

Background Information

UTILITIES

bear sighting —
an email alert
makes my phone beep

Painting by Anna Macrae
Haiku by Michael Dylan Welch



bear sighting —
an email alert
makes my phone beep

Background Information

UTILITIES

Introduction

This background document presents basic information about the City of Sammamish utility systems, including electrical, natural gas, telephone, cable, water, wastewater, and stormwater utilities. The City of Sammamish manages its own stormwater system, but all other utilities are own and managed by others. Utility services and the provider of these services are shown in Background Table UT-1.

*Background Table UT-1
City of Sammamish Utility Service Providers*

PROVIDER	UTILITY SERVICE
<i>Puget Sound Energy</i>	Natural gas distribution and electrical power
<i>Williams Northwest Pipeline</i>	Natural gas pipeline
<i>Comcast</i>	High speed cable
<i>City of Sammamish</i>	Stormwater management
<i>NE Sammamish Sewer & Water District</i>	Water and sewer service
<i>Sammamish Plateau Water & Sewer District</i>	Water and sewer service
<i>Waste Management</i>	Waste hauler north of NE 8th Street in Sammamish
<i>Republic Services</i>	Waste hauler north of NE 8th Street in Sammamish

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For all utilities, see Volume I Goal UT.1, Goal UT.2, Goal UT.3 and supporting policies that address service for existing and projected growth, minimizing cost and service disruption and uninterrupted service.

See Goal UT.4 and Goal UT.5 and supporting policies that address consistent and official service area innovative measures to reduce demand and enhance service.

Existing Conditions

Electrical Service

Puget Sound Energy (PSE) provides electrical service within the City of Sammamish. Residential customers include single family residences and some and multi-family residences. Customers on commercial/retail meters include all retail stores, warehouses, office buildings, public facilities, utilities, and some multi-family developments as well.

Peak demands occur during the cold winter months, while demand in spring through fall is considerably less. The range of commercial/retail demand varies considerably more than residential demands. A large grocery store or office requires an estimated 300 to 500 KW, while residential uses generally demand between 0.5 to 10 KW.

The Sammamish area is primarily served by the following substations:

- 1 Plateau Substation on NE 8th Street & 230th Avenue NE
- 2 Sahalee Substation on Sahalee Way & NE 36 St.
- 3 Pine Lake Substation on 228 AVE SE & SE 31 St.
- 4 Klahanie Substation on Issaquah-Fall City Rd & Klahanie Dr SE (shopping center)

In addition, other local substations that provide back-up service include:

- 1 Redmond Substation by Bear Creek Mall in Redmond,
- 2 Fall City Substation north of downtown Fall City,
- 3 Pickering Substation on East Lake Sammamish Parkway at SE 61 St.

Other facilities necessary to the provision of electric service to the area include two transmission lines. These lines are known as the Sammamish-Lake Tradition line which is a 115kV line serving the Plateau, Pine Lake and Sahalee substations, and the Sammamish-Maple Valley Transmission line which is a 230KV line that provides service to the Klahanie Substation.

Planning for electrical production and distribution is done on a regional basis. Currently the majority of electricity in the region is from hydroelectric, natural gas and coal-fired plants, and increasingly wind generation. Future possibilities of demand reduction are also factored into the planning process through probable conservation factors.

Natural Gas

Puget Sound Energy supplies natural gas to several counties in the Puget Sound region, is the provider of natural gas in the City of Sammamish. PSE purchases natural gas from a variety of sources and the natural gas is transported to Sammamish by the Williams Northwest Pipeline. Natural gas from the pipeline is reduced to 250 pounds per square inch gauge (psig) to feed high-pressure supply lines. Williams Pipeline operates 26" and 30" natural gas pipelines located within the Sammamish area.

Telecommunication

Personal wireless services are those services that use radio waves to transmit voice and/or data using the radio frequency spectrum. Wireless companies analyze market demand and expand services in response to increased demand. Capacity of wireless facilities is based on number of facilities in an area, number of customers, and customer use, and cellular companies consider information related to demand and capacity to be proprietary information. Capacity can be expanded, however by dividing larger service areas into smaller service areas and increasing the number of channels in the service area, or through advances in technