3.52	147,498	0.15
6/1/2022	4.41	939,024	0.94		3,716,800	3.72	267,480	0.27
7/1/2022	0.26	55,362	0.06		2,106,208	2.11	201,000	0.20
8/1/2022	0.31	66,009	0.07		1,870,702	1.87	90,461	0.09
9/1/2022	0.23	48,974	0.05		1,607,888	1.61	112,990	0.11
10/1/2022	6.40	1,362,756	1.36		1,644,608	1.64	124,542	0.12
11/1/2022	5.56	1,183,895	1.18		2,116,096	2.12	237,759	0.24
12/1/2022	6.44	1,371,273	1.37	43.94	2,372,800	2.37	294,193	0.29

SAMISH WATER DISTRICT
Exhibit C-3
Monthly Influent Flow vs Monthly Rainfall
January 2019 through December 2022

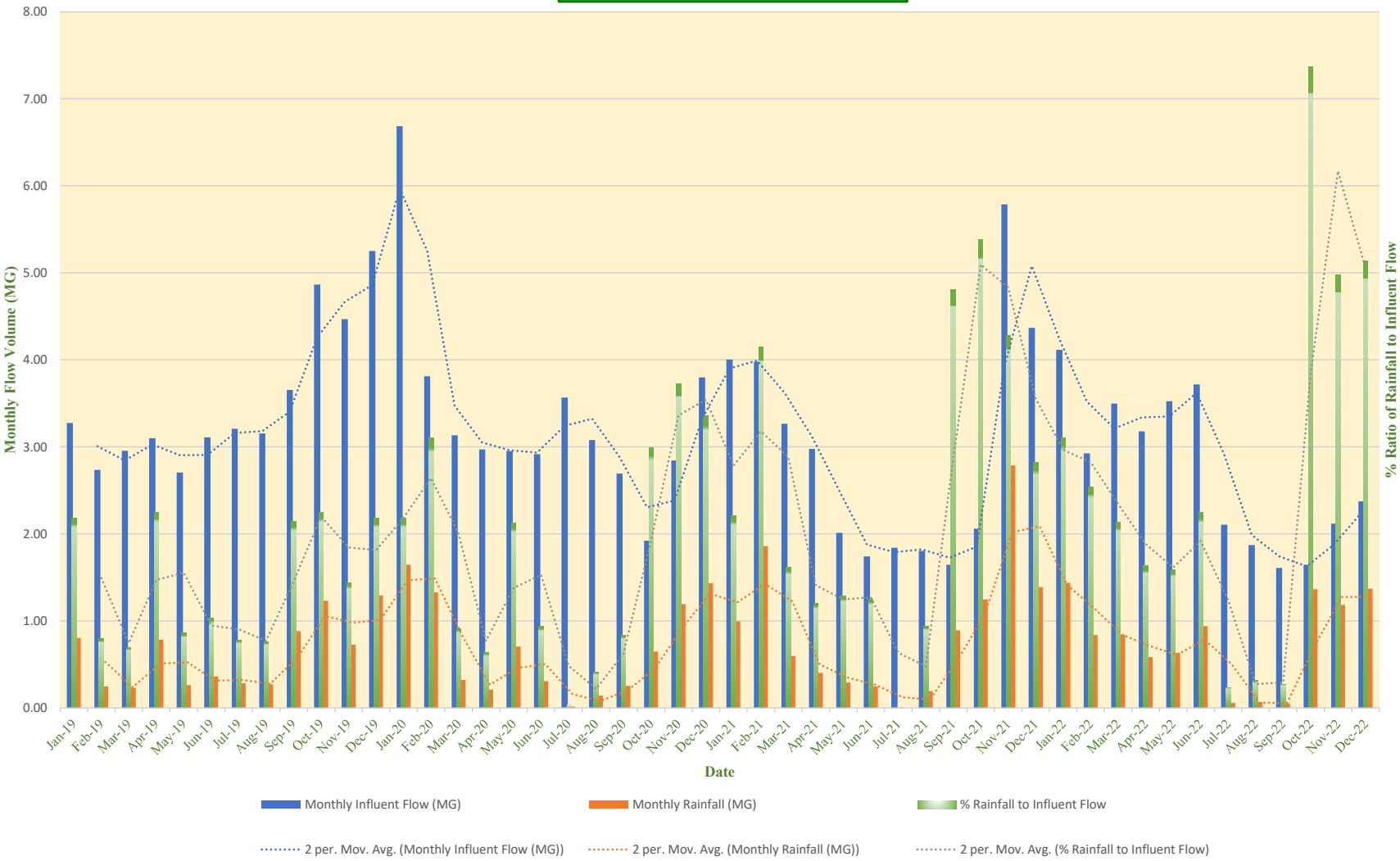
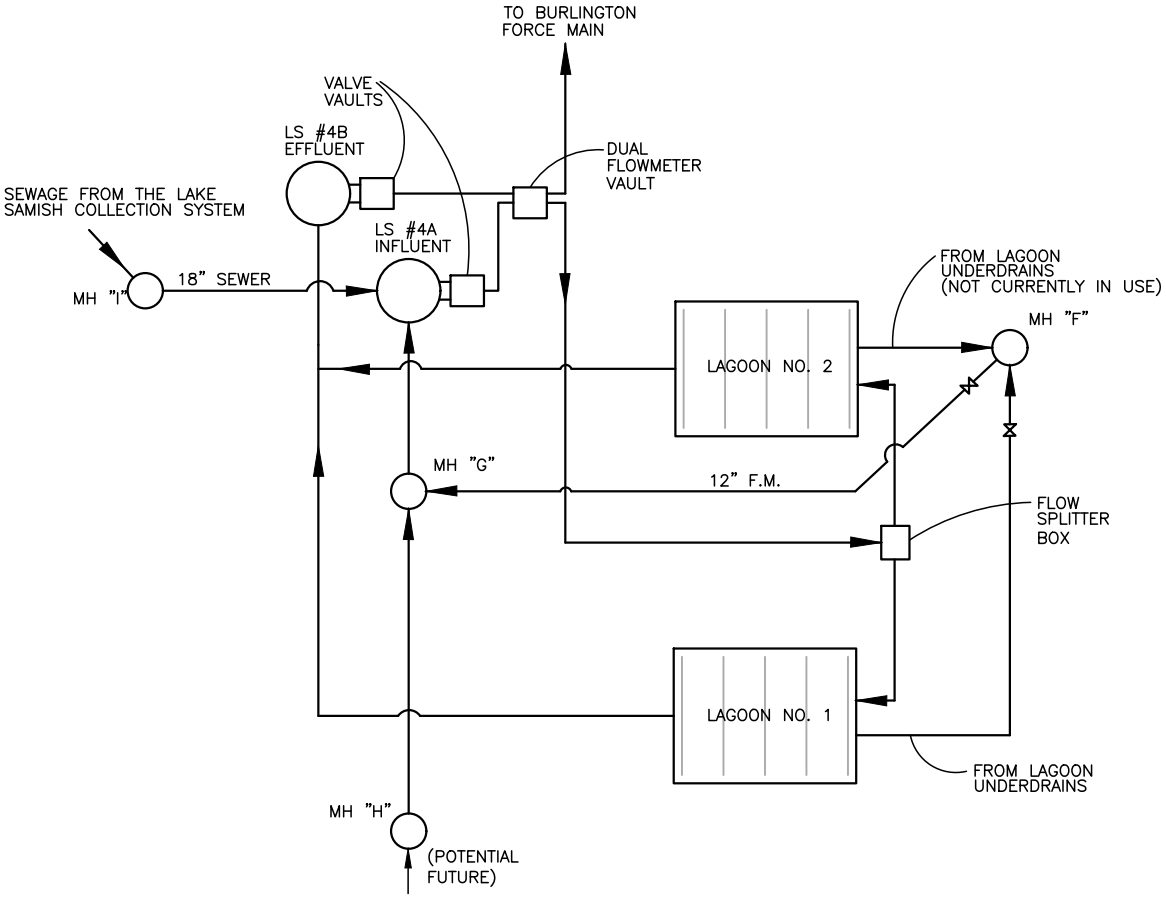
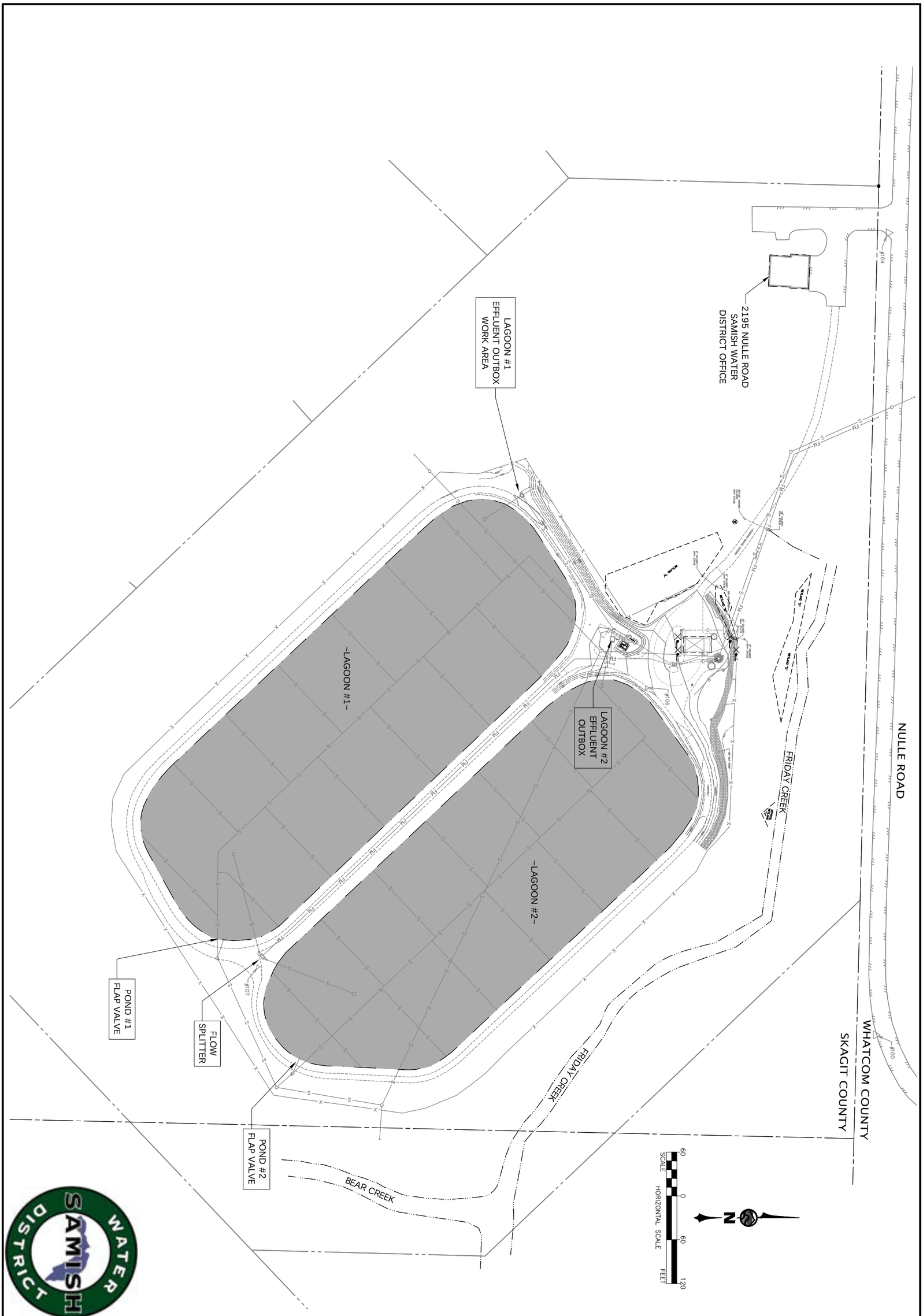


Exhibit D - Lake Samish Lagoon Treatment Plant

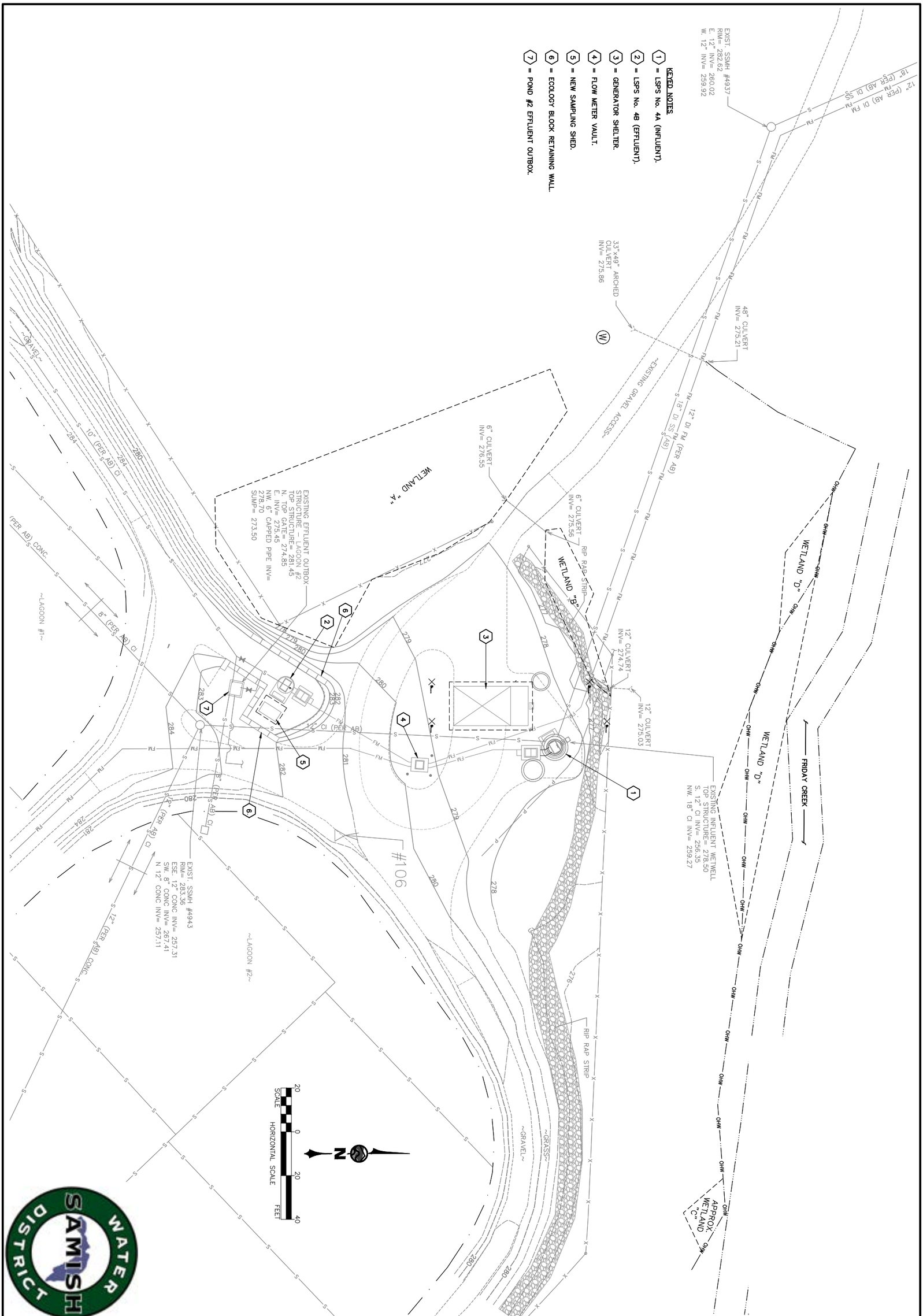


SAMISH WATER DISTRICT – SCHEMATIC FLOW DIAGRAM OF THE LAKE SAMISH TREATMENT PLANT FACILITIES

NOT TO SCALE

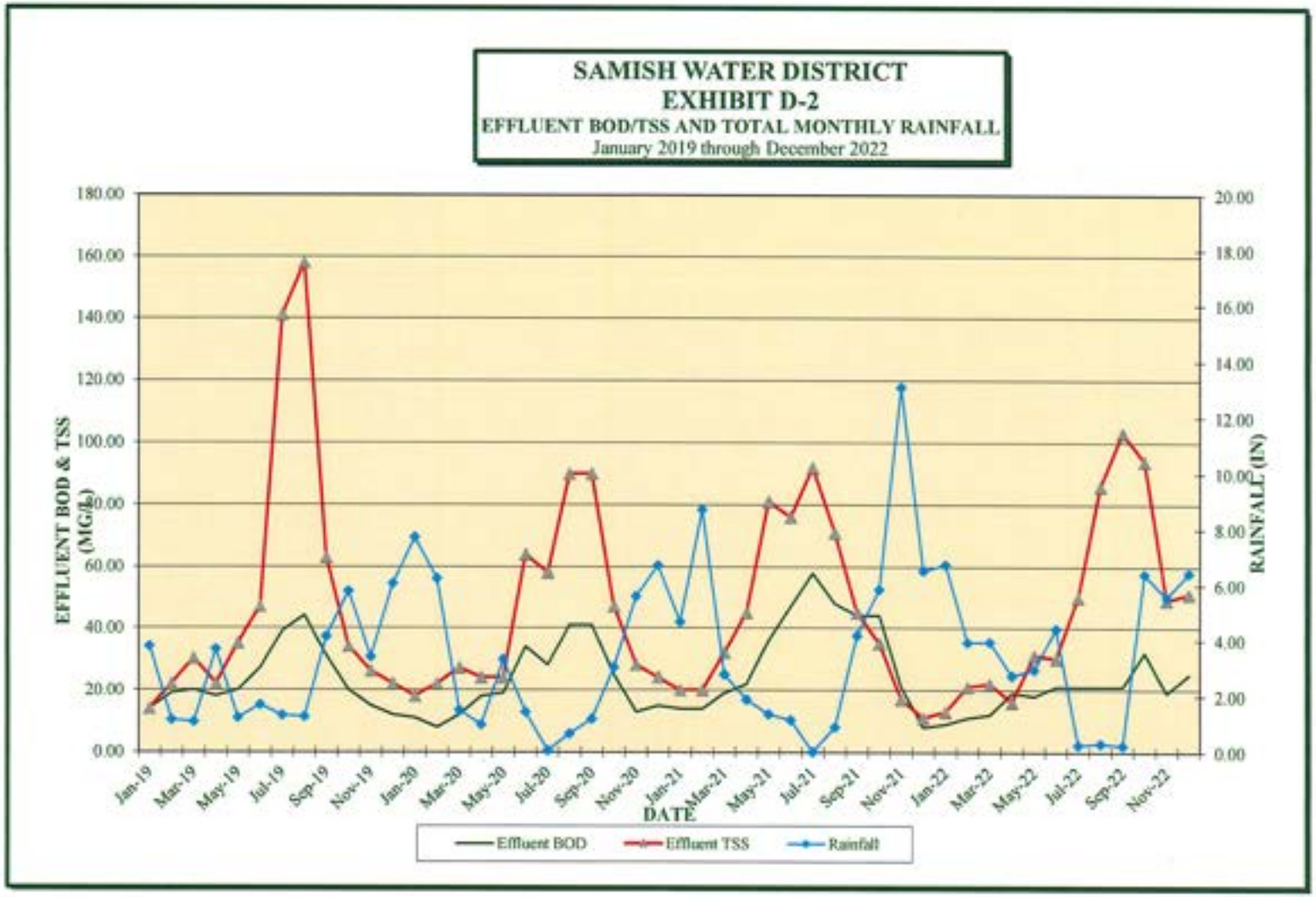


SHEET	DATE		DESIGNED BY	
2	DEC. 2022	SAMISH WATER DISTRICT	EAS	WILSON ENGINEERING
OF	SCALE	BELLINGHAM WASHINGTON	DRAWN BY	WILSONENGINEERING.COM
3	AS SHOWN	EXHIBIT D-1	JGS/LMH	
	JOB NUMBER	LAKE SAMISH TREATMENT PLANT FACILITES		
	2021-062			

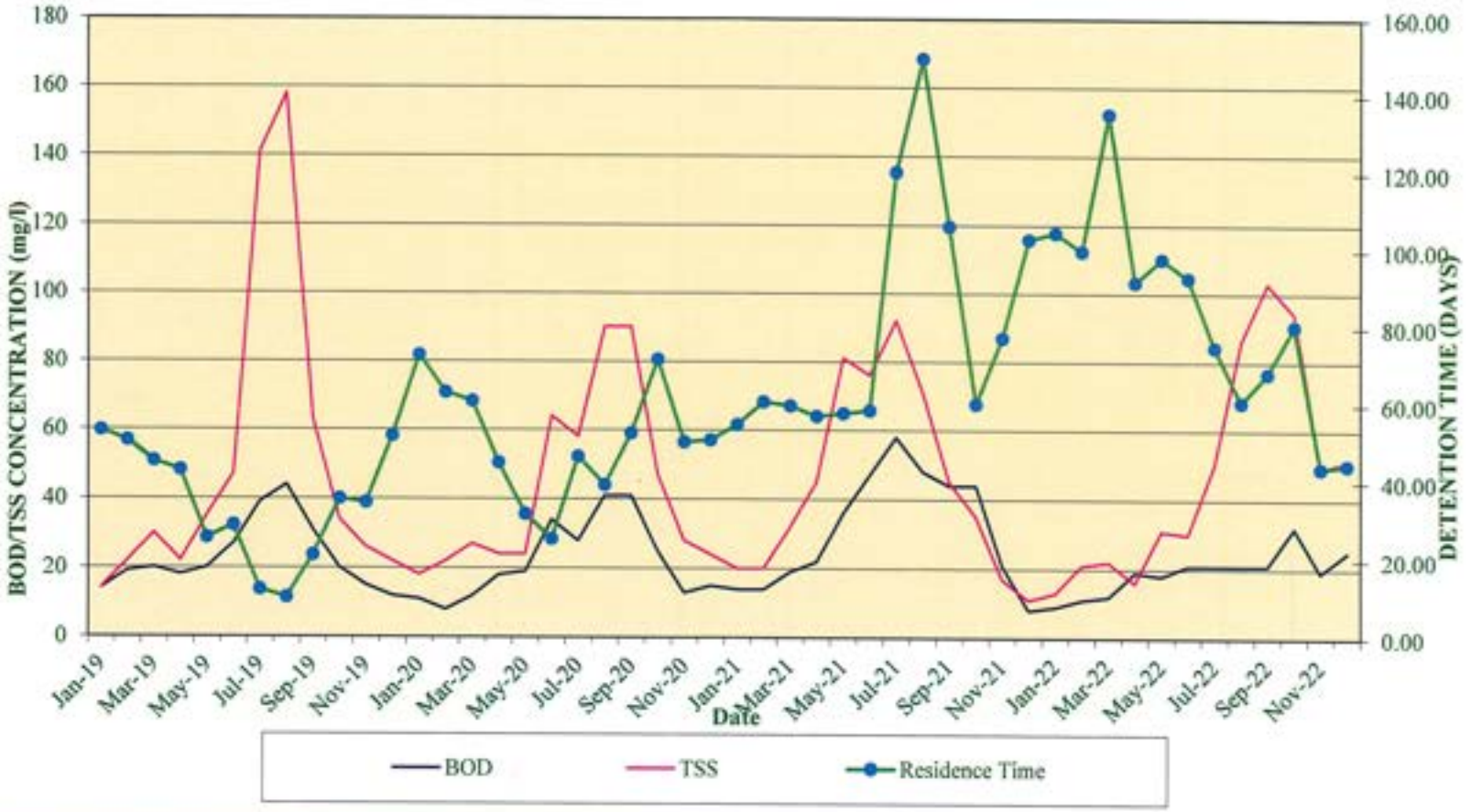


SHEET	DATE		DESIGNED BY	
3	DEC. 2022	SAMISH WATER DISTRICT	EAS	
OF	SCALE	BELLINGHAM WASHINGTON	DRAWN BY	
3	AS SHOWN	EXHIBIT D-1	JGS/LMH	
	JOB NUMBER	LAKE SAMISH TREATMENT PLANT FACILITIES		
	2021-062			

WILSON ENGINEERING
WILSONENGINEERING.COM


SAMISH WATER DISTRICT
EXHIBIT D-2
EFFLUENT BOD/TSS AND TOTAL MONTHLY RAINFALL
January 2019 through December 2022
EFFLUENT BOD & TSS (MG/L)
RAINFALL (IN)
DATE
Effluent BOD
Effluent TSS
Rainfall

SAMISH WATER DISTRICT
EXHIBIT D-3
AVERAGE MONTHLY TREATMENT LAGOON BOD, TSS AND DETENTION TIMES
January 2019 through December 2022



SAMISH WATER DISTRICT
EXHIBIT D-4
AVERAGE MONTHLY TREATMENT LAGOON STORAGE VOLUMES AND DETENTION TIMES
January 2019 through December 2022

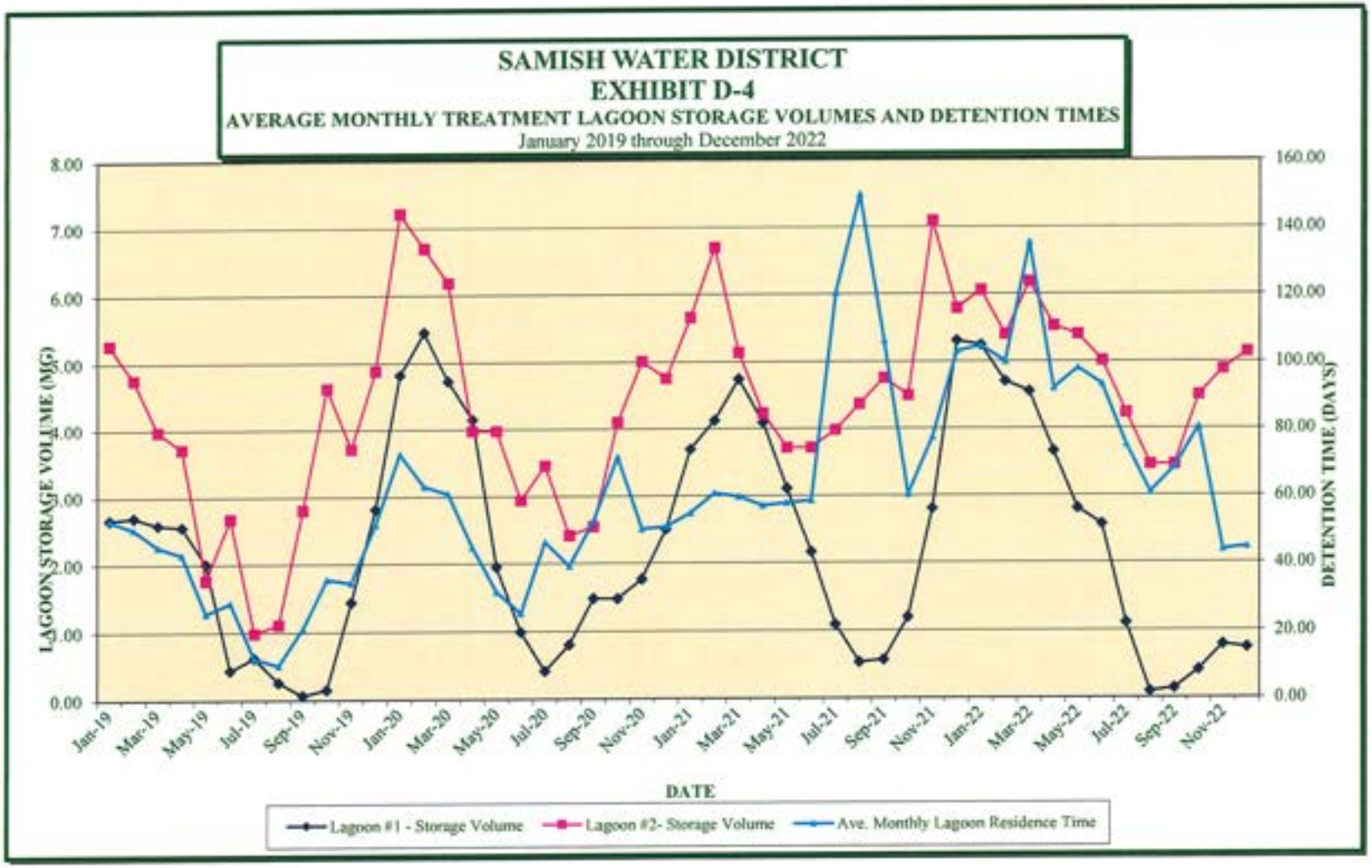


EXHIBIT D-4
TOTALIZED RAINFALL & INFLUENT PS #4A YEARLY FLOW TO LAGOONS VS TOTALIZED EFFLUENT PS #4B YEARLY FLOW OUT OF LAGOONS
(01/01/2019 through 12/31/2022)

SAMISH WATER DISTRICT
WASTEWATER TREATMENT LAGOONS

evaluation by
ROBERT THODE, MES
FIRE MOUNTAIN FARMS, Inc.

Project Scope: Evaluate wastewater treatment lagoons for Samish Water District. Determine quantity and quality of sludge blanket in lagoons. Make recommendations as to current or future need to remove biosolids from lagoons.

Date of evaluation: May 29th 2009

Basic Site Information: Wastewater treatment lagoons are located at 2195 Nulle Road, Bellingham, Washington. There are two lagoons of more or less equal size. For the purposes of this report they are referred to as West lagoon and East lagoon, attached aerial photo shows they are not alined true east west but one is more west than the other.

Lagoon Cells: Dimensions of the lagoon cells were approximately 600 ft. X 250 ft. with a average water depth of 35 inches in the West Lagoon and 46.5 inches in the East Lagoon. These are unlined earthen lagoons, (at least no visible membrane liner), constructed in the '70s and have not be cleaned out since put into service. There was no visible erosion or indications of compromised integrity of lagoon. Bottom of lagoon cells were solid and appeared to be relatively flat.

Information provided by operator was that lagoon cells operated in parallel with inflow split between cells equally. Based on sludge blanket depths, it would appear that this was not always the case as the West Lagoon has a much higher volume of sludge.

West cell data: Depth measurements were taken with a "sludge judge" at 25 locations. Sludge blanket percent solids was below the point that our "plate depth" unit would not work. Plate depth unit this is our preferred method of determining blanket depth but sludge must be of a consistency that a one foot square plate will sit on top of the sludge. Depths ranged from 12 inches to 20 inches with an average of 16.7 inches. Samples were taken for lab analysis, four for Fecal Col., one composite for "503" metals and one composite for VARS. Average percent solids for this lagoon was 1.43%. Estimated dry tons in cell is 110.

East cell data: Depth measurements were taken with a "sludge judge" at 26 locations. Sludge blanket depths ranged from 3 inches to 9 inches with an average of 6.5 inches. Samples were taken for lab analysis, four for fecal Col., one composite for "503" metals and one composite for VARS. Average percent solids for this lagoon was 1.81%. Estimated dry tons in cell is 54

Analytical Results Evaluation: All results from lab analysis indicate that sludge blanket in lagoons meets class B biosolids standards for land application. Analytical lab results are attached for review.

There are three general areas that need to be met for biosolids to be land applied, pathogen reduction, potential pollutants and vector attraction reduction standard. Both lagoons were well within the pathogen limit of 2,000,000 CFU per dry gram and could be land applied without taking out of service. Potential pollutants ('503" metals) met table 3 limits. Table 3 is more stringent than table 1, which can still be land applied but with more restrictions. The only metal level that should be of concern to the water district is copper. Copper levels were 955 and 1270 for the two lagoons with the table 3 maximum 1500. If table 3 levels are exceeded the cost of disposal will increase greatly. The most likely source of copper in the waste stream is from copper pipes. Erosion of copper pipes increases if domestic water is not pH balanced. Sludge samples also easily passed VARS.

Prior to lagoon clean-out a sampling plan will need to be submitted to Department of Ecology and approved. Timing of sampling before land application is important as VARS testing takes about six weeks to get results so must be done early and the pathogen testing must be within 30 days of land application. Also nutrient data would be needed prior to land application.

General Recommendations: At this time it does not appear that a clean-out is needed in either cell. The east cell does not have sufficient depth of sludge blanket to be able to dredge effectively. The west cell could be dredged but cost per dry ton would be very high due to the low solids content of the blanket. Normal sludge blankets will be from 6 to 10 percent solids, the west cell was 1.43% and the east 1.81%. This would indicate that the holding/storage capacity of the lagoon is much greater than what is now in place. Unless there are problems meeting discharge limits, or other factors that I am unaware of, a clean-out at this time would not be necessary or economical.

The only operational change I might suggest is that inflow be directed more into the East Lagoon so that sludge blanket depths equalize. Over twice as much solids are currently in the west cell indicating that it has been doing the majority of the treatment.

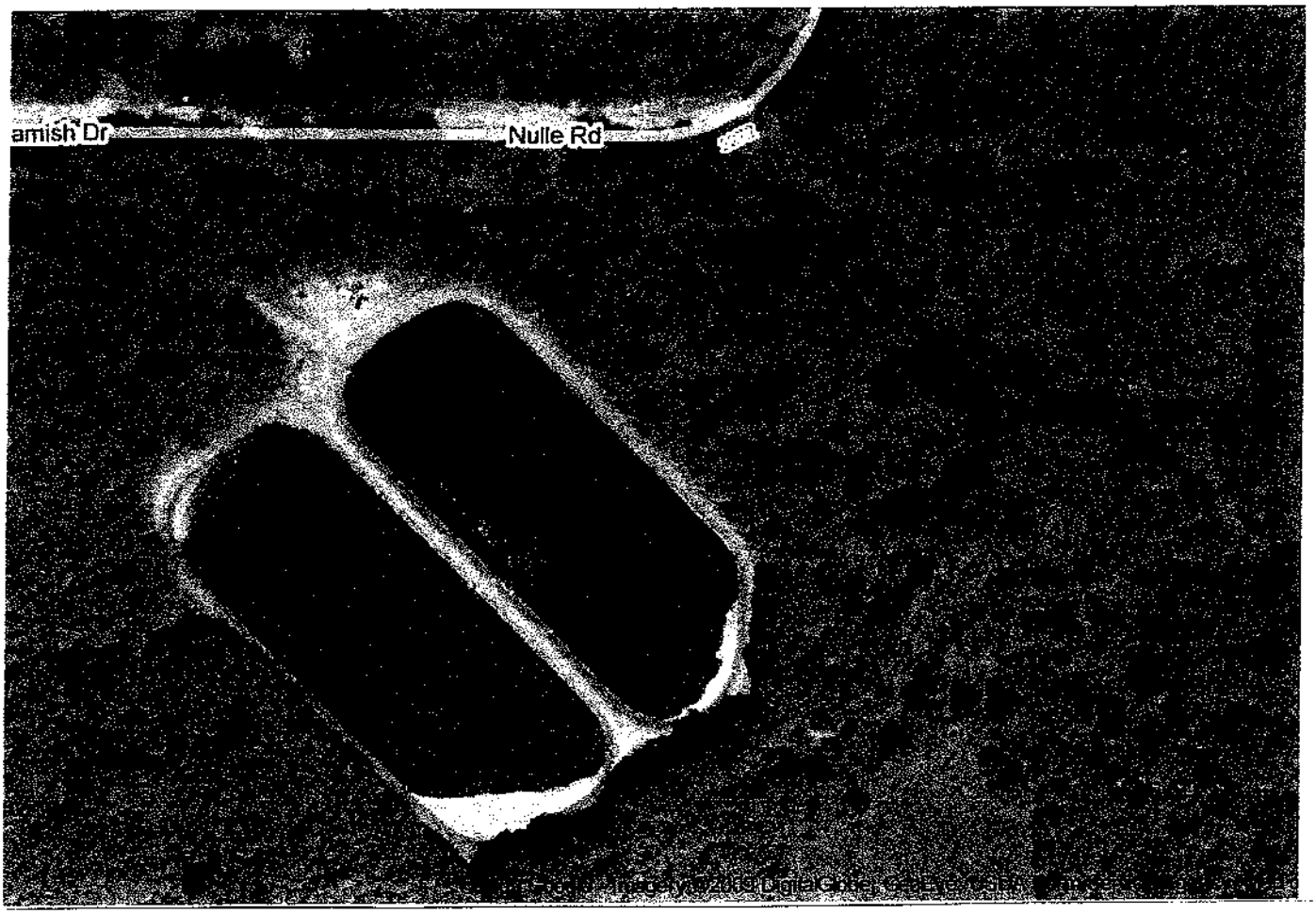
When the district decides it is time to clean-out the lagoon preplanning can reduce the cost significantly. The greatest cost savings would be in finding a local site and permitting it for biosolids. We could permit a site under our statewide coverage or the district could permit themselves. If a site is located within 20 miles biosolids could be dredged and then hauled out as liquid at considerably less than the cost of de-watering and shipping over the mountains. District will also need to seek coverage under the "Statewide Biosolids Management Plan" even if they are not doing the land application themselves. This is an easy thing to do but if it is not done early it could delay project due to SEPA and public notice requirements.

Continued monitoring of lagoon contents is recommended. Once annually the lagoon should be checked for depth of sludge blanket. This could be done easily by the operator with a sludge judge. Samples could be taken at the same time and checked for "503" metals to insure that copper contents are not increasing.

One last recommendation is to plan for the cost of dredging and land application now. Every year an amount should be set aside to pay for biosolids management when the time arises.

SAMISH WATER DISTRICT

WASTEWATER TREATMENT LAGOONS



Exit 242 off of I-5, West on Nulle Road to site

ANALYTICAL LABORATORIES

Burlington WA 1620 S Walnut St - 98233
Corporate Office 800.755.9295 • 360.757.1400 • 360.757.1402fax
Bellingham WA 805 Orchard Dr Suite 4 - 98225
Microbiology 360 671 0688 • 360 671 1577fax

Data Report

Client Name: Fire Mountain Farms, Inc.
856 Burnt Ridge Road
Onalaska, WA 98570

Reference Number: 09-07736
Project: Samish Lagoons
Report Date: 7/7/09
Date Received: 5/29/09
Peer Review:

Sample Description: E1 - Samish WWTP
Lab Number: 16071
Sample Date: 5/29/09
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-14551	FECAL COLIFORM	63	0.011		MPN/g	1	SM9221 E	6/3/09	dl	MTF_090529	

Sample Description: E2 - Samish WWTP
Lab Number: 16072
Sample Date: 5/29/09
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-14551	FECAL COLIFORM	12	0.011		MPN/g	1	SM9221 E	6/3/09	dl	MTF_090529	

Sample Description: E3 - Samish WWTP
Lab Number: 16073
Sample Date: 5/29/09
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-14551	FECAL COLIFORM	168	0.011		MPN/g	1	SM9221 E	6/3/09	dl	MTF_090529	

Sample Description: E4 - Samish WWTP
Lab Number: 16074
Sample Date: 5/29/09
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-14551	FECAL COLIFORM	23	0.011		MPN/g	1	SM9221 E	6/3/09	dl	MTF_090529	

Sample Description: E5 - Samish WWTP
Lab Number: 16075
Sample Date: 5/29/09
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7440-70-2	CALCIUM	12006	962		mg/Kg	10	6010B/3051	6/4/09	BJ	6010B-090604B	
7439-95-4	MAGNESIUM	4408	96.2		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	
7440-09-7	POTASSIUM	1007	96.2		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	
7440-23-5	SODIUM	1028	96.2		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	
7429-90-5	ALUMINUM	14074	19.2		mg/Kg	10	6010B/3051	6/4/09	BJ	6010B-090604B	
7440-38-2	ARSENIC	11.4	1.92		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	
7440-43-9	CADMIUM	ND	1.92		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	
7440-47-3	CHROMIUM	31.2	1.92		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	

Notes:
ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested
PQL = Practical Quantitation Limit is the lowest level that can be acheived within specified limits of precision and accuracy during routine laboratory operating conditions
D F - Dilution Factor

If you have any questions concerning this report contact us at the above phone number.

Data Report

7440-50-8	COPPER	955	19.2	mg/Kg	10	6010B/3051	6/4/09	BJ	6010B-090604B
7439-92-1	LEAD	63.8	1.92	mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B
7439-97-6	MERCURY	1 73	0.15	mg/Kg	2	7471A	6/2/09	CCN	HG_090602
7439-98-7	MOLYBDENUM	ND	1 92	mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B
7440-02-0	NICKEL	47.0	1 92	mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B
7782-49-2	SELENIUM	ND	1 92	mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B
7440-66-6	ZINC	1201	19.2	mg/Kg	10	6010B/3051	6/4/09	BJ	6010B-090604B

Sample Description: W-1 - Samish WWTP
Lab Number: 16076
Sample Date: 5/29/09
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-14551	FECAL COLIFORM	16,800	0.011		MPN/g	1	SM9221 E	6/3/09	dl	MTF_090529	

Sample Description: W-2 - Samish WWTP
Lab Number: 16077
Sample Date: 5/29/09
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-14551	FECAL COLIFORM	3,000	0.011		MPN/g	1	SM9221 E	6/3/09	dl	MTF_090529	

Sample Description: W-3 - Samish WWTP
Lab Number: 16078
Sample Date: 5/29/09
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-14551	FECAL COLIFORM	14,000	0 011		MPN/g	1	SM9221 E	6/3/09	dl	MTF_090529	

Sample Description: W-4 - Samish WWTP
Lab Number: 16079
Sample Date: 5/29/09
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
E-14551	FECAL COLIFORM	3,500	0.011		MPN/g	1	SM9221 E	6/3/09	dl	MTF_090529	

Sample Description: W-5 - Samish WWTP
Lab Number: 16080
Sample Date: 5/29/09
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7440-70-2	CALCIUM	19089	1000		mg/Kg	10	6010B/3051	6/4/09	BJ	6010B-090604B	
7439-95-4	MAGNESIUM	3795	100		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	
7440-09-7	POTASSIUM	1414	100		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	
7440-23-5	SODIUM	2142	100		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	
7429-90-5	ALUMINUM	17877	20.0		mg/Kg	10	6010B/3051	6/4/09	BJ	6010B-090604B	
7440-38-2	ARSENIC	10.4	2.00		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	
7440-43-9	CADMIUM	ND	2.00		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	
7440-47-3	CHROMIUM	28.8	2.00		mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B	

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested
PQL = Practical Quantitation Limit is the lowest level that can be acheived within specified limits of precision and accuracy during routine laboratory operating conditions
D.F. - Dilution Factor

Reference Number: **09-07736**
Report Date: 7/7/09

ANALYTICAL LABORATORIES

Data Report

7440-50-8	**COPPER**	1270	20.0	mg/Kg	10	6010B/3051	6/4/09	BJ	6010B-090604B
7439-92-1	**LEAD**	44.7	2.00	mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B
7439-97-6	**MERCURY**	1.39	0.10	mg/Kg	1	7471A	6/2/09	CCN	HG_090602
7439-98-7	**MOLYBDENUM**	2.82	2.00	mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B
7440-02-0	**NICKEL**	31.9	2.00	mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B
7782-49-2	**SELENIUM**	ND	2.00	mg/Kg	1	6010B/3051	6/4/09	BJ	6010B-090604B
7440-66-6	**ZINC**	1370	20.0	mg/Kg	10	6010B/3051	6/4/09	BJ	6010B-090604B

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested
PQL = Practical Quantitation Limit is the lowest level that can be acheived within specified limits of precision and accuracy during routine laboratory operating conditions
D.F. - Dilution Factor

Am Test Inc.
13600 NE 126TH PL
Suite C
Kirkland, WA 98034
(425) 885-1664
www.amtestlab.com

AMTEST LABORATORIES

Professional Analytical Services

ANALYSIS REPORT

Edge Analytical
1620 S. Walnut
Burlington, WA 98233
Attention: Fran
Project #: 09-07736
PO Number: 09-07736
All results reported on an as received basis.

Date Received: 06/02/09
Date Reported: 7/ 7/09

AMTEST Identification Number	**09-A008545**
Client Identification	**16081**
Sampling Date	**05/29/09, 12:00**

Vector Attraction - Van Kleek Method

Initial TVS	/ Date	Final TVS	/ Date	Reduction	VAR Achieved
72.6	06/04/09	70.7	07/01/09	8.93	YES

Kathy Fugiel
President

CHAIN OF CUSTODY / ANALYSIS REQUEST (PLEASE COMPLETE ALL APPLICABLE SHADED SECTIONS)

REPORT TO: Fire Mountain Farms	BILL TO:
ADDRESS: 856 Burnt Ridge Rd	ADDRESS:
CITY: Oroville STATE: WA ZIP: 98570	CITY: Same STATE: ZIP:
ATTN: Robert Thode	PHONE: FAX:
PHONE: 360-985-7780 FAX: 360-985-7780	P.O.#: ATTN:
EMAIL: firemt@q.com	☒ VISA ☐ M/C ☐ A/E EXPIRES /
PROJECT NAME: Samish Lagoons	CARD# 4275 8274 0299 5415

FOR LAB USE ONLY

REF#

CHECK REGULATORY PROGRAM

- ☐ SAFE DRINKING WATER ACT
- ☐ CLEAN WATER ACT
- ☐ RCRA / CERCLA
- ☐ OTHER

EDGE ANALYTICAL LABORATORIES

Corporate
1620 South Walnut St.
Burlington, WA 98233
1.800.755.9295

Microbiology
805 W. Orchard Dr. Suite 4
Bellingham, WA 98225

INSTRUCTIONS

1. USE ONE LINE PER SAMPLE LOCATION.
2. BE SPECIFIC IN TEST REQUESTS.
3. NEW LIST EACH METAL INDIVIDUALLY. NEW
4. CHECK OFF ANALYSIS TO BE PERFORMED FOR EACH SAMPLE LOCATION.
5. ENTER NUMBER OF CONTAINERS.

TURN AROUND TIME REQUIRED

- ☐ STANDARD
- ☐ HALF-TIME (50% SURCHARGE)
- ☐ QUICKEST (100% SURCHARGE) PHONE CALL REQ.
- ☐ EMERGENCY (PHONE CALL REQUIRED)

ANALYSIS REQUESTED

	SAMPLE ID	LOCATION	GRAB/ COMP.	SAMPLE MATRIX*	DATE	TIME	503 Metals	Fecal Coli						NUMBER OF CONTAINERS	SPECIAL INSTRUCTIONS/ CONDITIONS ON RECEIPT
1	E1	Samish WWTP	Grab	BioSolids	5/29	10:31	☐	☒	☐	☐	☐	☐	☐		
2	E2		Grab	"	"	10:37	☐	☒	☐	☐	☐	☐	☐		
3	E3		Grab	"	"	10:50	☐	☒	☐	☐	☐	☐	☐		
4	E4		Grab	"	"	10:55	☐	☒	☐	☐	☐	☐	☐		
5	E5		Comp	"	"	11:10	☒	☐	☐	☐	☐	☐	☐		
6	W-1		Grab	"	"	11:20	☐	☒	☐	☐	☐	☐	☐		
7	W-2		Grab	"	"	11:24	☐	☒	☐	☐	☐	☐	☐		
8	W-3		Grab	"	"	11:53	☐	☒	☐	☐	☐	☐	☐		
9	W-4		Grab	"	"	11:45	☐	☒	☐	☐	☐	☐	☐		
10							☐	☐	☐	☐	☐	☐	☐		

09-07736
16071 - 16081

SAMPLED BY: PHONE: FAX: EMAIL:

◀TOTAL CONTAINERS

SAMPLE RECEIPT REQUESTED (MUST INCLUDE FAX OR EMAIL) ☐

*W- WATER SW- SURFACE WATER WW- WASTE WATER OL- OIL
DW- DRINKING WATER GW- GROUND WATER S- SOIL OTHER 09-07736

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
	5/29	13:24		5/29/09	1324

	YES	NO	N/A
CUSTODY SEALS INTACT	☐	☐	☒
SAMPLE TEMP 25 °C SATISFACTORY	☐	☐	☒
SAMPLES RECEIVED INTACT	☒	☐	
CHAIN OF CUSTODY & LABELS AGREE	☒	☐	

FORM: COC 01-06-2009

EVALUATION OF

SAMISH WATER DISTRICT

WASTEWATER TREATMENT LAGOONS

2015

BY

Robert Thode

Fire Mountain Farms, Inc.

Project Scope: Evaluate biosolids in lagoon for quantity and quality of biosolids in lagoons. Make recommendation for current or future need to remove biosolids from lagoon.

Basic Site Information: Wastewater Treatment lagoons are located at 2195 Lulle Road, Bellingham, Washington. There are two lagoons of more or less equal size. For the purpose of this report they are referred to as West Lagoon and East Lagoon, see attached aerial photo.

Lagoon Cells: Dimensions of the lagoon cells are approximately 600 feet X 250 feet, with water depth of three to four feet. These lagoons are lined, with a cover over the liner. These lagoons have been in service since construction in the 70's. They have never had any biosolids removed. There was no visible sign of erosion or damage that would compromise the integrity of the lagoon on our first visit. On the second visit we noted that the liner in the west cell had two spots that had accumulated gas under the liner and risen to the surface. Originally there was a cover material on top to keep liner in place, (most likely one foot of sand or rock), this has been shoved aside by the floating liner. Apparently the liner periodically floats up and then goes back down. This places the liner at high risk of damage.

Biosolids Quality:

Biosolids that are beneficially reused in Washington State must meet quality standards for pathogen reduction, vector attraction reduction, pollutant limits, and manufactured inerts.

Pathogen Reduction [WAC 173-308-170]

Pathogens are disease causing organisms that exist in biosolids and can cause health risks to the public. For this reason, the reduction or elimination of pathogens is important to biosolids management.

Alternative One Description
Fecal Coliform is less than 2,000,000 Most Probable Number or 2,000,000 Colony-Forming Units per gram of total solids, based on a geometric mean of seven samples.
Fecal Coliform test results were as follows:

MPN/100g As reported	MPN/g dry Converted to 1g
4100000	41000
1100000	11000
1100000	11000
2500000	25000
1200000	12000
6700000	67000
290000	2900
890000	8900

Pathogen reduction has been met for class B standards.

Vector Attraction Reduction [WAC 173-308-180]
Vectors such as rodents, birds, mosquitoes, etc. can transmit diseases directly to humans. It is therefore important to reduce the potential for this by making biosolids less attractive to vectors.
To meet vector attraction requirements, the samples from the lagoons were be collected to document that the biosolids digestion achieves volatile solids reduction as required by WAC 173-308-180(1)(a). This was demonstrated by analyzing the samples for volatile solids prior to, and after digesting the samples in a bench-scale unit for forty days at a temperature between 30 and 37°C. The vector attraction requirement is met if the volatile solids at the beginning of the test is reduced by less than seventeen percent. Results for both samples submitted to the lab easily passed this test.

Pollutants [WAC 173-308-160]
Many metals are essential for plant growth, but some metals in large amounts can accumulate in the soils and cause issues at application sites. Regulations are in place to ensure that metals concentrations do not exceed certain initial and cumulative limits. Tables 1 and 3 in WAC 173-308-160 list pollutant limits. Biosolids that meet the Table 3 pollutant concentrations can be land applied without tracking the cumulative loading rates on the application site. If any pollutants exceed the Table 3 pollutant concentrations but are below the ceiling limits listed in Table 1, biosolids can be applied until the total load to the site approaches the cumulative limits listed in Table 2 in WAC 173-308-160. If any of the metals exceed the Table 1ceiling limit, the material is not classified as biosolids, land application is prohibited and the biosolids must be disposed of in some other way.

Limits for land application of biosolids		Ceiling limit	Analytical results first sampling	Analytical results first sampling
	Table 3	Table 1	East Cell	West Cell
	mg/kg dry	mg/kg dry	mg/kg dry	mg/kg dry
Arsenic	41	75	14.5	10.6
Cadmium	39	85	7.2	5.3
Copper	1500	4300	**1960**	766
Lead	300	840	29	21
Mercury	17	57	2.08	1.8
Molybdenum	75	75	14.4	10.7
Nickel	420	420	46.5	35.1
Selenium	100	100	14.1	9.4
Zinc	2800	7500	1910	824

Note: if below detection limit, detection limit was used

All levels met "Table 1" limits, all but copper in East Cell met "Table 3". To our knowledge there are no Beneficial Use Facilities, (permitted sites for class B biosolids), that will take biosolids that does not meet table 3 limits. A site could be permitted for Table 1 material as a single source but it is much better to meet the table 3 numbers.

Copper is a concern in that it did not meet the Table 3 limit in the East Cell when the first composite sample was analyzed. To see if this was representative of the biosolids in the lagoon we returned and took four more composite samples. These were analyzed with results of: 1010 mg/kg, 1360 mg/kg, 912 mg/kg and 974 mg/kg. All of these were below the 1500 mg/kg limit of table 3. For compliance purposes when it becomes time to remove the biosolids from the lagoons an average of all results can be used. The most likely source of the copper is from copper pipes in residences. The only way to control the amount of copper coming from houses with copper pipes is to pH balance the water supply to reduce electrolysis or re-pipe with plastic pipe.

Biosolids quantity: It is very difficult to closely determine the volume, (in dry tons), currently in these lagoons due to the low percent solids. There may have been some increase in solids since the last evaluation with my estimate being 200 dry tons. This really should be viewed as a range of from 150 to 300 dry tons.

General Recommendation: The treatment system is working as it should and meeting treatment standers and still has capacity for another five years. My biggest concern is the integrity of the lagoon liner where it is floating to the surface at times. If this became damaged the regulatory agencies could demand that it be cleaned out and repaired. Doing this type of work without adequate time to plan and

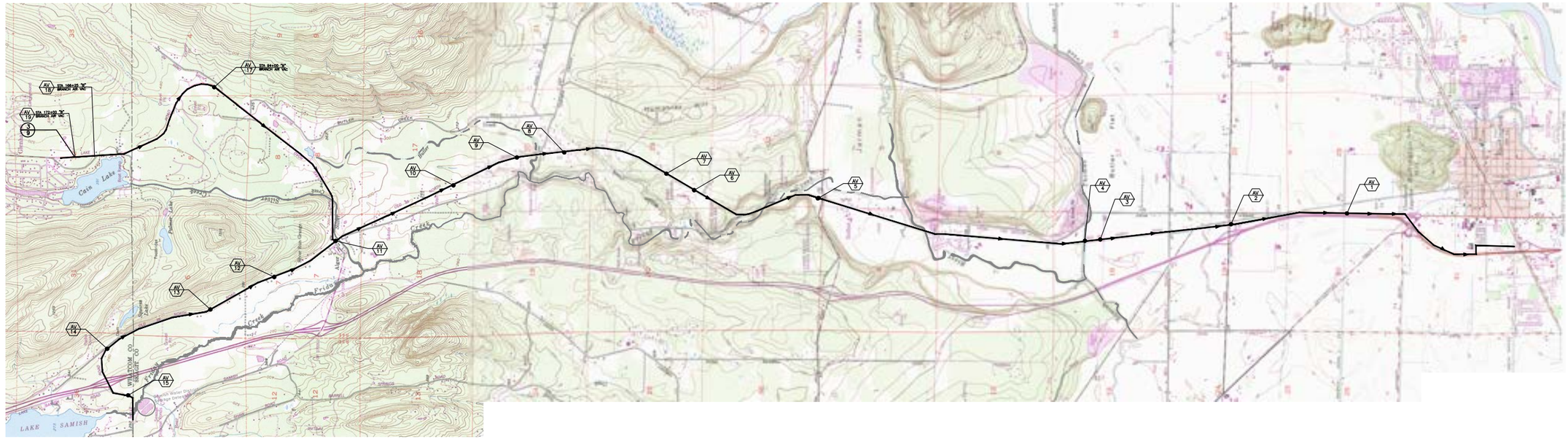
prepare could be very costly. Thus I recommend that you begin planning to have the biosolids removed in three to five years. This would provide the time needed to locate and permit a site close to the lagoons. You can expect the costs to be three to four times as much if biosolids have to be dewatered and hauled to Eastern Washington. If the district does not wish to permit a site due to the potential controversy of doing so, Fire Mountain Farms would seek out a local farmer willing to cooperate and permit a site. Permitting can take two years so pre-planning is essential.

SAMISH WATER DISTRICT

WASTEWATER TREATMENT LAGOONS

Exit 242 off of I-5, West on Nulle Road to site

Exhibit E - Burlington Force Main Collection System



LEGEND

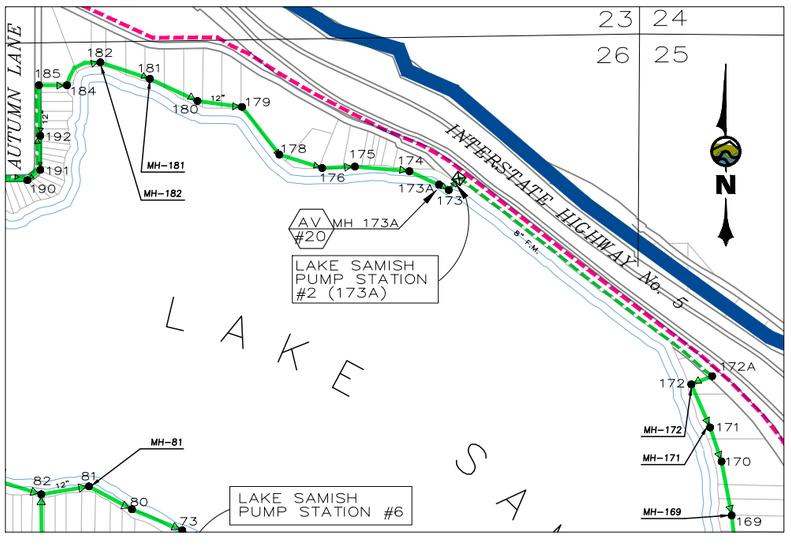
- GRAVITY SEWER
- FORCE MAIN

BURLINGTON FORCE MAIN OVERALL

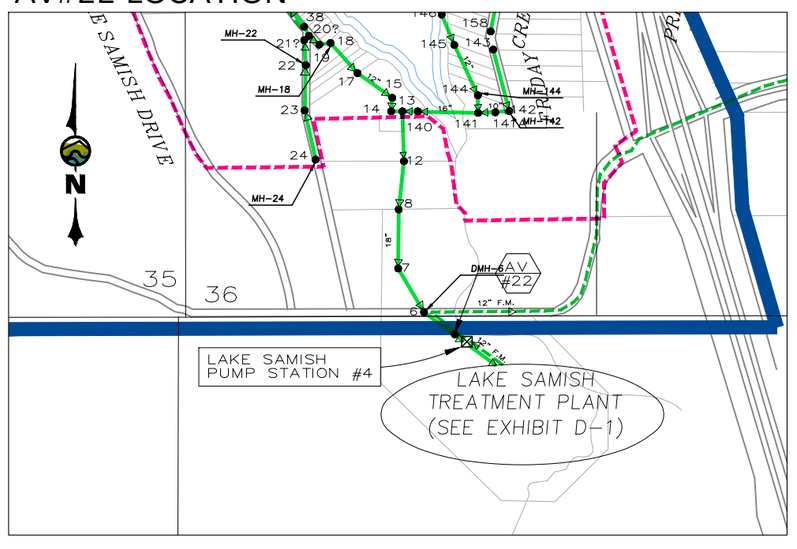
N

2500 0 2500 5000
SCALE FEET

AV#20 LOCATION



AV#22 LOCATION



BURLINGTON FORCE MAIN COLLECTION SYSTEM			
MAJOR FORCE MAINS	LENGTH (LF)	DIAMETER	CAPACITY (GPM)
BURLINGTON FORCE MAIN LSPS#4 TO BURLINGTON PS#6	~72,320	12-IN *	1300
ALGER/CAIN LAKE FORCE MAIN	~21,120	5-IN / 6-IN	242
BUGGIA FORCE MAIN	~3,400	4-IN	84
THOUSAND TRAILS FORCE MAIN	~6,500	3-IN / 4-IN	276

*~120 LF 8-IN PIPE AT O'LEARY SLOUGH

WILSON ENGINEERING
WILSONENGINEERING.COM

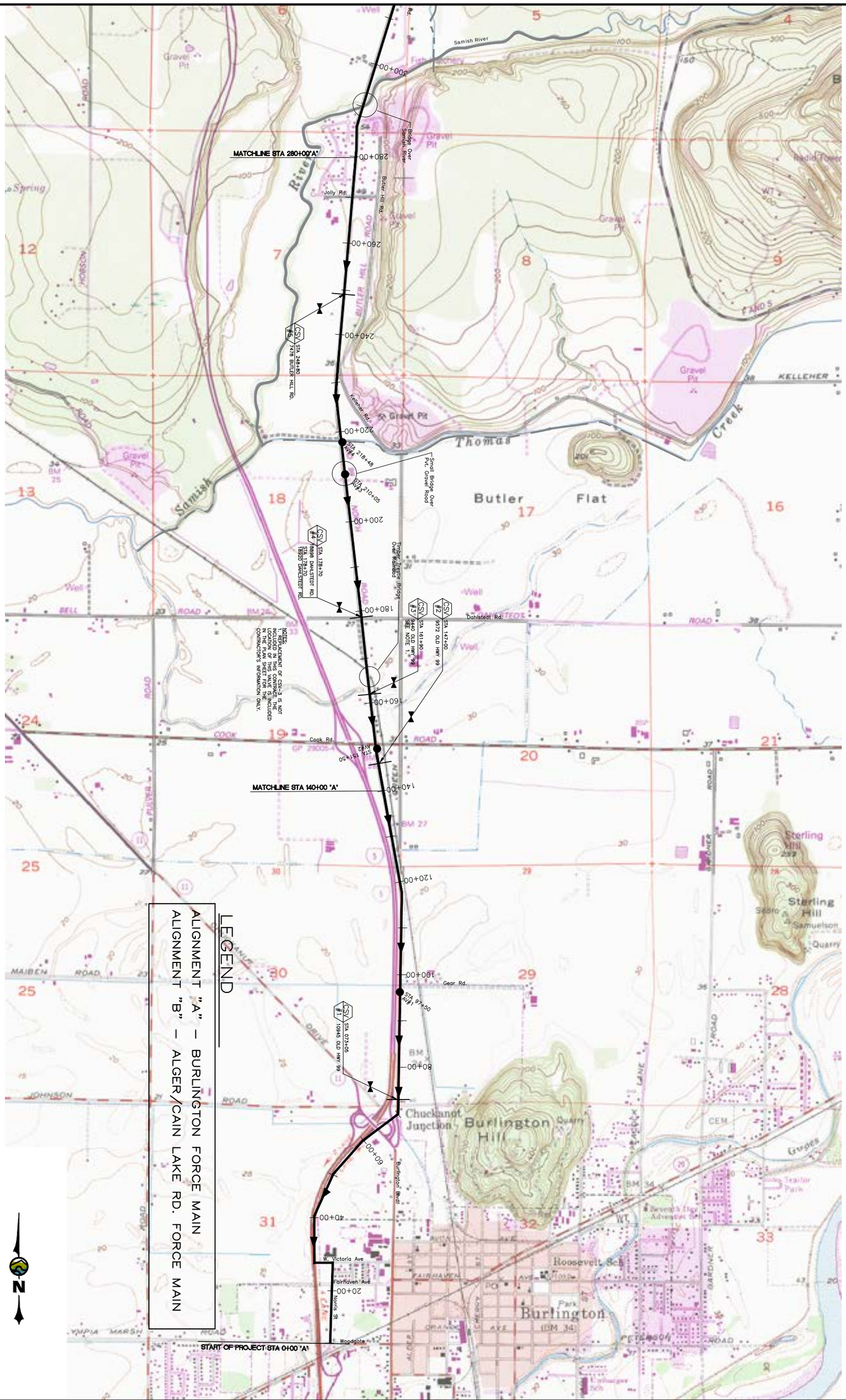
DESIGNED BY EAS | DRAWN BY JGS/LMH

SAMISH WATER DISTRICT
BELLINGHAM WASHINGTON

EXHIBIT E-1 - SYSTEM MAPS
SEWER FACILITIES WITHIN THE BURLINGTON FORCE MAIN COLLECTION SYSTEM

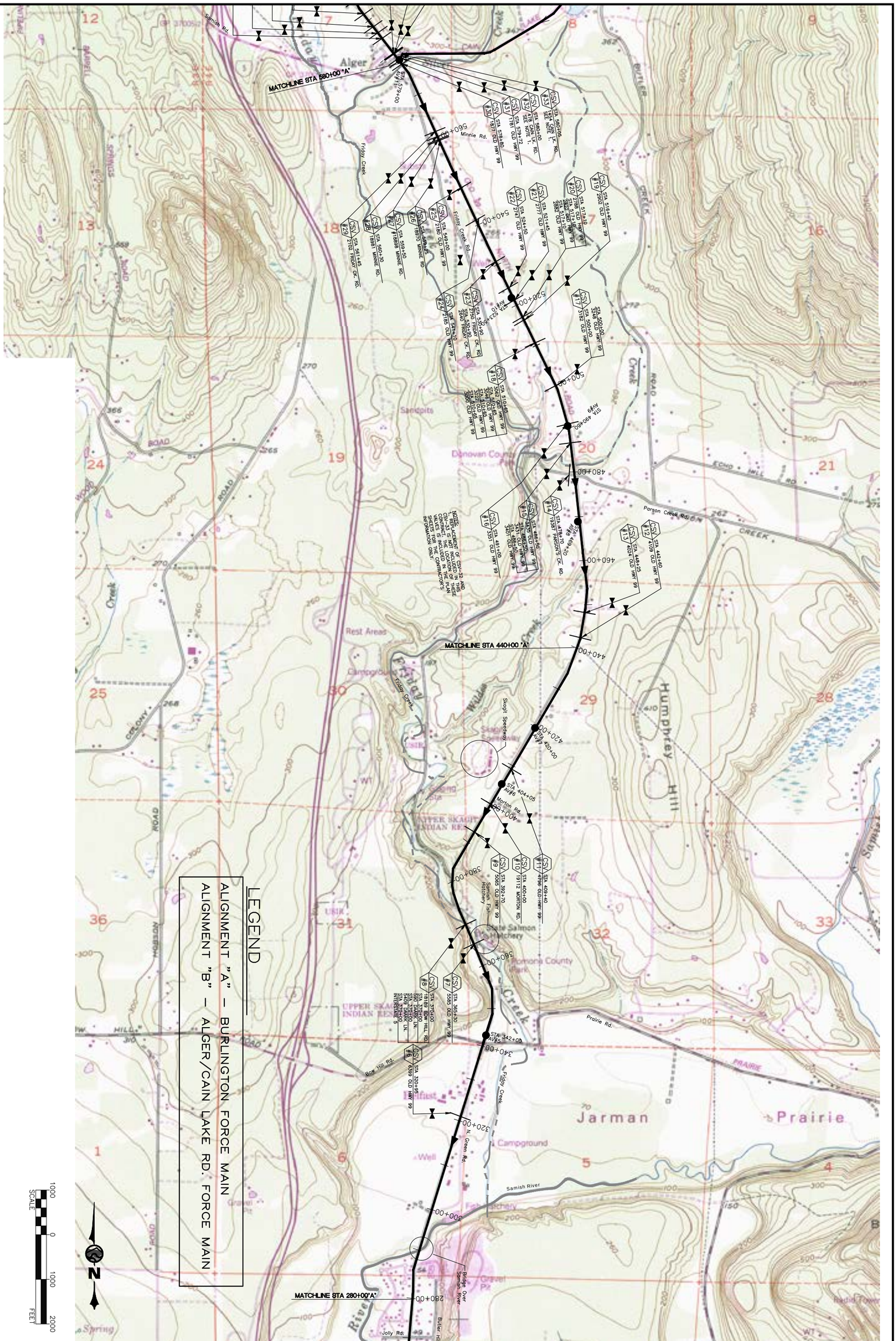
DATE DEC. 2022 | SCALE AS SHOWN | JOB NUMBER 2021-062

SHEET 1 OF 4



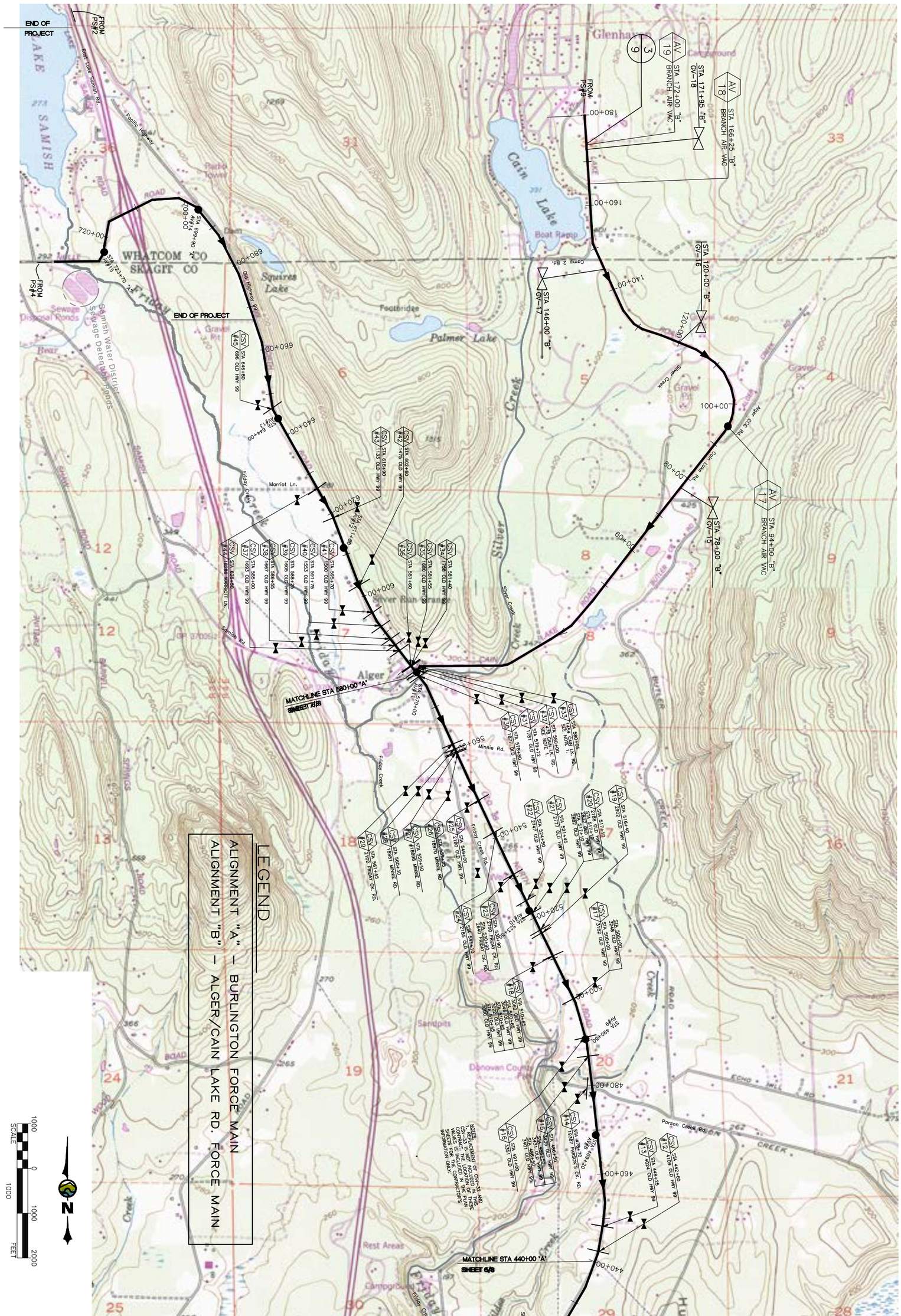
SHEET	DATE		DESIGNED BY	
2	DEC. 2022	SAMISH WATER DISTRICT	EAS	
OF	SCALE	BELLINGHAM WASHINGTON	DRAWN BY	
4	AS SHOWN	EXHIBIT E-1 - SYSTEM MAPS	JGS/LMH	
	JOB NUMBER	SEWER FACILITIES WITHIN THE BURLINGTON		
	2021-062	FORCE MAIN COLLECTION SYSTEM		

WILSON ENGINEERING
WILSONENGINEERING.COM



SHEET 3	DATE DEC. 2022	SAMISH WATER DISTRICT	DESIGNED BY EAS	WILSON ENGINEERING
OF 4	SCALE AS SHOWN	BELLINGHAM WASHINGTON	DRAWN BY JGS/LMH	WILSONENGINEERING.COM
	JOB NUMBER 2021-062	EXHIBIT E-1 - SYSTEM MAPS SEWER FACILITIES WITHIN THE BURLINGTON FORCE MAIN COLLECTION SYSTEM		

PLOT SETTINGS: WE AutoCAD PDF (High Quality Print).pc3, ANSI full bleed B (11.00 x 17.00 Inches), Landscape, 1:2, WE APWA_UNSCREENED COLOR.ctb
W:\2021\2021-062 SAMISH WD - 2021 SEWER COMPREHENSIVE PLAN\DWG\EXHIBITS\EXHIBIT E\2021-062 EXHIBIT E-1 SHT4.DWG - 12/7/2022 2:26 PM - Lisa Heatherly



SHEET	DATE		DESIGNED BY	
4	DEC. 2022	SAMISH WATER DISTRICT	EAS	
OF	SCALE	BELLINGHAM WASHINGTON	DRAWN BY	
4	AS SHOWN	EXHIBIT E-1 - SYSTEM MAPS	JGS/LMH	
	JOB NUMBER	SEWER FACILITIES WITHIN THE BURLINGTON		
	2021-062	FORCE MAIN COLLECTION SYSTEM		

WILSON ENGINEERING
WILSONENGINEERING.COM

SAMISH WATER DISTRICT
EXHIBIT E-2
BURLINGTON FORCE MAIN COLLECTION SYSTEM FLOW
January 2019 through December 2022

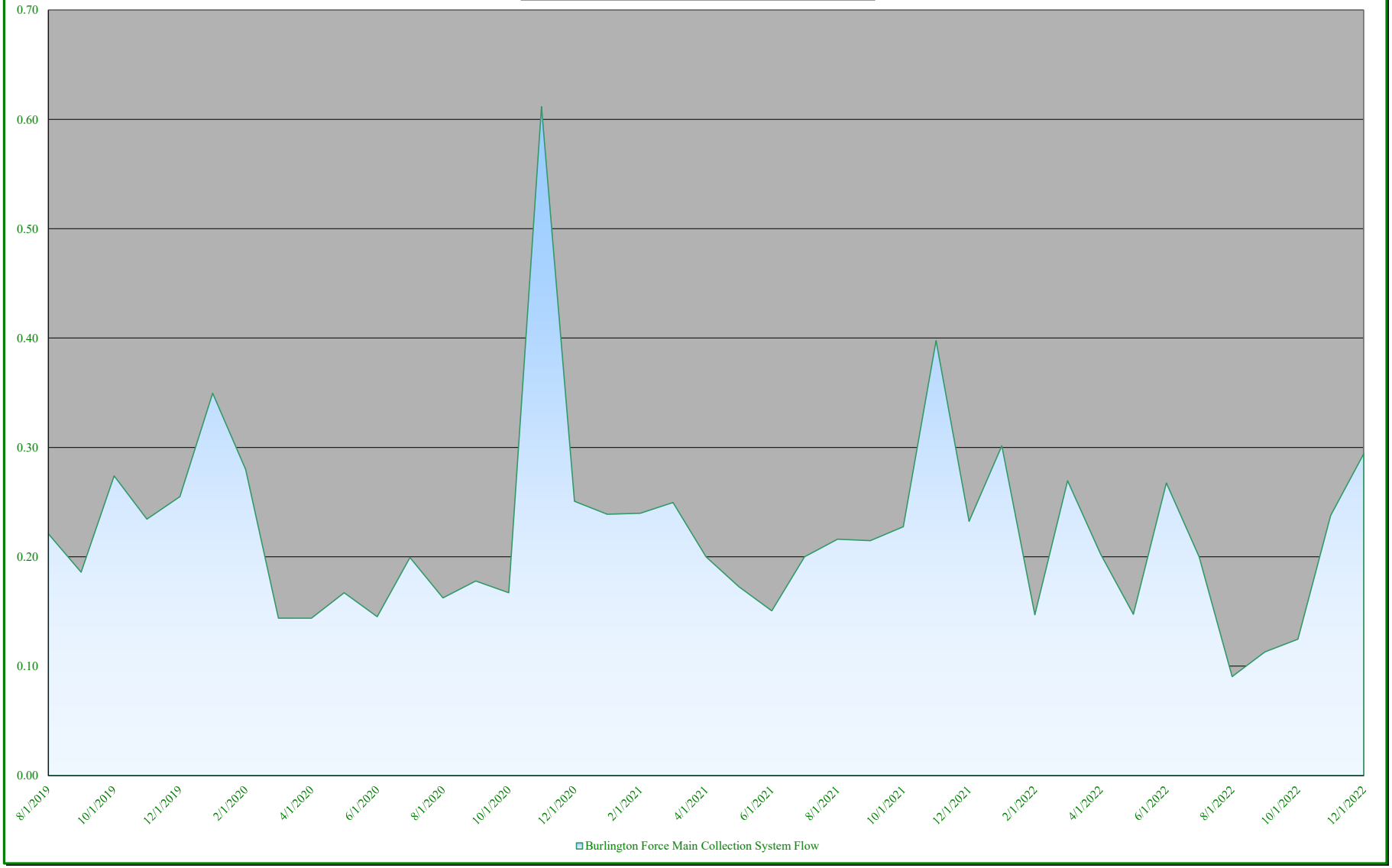
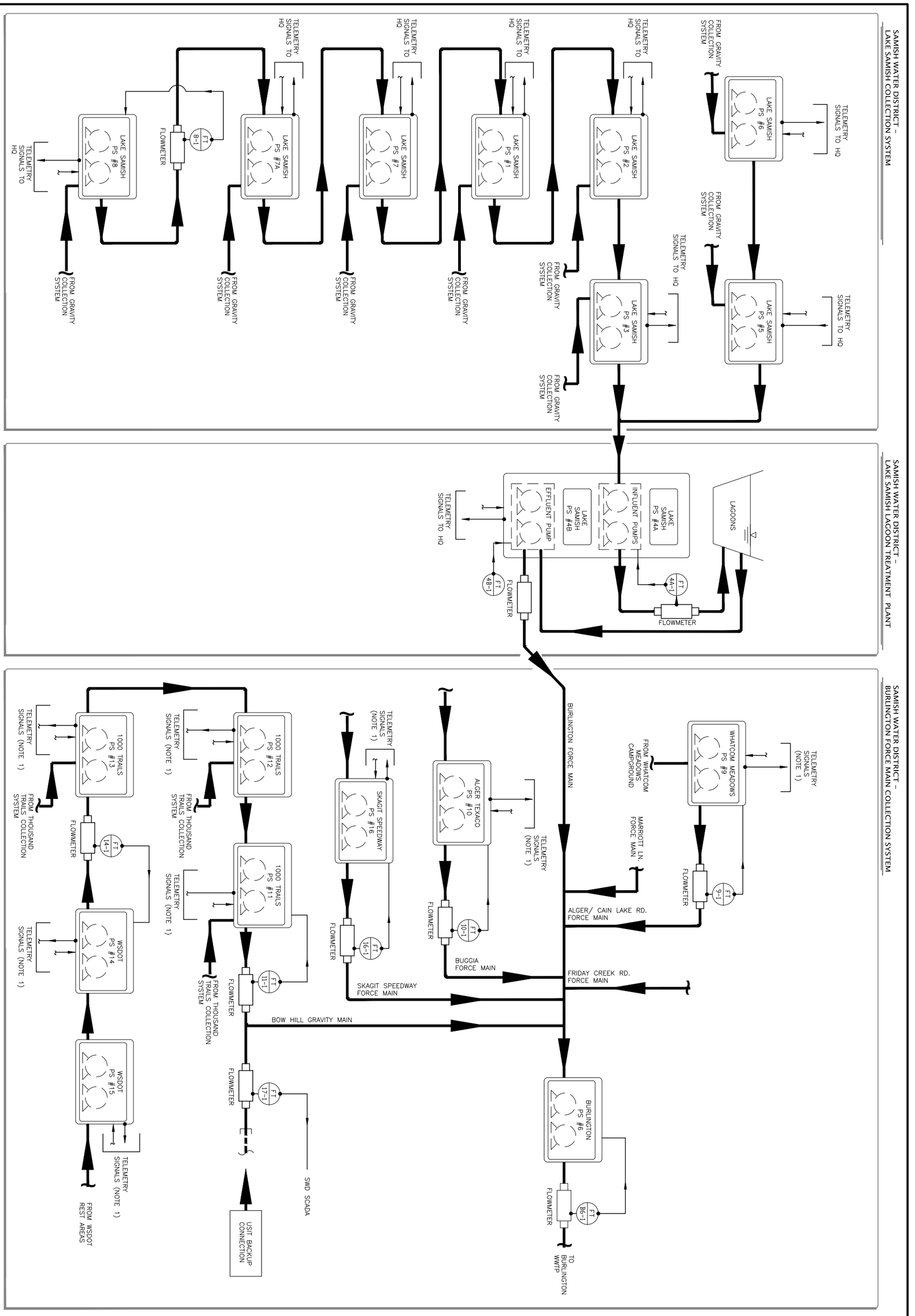
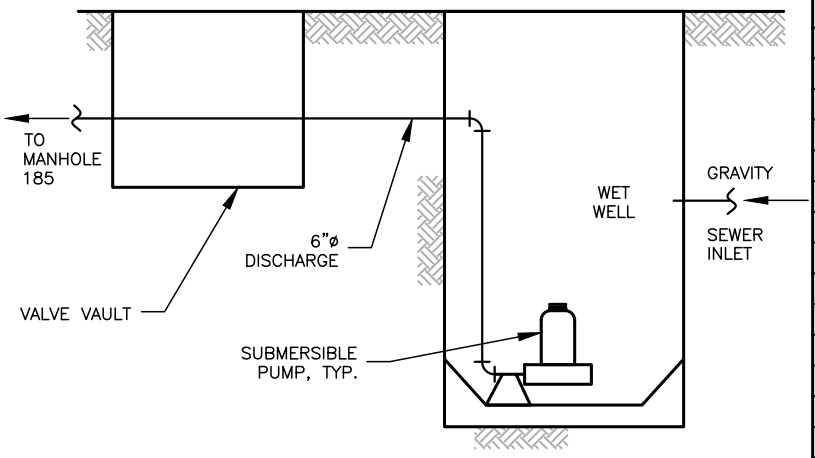


Exhibit F - District Pump Station Facilities



SHEET 1	DATE DEC. 2022	SAMISH WATER DISTRICT	DESIGNED BY EAS	WILSON ENGINEERING
OF 1	SCALE AS SHOWN	BELLINGHAM WASHINGTON	DRAWN BY JGS/LMH	WILSONENGINEERING.COM
	JOB NUMBER 2021-062	COMPREHENSIVE SEWER PLAN EXHIBIT F-0 - SWD WASTEWATER SYSTEM SCHEMATIC FLOW DIAGRAM		



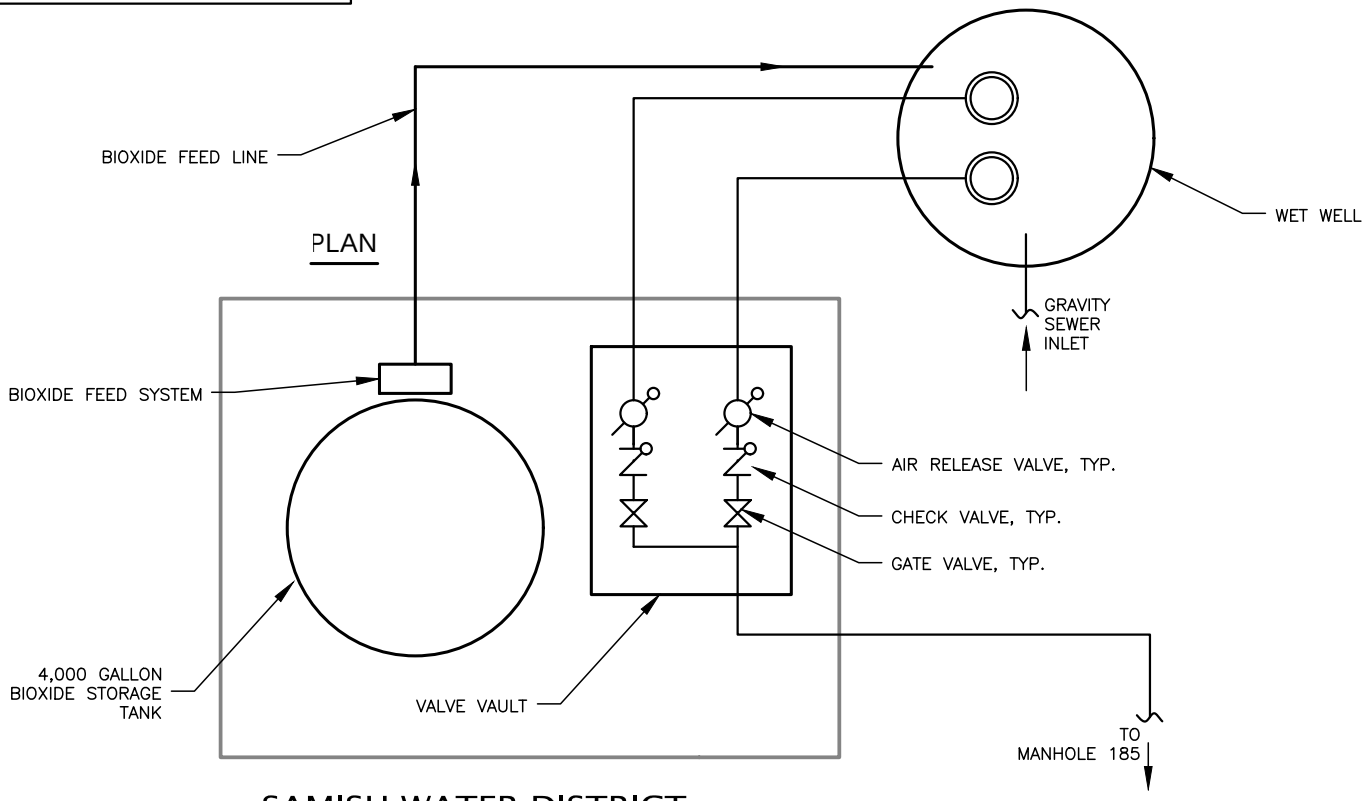
PROFILE

LAKE SAMISH PUMP STATION NO. 1

STATION DESCRIPTION:	DUPLEX, WET WELL SEWER LIFT STATION
PUMP INSTALLATION DATE:	2006
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	900 GPM @ 25 FT. TDH
EQUIPMENT:	FLYGT MODEL #NP3127.181
PUMP MOTOR:	7.5 HP, 230V/3 PHASE
ADDL. STATION EQUIPMENT:	BIOXIDE FEED SYSTEM
SCADA:	
ALARMS:	PA – POWER FAIL ALARM (R/L)
	SFA – STATION FLOOD ALARM (R/L)
	HLA – HIGH LEVEL ALARM (R/L)
	LLA – LOW LEVEL ALARM (R/L)
	IA – INTRUSION ALARM
MONITORING:	PUMP RUN TIME (L)
CONTROL:	PUMP START/STOP (L)
	ALARM RESET (L)
	WET WELL CONTROL LEVEL (L)

R/L – REMOTE/LOCAL

NOTE:
EACH PUMP IS CAPABLE OF FULL STATION CAPACITY LISTED.



PLAN

SAMISH WATER DISTRICT – LAKE SAMISH PUMP STATION NO. 1

NOT TO SCALE

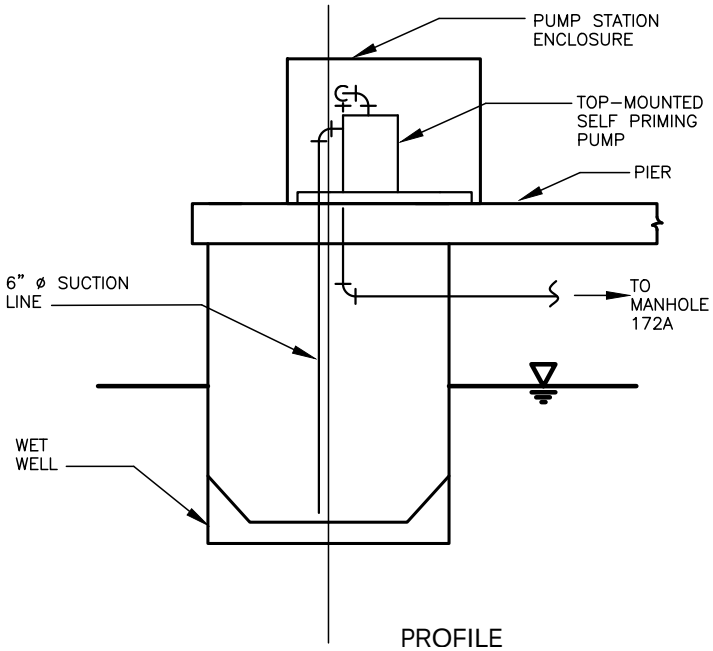
WILSON ENGINEERING
WILSONENGINEERING.COM

SAMISH WATER DISTRICT

WHATCOM COUNTY WASHINGTON

COMPREHENSIVE SEWER PLAN
EXHIBIT F-1 - PUMPING FACILITIES
Lake Samish Pump Station No. 1

DATE	DEC. 2022
SCALE	NONE
JOB NO.	2021-062
SHEET	1
OF	17



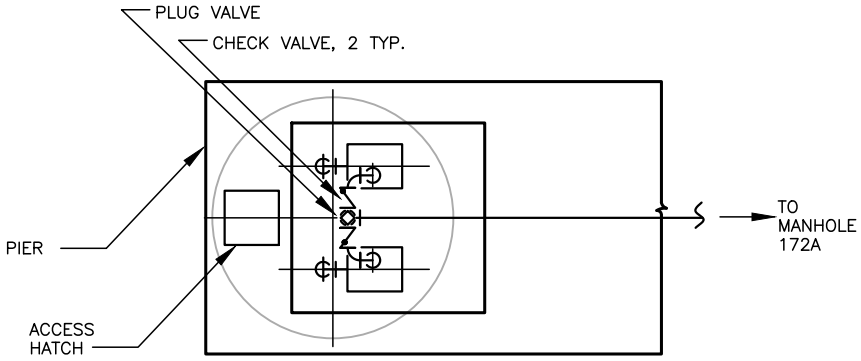
PROFILE

LAKE SAMISH PUMP STATION NO. 2

STATION DESCRIPTION:	DUPLEX, TOP MOUNTED, SELF-PRIMING SEWER LIFT STATION
PUMP INSTALLATION DATE:	2003
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	600 GPM @ 49 FT. TDH
EQUIPMENT:	GORMAN-RUPP MODEL #T6A3S-B
PUMP MOTOR:	20 HP, 230V/3 PHASE
ADDL. STATION EQUIPMENT:	---
SCADA:	
ALARMS:	PA – POWER FAIL ALARM (R/L)
	HLA – HIGH LEVEL ALARM (R/L)
	HHLA – REDUNDANT HIGH LEVEL ALARM (R/L)
	LLA – LOW LEVEL ALARM (R/L)
	LLLA – REDUNDANT LOW LEVEL ALARM (R/L)
	IA – INTRUSION ALARM (R/L)
	PFA – PUMP FAIL ALARM (R/L)
MONITORING:	PUMP STATUS (R/L)
	PUMP RUN TIME (R/L)
	WET WELL LEVEL (R/L)
CONTROL:	PUMP START/STOP (R/L)
	ALARM RESET (R/L)
	WET WELL CONTROL LEVEL (R/L)

R/L – REMOTE/LOCAL

NOTE:
EACH PUMP IS CAPABLE OF FULL STATION CAPACITY LISTED.



PLAN

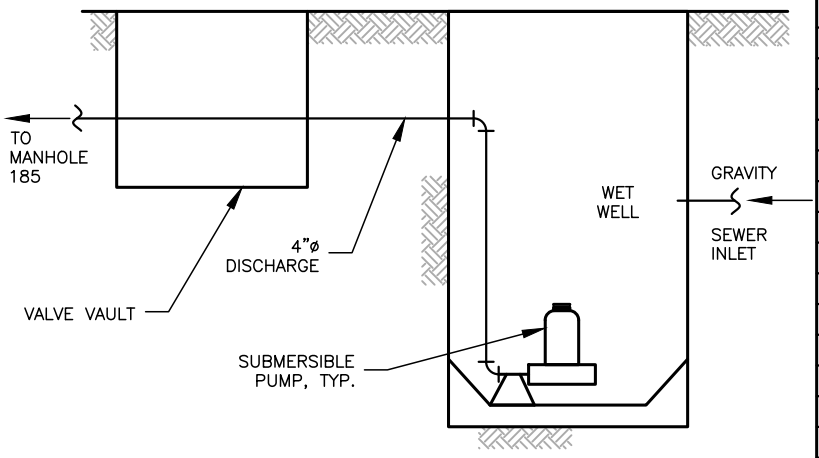
SAMISH WATER DISTRICT – LAKE SAMISH PUMP STATION NO. 2

NOT TO SCALE

LAKE SAMISH PUMP STATION NO. 3

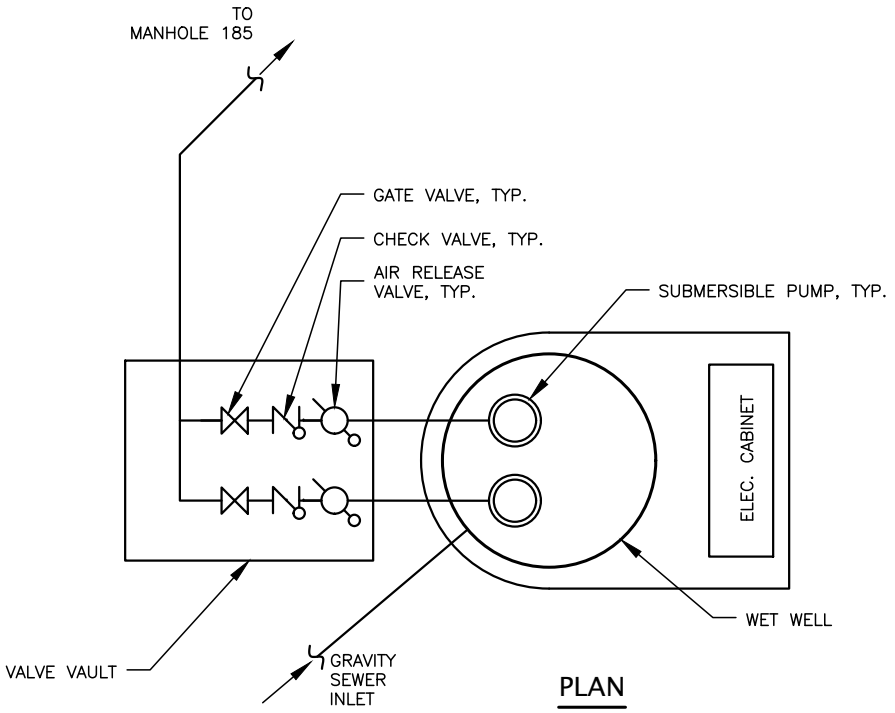
STATION DESCRIPTION:	DUPLEX, SUBMERSIBLE SEWER LIFT STATION
PUMP INSTALLATION DATE:	2006
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	635 GPM @ 42 FT. TDH
EQUIPMENT:	FLYGT MODEL #NP3127.181
PUMP MOTOR:	10 HP, 230V/3 PHASE
ADDL. STATION EQUIPMENT:	--
SCADA:	
ALARMS:	PA – POWER FAIL ALARM (R/L)
	SFA – STATION FLOOD ALARM (R/L)
	HLA – HIGH LEVEL ALARM (R/L)
	LLA – LOW LEVEL ALARM (R/L)
	IA – INTRUSION ALARM (R/L)
MONITORING:	PUMP RUN TIME (L)
CONTROL:	PUMP START/STOP (L)
	ALARM RESET (L)
	WET WELL CONTROL LEVEL (L)

R/L – REMOTE/LOCAL



PROFILE

NOTE:
EACH PUMP IS CAPABLE OF FULL STATION CAPACITY LISTED.



PLAN

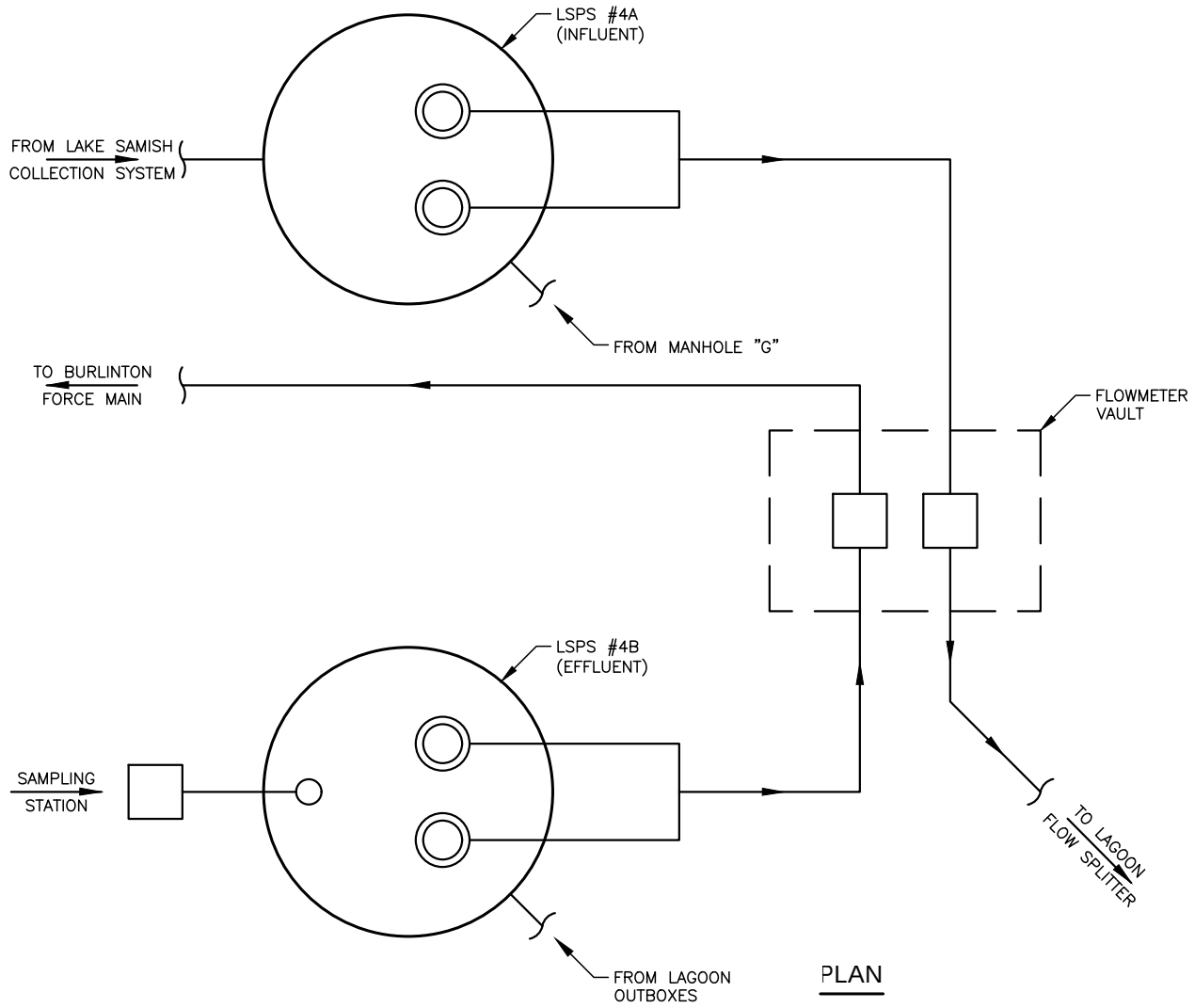
SAMISH WATER DISTRICT – LAKE SAMISH PUMP STATION NO. 3

NOT TO SCALE

LAKE SAMISH PUMP STATION NO. 4A & 4B

STATION DESCRIPTION:	DUPLEX SUBMERSIBLE (BOTH STATIONS)		
PUMP INSTALLATION DATE:	2015	SCADA:	
OWNER:	SAMISH WATER DISTRICT	ALARMS:	PA – POWER FAIL ALARM (R/L)
LAKE SAMISH PS NO. 4A – INFLUENT			SFA – STATION FLOOD ALARM (R/L)
STATION CAPACITY:	1300 GPM @ 40–FT TDH		HLA – HIGH LEVEL ALARM (R/L)
EQUIPMENT:	FLYGT MO. NP 3153.095 HT (6")		LLA – LOW LEVEL ALARM (R/L)
PUMP MOTOR:	20 HP, 3–PHASE, 460V		IA – INTRUSION ALARM
LAKE SAMISH PS NO. 4B – EFFLUENT		MONITORING:	PUMP RUN TIME (L)
STATION CAPACITY:	700 GPM @ 53–FT TDH	CONTROL:	PUMP START/STOP (L)
EQUIPMENT:	FLYGT MO. NP 3153.095 HT (4")		ALARM RESET (L)
PUMP MOTOR:	20 HP, 3–PHASE, 460V		WET WELL CONTROL LEVEL (L)
ADDL. STATION EQUIPMENT:	INFLUENT & EFFLUENT FLOWMETERS		

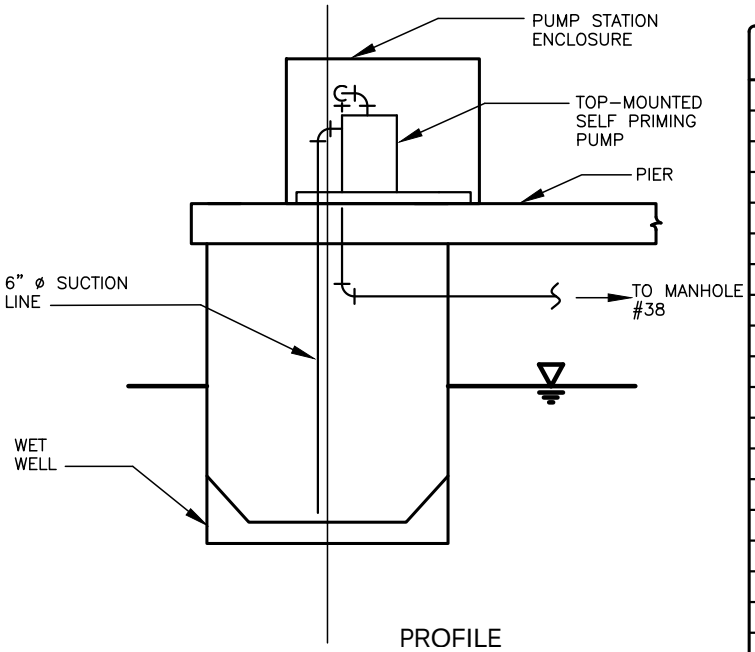
R/L – REMOTE/LOCAL



PLAN

SAMISH WATER DISTRICT – LAKE SAMISH PUMP STATION NO. 4A & 4B

NOT TO SCALE



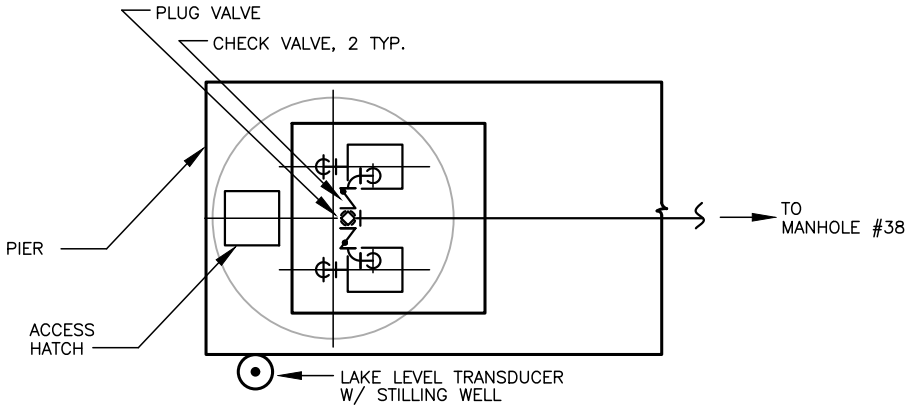
PROFILE

NOTE:
EACH PUMP IS CAPABLE OF FULL STATION CAPACITY LISTED.

LAKE SAMISH PUMP STATION NO. 5

STATION DESCRIPTION:	DUPLEX, TOP MOUNTED, SELF-PRIMING SEWER LIFT STATION
PUMP INSTALLATION DATE:	2003
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	600 GPM @ 38 FT. TDH
EQUIPMENT:	GORMAN-RUPP MODEL #T6A3S-B
PUMP MOTOR:	15 HP, 230V/3 PHASE
ADDL. STATION EQUIPMENT:	LAKE LEVEL TRANSDUCER
SCADA:	
ALARMS:	PA – POWER FAIL ALARM (R/L)
	HLA – HIGH LEVEL ALARM (R/L)
	HHLA – REDUNDANT HIGH LEVEL ALARM (R/L)
	LLA – LOW LEVEL ALARM (R/L)
	LLLA – REDUNDANT LOW LEVEL ALARM (R/L)
	IA – INTRUSION ALARM (R/L)
	PFA – PUMP FAIL ALARM (R/L)
MONITORING:	PUMP STATUS (R/L)
	PUMP RUN TIME (R/L)
	WET WELL LEVEL (R/L)
	LAKE LEVEL (R/L)
CONTROL:	PUMP START/STOP (R/L)
	ALARM RESET (R/L)
	WET WELL CONTROL LEVEL (R/L)

R/L – REMOTE/LOCAL



PLAN

SAMISH WATER DISTRICT – LAKE SAMISH PUMP STATION NO. 5

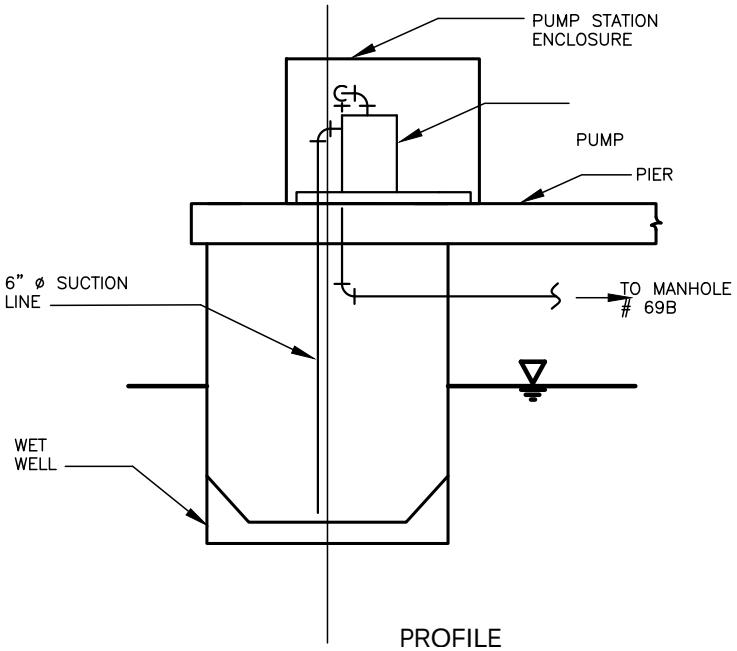
NOT TO SCALE

WILSON ENGINEERING
WILSONENGINEERING.COM

SAMISH WATER DISTRICT

WHATCOM COUNTY WASHINGTON
COMPREHENSIVE SEWER PLAN
EXHIBIT F-5 - PUMPING FACILITIES
Lake Samish Pump Station No. 5

DATE: DEC. 2022
SCALE: NONE
JOB NO.: 2021-062
SHEET: 5
OF: 17



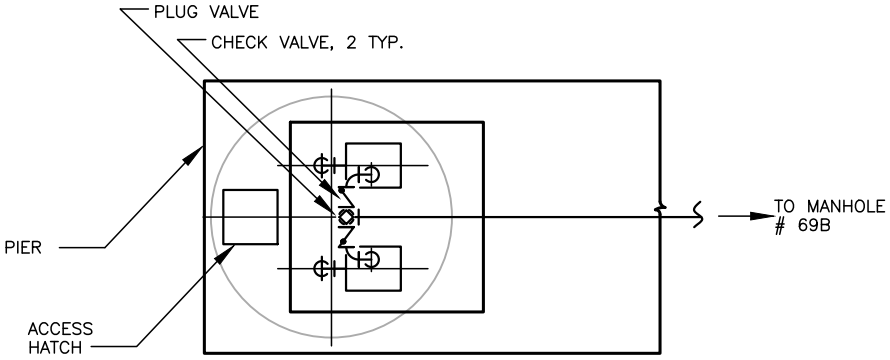
PROFILE

NOTE:
EACH PUMP IS CAPABLE OF FULL STATION CAPACITY LISTED.

LAKE SAMISH PUMP STATION NO. 6

STATION DESCRIPTION:	DUPLEX, TOP MOUNTED, SELF-PRIMING SEWER LIFT STATION
PUMP INSTALLATION DATE:	2003
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	600 GPM @ 66 FT. TDH
EQUIPMENT:	GORMAN-RUPP MODEL #T6A3S-B
PUMP MOTOR:	25 HP, 230V/3 PHASE
ADDL. STATION EQUIPMENT:	---
SCADA:	
ALARMS:	PA – POWER FAIL ALARM (R/L)
	HLA – HIGH LEVEL ALARM (R/L)
	HHLA – REDUNDANT HIGH LEVEL ALARM (R/L)
	LLA – LOW LEVEL ALARM (R/L)
	LLLA – REDUNDANT LOW LEVEL ALARM (R/L)
	IA – INTRUSION ALARM (R/L)
	PFA – PUMP FAIL ALARM (R/L)
MONITORING:	PUMP STATUS (R/L)
	PUMP RUN TIME (R/L)
	WET WELL LEVEL (R/L)
CONTROL:	PUMP START/STOP (R/L)
	ALARM RESET (R/L)
	WET WELL CONTROL LEVEL (R/L)

R/L – REMOTE/LOCAL



PLAN

SAMISH WATER DISTRICT – LAKE SAMISH PUMP STATION NO. 6

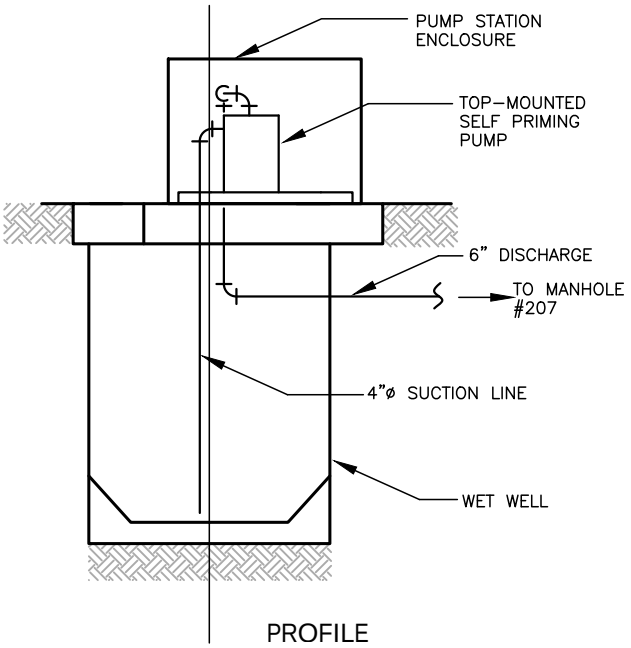
NOT TO SCALE

WILSON ENGINEERING
WILSONENGINEERING.COM

SAMISH WATER DISTRICT

WHATCOM COUNTY WASHINGTON
COMPREHENSIVE SEWER PLAN
EXHIBIT F-6 - PUMPING FACILITIES
Lake Samish Pump Station No. 6

DATE: DEC. 2022
SCALE: NONE
JOB NO.: 2021-062
SHEET: 6
OF: 17



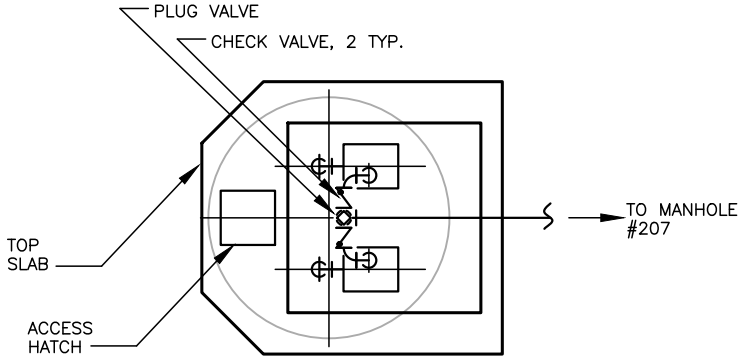
PROFILE

LAKE SAMISH PUMP STATION NO. 7

STATION DESCRIPTION:	DUPLEX, TOP MOUNTED, SELF-PRIMING SEWER LIFT STATION
PUMP INSTALLATION DATE:	2003
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	600 GPM @ 25 FT. TDH
EQUIPMENT:	GORMAN-RUPP MODEL #T6A3S-B
PUMP MOTOR:	7.5 HP, 240V/3 PHASE
ADDL. STATION EQUIPMENT:	---
SCADA:	
ALARMS:	PA – POWER FAIL ALARM (R/L)
	HLA – HIGH LEVEL ALARM (R/L)
	HHLA – REDUNDANT HIGH LEVEL ALARM (R/L)
	LLA – LOW LEVEL ALARM (R/L)
	LLLA – REDUNDANT LOW LEVEL ALARM (R/L)
	IA – INTRUSION ALARM (R/L)
	PFA – PUMP FAIL ALARM (R/L)
MONITORING:	PUMP STATUS (R/L)
	PUMP RUN TIME (R/L)
	WET WELL LEVEL (R/L)
CONTROL:	PUMP START/STOP (R/L)
	ALARM RESET (R/L)
	WET WELL CONTROL LEVEL (R/L)

R/L – REMOTE/LOCAL

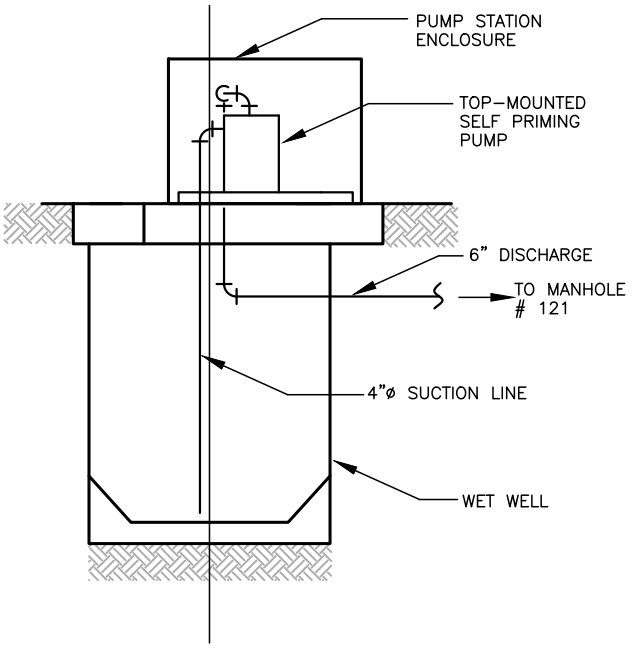
NOTE:
EACH PUMP IS CAPABLE OF FULL STATION CAPACITY LISTED.



PLAN

SAMISH WATER DISTRICT – LAKE SAMISH PUMP STATION NO. 7

NOT TO SCALE



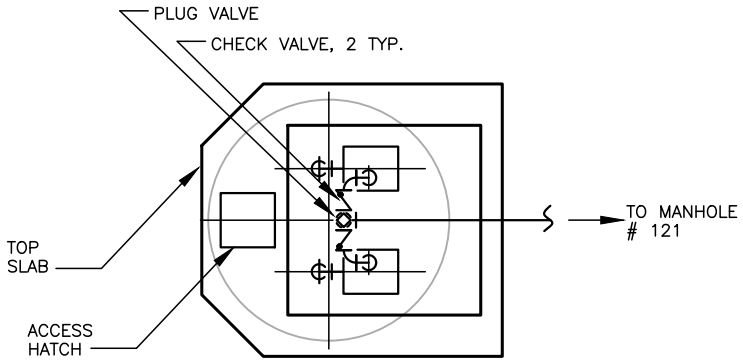
PROFILE

NOTE:
EACH PUMP IS CAPABLE OF FULL STATION CAPACITY LISTED.

LAKE SAMISH PUMP STATION NO. 7A

STATION DESCRIPTION:	DUPLEX, TOP MOUNTED, SELF-PRIMING SEWER LIFT STATION
PUMP INSTALLATION DATE:	2003
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	150 GPM @ 32 FT. TDH
EQUIPMENT:	GORMAN-RUPP MODEL #T4A3S-B
PUMP MOTOR:	5 HP, 230V/1 PHASE
ADDL. STATION EQUIPMENT:	---
SCADA:	
ALARMS:	PA – POWER FAIL ALARM (R/L)
	HLA – HIGH LEVEL ALARM (R/L)
	HHLA – REDUNDANT HIGH LEVEL ALARM (R/L)
	LLA – LOW LEVEL ALARM (R/L)
	LLLA – REDUNDANT LOW LEVEL ALARM (R/L)
	IA – INTRUSION ALARM (R/L)
	PFA – PUMP FAIL ALARM (R/L)
MONITORING:	PUMP STATUS (R/L)
	PUMP RUN TIME (R/L)
	WET WELL LEVEL (R/L)
CONTROL:	PUMP START/STOP (R/L)
	ALARM RESET (R/L)
	WET WELL CONTROL LEVEL (R/L)

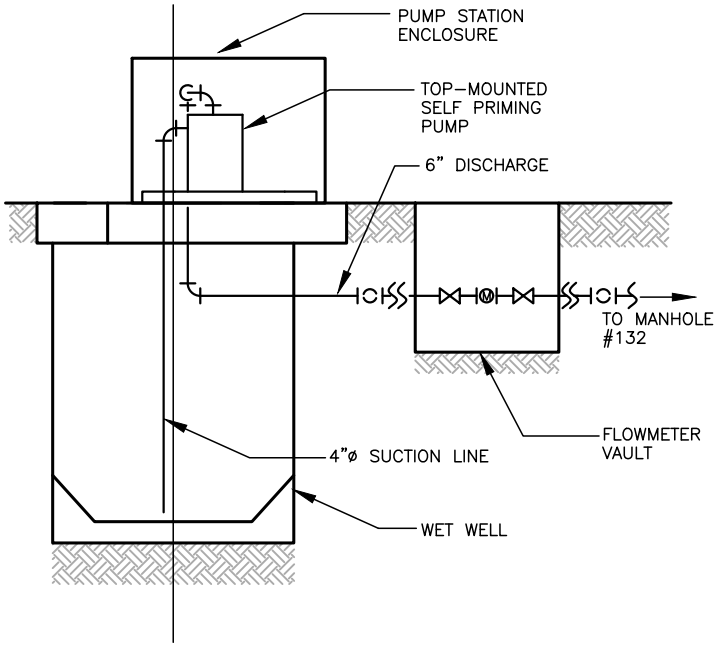
R/L – REMOTE/LOCAL



PLAN

SAMISH WATER DISTRICT – LAKE SAMISH PUMP STATION NO. 7A

NOT TO SCALE



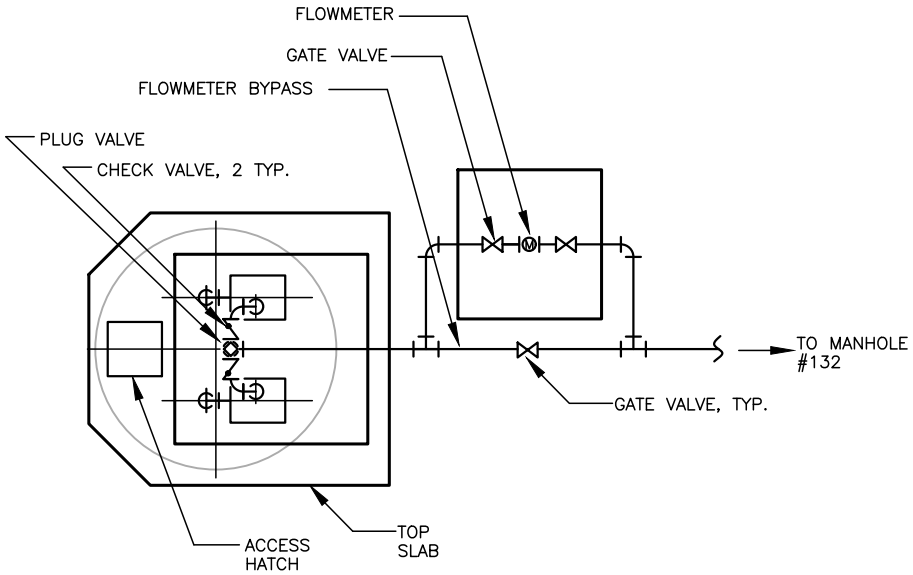
PROFILE

NOTE:
EACH PUMP IS CAPABLE OF FULL STATION CAPACITY LISTED.

LAKE SAMISH PUMP STATION NO. 8

STATION DESCRIPTION:	DUPLEX, TOP MOUNTED, SELF-PRIMING SEWER LIFT STATION
PUMP INSTALLATION DATE:	2003
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	100 GPM @ 21 FT. TDH
EQUIPMENT:	GORMAN-RUPP MODEL #T4A3S-B
PUMP MOTOR:	3 HP, 230V/1 PHASE
ADDL. STATION EQUIPMENT:	UNIMAG FLOWMETER
SCADA:	
ALARMS:	PA – POWER FAIL ALARM (R/L)
	HLA – HIGH LEVEL ALARM (R/L)
	HHLA – REDUNDANT HIGH LEVEL ALARM (R/L)
	LLA – LOW LEVEL ALARM (R/L)
	LLLA – REDUNDANT LOW LEVEL ALARM (R/L)
	IA – INTRUSION ALARM (R/L)
	PFA – PUMP FAIL ALARM (R/L)
MONITORING:	PUMP STATUS (R/L)
	PUMP RUN TIME (R/L)
	WET WELL LEVEL (R/L)
	FLOW-INSTATANEOUS (R/L)
	FLOW- TOTALIZED (R/L)
CONTROL:	PUMP START/STOP (R/L)
	ALARM RESET (R/L)
	WET WELL CONTROL LEVEL (R/L)

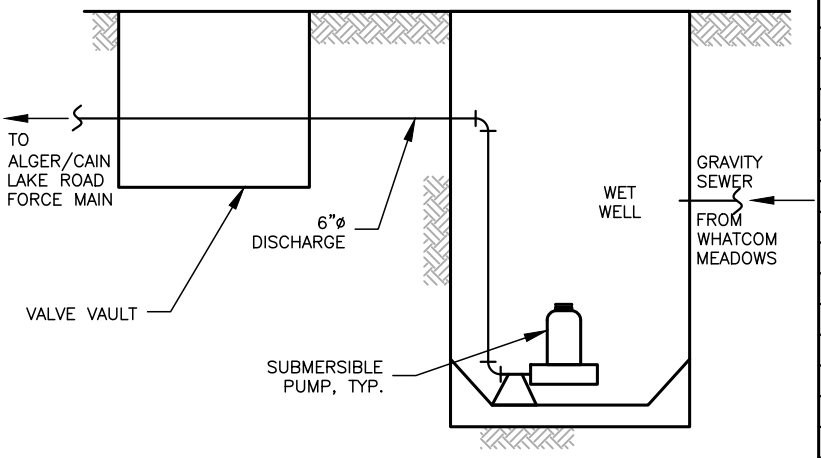
R/L – REMOTE/LOCAL



PLAN

SAMISH WATER DISTRICT – LAKE SAMISH PUMP STATION NO. 8

NOT TO SCALE



PROFILE

LAKE SAMISH PUMP STATION NO. 9

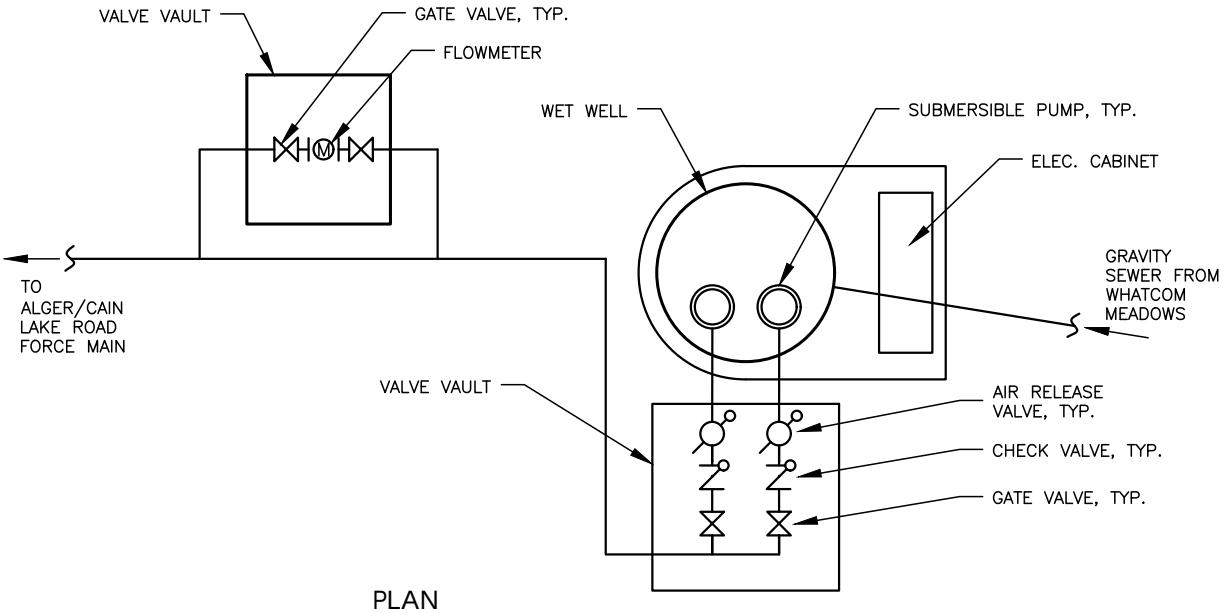
STATION DESCRIPTION:	DUPLEX, SUBMERSIBLE SEWER LIFT STATION
PUMP INSTALLATION DATE:	2006
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	242 GPM @ 137 FT. TDH
EQUIPMENT:	FLYGT MODEL #NP3153.181
PUMP MOTOR:	23 HP, 230V/3 PHASE
ADDL. STATION EQUIPMENT:	--
SCADA:	
ALARMS:	PA – POWER FAIL ALARM (R/L)
	SFA – STATION FLOOD ALARM (R/L)
	HLA – HIGH LEVEL ALARM (R/L)
	LLA – LOW LEVEL ALARM (R/L)
	IA – INTRUSION ALARM (R/L)
MONITORING:	PUMP RUN TIME (L)
CONTROL:	PUMP START/STOP (L)
	ALARM RESET (L)
	WET WELL CONTROL LEVEL (L)

R/L – REMOTE/LOCAL

NOTE:
EACH PUMP IS CAPABLE OF FULL STATION CAPACITY LISTED.

NOTES:

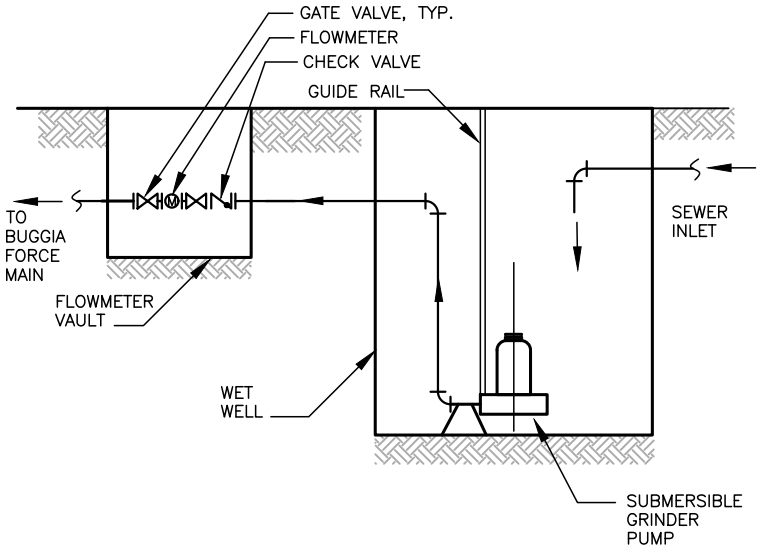
1. WHATCOM MEADOWS PUMP STATION NO. 9 IS EQUIPPED WITH A 50,000 GALLON UNDERGROUND STORAGE TANK.



PLAN

SAMISH WATER DISTRICT – LAKE SAMISH PUMP STATION NO. 9

NOT TO SCALE



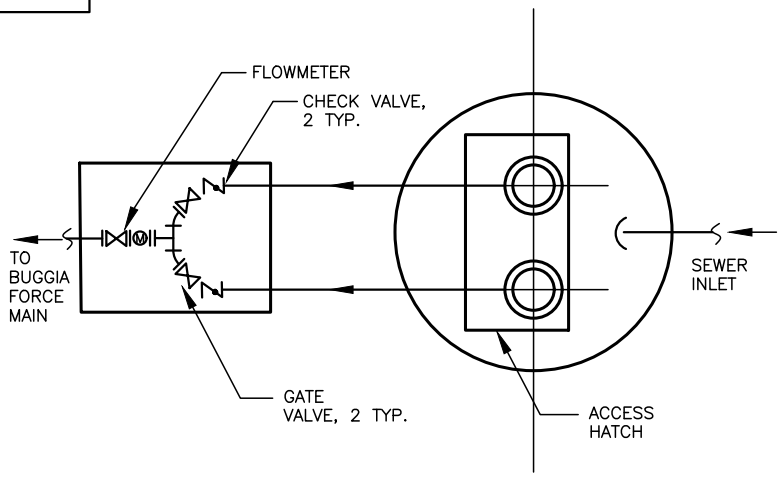
PROFILE

ALGER TEXACO PUMP STATION NO. 10

STATION DESCRIPTION:	DUPLEX, SUBMERSIBLE GRINDER TYPE SEWER LIFT STATION
PUMP INSTALLATION DATE:	1995
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	84 GPM @ 78 FT. TDH
EQUIPMENT:	MYERS MODEL # WG50H
PUMP MOTOR:	5 HP, 230V/1 PHASE
ADDL. STATION EQUIPMENT:	UNIMAG FLOWMETER
SCADA:	
ALARMS:	PA – POWER FAIL ALARM (R/L)
	HLA – HIGH LEVEL ALARM (R/L)
	IA – INTRUSION ALARM (R/L)
MONITORING:	PUMP RUN TIME (L)
	FLOW–INSTATANEOUS (R/L)
	FLOW–TOTALIZED (R/L)
CONTROL:	PUMP START/STOP (L)
	ALARM RESET (L)
	WET WELL CONTROL LEVEL (L)

R/L – REMOTE/LOCAL

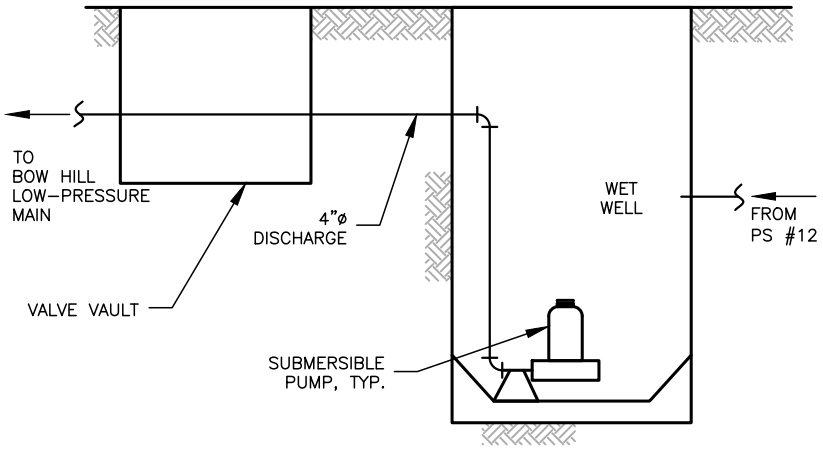
NOTE:
EACH PUMP IS CAPABLE OF FULL STATION CAPACITY LISTED.



PLAN

SAMISH WATER DISTRICT – ALGER TEXACO PUMP STATION NO. 10

NOT TO SCALE



PROFILE

THOUSAND TRAILS PUMP STATION NO. 11

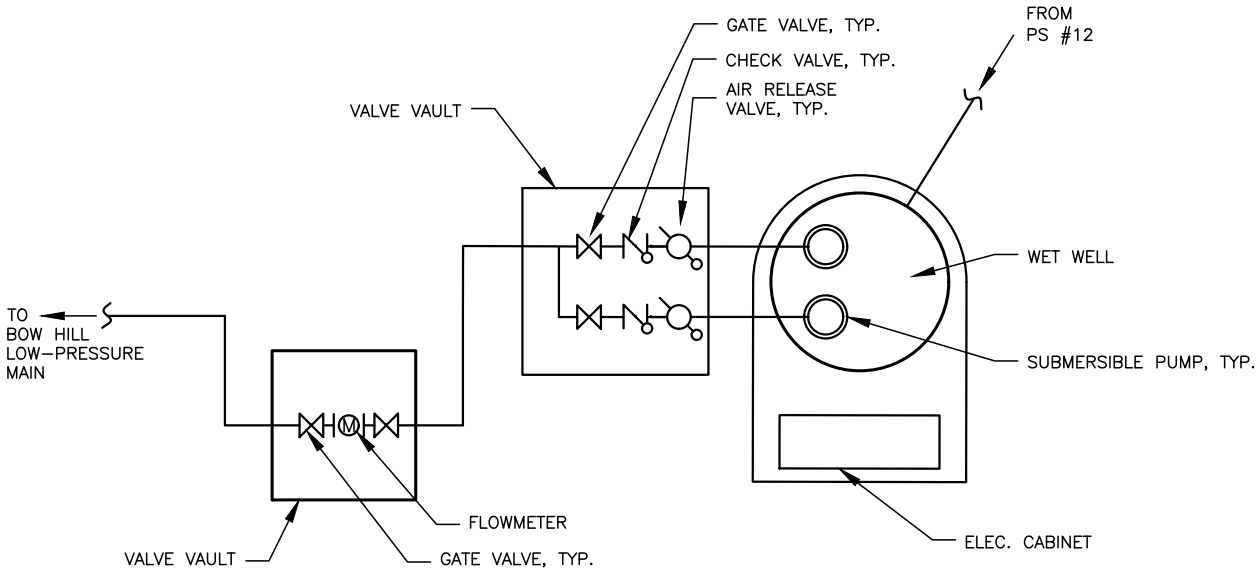
STATION DESCRIPTION:	DUPLEX, SUBMERSIBLE SEWER LIFT STATION
PUMP INSTALLATION DATE:	2009
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	276 GPM @ 51.1 FT. TDH
EQUIPMENT:	FLYGT MODEL #NP3102.090 SH
PUMP MOTOR:	6.5 HP, 230V/3 PHASE
ADDL. STATION EQUIPMENT:	--
SCADA:	
ALARMS:	PA – POWER FAIL ALARM (R/L)
	SFA – STATION FLOOD ALARM (R/L)
	HLA – HIGH LEVEL ALARM (R/L)
	LLA – LOW LEVEL ALARM (R/L)
	IA – INTRUSION ALARM (R/L)
MONITORING:	PUMP RUN TIME (L)
CONTROL:	PUMP START/STOP (L)
	ALARM RESET (L)
	WET WELL CONTROL LEVEL (L)

R/L – REMOTE/LOCAL

NOTE:
EACH PUMP IS CAPABLE OF FULL STATION CAPACITY LISTED.

NOTES:

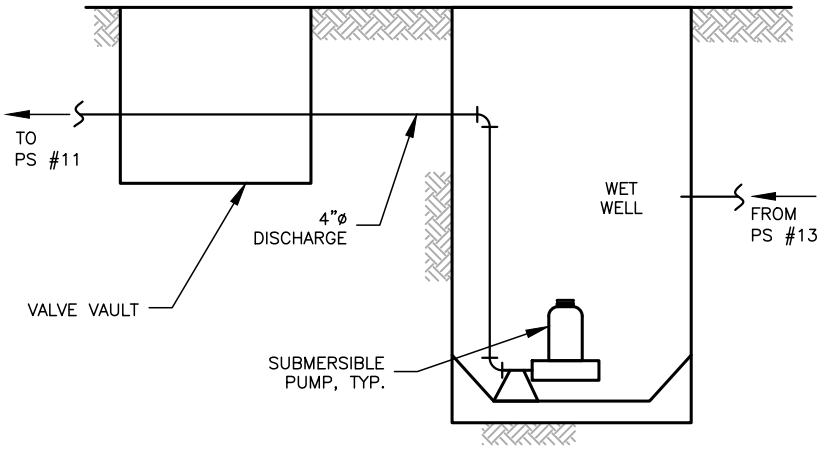
1. THOUSAND TRAILS PUMP STATION NO. 11 IS EQUIPPED WITH 4,750 GALLONS OF UNDERGROUND STORAGE.



PLAN

SAMISH WATER DISTRICT – THOUSAND TRAILS PUMP STATION NO. 11

NOT TO SCALE



PROFILE

THOUSAND TRAILS PUMP STATION NO. 12

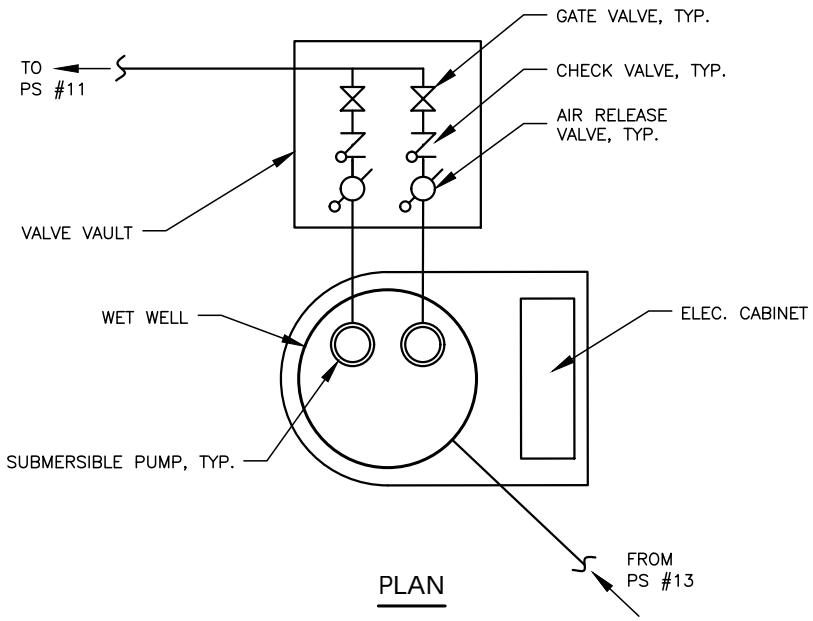
STATION DESCRIPTION:	DUPLEX, SUBMERSIBLE SEWER LIFT STATION
PUMP INSTALLATION DATE:	2009
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	180 GPM @ 68.9 FT. TDH
EQUIPMENT:	FLYGT MODEL #NP3102.090 SH
PUMP MOTOR:	6.5 HP, 230V/3 PHASE
ADDL. STATION EQUIPMENT:	--
SCADA:	
ALARMS:	PA – POWER FAIL ALARM (R/L)
	SFA – STATION FLOOD ALARM (R/L)
	HLA – HIGH LEVEL ALARM (R/L)
	LLA – LOW LEVEL ALARM (R/L)
	IA – INTRUSION ALARM (R/L)
MONITORING:	PUMP RUN TIME (L)
CONTROL:	PUMP START/STOP (L)
	ALARM RESET (L)
	WET WELL CONTROL LEVEL (L)

R/L – REMOTE/LOCAL

NOTE:
EACH PUMP IS CAPABLE OF FULL STATION CAPACITY LISTED.

NOTES:

1. THOUSAND TRAILS PUMP STATION NO. 12 IS EQUIPPED WITH 517 GALLONS OF UNDERGROUND STORAGE.



PLAN

SAMISH WATER DISTRICT – THOUSAND TRAILS PUMP STATION NO. 12

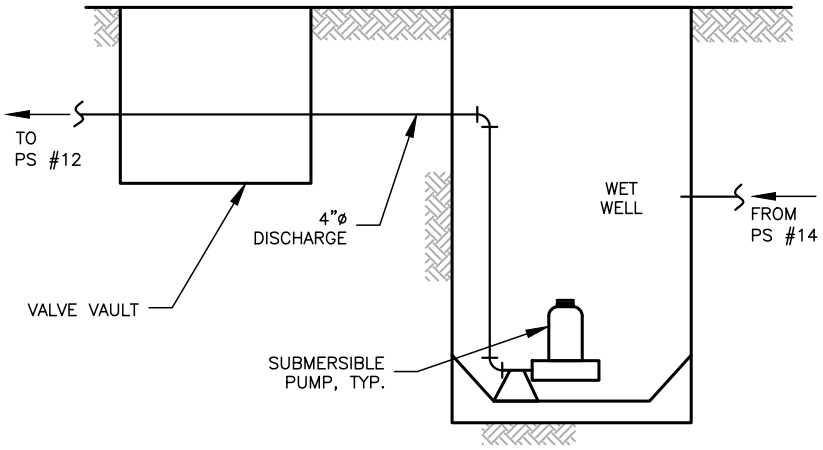
NOT TO SCALE

WILSON ENGINEERING
WILSONENGINEERING.COM

SAMISH WATER DISTRICT

WHATCOM COUNTY WASHINGTON
COMPREHENSIVE SEWER PLAN
EXHIBIT F-12 - PUMPING FACILITIES
Thousand Trails Pump Station No. 12

DATE: DEC. 2022
SCALE: NONE
JOB NO.: 2021-062
SHEET: 13
OF: 17



PROFILE

NOTE:
EACH PUMP IS CAPABLE OF FULL STATION CAPACITY LISTED.

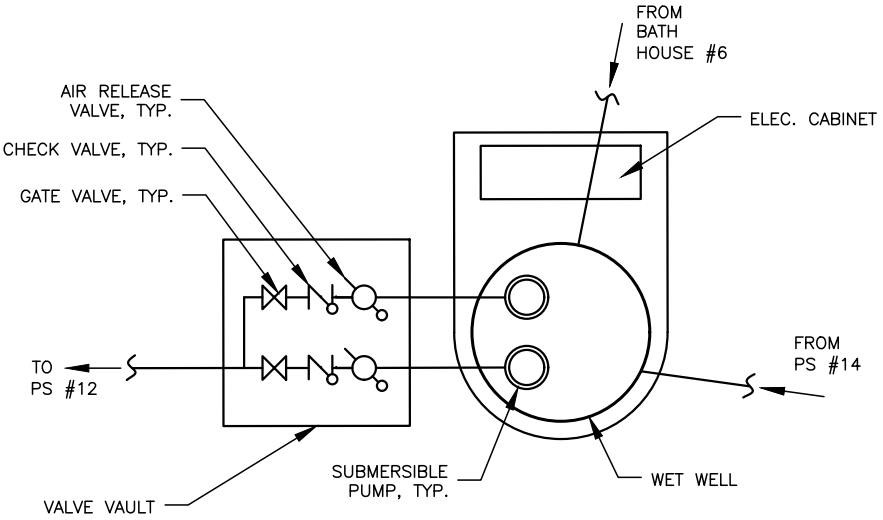
THOUSAND TRAILS PUMP STATION NO. 13

STATION DESCRIPTION:	DUPLEX, SUBMERSIBLE SEWER LIFT STATION
PUMP INSTALLATION DATE:	2009
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	160 GPM @ 72.6 FT. TDH
EQUIPMENT:	FLYGT MODEL #NP3102.090 SH
PUMP MOTOR:	6.5 HP, 230V/3 PHASE
ADDL. STATION EQUIPMENT:	--
SCADA:	
ALARMS:	PA – POWER FAIL ALARM (R/L)
	SFA – STATION FLOOD ALARM (R/L)
	HLA – HIGH LEVEL ALARM (R/L)
	LLA – LOW LEVEL ALARM (R/L)
	IA – INTRUSION ALARM (R/L)
MONITORING:	PUMP RUN TIME (L)
CONTROL:	PUMP START/STOP (L)
	ALARM RESET (L)
	WET WELL CONTROL LEVEL (L)

R/L – REMOTE/LOCAL

NOTES:

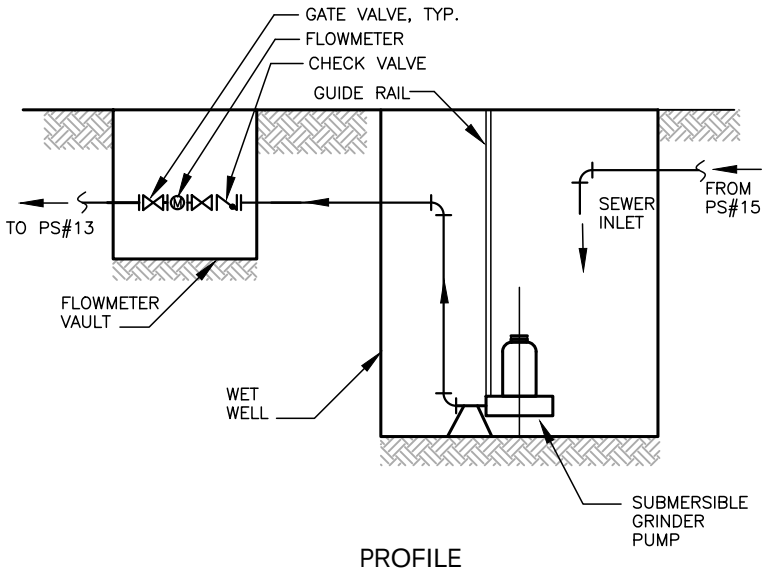
1. THOUSAND TRAILS PUMP STATION NO. 13 IS EQUIPPED WITH 1,034 GALLONS OF UNDERGROUND STORAGE.



PLAN

SAMISH WATER DISTRICT – THOUSAND TRAILS PUMP STATION NO. 13

NOT TO SCALE



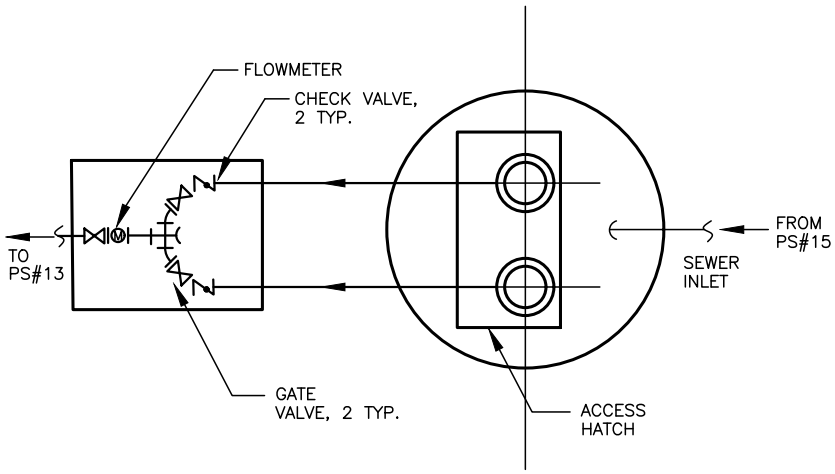
PROFILE

NOTE:
EACH PUMP IS CAPABLE OF FULL STATION CAPACITY LISTED.

WSDOT PUMP STATION NO. 14

STATION DESCRIPTION:	DUPLEX, SUBMERSIBLE, GRINDER TYPE SEWER LIFT STATION
PUMP INSTALLATION DATE:	2003
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	67 GPM @ 60 FT. TDH
EQUIPMENT:	MYERS MODEL # WGX 30H-21-25
PUMP MOTOR:	3 HP, 230V/1 PHASE
ADDL. STATION EQUIPMENT:	UNIMAG FLOWMETER
SCADA:	
ALARMS:	PA – POWER FAIL ALARM (R/L)
	HLA – HIGH LEVEL ALARM (R/L)
	HHLA – REDUNDANT HIGH LEVEL ALARM (R/L)
	LLA – LOW LEVEL ALARM (R/L)
	LLLA – REDUNDANT LOW LEVEL ALARM (R/L)
	PFA – PUMP FAIL ALARM (R/L)
	PSF– PUMP SEAL FAIL ALARM (R/L)
MONITORING:	PUMP STATUS (R/L)
	PUMP RUN TIME (R/L)
	WET WELL LEVEL (R/L)
	FLOW–INSTATANEOUS (R/L)
	FLOW–TOTALIZED (R/L)
CONTROL:	PUMP START/STOP (R/L)
	ALARM RESET (R/L)
	WET WELL CONTROL LEVEL (R/L)

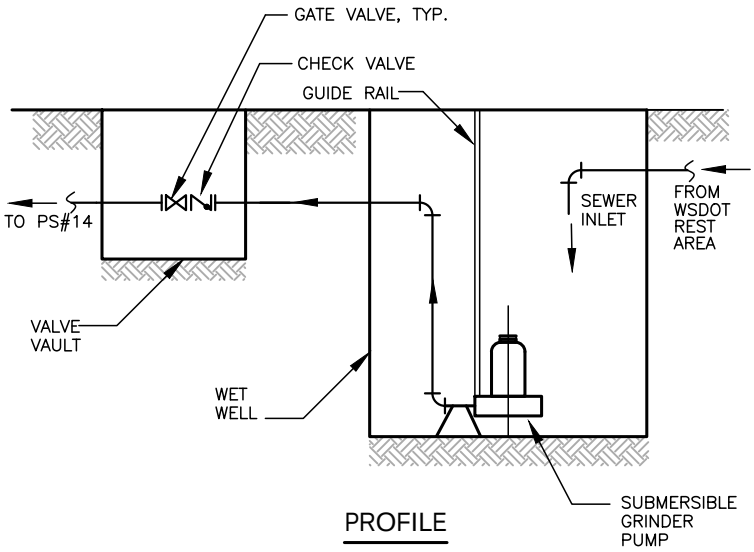
R/L – REMOTE/LOCAL



PLAN

SAMISH WATER DISTRICT – WSDOT PUMP STATION NO. 14

NOT TO SCALE



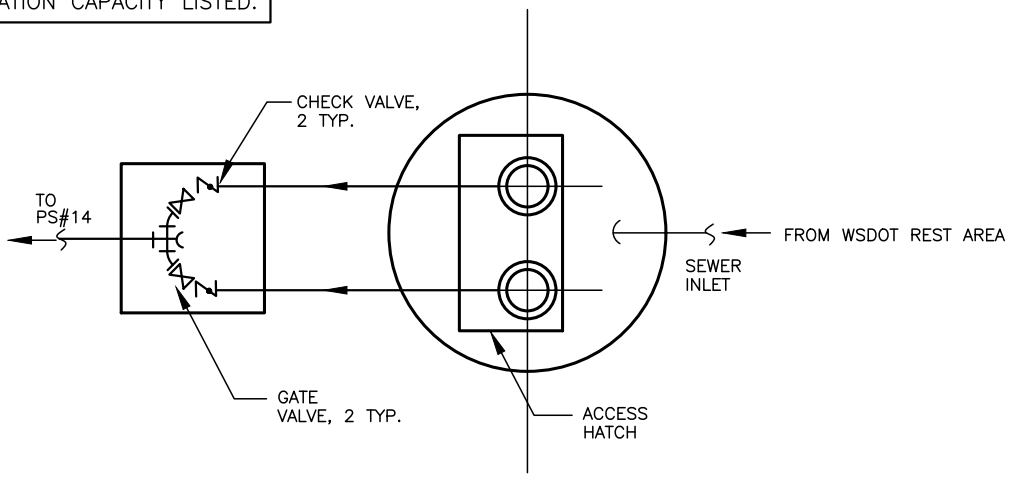
PROFILE

WSDOTPUMP STATION NO. 15

STATION DESCRIPTION:	DUPLEX, SUBMERSIBLE, GRINDER TYPE SEWER LIFT STATION
PUMP INSTALLATION DATE:	2003
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	64 GPM @ 42 FT. TDH
EQUIPMENT:	MYERS MODEL # WGX 30-21-25
PUMP MOTOR:	3 HP, 230V/1 PHASE
ADDL. STATION EQUIPMENT:	---
SCADA:	
ALARMS:	PA – POWER FAIL ALARM (R/L)
	HLA – HIGH LEVEL ALARM (R/L)
	HHLA – REDUNDANT HIGH LEVEL ALARM (R/L)
	LLA – LOW LEVEL ALARM (R/L)
	LLLA – REDUNDANT LOW LEVEL ALARM (R/L)
	PFA – PUMP FAIL ALARM (R/L)
	PSF– PUMP SEAL FAIL ALARM (R/L)
MONITORING:	PUMP STATUS (R/L)
	PUMP RUN TIME (R/L)
	WET WELL LEVEL (R/L)
CONTROL:	PUMP START/STOP (R/L)
	ALARM RESET (R/L)
	WET WELL CONTROL LEVEL (R/L)

R/L – REMOTE/LOCAL

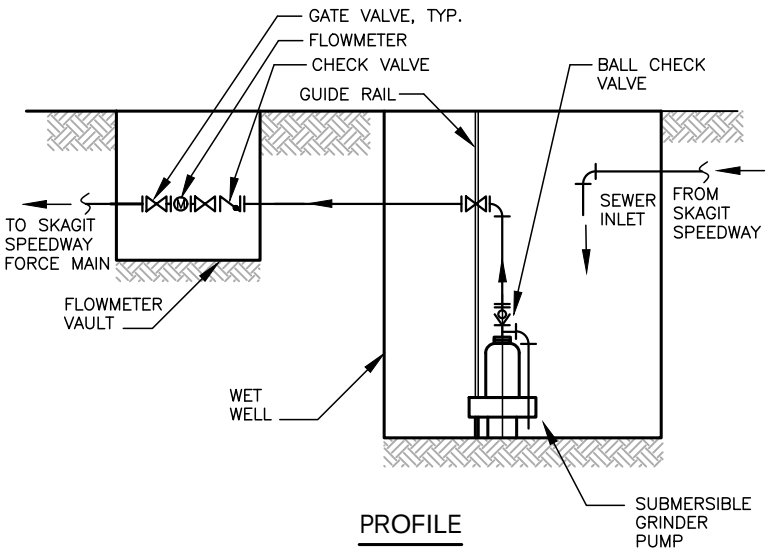
NOTE:
EACH PUMP IS CAPABLE OF FULL STATION CAPACITY LISTED.



PLAN

SAMISH WATER DISTRICT – WSDOT PUMP STATION NO. 15

NOT TO SCALE



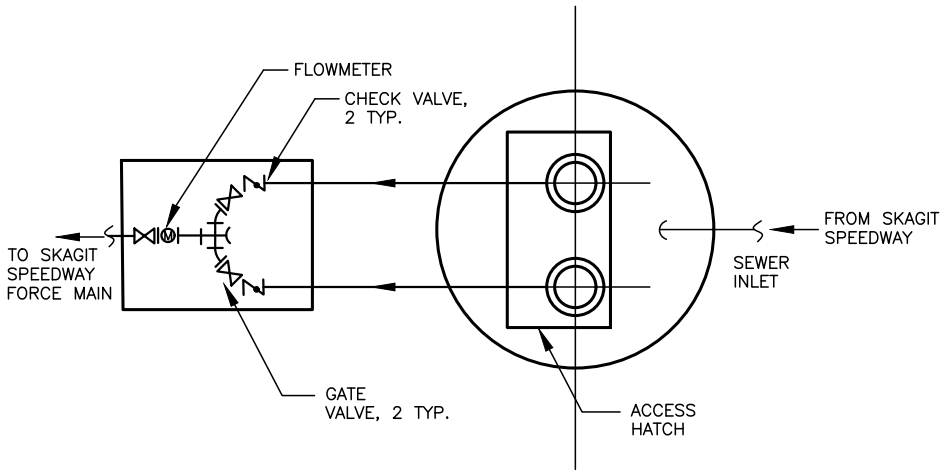
PROFILE

SKAGIT SPEEDWAY PUMP STATION NO. 16

STATION DESCRIPTION:	DUPLEX, SUBMERSIBLE, GRINDER TYPE SEWER LIFT STATION
PUMP INSTALLATION DATE:	1986
OWNER:	SAMISH WATER DISTRICT
STATION CAPACITY:	95 GPM @ 25 FT. TDH
EQUIPMENT:	HYDROMATIC MODEL #G2FX300
PUMP MOTOR:	3 HP, 230V/1 PHASE
ADDL. STATION EQUIPMENT:	UNIMAG FLOWMETER
SCADA:	
ALARMS:	PA – POWER FAIL ALARM (R/L)
	HLA – HIGH LEVEL ALARM (R/L)
	PSF– PUMP SEAL FAIL ALARM (L)
MONITORING:	PUMP RUN TIME (L)
	FLOW–INSTATANEOUS (R/L)
	FLOW–TOTALIZED (R/L)
CONTROL:	PUMP START/STOP (L)
	ALARM RESET (L)
	WET WELL CONTROL LEVEL (L)

R/L – REMOTE/LOCAL

NOTE:
EACH PUMP IS CAPABLE OF FULL STATION CAPACITY LISTED.



PLAN

SAMISH WATER DISTRICT – SKAGIT SPEEDWAY PUMP STATION NO. 16

NOT TO SCALE

WILSON ENGINEERING
WILSONENGINEERING.COM

SAMISH WATER DISTRICT

WHATCOM COUNTY WASHINGTON
COMPREHENSIVE SEWER PLAN
EXHIBIT F-16 - PUMPING FACILITIES
Skagit Speedway Pump Station No. 16

DATE: DEC. 2022
SCALE: NONE
JOB NO.: 2021-062
SHEET: 17
OF: 17

Exhibit G – Agency Agreements

- G-1 Contract 2021-07 Burlington Wastewater Treatment & Disposal Agreement
- G-2 Upper Skagit Indian Tribe – Backup Capacity Memo Understanding
- G-3 Whatcom County Non-Exclusive Franchise Agreement
- G-4 Skagit County Franchise Agreement

EXHIBIT G-1

City of Burlington

Contract/Agreement Coversheet

CONTRACT NO. 2021-07 DEPARTMENT: Public Works

FEDERAL TAXPAYER I.D.:

GRANTOR: Samish Water District

SERVICES: Wastewater Treatment and Disposal

AMOUNT: See Agreement

DURATION FROM: 01/01/2021 TO: 12/31/2025

Original: City of Burlington

Copies: Public Works/Sewer Dept.
Finance
Samish Water District

Contract For

Wastewater Treatment and Disposal

Between

The City of Burlington

AND

Samish Water District

January 2021

TABLE OF CONTENTS

CONTRACT

FOR

WASTEWATER TREATMENT AND DISPOSAL

SECTION 1. Introduction

THIS CONTRACT FOR WASTEWATER TREATMENT AND DISPOSAL (the "Contract") is made and entered into this 25th day of February, 2021 by and between the CITY OF BURLINGTON, WASHINGTON, a municipal corporation organized under the laws of the State of Washington (the "City"), and the Samish Water District (the "District"), a municipal corporation organized under the laws of the State of Washington. In consideration of the mutual covenants contained in this Contract, the District and the City agree as follows:

SECTION 2. Recitals

The City owns and operates a system of sewerage, consisting of a sanitary sewage collection system and sewage treatment facilities (the "City System").

The District owns and operates a system of sewerage, consisting of a sanitary sewage collection system, primary treatment lagoons and force mains (the "District System"). That portion of the District System that includes a primary lagoon treatment facility whereby the sewage from that part of the District collection system is treated before being pumped into the force main is hereafter known as the "Lagoon System", and a second portion of the District system that includes the District system downstream of the Lagoon System, which the sewage is not treated before being pumped into the force hereafter known as the "Downstream System."

The District and the City first entered into an Agreement dated December 13, 1974 (the "1974 Agreement"), to provide for the treatment and disposal of the District Wastewater in the City System. That Agreement was replaced effective January 2001 by the agreement recorded at Skagit County Auditor's File No. 200102020095 ("2001 Agreement"). The 2001 Agreement terminates on December 31, 2020.

The District and the City engaged in negotiations to enter into a Contract for continuing sewer treatment services to be provided by the City to District.

The charges for sewer treatment services under this Contract are based in part on the fact that District pretreats all sewage that enters the District sewer lines from the Lagoon System, and that the sewer from the District system is pumped through the sewage trunk lines of District before entering into the City System. Customers of each utility use and pay for their own respective sewer collection systems, capital costs, debt service and other services provided by their respective utilities.

The City has contracted with the Upper Skagit Indian Tribe (hereinafter "The Tribe") to provide sewage treatment for Tribal facilities located at or near Bow Hill up to a maximum of sixty thousand (60,000) gallons per day, District has a Upper Skagit Indian Tribe to "wheel" up to sixty thousand (60,000) gallons of wastewater from the Tribes' Bow Hill facilities to the City for treatment. The Tribe's sixty thousand (60,000) gallons of capacity is not part of or included in District's contract daily flow of two hundred fifty thousand (250,000) gallons per day.

This Contract is a manifestation of the good faith efforts of the District and City to maintain sewer treatment services by the City of the Wastewater of District. This Contract replaces prior Agreements between the Parties regarding Wastewater treatment services and sets out the terms and conditions of the relationship for the term of this Contract.

SECTION 3. Definitions

For the purposes of this Contract, the following words and terms shall have the following meanings:

"BOD" means five-day biochemical oxygen demand.

"City" means the City of Burlington or its successor.

"City System" means the system of sewerage, consisting of a sanitary sewage collection system and sewage treatment facilities owned and operated by the city.

"City System Plan" means the most current Sewer Comprehensive Plan and 1997 Facility Plan approved by the Department of Ecology or as such is later amended.

"Daily Flow" means the total flow of wastewater during any twenty-four (24) hour period.

"Delivery Point" means the point where the District Wastewater is delivered into the City System at the east right-of-way of Interstate 5 as shown on **Exhibit A** attached hereto and by this reference incorporated herein.

"District Contract Daily Flow" means 250,000 gallons per day.

"District Service Area" means the District area as depicted on the map attached hereto and by this reference incorporated herein as "Exhibit A", which includes the Lagoon System and the Downstream System as depicted by the District comprehensive plan.

"District System" means the system of sewerage, consisting of a sanitary sewage collection system, primary treatment lagoons and force mains owned and operated by District. That portion of the District System that includes a primary lagoon treatment facility whereby the sewage from that part of the District collection system is treated before being pump into the force main is known as the "Lagoon System", and that portion of the District System that includes the District System downstream of the Lagoon System, which the sewage is not treated before being pumped into the force main is known as the "Downstream System."

"DOE" means the Washington State Department of Ecology, or its successor.

"Domestic Wastewater" means Domestic Wastewater as that term is defined in WAC 173-221-030(9).

"Effective Date" means the date of Contract execution by City and District as set forth in Section1.

"Equivalent Residential Unit (ERU)" means the equivalent of one residential unit for the purpose of computing general facilities charge. One (1) ERU equals 138 gallons per day (gpd).

"Facilities" means the City's Wastewater treatment facilities as described in the City of Burlington 1997 Facilities plan or as such is later amended.

"Flow" means the volume of Wastewater per unit of time.

"Industrial Wastewater" means Industrial Wastewater as that term is defined in WAC 173-221-030 (15), and that is subject to such pretreatment requirements that may be established under this Contract.

"NPDES Permit" means a National Pollutant Discharge Elimination System Permit granted to the City or to the District, as applicable, pursuant to chapter 90.47 RCW and Federal Water Pollution Control Act, as amended.

"Parties" means the City and District.

"Permitted Capacity" is the Wastewater capacity and BOD/TSS removal capacity authorized by the applicable NPDES permit for the Treatment Plant.

"Treatment Plant" means the City's Wastewater Treatment Plant located at Burlington, Skagit County.

"Tribal Facilities" are Upper Skagit Indian Tribe's facilities currently connected to District's force main.

"TSS" means total suspended solids.

"Uncontrollable Circumstances" means riots, wars, insurrections, civil disturbances, labor strikes or work stoppage, vandalism or acts of terrorism, volcanic eruptions, lighting, landslides, earthquakes, flood, excessive rainfall or other acts of nature outside the control of the Parties.

"Wastewater" means sanitary sewage only, and includes Domestic Wastewater and Industrial Wastewater.

SECTION 4. Ownership and Management

4.1 Ownership

A. City. The City owns and operates the City System and shall be solely responsible for the cost and maintenance of the City System including the effluent meter and sampling, station set forth in section 5 below, subject to the applicable terms of this Contract. The District shall not own or acquire any ownership interest in the City System by this Contract.

B. District. The District owns and operates the District System, and shall be solely responsible for the cost and maintenance of the District system, including the force main where it joins the City System, subject to any applicable terms of this Contract. The City shall not own or acquire any ownership interest in the District System except as otherwise stated herein.

4.2 Wastewater Delivery

A. Wastewater Delivery. The City shall receive Wastewater of the District, not to exceed District Contract Daily Flow, delivered at the Delivery Point to the City System. Wastewater received by the City from the District and originating within District Service Area or otherwise shall be considered Wastewater of the District except for that Wastewater of the Tribal facilities (which is covered by separate contract between each Party and the Tribal facilities), and any other Wastewater also specifically excluded by separate written contract. The District shall pay for treatment and disposal of the District's Wastewater in accordance with the terms of this Contract.

B. Rates and Charges. Rates and charges for City receipt and treatment of Wastewater from the District shall be governed by this Contract and as set forth in Exhibit B, attached hereto and by this reference incorporated herein. The City shall have exclusive authority to establish rates and charges for Wastewater services provided to city customers other than the District. The District shall have exclusive authority to establish rates and charges for Wastewater services within the District Service Area or subject to District control except as agreed upon in writing by the Parties.

C. District Contract Flow Modification. Any modification to the District Contract Daily Flow must be by written amendment to this Contract between the District and the City.

D. Flow through Joint Interceptor Systems. This District shall provide detention ponds so that the effluent shall be delivered to the City outside the peak flow periods of the City, which shall be as mutually agreed between the Parties. The peak discharge rate from the District detention ponds to the joint interceptor system shall not exceed 1100 gallons per minute. The period of discharge shall not exceed 12 hours per day at times as mutually agreed upon by the Parties.

SECTION 5. Excess Discharge

5.1 Maximum Flow. The District shall not discharge into the City System more than the District Contract Flow. The acceptance by the City of any of the District excess discharge shall create no right, title or interest in the District in any additional Treatment Plant capacity. The City reserves the right at any time with or without cause, at the City's sole discretion, to refuse to accept any of the District discharge in excess of District Contract Flow. In addition to the remedies provided in this Contract, in the event the District discharges Wastewater into the City System in excess of the District Contract Flow and causes the Treatment Plant to exceed its Permitted Capacity and it appears that such excess discharge is likely to occur again, the City shall have the exclusive right to construct at the sole cost and expense of the District flow restriction devices to limit discharge to the City System to the District Contract Flow, provided the District is first given notice containing project plans and an estimate pursuant to Section 14 and thirty (30) days to protest the necessity or expense of the project. The City shall have recourse to injunctive relief in an arbitration proceeding set forth herein, to the extent necessary to enforce such right.

5.2 District Surcharge. If the District discharges an amount of Wastewater greater than the District Contract Daily Flow for 5 (five) days during any 30 (thirty) day period, District shall negotiate with the City for the purchase of additional capacity in the City System for use by the District; such negotiations and purchase of excess capacity shall be made within twelve (12) months of the City notifying District they are exceeding such Flow. Until additional capacity is acquired by the District within the maximum twelve (12) months, discharge in excess of the District Contract Daily Flow shall be a violation of the Contract Daily Flow and subject to the surcharge and remedies set forth herein and as stated in **Exhibit B**.

5.3 Surcharge Rate. The District shall pay to the City, in addition to the regular rate set forth in section 4.2(B) herein and Exhibit B hereto, a surcharge rate for each gallon of wastewater discharge or delivered by the District to the City in excess of District Contract Daily Flow. The surcharge rate for each gallon in excess of the District Contract Daily Flow shall be levied in the amount equal to the downstream rate set forth in Section 4.2(B) herein and **Exhibit B** hereto. The surcharge rate shall be in addition to the regular rate charged to District and all other charges to the District set forth herein, and shall not be the exclusive remedy to the City for Wastewater discharged by the District in excess of District Contract Daily Flow.

5.4 Additional Costs. In the event Wastewater discharged by the District, whether by excess flow or prohibited substances as defined in the Burlington Municipal Code, causes the Treatment Plant to violate applicable law, regulations or permits (including the applicable NPDES permit), the District shall pay, in addition to the surcharge applicable to excess Flow set forth herein, such additional costs to include but not be limited to fines, attorney fees (from citizens' suits or otherwise) and penalties (other than those surcharges levied by the City as set forth herein), including associated administrative, legal and engineering costs incurred by the City. Notwithstanding the forgoing, in the event that multiple causes contribute to such a violation, the District's

liability for fines, fees, costs and penalties shall be proportional with the extent to which its actions or inactions contributed to the violation.

5.5 Meter and Sampling. The City owns and maintains an influent meter ("meter") and sampler ("sampler") to measure and sample all influent to the City System from the District System at the Delivery Point. The District shall provide an effluent meter ("meter") and sampler ("sampler") to measure and sample all Wastewater at the point of the Lagoon System Wastewater discharge for the City exclusive use. The Upper Skagit Indian Tribe owns an effluent meter and sampler which is jointly operated and maintained by the City and the District. The City will provide the District upon request the monitoring records from the points of entry along with the billing. Note that there are three (3) points of entry; 1) Lagoon Effluent, 2) Upper Skagit Indian Tribe; and 3) City of Burlington, Pump Station No.6

SECTION 6 Payments

6.1 Billing. On or before the fifteenth (15th) day of each calendar month, the City shall bill the District for all service under this Contract for the immediately preceding calendar month. A bill that has been properly addressed and deposited in the United States mail shall be deemed to be presented to the District for payment. The District's monthly payments shall be due and payable in the office of the City's Clerk-Treasurer on the forty-fifth (45th) day after the billing date appearing on the bill. The billing date shall not be earlier than the date the City deposits the District bill in the mail. The District shall pay interest on monthly payments received by the City after the forty-fifth (45th) day after the billing date at the same interest rate applied by the City to other late payments for sewer service.

6.2 District Customers. The District shall be responsible for billing and collecting from its customers.

6.3 Unpaid Bills. In the event that any payment due under this Contract shall remain unpaid and undisputed for forty-five (45) days after the billing date, then the payment shall be considered delinquent.

6.4 Disputed Bills. If the District believes that a bill from the City is in error, the District shall notify the City and provide any supporting documents within forty-five (45) days after the billing date. Notice of disputed bills shall include payment of undisputed amounts and fifty percent (50%) of disputed amounts. Within ten (10) days thereafter the District and the City shall meet to attempt to resolve the dispute. If the dispute cannot be resolved, then the City and District shall proceed pursuant to Section 19, "Dispute Resolution." Any amounts in dispute paid by the District shall be deposited by the City in an interest-bearing account established by District and City, and such amounts shall be held in the account pending resolution of the dispute pursuant to Section 19. The District shall continue to pay subsequent monthly bills as provided in this Section 6.

6.5 Assertion of Claims. Claims not so asserted within the time frames set forth herein shall be waived unless the Party for good cause shown did not know or, in the exercise of reasonable diligence, did not have reason to know of the claim.

SECTION 7. Exclusivity

7.1 District Service Area. The City acknowledges the District as the exclusive purveyor of Wastewater within the District Service Area. The City shall not contract with any other person to provide Wastewater service within the District Service Area without the written consent of the District except as already contracted between the City and the Upper Skagit Tribal facilities.

7.2 City Income. Wastewater received by the City from any source other than from the District, the District System or the District Service Area shall be considered Wastewater of the City for all purposes, including wastewater of the Tribal facilities and all other customers covered by separate contract within District service area. The District shall have no right, title, interest or claim, past or present with respect to any income (including but not limited to amounts held currently in City System funds or accounts) received by the City for such Wastewater. Such income shall be considered income received from the City's customers and shall not be used to offset the District's obligations under this Contract in any way.

SECTION 8. BOD and TSS Sampling

8.1 Responsibility. The City shall be responsible for routine collection and analysis of BOD and TSS samples of Wastewater from the District System entering from the Lagoon System into the force main and Wastewater from the District force main entering into City System. Sampling of District Wastewater entering from the Lagoon System into the force main, and the District Wastewater entering the City System, shall be coordinated at the point of source of Wastewater other than that of District, in order to allow accurate calculation of the BOD and TSS entering the City System that is not attributable to the District System.

8.2 Performance.

A. Testing Standards. BOD and TSS analysis shall be performed in accordance with the latest NPDES Permit or, in the absence of an NPDES Permit, in accordance with the latest edition of "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association or successor agency.

B. Sampling - General. Samples shall be as representative as possible of the overall Wastewater stream and shall be no less than continuous, uninterrupted 24-hour flow-proportionate composite samples, or by such other procedures as are mutually agreed between the Parties. Sampling shall occur no less frequently than twice per week. Either Party may take additional samples at its option. At its option and at its cost, the District may request that the City

take additional samples. Also, at its option, representatives of the District may attend the sampling. The City shall give reasonable notice of the date and time of sampling. Sampling shall be scheduled so that, to the maximum extent reasonably feasible, the volume-weighted samples gathered during a month accurately reflect the BOD concentration and TSS concentration of the total flow during that month.

C. Split Sampling. Either Party shall prepare split samples and when such split samples are made, either Party shall give a split sample to the representative of the other Party who attends such sampling. If no representative attends the sampling, the sampling Party shall properly preserve the split sample at the Treatment Plant until noon the following day.

D. Testing. Laboratories accredited by DOE shall do analysis of samples. Either Party shall provide copies of its Quality Assurance/Quality Control ("QA/QC") results to the other Party, or either Party may observe the other Party's testing procedures.

SECTION 9. Standards for Maintenance and Operation

9.1 Standards. The District and the City shall maintain and operate their respective systems in accordance with operating standards established by the United States Environmental Protection Agency and DOE. If the flow meter, sampler or other equipment indicate excess Flow or other deficiencies in the respective systems or maintenance or operation of those systems, the deficiencies shall be corrected as soon as reasonably possible.

9.2 Connections. The District may allow connection to the District System of sewerage systems or improvements that are within or adjacent to the District Service Area, provided that such sewerage systems or improvements comply with the standards for maintenance and operation set forth in this Contract and comply with City Ordinances, State and Federal Laws.

9.3 I&I. Wastewater collection systems shall not include roof or foundation drains and shall exclude surface or ground water, except for incidental infiltration and inflow.

9.4 Meter Recalibration. The meter measuring the District Wastewater at the point of Wastewater leaving the Lagoon System will be recalibrated twice per year by District and Delivery Point measuring total influent will be recalibrated twice per year by the City. In addition, if there is a reasonable basis by either Party to believe that another recalibration is needed, either Party shall perform such recalibration by request at the performing Party's expense, unless the additional recalibration requested shows the meter to be within +/- 2% accuracy, in which case the cost of the additional recalibration shall be paid in full by the requesting Party. Representatives of each Party shall have a right to observe the recalibration. Certification of the recalibration will be made available upon request.

SECTION 10. Pretreatment

The District shall maintain Wastewater pretreatment of Wastewater from the Lagoon System which comply with the terms of this Contract. The District shall be responsible within the District Service Area for implementing an Industrial Wastewater pretreatment program, including but not limited to procedures, forms, and instructions; categorizing and identifying dischargers; keeping records; tracking compliance; establishing annual limits; sampling, testing and monitoring; preparing control documents and permits; issuing control documents and permits; enforcing compliance; and collecting any special fees, penalties or other associated extraordinary charges.

SECTION 11. Books and Records

11.1 Books. The Parties shall keep full and complete books of accounts for all costs and expenses related to this Contract, for the time period required by State law.

11.2 District Planning.

A. District Planning for Additional Capacity. When the District discharges for three (3) consecutive months an amount of Wastewater greater than 85% of the District Contract Flow or when the projected discharges would exceed the District Contract Daily flow within five years, whichever comes first the District shall commence planning and submit to the City within one (1) year a plan and schedule for management of District Wastewater.

B. The Plan. The plan must meet the requirements of WAC 173-240-060, "Engineering Report," and shall specify any contracts, legislative action, methods for financing, or other arrangements necessary to achieve this requirement.

11.3 City Cooperation. The City shall coordinate and participate in the District planning efforts, and make available to the District information possessed by the City regarding District Wastewater, including the Tribal facilities and any other contracted customers within the District service area. The City shall be considered a consulted agency under WAC 197-11-724, but shall have no financial obligation regarding District planning.

11.4 No Capacity Representation – Planning. Expansion of the Treatment Plant shall be at the sole and absolute discretion of the City. Except as provided herein, the City makes no representation or assurance regarding the availability of the Treatment Plant for District Wastewater in excess of District Contract Flow. In the event the City determines to construct additional improvements to the Treatment Plant, or construct new or acquire additional Wastewater treatment facilities, that increase capacity for Wastewater treatment and disposal, the City has no obligation to allocate new capacity to the District except as provided herein, and the District has no obligation to the City for costs of such new or additional facilities.

SECTION 12. Indemnification and Hold Harmless

12.1 City. The City shall indemnify, defend and hold the District, its officers, agents and employees harmless from all suits, claims or liabilities of any nature, including attorney fees, costs and expenses, for or on account of injuries or damages sustained by any person or property resulting from the acts or omissions of and to the extent harm is caused by the City, its agents or employees in connection with the maintenance and operation of the City System. If suit in respect to the above is filed, the City shall appear and the City shall provide the District with an attorney to defend the suit at the City's own cost and expense, and if judgment is rendered or settlement made requiring payment of damages by the District, its officers, agents or employees, the City shall pay the same.

12.2 District. The District shall indemnify, defend and hold the City, elected officials, its officers, agents and employees harmless from all suits, claims or liabilities of any nature, including attorney fees, costs and expenses, for or on account of injuries or damages sustained by any person or property resulting from the acts or omissions of and to the extent harm is caused by the District, its agents or employees in connection with the maintenance and operation of the District Wastewater. If suit in respect to the above is filed, the District shall appear and the District shall provide the City with an attorney to defend the suit at the District's own cost and expense, and if judgment is rendered or settlement made requiring payment of damages by the City, elected officials, its officers, agents or employees, the District shall pay the same.

12.3 Survival. The obligations of this Section shall survive the termination of this Contract.

SECTION 13. Term of Contract

13.1 The term of this Contract shall be the chronological period commencing January 1, 2021. The initial primary term of this Contract is January 1, 2021 through December 31, 2025. In the event that no notice to amend or terminate this Contract is given under Section 13.3 below, this Contract will renew automatically for successive periods of five years each.

13.2 The anticipated term of this Contract is as set forth herein. Provision is made for a primary term and successive terms. In the event that neither Party gives written notice as provided in this Section 13, then the successive term shall become the primary term under the same terms and conditions as set forth in this Contract.

13.3 Notices required under this Section 13 shall be given as follows:

A. Notice shall be mailed as set forth in Section 14 of this Contract, a minimum of 180 (onehundred-eighty) calendar days prior to the current end of the then primary term of this Contract.

B. The Notice shall advise the other Party in writing of its intent to amend or terminate this Contract at the end of the then-primary term of the Contract.

C. It shall be the responsibility of each Party to provide any change of address information to the other Party and, until such notification is provided in writing, the other Party shall have the right to rely upon the correctness of the address most recently provided.

D. Notice shall not be deemed to have been effectuated unless the communication has been posted in the United States Postal Service with proper postage prepaid and properly addressed.

13.4. Notwithstanding the foregoing, this Contract shall terminate on December 31, 2040. Upon termination of this Contract on December 31, 2040, it is the intent of the Parties to negotiate a new Contract for Wastewater Treatment and Disposal.

SECTION 14 ON NEXT PAGE

SECTION 14. Notice

Except as otherwise stated in this Contract, all notices and payments relating to this Contract shall be made in writing and shall be deemed duly served if and when mailed, first class postage prepaid, or delivered to the following addresses:

	City	District
(1)	Mayor City of Burlington 833 S. Spruce St. Burlington, WA 98233 (360) 755-0531	(1) Samish Water District Board of Commissioners, President 2195 Nulle Rd. Bellingham, WA 98226 (360)734-5664
	with copies to:	
(2)	City Treasurer City of Burlington 833 S. Spruce St. Burlington, WA 98233 (360) 755-0531 fax: (360) 755-9565	(2) District Manager Samish Water District 2195 Nulle Rd. Bellingham, WA 98226 (360) 734-5664 fax:(360) 715-1626
(3)	Burlington City Attorney 833 S Spruce Street Burlington WA 98233 (360) 755-9473 fax: (360) 755-9473	(3) Carmichael Clark, PS 1700 D Street Bellingham, WA 98225
(4)	Wastewater Sewer Treatment Department Supervisor	

SECTION 15. Assignment

This Contract may not be assigned by either Party without the prior written consent of the Party not seeking assignment. No provision of this Contract shall prevent the District or the City from contracting with a third party to perform its obligations under this Contract consistent with the terms of this Contract. No provision of this Contract shall prevent the District or the City from contracting to provide Wastewater or Septage services to third parties consistent with the terms of this Contract.

SECTION 16. Successors and Assigns

This Contract shall be binding on the successors in interest and assigns of the City or the District.

SECTION 17. Amendment or Modifications
This Contract may not be amended or modified except as provided for in Section 13 herein or as agreed to in writing by the Parties and approved by the City Council and the District Commissioners.

SECTION 18. Consent to Jurisdiction
As determined pursuant to State and Federal law. The Parties hereto do hereby consent to jurisdiction and venue of the Superior Court of Skagit County, State of Washington.

SECTION 19. Dispute Resolution
If for any reason either Party fails to comply with any provision of this Contract or any obligation assumed hereunder, either Party shall send notice of the alleged non-compliance to the other pursuant to Section 14 above. The Parties shall meet and confer in good faith to agree on resolution and cure of such breach within thirty (30) days of the date of the notice. If the Parties are unable to resolve and/or cure the claimed breach, then the Parties may avail themselves of any and all legal and equitable remedies.

SECTION 20. Prior Agreements Superseded
This Contract contains the complete understanding of the Parties. The 1974 Agreement and the 2001 Agreements are superseded except as expressly provided in this Contract.

SECTION 21. Unresolved Claims

21.1 Except as otherwise stated herein, this Contract shall not affect claims of either Party related to any prior Agreements. Upon execution of this Contract, the Parties shall have no claim against each other arising out of either Party's interest and/or obligations of the 1974 Agreement or 2001 Agreement, except as provided for herein and except for amounts owed to the City from District for the remainder of the year 2020.

21.2 All claims for attorney fees and expenses incurred prior to the effective date of this Contract are waived.

SECTION 22. Severability of Invalid Provisions
In the event a court of competent jurisdiction determines any part of this Contract to be invalid and unenforceable, the remaining provisions shall not be affected but shall remain in full force and effect, and the District and the City shall use their best efforts to construe the remaining provisions to carry out the intent of this Contract.

SECTION 23. Governing Law
This Contract shall be construed and governed in accordance with the laws of the State of Washington.

SECTION 24. Attorney Fees

Each Party shall bear its own attorney fees related to the negotiation and execution of this Contract.

SECTION 25. Force Majeure

25.1. In the event either Party is rendered unable, wholly or in part, by the occurrence of Uncontrollable Circumstances, to carry out any of its obligations under this Contract, then the obligations of that Party, to the extent affected by such occurrence and to the extent that due diligence is being used to resume performance at the earliest practicable time, shall be suspended during the continuance of any inability so caused to the extent provided but for no longer period. Any time that a Party intends to assert the occurrence of an event of Uncontrollable Circumstances as a basis to suspend performance, that Party shall notify the other Party immediately or as soon as reasonably possible, setting forth the particulars of the situation. Notice shall again be given immediately after the effect of the occurrence of such event has ceased.

25.2. If the Treatment Plant or City sewer pipes that carry District Wastewater are damaged or destroyed due to explosion, landslides, floods, epidemics, fire, vandalism, or other events for which the City is obligated to carry insurance, the City shall act diligently to promptly collect and apply insurance proceeds to the correcting or reconstructing of the Treatment Plant.

SECTION 26 ON NEXT PAGE

SECTION 26. Execution

IN WITNESS WHEREOF the Parties have executed duplicate originals of this Contract between the City of BURLINGTON and the Samish Water District on the date first above written.

CITY OF BURLINGTON

Steve Sexton, Mayor

ATTEST:
By: _____

Approved as to Content and Form:

Leif Johnson, City Attorney

Greg Young, City Administrator

Don Erickson, Sewer Supervisor

SAMISH WATER DISTRICT

Mike Roberts, President and Commissioner

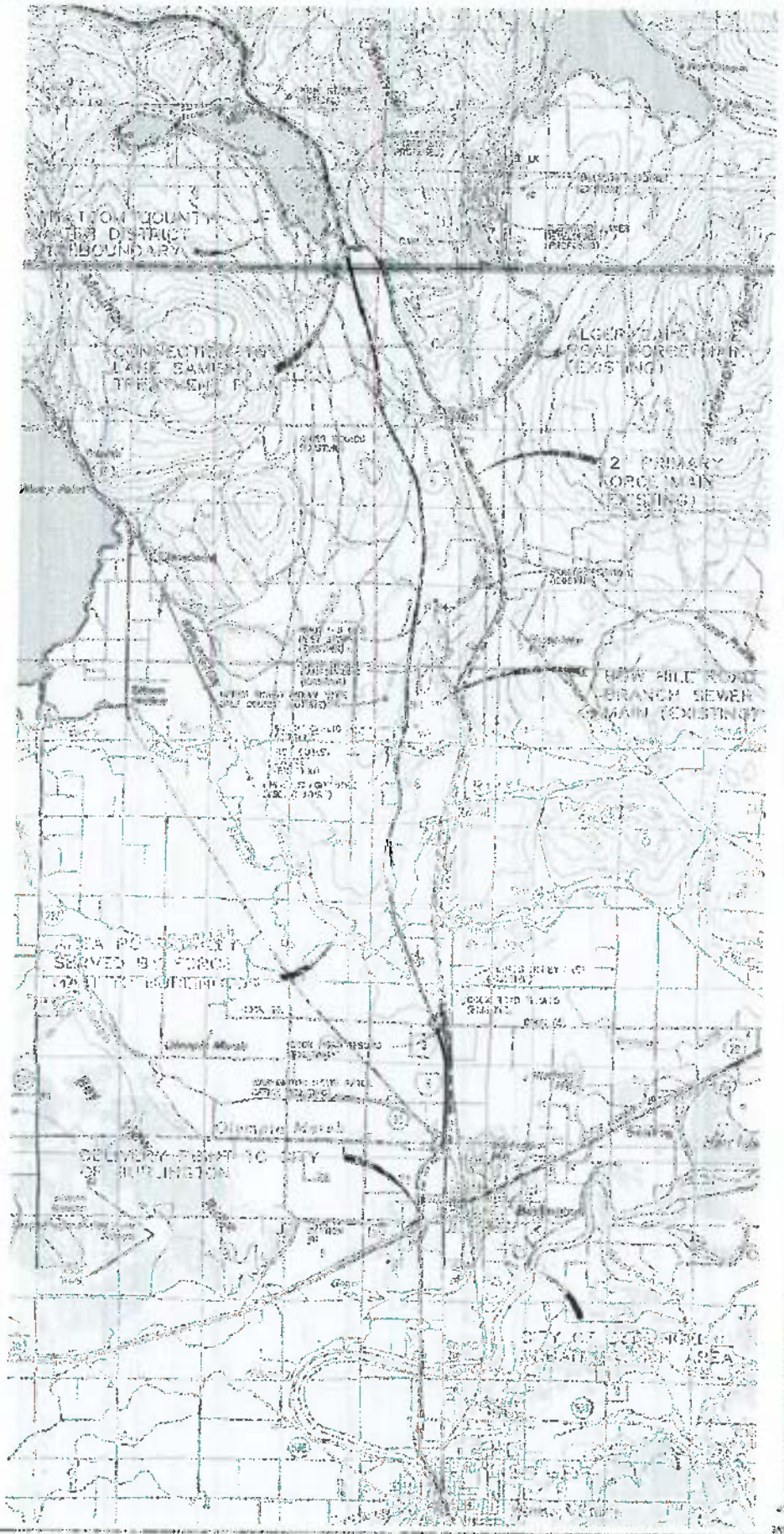
ATTEST:
By: _____

Approved as to Content and Form.

Catherine Moore, Attorney for District

Ken Vogel, District Manager

Exhibit "A" Map of District's Service Area
Exhibit "B" Rates and Charges Schedule



SAMISH WATER DISTRICT

Sewer Force Main Map - Lake Samish to City of Burlington WWTP

EXHIBIT

A

Exhibit "B"
Rates and Charges for Sewage Treated by City of Burlington
2021

1. Lagoon System:
Lagoon Treatment Adjustments; No Flow Adjustment; No 25% Surcharge

$4.99/ccf=$2.29/ccf flow related plus $2.70/ccf strength related (BOD or TSS)

Lagoon customer would pay $0.68/ccf instead of $2.70/ccf (for BOD or TSS of 51.5 mg/L)

Charge to lagoon customers=$2.97/ccf ($2.70/ccf flow related plus $0.68/ccf strength related)

Note: Actual District bill would be based on measured BOD and TSS concentrations as defined in the Burlington Municipal Cod 13.08, which is, and any subsequent modification thereto, incorporated herein by reference.

Calculation for strength related charge above 51.5 mg/L BOD or TSS:

$2.29/ccf plus ((actual mg/L divided by 350 mg/L) multiplied by $2.70) = Lagoon charge/ccf

The rates set forth under this paragraph 1 of Exhibit B, shall be increased or decreased at the same time as the sewer rates of residential customers located in the City of Burlington set forth in Burlington Municipal Code 13.08, as per the accepted formula used for the Lagoon Treatment Adjustment.

2. Downstream System:
Flow will be billed as all other in-City customers in accordance with Burlington Municipal Code 13.08, which rate is currently $4.99/ccf. Burlington Municipal Code 13.08 and subsequent modifications thereto, are incorporated herein by reference.

Calculation for sewer charge to Downstream System:

$ 4.99/ccf multiplied by ((total flow at point of entry minus Tribe flow minus Lagoon flow) divided 748) = Downstream System charge/ccf.

3. General Facilities Charge:
The general facilities charge for residential and commercial property owners seeking to connect to the sewer system shall be charged at the same rate (except as stated under "*" below) and in the same manner as set forth in resolution 9-95 of Burlington City Council on June 22, 1995, any subsequent modification thereto and/or all resolutions referenced therein, thereby incorporating such herein by reference.

* The fee for additional capacity shall be $ 22.68 per gallon of daily flow. The connection fee to downstream system customers for Bulk Water shall be $ 22.68.

"ccf" means per 100 cubic feet

SAMISH WATER DISTRICT COMPREHENSIVE PLAN - EXHIBIT G-2

SAMISH WATER DISTRICT

EXECUTIVE SUMMARY FOR ACTION

BOARD OF COMMISSIONERS MEETING DATE: November 10, 2011

AGENDA ITEM: Resolution 13-11: Approve a Memorandum of Agreement (MOA) between the District and Upper Skagit Indian Tribe and amending the Parties 1995 agreement for use of the Districts sewage disposal line.	**AGENDA SECTION:** NEW BUSINESS
PREPARED BY: Byron Gaines	**AGENDA NUMBER:** VI-H
ATTACHMENTS: 1. Resolution No. 13-11 2. Copy of MOA and amendment to the the 1995 agreement	**APPROVED BY:**

Please find attached a resolution approving an MOA between the District and the Upper Skagit Indian Tribe and an amendment to the Parties 1995 Agreement for Use of the Districts Sewage Disposal line.

The Districts Attorney (Tim Slater) will be present to answer any questions

RECOMMENDED ACTION: Approval of Resolution 13-11
COMMISSIONERS ACTION:

NOW, THEREFORE, BE IT RESOLVED, that the 2011 MOA attached hereto is approved and the President of the Board of Commissioners, Michael Roberts, is authorized to sign the 2011 MOA and all documents provided for in the 2011 MOA on behalf of the district, including an excise tax affidavit, if required, relative to the transfer of the West Pipeline. The District's approval of the 2011 MOA is contingent upon the City of Burlington and the Tribe entering into an MOA for back-up treatment; upon receipt of Fifty Thousand Dollars ($50,000) from the Tribe; and receiving a signed Tribal Resolution, all as provided for in the 2011 MOA attached hereto.

ADOPTED by the Board of Commissioners of the Samish Water District, Whatcom County, Washington, at a Regular Meeting thereof this _____ day of November, 2011.

By_____
Commissioner

By _____
Commissioner

ATTEST:

By_____
Commissioner and Secretary of Said Board

RESOLUTION NO. 13-11

A RESOLUTION of the Board of Commissioners of Samish Water District, Whatcom County, Washington (the "District") approving a Memorandum of Agreement between the District and Upper Skagit Indian Tribe (the "Tribe"), amending the Parties 1995 Agreement for Use of Sewage Disposal Line and other matters.

WHEREAS, the Tribe and the District previously entered into an Agreement for Use of Sewage Disposal Line (the "1995 Wheeling Agreement") to transport wastewater generated from the Tribe's enterprises in the vicinity of Exit 236 off I-5 in Skagit County, Washington, where it is treated under a separate agreement between the Tribe and the City of Burlington. The 1995 Wheeling Agreement was recorded under Skagit County Auditor's #9601030041; and

WHEREAS, the Tribe has now developed its own wastewater treatment plant (the "MBR Plant") to treat wastewater generated from the Tribe's Bow Hill Land Holdings in the vicinity of Exit 236 off I-5 and has requested that the District provide back-up wheeling capacity; and

WHEREAS, the Tribe and the District have negotiated an amendment to the 1995 Wheeling Agreement to provide for use of the district's sewer pipeline on a back-up basis in the event of the necessity of shutting down the MBR Plant for a limited period-of-time (the "2011 MOA", a copy of which is attached hereto and made a part hereof); and

WHEREAS, the 2011 MOA also provides for the District transferring to the Tribe its rights in a certain section of sewer line referred to in the 2011 MOA as the "West Pipeline" for the sum of Fifty Thousand Dollars ($50,000); and

WHEREAS, the District is not currently using the West Pipeline and has no use for said West Pipeline given that the properties for which the West Pipeline was constructed to serve are now owned and/or controlled by the Tribe and the Tribe has informed the District that it intends to treat all wastewater generated by Bow Hill Land Holdings at its MBR Plant; and

WHEREAS, the Parties have agreed to terminate various sewer service agreements covering the land owned by the Tribe west of I-5 in the vicinity of Exit 236, said sewer service agreements being identified in the Notice of Termination attached to the 2011 MOA as Exhibit D; and

WHEREAS, the Commissioners of the District find that the 2011 MOA is in the District's best interest.

AMENDMENT TO SAMISH WATER DISTRICT/UPPER SKAGIT AGREEMENT FOR USE OF SEWAGE DISPOSAL LINE AS A MEMORANDUM OF AGREEMENT FOR BACK-UP WASTEWATER TRANSMISSION AND OTHER MATTERS

AMENDMENT entered into this 10th day of November, 2011 by and between the Upper Skagit Indian Tribe, a federally recognized Indian tribe (hereinafter "Tribe") and the Samish Water District (hereinafter "District").

WHEREAS, the Tribe and the District entered into an Agreement for Use of Sewage Disposal Line dated November 21, 1995, recorded under Skagit County Auditor's #9601030041 (hereinafter as the "Agreement for Use of Sewage Disposal Line"), to provide use of the District's existing sewer line to transport the Tribe's wastewater generated from its enterprises at and in the vicinity of Exit 236 off Interstate 5 in Skagit County, Washington (hereinafter the Tribe's "Bow Hill Land Holdings") to the City of Burlington (hereinafter as "Burlington") treatment plant where it is treated pursuant to a separate agreement between the Tribe and Burlington; and

WHEREAS, the District has its own separate agreement with Burlington, dated January 23, 2001, to provide treatment of the District's wastewater (excluding wastewater generated by the Tribe), said Agreement being recorded under Skagit County Auditor's #200102020095; and

WHEREAS, the term of the Agreement for Use of Sewage Disposal Line was to remain in effect for so long as the District maintained an agreement for wastewater treatment with the City of Burlington; and

WHEREAS, the Tribe has now informed the District that it will be constructing a membrane wastewater treatment and disposal system (hereinafter as the "MBR Plant") for the purpose of treating the wastewater from the Tribe's Bow Hill Land Holdings; and

WHEREAS, the Tribe's has supplied an exhibit showing the Tribe's current land holdings in the vicinity of Exit 236, all as set forth on Exhibit A attached hereto and made a part hereof (the District taking no position on Exhibit A as to its accuracy); and

WHEREAS, the parties acknowledge that the Tribe may, in the future, add to its Bow Hill Land Holdings in the vicinity of Exit 236; and

WHEREAS, the MBR Plant is sited on the Tribe's land holdings at Bow Hill and Exit 236; and

WHEREAS, notwithstanding the Tribe's anticipated treatment and disposal of wastewater through the MBR Plant, the Tribe believes it would be prudent to have back-up wheeling capacity access from the District for delivery to the Burlington treatment plant; and

WHEREAS, simultaneously herewith, the Tribe has negotiated an agreement with the City of Burlington for back-up services (hereinafter as the "Burlington 2011 MOA") whereby Burlington has agreed to accept for treatment on a back-up basis wastewater from the Tribe's Bow Hill Land Holdings; and

WHEREAS, the parties wish to amend the Agreement for Use of Sewage Disposal Line to allow for the use of the District's sewer pipeline by the Tribe on a back-up basis as provided for herein.

NOW THEREFORE, in furtherance of the relationship between the Tribe and the District and the mutual promises and benefits contained herein, the adequacy of which is hereby acknowledged, and for other good and valuable consideration, the parties hereby agree as follows:

1. This Memorandum of Agreement shall be referred to as the "2011 MOA".

2. The Agreement for Use of Sewage Disposal Line between the parties is amended to include this 2011 MOA.

3. Notwithstanding any terms with respect to the Agreement for Use of Sewage Disposal Line, in the event of a conflict between the terms of this 2011 MOA and the Agreement for Use of Sewage Disposal Line, the provisions of this 2011 MOA shall be controlling.

4. The parties acknowledge that the MBR Plant will undergo a period of testing and initial operation (hereinafter as the "Initial Period"). During the Initial Period, the Tribe shall continue to send treated and/or untreated effluent through the District's pipeline to Burlington for treatment in the same manner as it has done previously and the District shall bill the Tribe in the same manner as it has billed in the past.

5. If, as and when, during the Initial Period, the MBR Plant commences operating in such a manner that it shall be unnecessary for the Tribe to send treated or untreated effluent down the District's pipeline, then the terms of this 2011 MOA shall apply with respect to payments and services and the District shall serve as a back-up/fail safe wastewater transmission system (hereinafter as the "Back-up Period") for those periods when the MBR Plant is closed for operation and the Tribe's wastewater needs to be diverted to Burlington for treatment through the District's wastewater pipeline.

6. The parties agree that, when the circumstances of paragraph 5 require wastewater transmission during the Back-up Period, then the Tribe shall send no more than

60,000 gallons per day of treated or untreated effluent down the District's pipeline to the Burlington Sewer Treatment Plant (hereinafter as an "Event").

7. The Tribe intends to build and maintain sufficient storage capacity so that it shall limit the transmittal of wastewater down the District's pipeline during an Event to the said 60,000 gallons per day.

8. As part of the MOA with Burlington, the Tribe and Burlington have agreed that Burlington shall bill, and the Tribe shall pay, for all effluent sent by the Tribe to Burlington through the District's pipeline, as measured by the discharge flow meter at the MBR plant (also referred to as the MBR metering station and which is depicted in Exhibit B hereto as the meter vault) which is to be installed by the Tribe prior to any wastewater being discharged into the District's pipeline. The District's agreement to allow use of its sewer pipeline to transport the Tribe's wastewater is conditioned on Burlington not counting such flows against the District's contracted capacity limits with Burlington.

9. The Tribe agrees that, if, as and when an Event occurs during the Back-up Period, it will cooperate with the District to attempt to minimize the impact on the District's then existing transmission capacity so long as such accommodation doesn't impact the operation of the present and future Bow Hill Land Holdings serviced by the MBR Plant in the vicinity of Exit 236. This may be accomplished, for example, by sending certain volumes of wastewater through the District's wastewater transmission lines during off peak hours.

10. The Tribe's instantaneous discharge rate into the District's gravity sewer main/pipeline running from the MBR Plant to Old Highway 99 shall not exceed

243 gallons per minute (GPM) without the prior review and written consent of the District, which consent shall not be unreasonably withheld based on a third party engineering analysis obtained at the Tribe's sole cost. Notwithstanding any other provision herein, if the District agrees to an increase in the Tribe's instantaneous discharge rate, the Tribe shall be solely responsible for all costs associated with downstream infrastructure improvements required to accommodate any increase in the maximum instantaneous discharge rate of 243 GPM.

11. In order to cause the District to reserve the 60,000 gallon per day of pipeline capacity for use by the Tribe on a back-up basis, the Tribe hereby agrees to pay a monthly reserve capacity fee of $4,400.00 per month (hereinafter as the "Reserve Capacity Fee") billed by the District on its regular schedule commencing at the start of the Back-up Period (hereinafter as the "Back-Up Period Start Date"). The amount of the Reserve Capacity Fee shall be increased or decreased commencing on the third anniversary of the commencement of the Reserve Capacity Fee as determined by the start of the Back-up Period and each year thereafter on the anniversary date by the change (increase or decrease) in the Consumer Price Index Urban Wage Earners and Clerical Workers ("CPI-W") U.S. Cities, June to June.

12. In any month in which an Event occurs, the Tribe shall be billed, in addition to the Reserve Capacity Fee, for actual gallon usage for that said month. Said billing shall be based on the lowest commercial, preferred customer rate provided by the District to its commercial customers. Said billing rate shall only be applied to the volume of wastewater sent to the Burlington treatment plant, as measured by the

flow meter which measures the amount of effluent discharged into the District's pipeline by the Tribe (i.e.: the MBR metering station). If, as and when an Event occurs during the Back-up Period, Tribe shall give the District not less than 24 hours advance notice that the Tribe shall be discharging treated and/or untreated effluent into the District pipeline for transmission to the City of Burlington wastewater treatment plant.

13. Notice under this MOA shall be deemed given when it is sent either by fax or email to the other party as follows:

a) If to the District:

Fax: 360-715-1626

Email: samishwaterdistrict@comcast.net

Attn: General Manager (currently Byron Gaines)

b) If to the Tribe:

Attn: General Manager and Office of Tribal Attorney

Fax: 360-854-7004

Email: Pateus@aol.com; dhawkins@upperskagit.com

14. The Tribe shall provide the District 60 days' written notice of its intent to convert from the Initial Period to the use of the pipeline under the Back-up Period and, therefore, the necessity of commencing with the Reserve Capacity Fee monthly billing.

15. Unless the Tribe provides Notice of an earlier Back-Up Period Start Date, the latest date for commencement of the Back-up Period, with or without notice, shall be January 1, 2012.

16. To date, the Tribe has paid the District hook-up charges under the Agreement for Use of Sewage Disposal Line for 234.8 LUEs, each LUE being equivalent to 185 gallons per day for a total of 43,440 gallons per day. If, during any 180 consecutive day period, the Tribe shall discharge into the District's sewer line an average of more than 43,440 gallons per day of effluent/wastewater, then the Tribe shall owe hook-up fees for so much of the effluent/wastewater that exceeds 43,440 gallons per day up to the maximum of 60,000 gallons per day. The hook-up charge shall be calculated as follows: the average gallons per day exceeding 43,440 divided by 185 gallons multiplied by the District's then current connection charge per LUE, PROVIDED the District's current connection charge shall apply for the first three years of this Agreement after which time the hook-up/connection charge per LUE shall be the District's then current connection charge for its best commercial customers. For example, if the Tribe were to discharge into the District's line an average of 45,290 gallons per day over a consecutive 180 day period, the Tribe would be required to pay hook-up fees on an additional 10 LUEs (45,290 – 43,440 = 1850÷185 = 10 LUEs). Said hook-up fees are due within 30 days of billing by the District. The maximum number of additional LUEs for which the Tribe is potentially responsible given the 60,000 gallon per day limitation is 89.5 (60,000gpd – 43,440 = 16,560gpd ÷ 185 = 89.5). Nothing herein shall obligate the District to accept more than 60,000 gallons of effluent per day from the Tribe.

17. The parties acknowledge that currently there exists a 4 inch sewer pipeline running through the right of way of Interstate 5, west of I-5 at Exit 236, Skagit

County, Washington (hereinafter as the "West Pipeline"). The West Pipeline is unused, and crosses under I-5 to the point where the West Pipeline will hook up into the Tribe's metering system for the MBR Plant. Attached hereto and made a part hereof as Exhibit B is a survey, prepared by Pacific Survey and engineering. Shown in the insert on page 2 of Exhibit B as the east edge of the meter vault, is the point east of which the District retains ownership of its existing sewer pipeline running east to Old Highway 99 (hereinafter as the "East Pipeline") and west of which the District is conveying the existing sewer line to the Tribe (West Pipeline). The east edge of the meter vault shown in Exhibit B shall be referred to herein as the "Point of Demarcation". Except for the West Pipeline, the District retains all of its existing rights, including retaining sole ownership of its existing sewer line and existing easement rights servicing the Thousand Trails Campground and the Washington State Department of Transportation rest stop.

18. Irrespective of the actual ownership of the West Pipeline and simultaneously with the execution of this 2011 MOA, the District shall deed its rights, title and any interest which it may have in the West Pipeline up to the Point of Demarcation reflected in Exhibit B, by Quit Claim Deed and Assignment of License, Franchise and Easement Rights to the Tribe, PROVIDED, HOWEVER, the District shall reserve and retain any existing easement rights that it has to access the East Pipeline from North Dark Lane, (the road running to the Thousand Trails Campground from Bow Hill Road); it being the intent of the parties that the District retain the same access it currently has to the East Pipeline. Attached

hereto as Exhibit C is the Quit Claim Deed and Assignment to be executed by the District.

19. In consideration of the Quit Claim Deed and Assignment of License, Franchise and Easement Rights, the Tribe agrees to hold the District harmless from any third party claim that any such property owner is entitled to hook-up to the West Pipeline for sewer services.

20. In consideration of the Quit Claim Deed and Assignment of License, Franchise and Easement Rights to the West Pipeline, and simultaneously with such transfer, the Tribe shall pay the District the sum of $50,000.

21. As further consideration for the transfer of the West Pipeline, the Tribe hereby agrees that it shall not compete with the Samish Water District with respect to providing wastewater services to any property except those either owned by the Tribe or over which the Tribe has jurisdiction.

22. The parties agree that the District pipeline from the metering station ("Metering Station") to be installed by the Tribe with respect to the MBR Plant down to Old Highway 99 (East Pipeline) shall remain in the ownership of the District.

23. The parties further agree that, in the event that the District needs to repair or replace the East Pipeline, the Tribe shall be responsible for one-third of such costs up to a maximum of $100,000. The said maximum cost of $100,000 shall be increased commencing with the fifth year of this 2011 MOA by the CPI-W as defined above. The District warrants that there are no current plans for any maintenance or replacement of the East Pipeline.

24. The Metering Station is a partial flume meter as specified by the District.

25. When the Metering Station is placed into operation and so long as this 2011 MOA is in full force and effect, the Tribe shall grant the District access to the Metering Station and its software for the purpose of verifying the accuracy of its readings. The foregoing right of access shall not be construed or act as creating an encumbrance on Tribal real property.

26. Notwithstanding the right of access, the sole responsibility for maintenance, replacement and repair of the metering system in the Metering Station shall be the responsibility of the Tribe. The Tribe agrees to maintain the metering station/equipment so that it accurately counts any wastewater discharged by the Tribe into the District's pipeline.

27. The parties acknowledge that the Tribe maintains and pays for LUE's for a number of the fee lands it owns west of the I-5 interstate (the "LUE's").. The LUE's owned by the Tribe are covered under Sewer Service Agreements set forth in the Notice of Termination of Sewer Service Agreements attached hereto as Exhibit D and made a part hereof. Simultaneously with the execution of this 2011 MOA, the LUE's west of the I-5 interstate are hereby terminated, the Tribe having no further economic need for the LUE's and the District has no further obligation with respect to those properties. The Parties agree to sign and record Exhibit D with the Skagit County Auditor's office. The Tribe represents and warrants that it owns in fee simple status the properties subject to the Sewer Service Agreements listed in Exhibit D.

28. Any disputes which arise with respect to this 2011 MOA shall be resolved by informal discussions between the parties. If after informal discussions and not

sooner than 60 days after the commencement of the informal discussions the parties are unable to resolve any differences, then either party may seek to litigate the matter in the Superior Court of Skagit County, Washington; which shall be the exclusive jurisdiction and venue for resolving disputes. The law of the State of Washington shall apply to any such court action.

29. If, as a result of a final court decision the actions of the Tribe are found to not comply with the terms of this 2011 MOA and the District has incurred liability to the City of Burlington as a result of such non-compliance, then the Tribe shall be responsible for such costs to the City of Burlington and agrees to hold the District harmless for all such costs.

30. In the event the District obtains a monetary judgment against the Tribe, said judgment may be satisfied by collecting against assets owned by the Tribe to the extent allowed by law, including but not necessarily limited to, proceeds from the Tribe's Bow Hill Land Holdings, but excluding any assets or funds which are exempt or otherwise protected from execution by law. This provision shall be interpreted, applied and limited so as to be consistent with the law.

31. Tribe hereby agrees to a limited waiver of sovereign immunity solely for the purpose of the enforcement of the terms of this 2011 MOA.

32. At the sole election of the Tribe, and upon 60 days notification to the District, the Tribe shall be entitled to terminate this 2011 MOA Amendment and the monthly Reserve Capacity Fee at any time after December 21, 2016.

33. This 2011 MOA shall remain in effect until terminated by the Tribe, as provided for herein, or until such time as the District no longer sends its own wastewater

(as compared to wastewater generated by the Tribe) to Burlington for treatment, as provided for in the Agreement for Use of Sewage Disposal Line. This agreement may also be terminated by written agreement of the parties.

34. Attached hereto as Exhibit E is the Tribal Resolution authorizing the execution of this MOA, the limited waiver of sovereign immunity and authorizing the Tribal chairman to sign this 2011 MOA on behalf of the Tribe. The Tribe shall provide the District with a duplicate original of the Tribal Resolution. The Tribe further represents and warrants that there are no other authorizations or signatures necessary to make this 2011 MOA binding upon the Tribe. Further, if it is subsequently determined that any third party or agency authorization/approval is required, the Tribe irrevocably agrees to submit a formal written request for such authorization/approval. The Tribe further agrees to indemnify and hold the District harmless from any claims arising or related to the lack of all necessary approvals of this MOA. The provisions of this paragraph shall be severable from the rest of this MOA and shall be enforceable pursuant to the dispute resolution provisions of this MOA as a stand-alone obligation of the Tribe.

35. This 2011 MOA shall not be modified, except in writing signed by the parties hereto.

36. This 2011 MOA represents the entire agreement of the parties hereto.

37. This 2011 MOA shall not be assigned except with the express written consent of both parties.

38. This 2011 MOA shall inure to the benefit of the parties hereto and their successors in interest, if any.

39. This 2011 MOA shall become effective and in full force and effect when signed by the parties hereto and when simultaneously herewith the MOA with Burlington with respect to the Back-up Period is signed and binding on the Tribe and Burlington.

40. Except as specifically modified by this 2011 MOA, the terms and provisions of the Agreement for Use of Sewage Disposal Line shall remain in full force and effect.

41. This Agreement may be executed in counterparts by each party. When so executed, the parties shall attach the signature pages to the original(s) of this Agreement and when so attached, this Agreement shall be binding upon the parties hereto.

Dated the date first above written.

UPPER SKAGIT INDIAN TRIBE

By:_____

Jennifer R. Washington, Chairman

SAMISH WATER DISTRICT

By:_____

President, Board of Commissioners

IN THE MATTER OF A FRANCHISE)
TO INSTALL, OPERATE, AND MAIN-)
TAIN SANITARY SEWER LINES)
ALONG CERTAIN ROADS IN WHAT-)
COM COUNTY, WASHINGTON)

EXHIBIT G-3

NON-EXCLUSIVE
FRANCHISE

WHATCOM COUNTY WATER DISTRICT NO. 12 having applied for a fifty (50) year franchise to install, operate, and maintain Sanitary Sewer Lines along those certain roads in Whatcom County, Washington, and notice of this hearing haveing been duly published on the 27th & 4th day of Nov & Dec, 1974, in the ~~Bellingham Herald~~ Lynden TR. Bune, a newspaper having county wide circulation, and it appearing to the Board that notice of said hearing has been given as required by Law, and that it is in the public interest to grant the franchise herein granted; NOW, THEREFORE,

IT IS HEREBY ORDERED that a non-exclusive franchise be, and the same is hereby given and granted to WHATCOM COUNTY WATER DISTRICT NO. 12, located in the County of Whatcom, its successors and assigns, hereinafter referred to as the Grantee, for a period of fifty (50) years from and after the date of the entry of this order, to construct, operate, and maintain Sanitary Sewer Lines, in, under, along, and over the following described public roads and county property in Whatcom County, Washington, to-wit:

All County Roads in Sections 22, 23, 25, 26, 27, 28, 35, and 36 of Township 37 North, Range 3 East, W.M.; and Sections 29, 31, and 32 of Township 37 North, Range 4 East, W.M.;

This franchise is granted upon the following express terms and conditions, to-wit:

I

That said grantee, its successors and assigns, shall have the right and authority to enter upon the above-mentioned county roads, rights-of-way, and other county property as designated hereinafter, for the purpose of constructing its transmission lines and all necessary facilities connected therewith, and for repairing all such lines and facilities, and for operating and maintaining said lines and facilities.

II

All construction and installation work along, under, or over county roads or rights-of-way or other county property outside of the corporate limits of any incorporated town shall be subject to the approval and pass the inspection of the County Engineer, and shall conform to all applicable state and federal minimum standards, codes or regulations, and the county expressly reserves the right to prescribe how and where mains, poles, lines, and wires shall be installed and may from time to time upon reasonable notice require the removal and replacement thereof in the public interest.

III

Priot to commencement of construction of said transmission lines or facilities, grantee shall first file with the County Engineer its application for permit to do such work, together with plans and specifications in duplicate showing the position and location of all such lines and facilities sought to be constructed, laid, installed, or erected at that time, showing their relative position to existing county roads, rights-of-way, or other county property upon plans drawn to scale, hereinafter collectively referred to as the "map of definite location".

The lines and appurtenant facilities shall be laid in exact conformity with said map of definite location, except in instances in which deviation may be allowed thereafter in writing by the County Engineer pursuant to application by grantee. The plans and specifications shall specify the class and type of material and equipment to be used, manner of excavation, construction, installation, backfill, erection of temporary structures, erection of permanent structures, traffic control, traffic turnouts, and road obstructions, etc.

No such construction shall be commenced without the grantee first securing a written permit from the County Engineer, including approval endorsed on one set of plans and specifications returned to the grantee. All such work shall be subject to the approval of and shall pass the inspection of the County Engineer. The grantee shall pay all costs of and expenses incurred in the examination, inspection, and approval of such work on account of granting the said permits.

IV

In any work which requires breaking of soil of the county roads, rights-of-way, or other county property subject to this franchise for the purpose of laying, relaying, connecting, disconnection, and repairing the said transmission lines and facilities, and making connections between the same to structures and buildings of consumers or making connections to other facilities of the grantee now in existence or hereafter constructed, the grantee shall be governed by and conform to the general rules adopted by the officers charged with the supervision and care of such county roads, rights-of-way; and other county property; and the grantee at its own expense and with all convenient speed shall complete the work for which the soil has been broken and forthwith replace the work and make good the county road, right-of-way, or county property and leave the same in as good condition as before the work was commenced: Provided, however, that no such breaking of the soil on the county roads, rights-of-way, or other county property shall be done prior to the obtaining of a permit issued by the County Engineer. Applications for such a permit shall be accompanied by specifications for the restoration of the county road, right-of-way, or other county property to the same condition as it was prior to such breaking, and such specifications must be approved by the County Engineer before such breaking of the soil is commenced: Provided further, that the Whatcom County Engineer may require a performance bond in a sum sufficient

to guarantee that such county roads, rights-of-way, or other county property shall be restored to the same condition as it was prior to such breaking of the soil, the amount of said bond to be fixed by the County Engineer. The grantee shall pay all costs of and expenses incurred in the examination, inspection, and approval of such restoration. The County Commissioners may at any time do, order, or have done, any and all work that they consider necessary to restore to a safe condition any such county road, right-of-way, or other county property left by the grantee or its agents in a condition dangerous to life or property, and the grantee upon demand shall pay to the County all costs of such work.

V

All construction or installation of such lines and facilities, service repair, or relocation of the same, performed over, above, along, or under the county roads, rights-of-way, or other county property subject to this franchise shall be done in such a manner as not to interfere with the construction and maintenance of other utilities, lines, public or private, drains, drainage ditches and structures, irrigation ditches and structures, located therein, nor with the grading or improvement of such county roads, rights-of-way, or other county property. The owners of all utilities, public or private, installed in such county roads, rights-of-way, or other county property prior in time to the lines and faiclities of the grantee shall have preference as to the positioning and location of such utilities so installed with respect to the grantee. Such preference shall continue in the event of the necessity of relocating or changing the grade of any such county road or right-of-way.

VI

All work done under this franchise shall be done in a thorough and workmanlike manner. In the laying of transmission lines and the construction of other facilities and the opening of trenches, the tunneling under county roads, rights-of-way, or other county property, the grantee shall leave such trenches, ditches, and tunnels in such

a way as to interfere as little as possible with public travel and shall take all due and necessary precautions to guard the same, so that damage or injury shall not occur or arise by reason of such work; and where any such trenches, ditches, or tunnels are left open at night, the grantee shall place warning lights and barricades at such a position as to give adequate warning of such work. The grantee shall be liable for any injury to person or persons or damage to property sustained through its carelessness or neglect, or through any failure or neglect to properly guard or give warning of any trenches, ditches, or tunnels dug or maintained by the grantee.

VII

The County of Whatcom in granting this franchise does not waive any rights which it now has or may hereafter acquire with respect to county roads, rights-of-way, or other county property, and this franchise shall not be construed to deprive the county of any powers, rights, or privileges which it now has or may hereafter acquire to regulate the use of and to control the county roads, rights-of-way, and other county property covered by this franchise.

VIII

If at any time the County of Whatcom shall improve or change any county road, right-of-way, or other county property subject to this franchise by grading or regrading, planking, or paving the same, changing the grade, altering, changing, repairing, or relocating the same, or by constructing drainage facilities, or in the event that such county road, right-of-way, or other county property subject to this franchise shall become a Primary State Highway as provided by law, the grantee upon written notice from the County Engineer, or the Director of Highways, shall, at it sole expense, immediately change the location or readjust the elevation of its transmission lines and other facilities so that the same shall not interfere with such county work and so that such lines and facilities

shall conform to such new grades or routes as may be established. The County of Whatcom shall in no ~~wise~~ way be held liable for any damages to said grantee that may occur by reason of any of the county's improvements, changes, or works above enumerated.

All work to be performed by the grantee under this section shall be under the direction and approval, and shall pass the inspection, of the County Engineer. The grantee shall pay all costs of and expenses incurred in the examination, inspection, and approval of such work.

IX

The laying, construction, operation, and maintenance of the grantee's transmission lines and facilities authorized by this franchise shall not preclude the County of Whatcom, its agents, or its contractors from blasting, grading, excavating, or doing other necessary road work contiguous to the said lines and facilities of the grantee provided that the grantee shall be given forty-eight (48) hours notice of said blasting or other work in order that the grantee may protect its lines and facilities.

X

Before any work is performed under this franchise which may affect any existing monuments or markers of any nature relating to subdivisions, plats, roads, and all other surveys, the grantee shall reference all such monuments and markers. The reference points shall be so located that they will not be disturbed during the grantee's operations under this franchise. The method of referencing these monuments or other points to be referenced shall be approved by the County Engineer. The replacement of all such monuments or markers disturbed during construction shall be made as expeditiously as conditions permit, and as directed by the County Road Engineer. The cost of monuments or other markers lost, destroyed, or disturbed, and the expense of replacement by approved monuments shall be borne by the grantee.

A complete set of reference notes for monuments and other ties shall be filed with the Whatcom County Road Engineer's Office.

XI

If at any time the County of Whatcom shall vacate any county road, right-of-way, or other county property which is subject to the rights granted by this franchise and said vacation shall be for the purpose of acquiring the fee or other property interest in said road, right-of-way, or other county property for the use of Whatcom County, in either its proprietary or governmental capacity, then the Board of County Commissioners for Whatcom County may at its option and by giving thirty (30) days written notice to the grantee terminate this franchise with reference to such county road, right-of-way, or other county property so vacated, and the County of Whatcom shall not be liable for any damages or loss to the grantee by reason of such termination.

XII

The grantee by acceptance of the privileges granted hereunder, does hereby agree to protect and save harmless the County of Whatcom from all claims, actions, or damages of every kind and description which may occur to or be suffered by any person or persons, corporation or property by reason of the construction, operation, and maintenance of the grantee's said transmission lines and facilities. In case that suit or action is brought against the County of Whatcom for damages arising out of or by reason of the above mentioned causes, the grantee will upon notice to him of the commencement of said action defend the same at its sole cost and expense, and in case judgement shall be rendered against the County of Whatcom in suit or action, the grantee will fully satisfy said judgement within ninety (90) days after said suit or action shall have finally been determined, if determined adversely to Whatcom County. Upon the grantee's failure to satisfy said judgement within ninety (90) days period, this franchise shall at once cease and terminate and the County of Whatcom shall have a lien upon the transmission lines and all other facilities used in the construction, operation, and maintenance of the grantee's transmission system which may be enforced against the property for the full amount of any such judgement so taken against Whatcom County.

Acceptance by the County of any work performed by the grantee at the time of completion shall not be a grounds for avoidance of this covenant.

XIII

This franchise shall not be deemed to be an exclusive franchise. It shall in no manner prohibit the County of Whatcom from granting other franchises of a like nature or franchises for other public or private utilities, under, along, across, over, and upon any of the county roads, rights-of-way, or other county property subject to this franchise, and shall in no wise prevent or prohibit the County of Whatcom from constructing, altering, maintaining, using, or vacating any of said roads, rights-of-way, drainage structures or facilities, irrigation structures or facilities, or any other county property, or affect its jurisdiction over them or any part of them with full power to make all necessary changes, relocations, repairs, maintenance, etc., the same as the county may deem fit.

XIV

All the provisions, conditions, regulations, and requirements herein contained shall be binding upon the successors and assigns of the grantee, and all privileges, as well as all obligations and liabilities of the grantee shall insure to its successors and assigns equally as if they were specifically mentioned wherever the grantee is mentioned.

XV

Neither this franchise nor any interest therein shall be sold, transferred or assigned without the previous consent in writing of the Board of County Commissioners of Whatcom County.

XVI

Whenever any of the county roads, rights-of-way, or other county property as designated in this franchise, by reason of the subsequent incorporation of any town or city, or extension of the limits of any town or city, shall fall within the city or town limits, this franchise shall continue in force and effect as to all county roads,

rights-of-way, or other county property not so included in city or town limits.

XVII

The grantee shall commence construction work under this franchise within six months after the effective date hereof after first securing all necessary approvals and permits. Five (5) years from the date of this franchise, the rights conferred hereby to the grantee may, at the election of the Board of Commissioners of Whatcom County, and pursuant to notice, be terminated with respect to those county roads, rights-of-way, and other county property or portions thereof upon which the grantee has not laid, constructed, and placed in operation its lines and facilities.

XVIII

In preparing plans and specifications for the installation of transmission lines along or across county roads and rights-of-way, the grantee shall use as a guide the standards and specifications established by the Whatcom County Engineer.

XIX

If the grantee shall wilfully violate, or fail to comply with any of the provisions of this franchise through wilful or unreasonable neglect, or fail to heed or comply with any notice given the grantee under the provisions of this grant, then the said grantee shall forfeit all rights conferred hereunder, and this franchise may be revoked or annulled by the Board of County Commissioners.

XX

Whatcom County reserves for itself the right at any time upon thirty (30) days written notice to the grantee, to so change, amend, modify, or amplify any of the provisions or conditions herein enumerated to conform to any state statute or departmental order or county regulation, relating to the public welfare, health, safety or highway regulation, as may hereafter be enacted, adopted or promulgated, and this franchise may be terminated at any time if the grantee's lines and facilities are not operated or maintained in accordance with such statute, order, or regulation.

XXI

At the time of granting this franchise, the grantee shall furnish a copy of, and during the life of this franchise keep in effect, a liability insurance policy covering all liability of the grantee to the county, including any assumed by contract between the grantee and any other party in the amount of $100,000/$300,000.

XXII

No priviliges or rights granted hereunder shall exempt grantee from any future uniform rent, license, tax, charge, or impost which may hereafter be required by the grantor, for revenue or as reimbursement for use and occupancy of public ways, and failure to timely remit any sums properly due thereby, shall be cause for forfeiture of rights hereunder.

DATED at Bellingham, Washington, this 9th day of Dec., 1974.

BOARD OF COUNTY COMMISSIONERS
WHATCOM COUNTY, WASHINGTON

_______________ Chairman

_______________ Commissioner

_______________ Commissioner

ATTEST: Wella Hansen, County Auditor and ex-officio Clerk of the Board.

By: _______________ Deputy

APPROVED AS TO FORM:

____
Deputy Whatcom County Prosecuting Attorney

ENTERED and executed copy delivered to the grantee this ________ day of ________________, 19___.

WELLA HANSEN, County Auditor and ex-officio Clerk of the Board

By: _______________
Deputy

EXHIBIT G-4

BEFORE THE BOARD OF COUNTY COMMISSIONERS OF
SKAGIT COUNTY, WASHINGTON

IN THE MATTER OF THE APPLICATION OF WHATCOM COUNTY WATER DISTRICT NO. 12 FOR A FRANCHISE OVER CERTAIN ROADS IN SKAGIT COUNTY, WASHINGTON.	)))))	ORDER GRANTING APPLICATION FOR FRANCHISE NO. 6579

The application of WHATCOM COUNTY WATER DISTRICT NO. 12, a municipal corporation in the State of Washington, for a franchise to construct, operate, and maintain a sewage force main in, over, along, and under Pacific Highway North (Old Highway 99) in said County, Washington, as hereinafter set forth having come on regularly for hearing before the County Commissioners of the said County, Washington, on the _____ day of _____, 19____, at the hour of _____ o'clock, _____, under the provisions of Chapter 187, State Session Laws of 1937, and it appearing to the Board that notice of said hearing has been duly given as required by law and that it is in the public interest to grant said franchise, it is hereby granted, NOW THEREFORE.

IT IS HEREBY ORDERED that a franchise be granted, and the same is hereby given to the WHATCOM COUNTY WATER DISTRICT NO. 12, a municipal corporation in the State of Washington, its successors and assigns, hereinafter referred to as the GRANTEE, for a period of twenty-five (25) years from and after the date of entry of this order to construct, operate, and maintain a sewage force main in, under, along, and over the right-of-way of Pacific Highway North (Old Highway 99) in said County, Washington.

This franchise is granted upon the express following terms and conditions:

FRANCHISE OF WHATCOM COUNTY WATER DISTRICT NO. 12

I. Grantee Given Franchise

The said WHATCOM COUNTY WATER DISTRICT NO. 12, its successors and assigns (hereinafter designated as the GRANTEE), shall have the right and authority to enter upon the County roads, rights-of-way and other County property for the purpose of constructing its sewage force main and all necessary facilities connected therewith (hereinafter referred to collectively as the FORCE MAIN) and for repairing, operating, and maintaining said force main.

II. Construction to be Approved by County Engineer

All construction and installation work where crossing County roads, rights-of-way, or other County property outside of the corporate limits of any incorporated town shall be subject to the approval of and pass the inspection of the County Engineer.

III. Detail Map, Specifications to be Filed, County Engineer to Approve All Construction

Prior to commencement of construction of any portion of said force main, Grantee shall first file with the County Engineer its

application for a permit to do such work, together with duplicate plans and specifications, showing the position, depth, and location of all lines and facilities sought to be constructed, laid, installed or erected at that time, which shows their relative position to existing County roads, rights-of-way, or other County property upon plans drawn to scale, hereinafter collectively referred to as the MAP OF DEFINITE LOCATION.

The force main shall be laid in substantial conformity with said map of definite location, except in instances where deviation may be allowed thereafter in writing by the County Engineer pursuant to application by Grantee. The plans and specifications shall designate the class and type of material and equipment to be used, manner of excavation, construction, installation, back fill, erection of temporary structures, erection of permanent structures, traffic control, traffic turnouts, road obstructions, etc. No such construction shall begin without the Grantee first securing a written permit from the County Engineer, including approval endorsed on one set of plans and specifications which will be returned to the Grantee. All such work shall be subject to the approval of and shall pass the inspection of the County Engineer. The Grantee shall pay all reasonable costs and expenses incurred in the examination, inspection, and approval of such work on account of granting the said permits.

IV. County Roads to be Replaced, Restoration Guaranteed by Bond

In any work which requires breaking of surface of the County roads, rights-of-way, or other County property subject to this franchise for the purpose of laying, relaying, connecting, disconnecting, and repairing the said force main and making connections between the same to structures and buildings of consumers, or making connections to other facilities of the Grantee now in existence or hereafter constructed, the Grantee shall be governed by and conform to the general rules adopted by the officers charged with the supervision and care of such County roads, rights-of-way, or other County property The Grantee at its own expense and with all convenient speed shall complete the work for which the surface has been broken and forthwith replace the work and make good the County road, right-of-way, or County property and leave the same in as good condition as before the work was commenced; PROVIDED, however, that no such breaking of the surface on the County roads, rights-of-way, or other County property shall be done prior to the obtaining of a permit issued by the County Engineer; PROVIDED, however, that in cases of emergency arising out of office hours when an immediate excavation may be necessary for protection of private property, the same shall be reported to the County Sheriff, and the necessary excavation may be amde upon the express condition that an application be made in the manner herein provided on or before noon of the next following business day. Application for such a permit shall be accompanied by specifications for the restoration of the County road, rights-of way, or other County property to the same condition as it was in prior to such breaking, and such specifications must be approved by the County Engineer before such breaking of the surface is commenced; PROVIDED further, that the County Engineer may require a performance bond in a sum sufficient to guarantee to said County that such County road, right-of-way, or other County property shall be restored to the same condition as it was in prior to such breaking of the surface. The amount of said bond will be fixed by the County Engineer. The Grantee shall pay all reasonable costs and expenses incurred in the examination, inspection, and approval of such restoration. The County Commissioners, upon notice to the Grantee, may at any time do, order, or have done any and all work that they consider necessary to restore to a safe condition any such County road, right-of-way, or other County property left by the Grantee or its agents in a condition dangerous to the life of property, and the Grantee, upon demand, shall pay to the county all costs of such work.

V. Utility Location Preference

All construction or installation of said force main, service repair, or relocation of the same, performed along or under the County roads, rights-of-way, or other County property subject to this franchise, shall be done in such a manner as not to interfere with the construction and maintenance of other utilities, public or private, drains, drainage ditches and structures, irrigation ditches and structures located therein, nor with grading or improvement of such County roads, rights-of-way, or other County property. The owners of all utilities, public or private, installed in such County roads, rights-of-way, or other County property prior in time to the lines and facilities of the Grantee shall have preference as to the positioning and location of such utilities so installed with respect to the Grantee. Such preference shall continue in the event of the necessity of relocating or changing the grade of any such County road or right-of-way.

VI. Minimum Interference with Public Travel, Grantee Liable for Damage

All work done under this franchise shall be done in a thorough and workmanlike manner. The Grantee shall leave trenches, ditches, and tunnels necessary in the laying of the force main, the openings of trenches, and the construction of other facilities in such a way as to interfere as little as possible with public travel and shall take all due and necessary precautions to guard the same so that damage or other injury shall not arise or occur by reason of such work; where any such trenches, ditches, or tunnels are left open at night, the Grantee shall place warning lights and barricades at such a position as to give adequate warning of such work. The Grantee shall be liable for any injury to person or persons or damage to property sustained through its carelessness or neglect or through any failure or neglect to properly guard or give warning of any trenches, ditches, or tunnels dug or maintained by the Grantee.

VII. All County Road Rights Reserved

The said County, in granting this franchise, does not waive any rights which it now has or may hereafter acquire with respect to County roads, rights-of-way, or other County property, and this franchise shall not be construed to deprive the County of any powers, rights, or privileges which it now has or may hereafter acquire to regulate the use of and to control the County roads, rights-of-way, and other County property covered by this franchise.

VIII. County May Change and Improve Roads without Liability

If at any time the said County shall improve or change any County road, right-of-way, or other County property subject to this franchise by grading or regrading, planking or paving the same, changing the grade, altering, changing, repairing or relocating the same, or by construction of drainage facilities, the Grantee, upon written notice from the County Engineer, shall, at his sole expense and with all convenient speed, change the location or readjust the elevation of its force main and other facilities so that the same shall not interfere with such County work and so that such lines and facilities shall conform to such new grades or routes as may be established. The said County shall in no wise be held liable for any damage to said Grantee that may occur by reason of any of the County's improvements, changes, or works above enumerated, except for damage caused by negligence of the County's employees or agents.

All work performed by the Grantee under this section shall be under the direction and approval of the County Engineer and shall pass his inspection. The Grantee shall pay all reasonable costs and expenses incurred in the examination, inspection, and approval of such work.

IX. Blasting by County on Notice

The laying, construction, operation, and maintenance of the Grantee's force main authorized by this franchise shall not preclude the said County, its agents, or its contractors from blasting, grading, excavating, or doing other necessary road work contiguous to the said lines and facilities of the Grantee provided that the Grantee shall be given forty-eight (48) hours notice of said blasting or other work.

X. Reference, Monuments, Markers

Before any work is performed under this franchise which may affect any existing monuments or markers of any nature relating to subdivisions, plats, roads, and all other surveys, the Grantee shall reference all such monuments and markers. The reference points shall be so located that they will not be disturbed during the Grantee's operations under this franchise. The method of referencing these monuments or other points to be referenced shall be approved by the County Engineer. The replacement of all such monuments or markers disturbed during construction shall be made as expeditiously as conditions permit and as directed by the County Engineer. The cost of monuments or other markers lost, destroyed, or disturbed and the expense of replacement by approved monuments shall be borne by the Grantee.

XI. Vacation of County Roads, Alternate Route

If at any time said County shall vacate any County road, right-of-way, or other County property which is subject to rights granted by this franchise and said vacation shall be for the purpose of acquiring the fee or other property interest in said road, right-of-way, or other County property for the use of said County, in either its proprietary or governmental capacity, then the Board of County Commissioners for said County may at their option, by giving thirty (30) days written notice to the Grantee and after granting an alternate route, terminate this franchise with reference to such County road, right-of-way, or other County property so vacated, and said County shall not be liable for any damages or loss to the Grantee by reason of such termination.

XII. Grantee to Indemnify County, Liability Insurance

The Grantee does hereby agree to protect and save harmless said County from all claims, actions, or damages of every kind and description which may be asserted against such County by reason of the Grantee's acts in connection with the construction, operation, and maintenance of said force main. In case that suit or action is brought against said County for damages arising out of or by reason of the above-mentioned causes, the Grantee will upon notice to him of the commencement of said action defend the same at its sole cost and expense. In case a final judgment shall be rendered against the County in such suit or action, the Grantee will fully satisfy said judgment within ninety (90) days after said suit or action shall have finally been determined by a trial court, or appellate court, or courts if appeal be taken, if determined adversely to said County. Upon Grantee's failure to satisfy said final judgment within the ninety (90) day period, the Board of County Commisssioners may upon due notice terminate this franchise, and the said County shall have a lien upon the force main which may be enforced against the property for the full amount of any such final judgment so taken against said County.

For the purpose of securing to the County full and complete performance of the covenants contained in this paragraph, the Grantee shall, at its own expense, procure and keep in force during the life of this franchise liability insurance in a company or companies to be approved by the County, the minimum limits of such insurance to be not less than $500,000 and proof of existence of such insurance shall be furnished to the County before or contemporaneously with the commencement of construction under the terms of this franchise, and such additional proof thereof shall be furnished the County from time to time as it shall require, but in no event less than annually.

Acceptance by the County of any work performed by the Grantee at the time of completion shall not be grounds for avoidance of this covenant.

XIII. Franchise Not Exclusive

This franchise shall not be deemed to be an exclusive franchise. It shall in no manner prohibit said County from granting other franchises of a like nature or franchises for other public or private utilities under, along, across, over, and upon any of the County roads, rights-of-way, or other county property subject to this franchise and shall in no wise prevent or prohibit said County from constructing, altering, or using any of said roads, rights-of-way, drainage structures or facilities, irrigation structures or facilities, or any other County property, or affect its jurisdiction over them or any part of them with full power to make all necessary changes, relocations, repairs, maintenance, etc., the same as the County may deem fit.

XIV. Provisions Hereof Bind Successor

All provisions, conditions, regulations, and requirements herein contained shall be binding upon the successors and assigns of the Grantee, and all privileges, as well as all obligations and liabilities of the Grantee, shall inure to its successors and assigns equally as if they were specifically mentioned wherever the Grantee is mentioned.

XV. Rural Roads Going into Cities

Whenever any of the County roads, rights-of-way, or other County property, as designated in this franchise, by reason of the subsequent incorporation of any town or city, or extension of the limits of any town or city, shall fall within the city or town limits, then upon Grantee obtaining a franchise from said city or town, this franchise shall terminate in respect to said roads, rights-of-way, or other County property not so included in city or town limits.

XVI. Construction Within Limited Time

The Grantee shall commence construction work under this franchise within twenty-four (24) months after the effective date hereof after first securing the necessary approvals and permits from said County Engineer.

XVII. Highway Commission Rules to be Followed

In preparing plans and specifications for the installation of the force main across paved County roads or other roads or rights-of-way, as designated by the County Engineer, where said lines

have a diameter of four inches (4") or more, the Grantee shall use as a guide and reference the STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION established by the Washington State Highway Commission and amendments thereto.

PROVIDED: That, where pipe is required to be encased, it shall be encased for the full width of the right-of-way at the point of crossing.

All plans and specifications for County road crossings shall be subject to approval of the County Engineer.

Notwithstanding the provisions of this section, the County Engineer may require or permit modifications of such specifications referred to in this section and approve such plans and specifications submitted by the Grantee in applying for a permit for such work.

XVIII. Revocation for Non-Compliance

If the Grantee shall willfully violate or fail to comply with any of the provisions of this franchise through willfull or unreasonable neglect or failure to heed or comply with any notice given the Grantee under the provisions of this grant, then the said Grantee shall forfeit all rights conferred hereunder, and this franchise may be revoked or annulled by the Board of County Commissioners; PROVIDED, however, that the Board of County Commissioners shall give thirty (30) days written notice of its intention to revoke or annul the franchise during which period the Grantee shall have the opportunity to remedy the situation.

XIX. Public Service Commission Regulation to be Obeyed

Said County reserves for itself the right at any time upon ninety (90) days written notice to the Grantee to so change, amend, modify, or amplify any of the provisions or conditions herein enumerated to conform to any state statute, order of the Washington Public Service Commission, or County regulation relating to the public welfare, health, safety, or highway regulation as may hereafter be enacted, adopted, or promulgated, and this franchise may be terminated at any time upon thirty (30) days written notice if the Grantee's lines and facilities are not operated or maintained in accordance with such statute or regulation.

XX. Grantee to File Acceptance

The full acceptance of this franchise and all its terms and conditions within thirty (30) days from the date of execution by the County Board of Commissioners by Whatcom County Water District No. 12 in writing is to be filed with the Clerk of the Board of County Commissioners of said County and shall be a condition precedent to its taking effect and, unlesss the franchise is accepted within such time, this grant shall be null and void.

XXI. Notifications Sent to Grantee

The address of the Grantee is WHATCOM COUNTY WATER DISTRICT NO. 12, 235 Friday Creek Road, Bellingham, Washington 98225.

Any notification required to be given to the Grantee may be given to the address above stated, provided that the Grantee may from time to time notify said County in writing of a change of address to which notifications are to be sent.

DATED at Mount Vernon, Washington, this 15 day of April, 1975.

BOARD OF SKAGIT COUNTY COMMISSIONERS, SKAGIT COUNTY, WASHINGTON

ATTEST:

CLERK, BOARD OF COUNTY COMMISSIONERS

APPROVED:

PROSECUTING ATTORNEY FOR SKAGIT COUNTY, WASHINGTON

APPROVED:

WHATCOM COUNTY WATER DISTRICT NO. 12

PRESIDENT

ATTEST:

SECRETARY

Exhibit H – Master Fees & Charges Schedule

SAMISH WATER DISTRICT **EXHIBIT H**

MASTER FEES & CHARGES FEE SCHEDULE

(Effective October 1, 2019)

ITEM	ITEM DESCRIPTION	FEE / CHARGE	REFERENCE
1	**BILLING - SEWER RATES**		
	Residential - Inside [1]	65.72 (1 LUE)	Res 07-13
	Residential Outside [2]	$89.76	Res 07-13
	Commercial Inside [1]	$65.72 (1 LUE) plus $10.77 per 100 cubic feet	Res 07-13
	Commercial Outside [2]	$89.76 plus $14.73 per 100 cubic feet	Res 07-13
2	**DELINQUENCY**		
	Late charge (if not paid within 30 days)	10% of monthly billing amount	Res 01-03
	Penalty charge (if not paid within 60 days)	variable prime rate (currently 3.5%)+4% of delinquent balance	Res 09-03
3	**BANK**		
	Not Sufficient Funds (NFS) Checks	$50	Res 04-11
4	**SEWER CONNECTION**		
	Lake Samish Collection System - Connection to Lake Samish Collection System (Wheeling & Treatment)	$5,183	Res 02-16
	Administrative (New Connection)	$150	Res 05-13
	Burlington Force Main Connection (Residential dwellings only/not garages)	$4,705	
	Burlington Force Main (Commercial)	variable	
	Engineering (Commercial)	*Reimburse District Costs*	Res 08-11
	Legal (Commercial)	*Reimburse District Costs*	Res 08-11
5	**PERMITTING**		
	30 day Permit Extension (after 90 days)	$15	Res 12-96
	Capping Of Sewer	$50	Res 04-05
	Repair of Service Line	$50	Res 04-05
	Inspection of Service Line Connection	$130	Res 12-96
	Reinspection (Complex Connection)	$30	Res 12-96
6	**ADMINISTRATIVE / OTHER**		
	Letter of Sewer Service Availability	$150	Res 05-13
	Sewer Service Agreement	$150	Res 05-13
	Notary	$10	Res 08-13
	Photocopy	$.15 letter $.25 legal	Res 04-11
	Lake Samish Bathymetric Map	$28	
	After Hours Call-Out (private systems)	$150 for up to 2 hours $75 each additional hour	Res 01-13
	Title Transfer Fee	$50	Res 03-13

Notes:

1. "Inside" = Inside Whatcom County District Boundary, (Upstream of SWD WWTP)
2. "Outside" Outside Whatcom County District Boundary, (Downstream of SWD WWTP)

Living Unit Equivalents (LUE) Factors

For the purpose of establishing living unit equivalents (LUE) for connection charges the following table shall apply. Each Living unit will, for the purpose of this chapter, be considered to have an average of 1.85 persons.

1. Single-family dwellings: For each single-family dwelling, one LUE.
2. Multiple-family residences: For each residential unit, one LUE.
3. Mobile Home Park or Trailer Court: For each space in a mobile home park or trailer court or other premises where water and sewer service is available to a space which is used or may be used for living purposes, on a full or part-time basis, one LUE.
4. Recreational Vehicle Park or Camping Trailer Park (not intended for general year round use i.e. camping type): For each space in a camping mobile home park or trailer park or other premises where water and/or sewer service is available to a space which is used or may be used for living purposes, on a part-time basis, one-third LUE.
5. Campgrounds with a Central Water and Sewer Service: For each space in a campground used for camping on a full or part-time basis, one-third LUE.
6. Motel or Hotel: For each room or fraction thereof, three-fourths LUE.
7. Restaurant: For each four seats or fraction thereof, one LUE.
8. Bar or Cocktail Lounge: For each ten seats or fraction thereof, one LUE.
9. Retail Store or Office: For each ten full time employees or fraction thereof, one LUE.
10. Public or Private Elementary Schools, High Schools or Colleges:
    a. Boarding Type: For each two persons or fraction thereof in average full-time attendance, one LUE.
    b. With Cafeteria, Without Showers: For each eighteen (18) persons or fraction thereof in average daily full-time attendance, one LUE.
    c. With Cafeteria and Showers: For each twelve (12) persons or fraction thereof, one LUE.

    Note: Average daily attendance shall be based on annual attendance. 'Persons' as used in this exhibit include students, teachers and all school staff and administration.
11. Theater and Auditorium: For each thirty-seven (37) seats or fraction thereof, one LUE.
12. Churches: For each one hundred (100) seats or fraction thereof, one LUE.

13. Laundromats or Self-Service Laundry: For each washing machine in a commercial laundromat or self-service laundry or in any other washing facility, the use of which is not strictly limited to occupants of the residential building, trailer court or mobile home park in or on which the facility is located, 27 LUEs.
14. Hospital: For each bed in a hospital, 1.6 LUEs.
15. Nursing Home: For each bed in a nursing home or similar facility, one LUE.
16. Home for the Aged: For each two beds in the home or similar facility, one LUE.
17. Gasoline Service Station: For each gasoline service station with public restrooms, three LUEs.
18. Combined Facilities: For each property which has more than one business or function on one sewer or water system, the number of LUEs will be charged that is the combined sum of the individual which are applicable to each business or function involved.
19. When a customer is not specifically listed above, the district or its designee may determine which category the customer most closely resembles in quantity of water used and quantity and quality of sewage output, and classify each customer accordingly.
20. Where a property is devoted to a business involving special water consuming devices or equipment, the district or its designee may establish the number of LUEs based on the quantity of water used and the quantity and quality of sewage output.
21. Minimum charge for each facility is one LUE, unless specifically specified otherwise.

Exhibit I – Capital Improvement Plan

SAMISH WATER DISTRICT
Sewer Comprehensive Plan - 2022 Update
Exhibit I - Capital Improvement Plan 2023 thru 2032
Prepared by: E.A. Sterling, Wilson Engineering LLC
Date: May 2023

Project No.	Future Improvement Project - Description	Work to be Performed by	Total	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
A. Operational and Maintenance Improvements													
1	Lake Samish Treatment Lagoons – Sludge Monitoring Program	Staff/Contractor	11,000	5,000		6,000							
2	CTV Inspection & Vac Cleaning	Staff/Contractor	138,164	10,000	10,700	11,449	12,250	13,108	14,026	15,007	16,058	17,182	18,385
3	Smoke Testing Program	Staff/Contractor	24,000	8,000	8,000	8,000							
4	District Office Roof Replacement	Staff/Contractor	130,000	40,000									90,000
5	Periodic Tree Trimming	Staff/Contractor	16,500			5,000			5,500			6,000	
B. Administration, Financial and System Investments													
1	Geographical Information System (GIS) Development	Staff/Engineer	83,299	15,000	17,000	5,000	5,350	5,725	6,125	6,554	7,013	7,504	8,029
2	Connection Fee & Rate Study	Staff/Rate Consultant	70,000		30,000					40,000			
3	Vehicle Replacement (3 Vehicles in Fleet)	Staff	187,000		52,000				60,000				75,000
4	Computer & Server Upgrades	Staff	22,000			10,000					12,000		-
5	Office Software Upgrades	Staff	22,000			10,000					12,000		
C. System Reinvestment - Sewer													
1	North Lake Samish Force Main Rebuild - Bid/Construct Support (SFR)		730,000										
	Bidding & Construction Phase Support	Staff/Engineer			40,000	40,000							
	Bidding & Construction - (SRF Loan Repayment)	Staff/Engineer					50,000	100,000	100,000	100,000	100,000	100,000	100,000
2	SCADA & Telemetry Panel Upgrades - All Pump Stations		605,000										
	Engineering & Bidding/Construction Support	Staff/Engineer			20,000	20,000							
	Bidding & Construction	Staff/Engineer/Contractor			282,500	282,500							
3	Miscellaneous Sewer Line & Manhole Replacement and Repair	Staff/Engineer/Contractor	276,329	20,000	21,400	22,898	24,501	26,216	28,051	30,015	32,116	34,364	36,769
4	Miscellaneous Pump Station Repairs	Staff/Engineer/Contractor	276,329	20,000	21,400	22,898	24,501	26,216	28,051	30,015	32,116	34,364	36,769
5	Wasterwater Treatment Lagoons Rebuild		979,500										
	Feasiblilty Reporting & Monitoring	Staff/Engineer		34,500									
	Engineering Design & Permitting	Staff/Engineer			75,000	25,000							
	Funding	Staff/Engineer			15,000								
	Bidding & Construction Phase Support	Staff/Engineer/Contractor				40,000	40,000						
	Bidding & Construction - (SRF Loan Repayment)	Staff/Engineer/Contractor						125,000	125,000	125,000	125,000	125,000	125,000

Exhibit J – Asset Inventory

	Samish Water District Exhibit J - Asset Inventory			**12/1/2022**		**Number of Connections or ERUs**		**540**	**Total Equity:**	**$9,066,377**	**Connection Fee:**		**$16,790**	**Monthly Cost Per Unit to Reserves:**			**$0.00**	
														Annual $$ to Reserves:			**$0**	
										Reserve Cash Applied:				**#NUM!**				
	2022	**Calculated Replacement Life**						**Calculated Equity**					**No Calculation**			**Replacement Cost**		
	Asset and Description **V16**	**Quantity**	**Unit**	**Install Date**	**Est. Life**	**Critical Number**	**Calc Remain Life**	**Original Cost**	**Book Value Original $$**	**Replace Cost**	**Infl. Rate**	**Accum Loss of Value (Dep)**	**Debt and Grants**	**Equity**	**Cash Replace ?**	**Saving Acc't Interest**	**Future Cost**	
				Year	**Years**	**1 to 5 Tab A**	**Years**	**Cost $**	**Value $**	**Cost $**	**%**	**Loss $**	**Value $**	**Value $**	**X**	**%**	**Value $**	
	LAKE SAMISH COLLECTION SYSTEM																	
	Roy Road																	
	Manholes	20	EA	1975	80	5	33.0	$24,000	$39,718		3.0%	$56,568		$39,718		0.1%	$255,381	
	4" FM	618	LF	1975	80	5	33.0	$24,720	$40,909		3.0%	$58,265		$40,909		0.1%	$263,043	
	8" Pipe	1831	LF	1975	80	5	33.0	$109,860	$181,808		3.0%	$258,939		$181,808		0.1%	$1,169,008	
	10" Pipe	1775	LF	1975	80	5	33.0	$106,500	$176,248		3.0%	$251,019		$176,248		0.1%	$1,133,255	
	Pump Station 7																	
	Top-Mount Package Pumps	2	EA	2003	30	2	11.0	$65,000	$41,792		3.0%	$72,186		$41,792		0.1%	$157,772	
	Site Improvements	1	LS	2003	30	4	11.0	$8,000	$5,144		3.0%	$8,884		$5,144		0.1%	$19,418	
	Electric/SCADA	1	LS	2003	30	2	11.0	$10,000	$6,430		3.0%	$11,106		$6,430		0.1%	$24,273	
	Pump Station 7A																	
	Top-Mount Package Pumps	2	EA	2003	30	2	11.0	$65,000	$41,792		3.0%	$72,186		$41,792		0.1%	$157,772	
	Site Improvements	1	LS	2003	30	4	11.0	$2,000	$1,286		3.0%	$2,221		$1,286		0.1%	$4,855	
	Electric/SCADA	1	LS	2003	30	2	11.0	$10,000	$6,430		3.0%	$11,106		$6,430		0.1%	$24,273	
	Pump Station 8																	
	Top-Mount Package Pumps	2	EA	2003	30	2	11.0	$65,000	$41,792		3.0%	$72,186		$41,792		0.1%	$157,772	
	Site Improvements	1	LS	2003	30	4	11.0	$8,000	$5,144		3.0%	$8,884		$5,144		0.1%	$19,418	
	Flow Meter	1	LS	2003	30	2	11.0	$10,000	$6,430		3.0%	$11,106		$6,430		0.1%	$24,273	
	Flow Meter	1	LS	2003	30	2	11.0	$10,000	$6,430		3.0%	$11,106		$6,430		0.1%	$24,273	
	Electric/SCADA	1	LS	2003	25	2	6.0	$10,000	$4,208		3.0%	$13,327		$4,208		0.1%	$20,938	
	West Lake Samish																	
	Manholes	62	EA	1975	80	5	33.0	$74,400	$123,125		3.0%	$175,360		$123,125		0.1%	$791,682	
	6" Pipe	150	LF	1975	80	5	33.0	$7,500	$12,412		3.0%	$17,677		$12,412		0.1%	$79,807	
	8" Pipe	6081	LF	1975	80	5	33.0	$364,860	$603,809		3.0%	$859,971		$603,809		0.1%	$3,882,435	
	10" Pipe	2254	LF	1975	80	5	33.0	$135,240	$223,810		3.0%	$318,759		$223,810		0.1%	$1,439,074	
	12" Pipe	6330	LF	1975	80	5	33.0	$506,400	$838,045		3.0%	$1,193,579		$838,045		0.1%	$5,388,547	
	18" Pipe	1338	LF	1975	80	5	33.0	$107,040	$177,141		3.0%	$252,292		$177,141		0.1%	$1,139,001	
	Pump Station 5																	
	Top-Mount Package Pumps	2	EA	2003	30	2	11.0	$65,000	$41,792		3.0%	$72,186		$41,792		0.1%	$157,772	
	Pier Access & Lake Manhole	1	LS	2003	30	2	11.0	$17,000	$10,930		3.0%	$18,879		$10,930		0.1%	$41,263	
	Stairway Access	1	LS	2003	30	4	11.0	$13,000	$8,358		3.0%	$14,437		$8,358		0.1%	$31,554	
	Electric/SCADA	1	LS	2003	30	2	11.0	$10,000	$6,430		3.0%	$11,106		$6,430		0.1%	$24,273	
	Pump Station 6																	
	Top-Mount Package Pumps	2	EA	2003	30	2	11.0	$65,000	$41,792		3.0%	$72,186		$41,792		0.1%	$157,772	
	Pier Access & Lake Manhole	1	LS	2003	30	2	11.0	$10,000	$6,430		3.0%	$11,106		$6,430		0.1%	$24,273	
	Electric/SCADA	1	LS	2003	30	2	11.0	$10,000	$6,430		3.0%	$11,106		$6,430		0.1%	$24,273	
	North Lake Samish																	
	Manholes	35	EA	1975	80	5	33.0	$42,000	$69,506		3.0%	$98,994		$69,506		0.1%	$446,917	
	8" Pipe	400	LF	1975	80	5	33.0	$24,000	$39,718		3.0%	$56,568		$39,718		0.1%	$255,381	
	12" Pipe	8652	LF	1975	80	5	33.0	$692,160	$1,145,460		3.0%	$1,631,413		$1,145,460		0.1%	$7,365,199	
	8" FM	1245	LF	1975	80	5	33.0	$99,600	$164,829		3.0%	$234,756		$164,829		0.1%	$1,059,833	
	10" FM	1104	LF	1975	80	5	33.0	$99,360	$164,432		3.0%	$234,190		$164,432		0.1%	$1,057,279	
	Pump Station 1																	
	Duplex Submersible Pump Station	2	EA	2009	30	2	17.0	$102,000	$84,881		3.0%	$64,909		$84,881		0.1%	$247,581	
	Valve Vault	1	EA	2009	30	2	17.0	$20,000	$16,643		3.0%	$12,727		$16,643		0.1%	$48,545	
	Site Improvements & Bldg	1	LS	2009	30	4	17.0	$26,000	$21,636		3.0%	$16,545		$21,636		0.1%	$63,109	
	Bioxide System	1	LS	2009	30	2	17.0	$15,000	$12,483		3.0%	$9,545		$12,483		0.1%	$36,409	
	Electric/SCADA	1	LS	2009	30	2	17.0	$18,000	$14,979		3.0%	$11,455		$14,979		0.1%	$43,691	
	Pump Station 2																	
	Top-Mount Package Pumps	2	EA	2003	30	2	11.0	$50,000	$32,148		3.0%	$55,528		$32,148		0.1%	$121,363	
	Pier Access & Lake Manhole	1	LS	2003	30	2	11.0	$8,000	$5,144		3.0%	$8,884		$5,144		0.1%	$19,418	
	Generator System	1	LS	2009	30	2	17.0	$37,400	$31,123		3.0%	$23,800		$31,123		0.1%	$90,780	
	Electric/SCADA	1	LS	2003	30	2	11.0	$10,000	$6,430		3.0%	$11,106		$6,430		0.1%	$24,273	
	East Lake Samish																	
	Manholes	36	EA	1975	80	5	33.0	$43,200	$71,492		3.0%	$101,822		$71,492		0.1%	$459,686	
	8" Pipe	1659	LF	1975	80	5	33.0	$99,540	$164,729		3.0%	$234,615		$164,729		0.1%	$1,059,194	
	10" Pipe	198	LF	1975	80	5	33.0	$11,880	$19,660		3.0%	$28,001		$19,660		0.1%	$126,414	
	12" Pipe	6670	LF	1975	80	5	33.0	$533,600	$883,058		3.0%	$1,257,689		$883,058		0.1%	$5,677,979	
	16" Pipe	435	LF	1975	80	5	33.0	$34,800	$57,591		3.0%	$82,023		$57,591		0.1%	$370,303	
	Pump Station 3																	
	Duplex Submersible Pump Station	2	EA	2009	30	2	17.0	$98,000	$81,553		3.0%	$62,364		$81,553		0.1%	$237,872	
	Valve Vault	1	EA	2009	30	2	17.0	$20,000	$16,643		3.0%	$12,727		$16,643		0.1%	$48,545	
	Generator System	1	LS	2009	30	2	17.0	$37,400	$31,123		3.0%	$23,800		$31,123		0.1%	$90,780	
	Electric/SCADA	1	LS	2009	30	2	17.0	$18,000	$14,979		3.0%	$11,455		$14,979		0.1%	$43,691	
	TREATMENT LAGOONS																	
	Pump Station 4A																	
	Duplex Submersible Pump Station	2	EA	2016	30	2	24.0	$200,600	$191,622		3.0%	$47,905		$191,622		0.1%	$486,909	
	Valve Vault	1	LS	2016	30	2	24.0	$12,000	$11,463		3.0%	$2,866		$11,463		0.1%	$29,127	
	Generator Building	1	LS	2016	30	2	24.0	$113,400	$108,324		3.0%	$27,081		$108,324		0.1%	$275,252	
	Flow Meter	1	LS	2016	30	2	24.0	$32,000	$30,568		3.0%	$7,642		$30,568		0.1%	$77,672	
	Electric/SCADA	1	LS	2016	30	2	24.0	$44,000	$42,031		3.0%	$10,508		$42,031		0.1%	$106,800	
	Pump Station 4B																	
	Duplex Submersible Pump Station	2	EA	2016	30	2	24.0	$226,000	$215,885		3.0%	$53,971		$215,885		0.1%	$548,561	
	Valve Vault	1	LS	2016	30	2	24.0	$12,000	$11,463		3.0%	$2,866		$11,463		0.1%	$29,127	
	Flow Meter	1	LS	2016	30	2	24.0	$32,000	$30,568		3.0%	$7,642		$30,568		0.1%	$77,672	
	Sampling Station Bldg	1	LS	2016	30	2	24.0	$24,000	$22,926		3.0%	$5,731		$22,926		0.1%	$58,254	
	Electric/SCADA	1	LS	2016	30	2	24.0	$44,000	$42,031		3.0%	$10,508		$42,031		0.1%	$106,800	
	Lagoon / Infrastructure																	
	Flow Splitter	1	EA	2016	50	1	44.0	$27,000	$28,371		3.0%	$3,869		$28,371		0.1%	$118,365	
	Lagoon A	1	EA	1975	50	5	3.0	$225,000	$54,161		3.0%	$848,516		$54,161	X	0.1%	$986,379	
	Lagoon B	1	EA	1975	50	5	3.0	$225,000	$54,161		3.0%	$848,516		$54,161	X	0.1%	$986,379	
	Outbox A	1	LS	2016	50	2	44.0	$13,000	$13,660		3.0%	$1,863		$13,660		0.1%	$56,991	
	Outbox B	1	LS	2016	50	2	44.0	$13,000	$13,660		3.0%	$1,863		$13,660		0.1%	$56,991	
	BURLINGTON FORCE MAIN COLLECTION SYSTEM																	
	Burlington Force Main																	
	8" Force Main (O'Leary Slough)	120	LF	1975	60	5	13.0	$25,000	$21,731		3.0%	$78,566		$21,731		0.1%	$147,290	
	12" Force Main	72200	LF	1975	60	5	13.0	$850,000	$738,857		3.0%	$2,671,253		$738,857		0.1%	$5,007,863	
	Air / Vac Stations	21	EA	2003	25	2	6.0	$4,595	$1,934		3.0%	$6,124		$1,934		0.1%	$9,621	
	Inline Valves	27	EA	2006	25	2	9.0	$9,000	$5,199		3.0%	$9,243		$5,199		0.1%	$18,844	
	Customer Service Valves	45	EA	2003	25	2	6.0	$2,000	$842		3.0%	$2,665		$842		0.1%	$4,188	
	Alger / Cain Lake Rd. Force Main																	
	5"/6" Force Main	21120	LF	1980	60	5	18.0	$220,000	$228,406		3.0%	$532,947		$228,406		0.1%	$1,296,153	
	Pump Station 9 - Whatcom Meadows																	
	Duplex Submersible Pump Station	1	EA	2009	30	2	17.0	$62,200	$51,761		3.0%	$39,582		$51,761		0.1%	$150,976	
	Valve Vault	1	LS	2009	30	2	17.0	$12,000	$9,986		3.0%	$7,636		$9,986		0.1%	$29,127	
	Flow Meter	1	LS	2009	30	2	17.0	$20,000	$16,643		3.0%	$12,727		$16,643		0.1%	$48,545	
	Site Improvements	1	LS	2009	30	4	17.0	$33,600	$27,961		3.0%	$21,382		$27,961		0.1%	$81,556	
	Electric/SCADA	1	LS	2009	30	2	17.0	$18,000	$14,979		3.0%	$11,455		$14,979		0.1%	$43,691	

1	**Samish Water District Exhibit J - Asset Inventory**			**12/1/2022**		**Number of Connections or ERUs**		**540**	**Total Equity:**	**$9,066,377**	**Connection Fee:**		**$16,790**		**Monthly Cost Per Unit to Reserves:**			**$0.00**
2															**Annual $$ to Reserves:**			**$0**
3										**Reserve Cash Applied:**					**#NUM!**			
4	**2022**	**Calculated Replacement Life**						**Calculated Equity**						**No Calculation**		**Replacement Cost**		
5	**Asset and Description** **V16**	**Quantity**	**Unit**	**Install Date**	**Est. Life**	**Critical Number**	**Calc Remain Life**	**Original Cost**	**Book Value Original $$**	**Replace Cost**	**Infl. Rate**	**Accum Loss of Value (Dep)**	**Debt and Grants**	**Equity**	**Cash Replace ?**	**Saving Acc't Interest**	**Future Cost**
6				**Year**	**Years**	**1 to 5 Tab A**	**Years**	**Cost $**	**Value $**	**Cost $**	**%**	**Loss $**	**Value $**	**Value $**	**X**	**%**	**Value $**
7																	
107	**Buggia Force Main**																
108	4" Force Main	3400	LF	2001	60	2	39.0	$72,000	$87,062		3.0%	$46,879		$87,062		0.1%	$424,195
109	**Pump Station 10 - Alger**																
110	Top-Mount Package Pumps	1	EA	2009	30	2	17.0	$34,216	$28,473		3.0%	$21,774		$28,473		0.1%	$83,051
111	Valve Vault	1	LS	2009	30	2	17.0	$8,000	$6,657		3.0%	$5,091		$6,657		0.1%	$19,418
112	Flow Meter	1	LS	2009	30	2	17.0	$12,000	$9,986		3.0%	$7,636		$9,986		0.1%	$29,127
113	Electric/SCADA	1	LS	2009	30	2	17.0	$10,000	$8,322		3.0%	$6,364		$8,322		0.1%	$24,273
114	**Thousand Trails**																
115	Collection System	1	LS	1989	50	5	17.0	$75,000	$67,635		3.0%	$131,291		$67,635		0.1%	$328,793
116	3"/4" Force Main	6500	LF	1989	50	5	17.0	$162,500	$146,542		3.0%	$284,463		$146,542		0.1%	$712,385
117	**Pump Station 11**																
118	Duplex Submersible Pump Station	1	EA	2009	30	2	17.0	$90,500	$75,311		3.0%	$57,591		$75,311		0.1%	$219,667
119	Valve Vault	1	LS	2009	30	2	17.0	$14,000	$11,650		3.0%	$8,909		$11,650		0.1%	$33,982
120	Flow Meter	1	LS	2009	30	2	17.0	$20,000	$16,643		3.0%	$12,727		$16,643		0.1%	$48,545
121	Site Improvements	1	LS	2009	30	4	17.0	$20,000	$16,643		3.0%	$12,727		$16,643		0.1%	$48,545
122	Electric/SCADA	1	LS	2009	30	2	17.0	$26,500	$22,052		3.0%	$16,864		$22,052		0.1%	$64,322
123	**Pump Station 12**																
124	Duplex Submersible Pump Station	1	EA	2009	30	2	17.0	$90,500	$75,311		3.0%	$57,591		$75,311		0.1%	$219,667
125	Valve Vault	1	LS	2009	30	2	17.0	$14,000	$11,650		3.0%	$8,909		$11,650		0.1%	$33,982
126	Site Improvements	1	LS	2009	30	4	17.0	$20,000	$16,643		3.0%	$12,727		$16,643		0.1%	$48,545
127	Electric/SCADA	1	LS	2009	30	2	17.0	$26,500	$22,052		3.0%	$16,864		$22,052		0.1%	$64,322
128	**Pump Station 13**																
129	Duplex Submersible Pump Station	1	EA	2009	30	2	17.0	$90,500	$75,311		3.0%	$57,591		$75,311		0.1%	$219,667
130	Valve Vault	1	LS	2009	30	2	17.0	$14,000	$11,650		3.0%	$8,909		$11,650		0.1%	$33,982
131	Site Improvements	1	LS	2009	30	4	17.0	$20,000	$16,643		3.0%	$12,727		$16,643		0.1%	$48,545
132	Electric/SCADA	1	LS	2009	30	2	17.0	$26,500	$22,052		3.0%	$16,864		$22,052		0.1%	$64,322
133	**WSDOT Rest Area**																
134	**Pump Station 14**																
135	Submersible Grinder Pump Station	1	EA	2003	25	2	6.0	$80,000	$33,667		3.0%	$106,613		$33,667		0.1%	$167,502
136	Electric/SCADA	1	LS	2003	25	2	6.0	$10,000	$4,208		3.0%	$13,327		$4,208		0.1%	$20,938
137	**Pump Station 15**																
138	Submersible Grinder Pump Station	1	EA	2003	25	2	6.0	$80,000	$33,667		3.0%	$106,613		$33,667		0.1%	$167,502
139	Bioxide System	1	LS	2005	25	2	8.0	$20,000	$10,578		3.0%	$22,479		$10,578		0.1%	$41,876
140	Electric/SCADA	1	LS	2003	25	2	6.0	$10,000	$4,208		3.0%	$13,327		$4,208		0.1%	$20,938
141	**Skagit Speedway**																
142	3" Force Main	350	LF	1985	60	5	23.0	$12,250	$14,018		3.0%	$22,551		$14,018		0.1%	$72,172
143	**Pump Station 16**																
144	Submersible Grinder Pump Station	1	EA	2005	25	2	8.0	$45,000	$23,801		3.0%	$50,577		$23,801		0.1%	$94,220
145	Flow Meter	1	EA	2005	25	2	8.0	$10,000	$5,289		3.0%	$11,239		$5,289		0.1%	$20,938
146	Electric/SCADA	1	LS	2003	25	2	6.0	$12,000	$5,050		3.0%	$15,992		$5,050		0.1%	$25,125
147	**Friday Creek Road**																
148	1.5" Force Main	600	LF	2006	50	2	34.0	$21,000	$22,915		3.0%	$10,784		$22,915		0.1%	$92,062
149	**Bow Hill**																
150	8" Gravity Main	4000	LF	1989	50	5	17.0	$100,000	$90,179		3.0%	$175,054		$90,179		0.1%	$438,391
151	**District Office & Equipment**																
152	Office Building	1	LS	1975	60	2	13.0	$186,000	$161,679		3.0%	$584,533		$161,679		0.1%	$1,095,838
153	Computers	1	LS	2016	5	1	00	$4,000	$0		3.0%	$4,776		$0	x	0.1%	$4,637
154	SCADA Controls	1	LS	2003	20	1	1.0	$30,000	$2,630		3.0%	$49,975		$2,630	x	0.1%	$54,183
155	Storage Shed	1	EA	2005	25	4	8.0	$12,000	$6,347		3.0%	$13,487		$6,347		0.1%	$25,125
156	2008 Chevy Trail Blazer	1	EA	2008	12	2	00	$23,000	$0		3.0%	$34,790		$0	X	0.1%	$32,793
157	2009 Ford F350 - Service Truck w/Crane	1	EA	2009	12	2	00	$63,900	$0		3.0%	$93,839		$0	X	0.1%	$91,106
158	2014 Dodge Ram	1	EA	2014	12	2	4.0	$28,800	$12,161		3.0%	$24,322		$12,161	X	0.1%	$41,062
159	Trailer Mounted Generator - 1	1	EA	2003	20	2	1.0	$35,000	$3,069		3.0%	$58,304		$3,069	X	0.1%	$63,214
160	Trailer Mounted Generator - 2	1	EA	2017	20	2	15.0	$45,000	$39,126		3.0%	$13,042		$39,126		0.1%	$81,275
161						1					3.0%					0.1%	
162						1					3.0%					0.1%	
316						1					3.0%					0.1%	
317								$8,227,521	$9,066,377	$0		$15,737,695	$0	$9,066,377			$51,891,056

Exhibit K – Non-Project SEPA Documentation

2195 Nulle Road
Bellingham, WA 98229-9329
Phone: (360)-734-5664
Fax: (360)-715-1626
e-mail: samishwaterdistrict@comcast.net

DETERMINATION OF NON-SIGNIFICANCE (DNS)
Samish Water District
Comprehensive Sewer Plan – 2023 Update

Description of proposal:

The Comprehensive Sewer Plan – 2023 Update details anticipated activities related to continuing to provide public sewer service within Samish Water District's boundaries, and other sewer service areas in Skagit and Whatcom County provided under Interlocal agreements and sewer service agreements. The plan identifies operation and maintenance activities related to pump stations and related infrastructure of the collection system, and future upgrades to the existing lagoon treatment facility. The anticipated operation and maintenance activities identified in the plan should not require separate environmental review as they are constructed, but may require site-specific environmental permits. Construction plans will incorporate environmental-impact mitigating features and methods. It is anticipated that any upgrades to the existing lagoon treatment system will require a separate environmental review.

Proponent: *Samish Water District*

Location of proposal, including street address, if any: *Samish Water District Office, 2195 Nulle Road, Bellingham, WA, 98229, and the boundaries of the Samish Water District Map and description attached.*

Lead agency: *Samish Water District*

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030 (2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public at the Samish Water District Office at 2195 Nulle Rd., Bellingham, WA.

Pursuant to WAC 197-11-340(2), the lead agency will not act on this proposal for 14 days from the date of issuance indicated below. Comments must be received by 4:00 PM, Wednesday, June 14th, 2023.

Responsible Official: Ken Vogel

Title: District Manager **Telephone:** (360) 734-5664

Address: 2195 Nulle Road, Bellingham, WA 98229

Date: 5-31-23 **Signature:**

Any agency or person may appeal this determination to the Samish Water District, Board of Commissioners. Application for appeal must be filed, in writing, to Samish Water District at 2195 Nulle Road, Bellingham, WA 98229, no later than 4:00 PM, Wednesday, June 14th, 2023.

You should be prepared to make specific factual objections. Contact Samish Water District to read or ask about the procedures for SEPA appeals.

SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals:

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. Background [HELP]

1. Name of proposed project, if applicable:
   Samish Water District Comprehensive Sewer Plan – 2023 Update

2. Name of applicant: *Samish Water District*

3. Address and phone number of applicant and contact person:

2195 Nulle Road
Bellingham, WA 98229
Phone: (360) 734-5664
Ken Vogel, District Manager

4. Date checklist prepared:

May 2023

5. Agency requesting checklist: *Samish Water District*

6. Proposed timing or schedule (including phasing, if applicable):

The Comprehensive Sewer Plan- 2023 Update details anticipated activities related to operating and maintaining the existing sanitary sewer system within Samish Water District's boundaries. The plan identifies replacement of pump stations and related apparatus in the collection system. of future water reclamation. The anticipated upgrade activities identified in the plan should not require separate environmental review as they are constructed, but may require site specific environmental permits, which will be acquired. Water reclamation will receive further environmental review. Construction plans will incorporate environmental-impact mitigating features and methods.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

This Comprehensive Sewer Plan Update is prepared in accordance with WAC 173-240-50 and is scheduled to be updated each time the District proposes previously unidentified expansions or renovations, or every six (6) years, whichever time period is shorter. It is anticipated that the improvement work described in this plan will be constructed in a series of phases over the coming years. The actual occurrence and timing will be dependent upon a combination of factors including resident support, governmental mandate, and funding.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

None

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None

10. List any government approvals or permits that will be needed for your proposal, if known.

It is anticipated that the following governmental approvals will be required:

<u>Whatcom County</u>

- *Review and approval of the Comprehensive Sewer Plan by the County Engineer, and County Health Official.*
- *Review and approval of the Comprehensive Sewer Plan by the County Council.*

Department of Ecology

- *Review and approval of the Comprehensive Sewer Plan.*

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

This Comprehensive Sewer Plan – 2023 Update for Samish Water District has been prepared in accordance with the Washington State Department of Ecology (DOE) guidelines as presented in WAC 173-240. The purpose of the Plan is to provide a comprehensive overview of the existing sanitary sewer collection within the Samish Water District boundaries and service areas.

The Plan describes proposed future facilities development, population growth, and facilities improvement alternatives for the District. The Plan covers the following topics:

- *existing sanitary sewer system layout map including District boundaries and service areas.*
- *system owner/operator information*
- *location of any industrial wastewater producing facilities within the District's boundaries,(of which there are none at this time),*
- *description of existing facilities and how they will be upgraded,*
- *discussion of odor control improvements within the system,*
- *discussion of anticipated wastewater flow within the District's boundaries and service areas over the next six years.,*
- *discussion of sewer rate structures and revenue planning,*
- *discussion of future improvement projects, including possible water reclamation.*

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The Comprehensive Sewer Plan covers the basin surrounding Lake Samish, Washington which is located immediately west of Interstate 5 approximately five (5) miles south of Bellingham, Washington. In addition, the Comprehensive Sewer Plan describes the District's existing, out-of-District sewer service areas in Skagit County and the existing sewer force main along Old Highway 99 which transports wastewater to the City of Burlington Wastewater Treatment Plant for treatment.

B. Environmental Elements [HELP]

1. *Earth* [help]

a. General description of the site:

(circle one): Flat, rolling, hilly, steep slopes, mountainous, other _____

The area surrounding Lake Samish is hilly with some steep, mountainous slopes. The areas within the District's Skagit County service areas range from moderately hilly to flat floodplain.

b. What is the steepest slope on the site (approximate percent slope)?

The steepest section of existing sewer line described in this Plan is a segment leading uphill from Lake Samish Pump Station No. 2 to its alignment along East Lake Samish Drive. For approximately 75 lineal feet, the existing force main route might have an approximate slope of 40%. With respect to proposed improvement construction, maximum grading slopes will be approximately 10% or less. Impact-mitigating designs (i.e. route change or construction method) will be identified when construction plans are prepared.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

The soils in the Lake Samish area are generally classified as Squalicum-Chuckanut-Nati (Source: Soil Survey of Whatcom County Area, Washington. U.S.D.A., Soil Conservation Service, 1987 survey data). There is no known prime agricultural farmland in the existing Lake Samish portion of the sewer system.

In the Skagit County section of the sewer system, soils are generally classified as Skagit-Sumas-Field or Tokul-Skipopa-Dystric-Xerorchrepts (Source: Soil Survey of Skagit County Area, Washington. U.S.D.A., Soil Conservation Service, 1989 survey data). There is some prime agricultural farmland adjacent to the District force main through Skagit County.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

None known, but steep slopes in the Lake Samish region generally will require mitigating design features, to be identified during final design. In addition, the Whatcom County Critical Areas Map identifies limited areas immediately around the lake which have increased likelihood of liquefaction in the event of an earthquake. The plan generally describes upgrading of existing facilities, not construction of new facilities through undisturbed areas.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

The improvements outlined under this plan propose minimum filling and/or grading as necessary to ensure adequate site drainage away from structures. Sources of fill for these projects will be local gravel quarries.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Yes, but mitigating techniques (best management practices during and after construction) are required by County regulations, and will be provided.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

For all improvement projects proposed within the Comprehensive Sewer Plan, the surface will be restored to its existing condition (i.e. already impervious or not).

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Geotechnical designs to promote slope stability, and implementation of runoff control and erosion and sedimentation control measures per guidelines in the 2019 Department of Ecology Stormwater Management Manual for Western Washington will be implemented.

2. Air [help]

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Dust and equipment exhaust emissions are expected during construction. Infrequent emergency generator exhaust at existing pump stations equipped with emergency generators is expected after the project is complete. The District will comply with burn regulations in effect at the time of construction.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

None.

3. Water [help]

a. Surface Water: [help]

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

The District's boundaries surround Lake Samish. There are associated tributary streams leading to Lake Samish, and Friday Creek leading out from Lake Samish at the southern end. There are significant wetlands along the southern shores of the Lake.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

Maintenance and operations work on existing pump stations and facilities may require work within 200 feet of Lake Samish and its associated streams and creeks. Reclaimed water treatment may require construction of a treatment facility within 200 feet of Lake Samish, Friday Creek, or Bear Creek.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Negligible.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

Some areas immediately adjacent to Lake Samish lie within the 100-year flood plain. In addition, portions of the District's 12-inch force main in Skagit County lie within the 100-year flood plain.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No.

b. Ground Water: [help]

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

No.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

None.

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

None.

2) Could waste materials enter ground or surface waters? If so, generally describe.

No.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

No.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

None.

4. Plants [help]

a. Check the types of vegetation found on the site:

__X__deciduous tree: alder, maple, aspen, other
__X__evergreen tree: fir, cedar, pine, other
__X__shrubs
__X__grass
__X__pasture
__X__crop or grain
__X__ Orchards, vineyards or other permanent crops.
__X__ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
__X__water plants: water lily, eelgrass, milfoil, other
__X__other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

Trees, grasses, and understory will be removed only to the extent necessary for maintenance or upgrading the sewer system. The amount removed is determined by the nature and extent of the work.

c. List threatened and endangered species known to be on or near the site.

None known.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

None.

e. List all noxious weeds and invasive species known to be on or near the site.

Not applicable – non-project SEPA.

5. Animals [help]

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site.

Examples include:

birds: hawk, heron, eagle, songbirds, other:
mammals: deer, bear, elk, beaver, other:
fish: bass, salmon, trout, herring, shellfish, other

b. List any threatened and endangered species known to be on or near the site.

Bald eagles (listed as "threatened") may be located in the areas covered by this Comprehensive Sewer Plan; no specific locations are known. Listed as "threatened", Bull Trout may be present in Friday Creek, Lake Samish or its tributaries. Chinook salmon, also listed as "threatened" may be located in Friday Creek. A Department of Fish and Wildlife representative has indicated that these species may be present, but does not have evidence that they are.

c. Is the site part of a migration route? If so, explain.

The area is part of the Pacific Flyway bird migration route. Geese and other waterfowl winter in the Lake Samish area.

d. Proposed measures to preserve or enhance wildlife, if any:

Clearing will be kept to the minimum necessary. The majority of facilities construction would occur in previously disturbed areas such as road right-of-ways and existing pump station sites.

Aquatic species will be protected from habitat harm through construction-phase erosion and sedimentation control Best Management Practices identified in the Department of Ecology Stormwater Management Manual for the Puget Sound. The long-term operation of the sewer system is not anticipated to be harmful to any threatened wildlife or aquatic species. The existing sewer system has been in operation for more than forty-five years.

e. List any invasive animal species known to be on or near the site.

Not applicable – non-project SEPA.

6. Energy and Natural Resources [help]

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Electricity will power the District's pump stations. Emergency backup generators will utilize diesel, natural gas or propane as an energy source.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

The District has recently performed an energy efficiency analysis for the District headquarters, and recommendations from that analysis are being implemented. Additionally, the District is in the process of installing high-efficiency motors at the pumps stations and exploring the payback periods associated with installation of solar panels either at the District office building or in the area of the existing lagoons.

7. Environmental Health [help]

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

1) Describe any known or possible contamination at the site from present or past uses.

No. The proposed improvements to the public sewer system would reduce exposure to the potential health hazards such as raw sewage. However, during installation of new facilities there are always risks associated with general construction activities, but they are not exclusive to this proposal..

2) Describe existing hazardous chemicals/conditions that might affect project development

and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

Not Applicable.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

Not Applicable.

4) Describe special emergency services that might be required.

None.

5) Proposed measures to reduce or control environmental health hazards, if any:

The upgrades to the existing public sewer system are itself a measure to reduce exposure to the potential health hazards of raw sewage.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Construction noise will occur short-term. Long term noise from the pump station motors and backup generators will be attenuated by enclosures.

3) Proposed measures to reduce or control noise impacts, if any:

None.

8. Land and Shoreline Use [help]

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The area contains primarily single family residences and mobile homes, but also includes a County park, private camp, agricultural lands and a fire station.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

Yes, some areas surrounding the Skagit County portion of the sewer system have been used for agriculture.

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

None.

c. Describe any structures on the site.

Service Area:
The vast majority of structures in the Whatcom County service area are private residences and mobile homes around Lake Samish. Within the Skagit County portion of the service area, there are both residential and agricultural structures at rural densities.

Facility Sites:
Pump Station facilities are generally comprised of the following structures; collection wet wells, pump station packages with housings, electrical and control panels and generator structures (as necessary). The District Headquarters is housed in a wood frame structure which includes the District offices and maintenance facilities

d. Will any structures be demolished? If so, what?

Not under this planning document. Some structures will be demolished/replaced when the capital projects are executed.

e. What is the current zoning classification of the site?

Current zoning designations for the area covered by this Comprehensive Sewer Plan are RR2, R2A, R5A, R10A, ROS, TC, CF and RF.

f. What is the current comprehensive plan designation of the site?

In accordance with the Whatcom County Comprehensive Plan, the current comprehensive plan designations for the Lake Samish portion of the sewer system are;
- *Suburban Enclaves,*
- *Resort/Recreational Subdivisions,*
- *Public Recreation.*

In accordance with the Skagit County Comprehensive Plan, the current comprehensive plan designations for the Skagit County portion of the sewer system are;
- *Rural Reserve,*
- *Agricultural – Natural Resource Land,*
- *Rural Reserve – Natural Resource Land,*
- *Rural Reserve – Natural Resource Land w/ Mineral Resource Overlay.*

g. If applicable, what is the current shoreline master program designation of the site?

In accordance with the Whatcom County Shoreline Management Program issued by the Whatcom County Planning Department (Feb 2007 Edition), Lake Samish has the following shoreline designations;
- *Conservancy - Northwest shore and southern tip of lake with two isolated areas on the eastern shore,*
- *Aquatic - Lake,*
- *Shoreline Residential – South, west & northeast shore of lake*

Lake Samish has not been designated as a "Shoreline of Statewide Significance" or "Lake of Statewide Significance."

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

The area surrounding Lake Samish has been classified as an "environmentally sensitive" area. In addition, areas along the shoreline of Friday Creek (within the Skagit County service area) have been classified as "environmentally sensitive".

i. Approximately how many people would reside or work in the completed project?

Lake Samish Service Area - Approximately one thousand people already live in the area (estimated from +/- 400 homes and mobile homes). The ultimate population based on zoning potential might reach 2,800. It is very unlikely that this entire increase would occur during the six year planning horizon of this Comprehensive Sewer Plan.

Skagit County Service Area – The District currently has approximately 110 commercial and residential sewer connections within the Skagit County Service Area. The District expects to continue to add connections within this service area at an average rate of eight connection per year.

j. Approximately how many people would the completed project displace?

None.

k. Proposed measures to avoid or reduce displacement impacts, if any:

None.

L. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

None required.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

None required.

9. Housing [help]

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

No housing units will be provided by this proposal. Zoning determines potential housing densities, and market conditions determine whether housing will be constructed to match zoned potential.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None.

c. Proposed measures to reduce or control housing impacts, if any:

None.

10. Aesthetics [help]

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

None.

b. What views in the immediate vicinity would be altered or obstructed?

None.

b. Proposed measures to reduce or control aesthetic impacts, if any:

None.

11. Light and Glare [help]

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No.

c. What existing off-site sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce or control light and glare impacts, if any:

None.

12. Recreation [help]

a. What designated and informal recreational opportunities are in the immediate vicinity?

Designated Recreational Opportunities: The Lake Samish area is home to the following recreational areas: Whatcom County's Samish Park, one (1) parcel of undeveloped county park property, a public boat launch, and the private Lutheran Camp Association campground.

Informal Recreational Opportunities: biking, hiking, swimming, boating, fishing, and nature watching.

There is no anticipated impact to the above outlined recreational activities as a result of this proposal.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None.

13. Historic and cultural preservation [help]

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers ? If so, specifically describe.

None known.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

None known.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

None.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

None.

14. Transportation [help]

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

The Lake Samish portion of Samish Water District is served by Interstate 5; North, West, and East Lake Samish Roads; Roy Road; Summerland Road; and Nulle Road.

The Skagit County service area of Samish Water District is served by State Highway 99, Alger/Cain Lake Road and Lake Samish Road.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

Not relevant to proposal.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

Not relevant to proposal.

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

No.

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

The completed improvement projects will not augment the level of vehicular use by operators.

This proposal serves existing and future residential development, but does not create the development. Vehicle trip projections are addressed when zoning designations and subdivision applications are reviewed by Whatcom County.

g. Will the proposal interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

No

h. Proposed measures to reduce or control transportation impacts, if any:

None.

15. Public Services [help]

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

County land use plans determine the potential need for public services. The District already provides public sewer service to meet zoned demand.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None.

16. Utilities [help]

a. Circle utilities currently available at the site:
electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, communications

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

No changes will be made to the existing level of utility service.

C. Signature [HELP]

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____

Name of signee ELIZABETH A. STERLING, P.E.

Position and Agency/Organization SR. PROJECT ENGR., WILSON ENGINEERING

Date Submitted: 5/26/2023

D. Supplemental sheet for nonproject actions [HELP]

(**IT IS NOT NECESSARY** to use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

The proposed Comprehensive Sewer Plan – 2023 Update outlines operation and maintenance projects by the District necessary for the upkeep of the existing sewer system. If this Comprehensive Sewer Plan is adopted and implemented, construction work could cause the following:

- *temporary minor erosion control problems*

- *temporary noise due to construction*

Proposed measures to avoid or reduce such increases are:

During the final planning stage for the proposed construction projects, the District will develop plans specifically tailored to each project to minimize the disruptive effects the construction will have on the surrounding area.

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

We anticipate that the proposed improvement projects will have no net effect on the plants, animals, fish or marine life.

The majority of construction would take place in areas already disturbed by sewer facilities, so impacts to wildlife are minimal. After construction, the improvement sites will be largely unmanned and very quiet, so not disturbing to adjacent wildlife.

Proposed measures to protect or conserve plants, animals, fish, or marine life are:

The District will develop plans specifically tailored to each project to minimize the disruptive effects the construction will have on plant and animal life in the surrounding area.

3. How would the proposal be likely to deplete energy or natural resources?

No depletion of energy or natural resources is anticipated with the approval of this proposal.

Proposed measures to protect or conserve energy and natural resources are:

The District is currently implementing recommendations from a recent energy efficiency analysis of their headquarter buildings which will result in a reduction in energy consumption. Additionally, the District is in the process of installing high-efficiency motors at the pumps stations and exploring the payback periods associated with installation of solar panels either at the District office building or in the area of the existing lagoons.

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

Construction work outlined in this proposal could have a temporary disruptive effect on the parks and flood plains in the area. However, since most construction work would take place in areas already disturbed by sewer facilities, the net effect of this work would be very localized.

Proposed measures to protect such resources or to avoid or reduce impacts are:

The District will develop plans specifically tailored to each project to minimize the disruptive effects the construction will have on the surrounding area.

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

The District currently provides sewer service in a manner compatible with existing land use and shoreline plans. The improvement projects outlined under this Comprehensive Sewer Plan will not alter this status.

Proposed measures to avoid or reduce shoreline and land use impacts are:

Final construction plans will incorporate construction-phase mitigation measures where necessary .

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

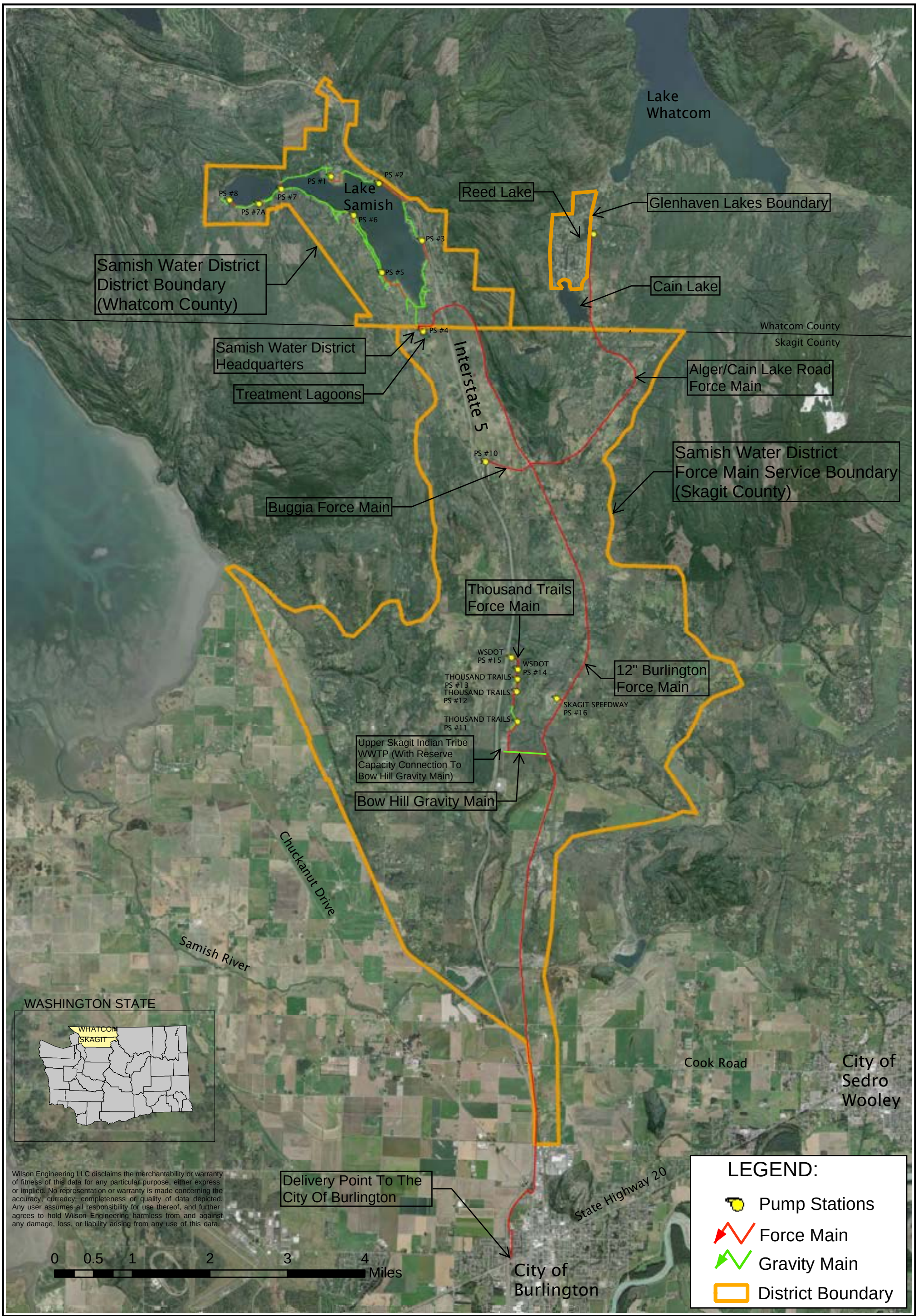
Any increased demands on transportation or public services and utilities will be due to development and population increases which occur in accordance with" then-current" county zoning and building regulations. The proposed Comprehensive Sewer Plan only exists to provide planning for potential future demand

Proposed measures to reduce or respond to such demand(s) are:

This proposed Comprehensive Sewer Plan would enable the District to continue to provide sewer service in accordance with current land use policies and demands

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

There are no identified conflicts with local, state, or federal laws or requirements for the protection of the environment anticipated with the approval of this proposal.



SHEET	DATE	SAMISH WATER DISTRICT	DESIGNED BY	WILSON ENGINEERING	CIVIL STRUCTURAL SURVEY
	NOV 2021				
	SCALE	WASHINGTON	DRAWN BY		
PAGE	AS SHOWN	Comprehensive Sewer Plan	BGG		
OF	JOB NUMBER	Exhibit A - General Sewer Facilities Map	CHECKED BY	WILSONENGINEERING.COM	
	2021-062				

Exhibit L – Washington State and Whatcom County Approvals

TO BE INCLUDED AFTER REVIEW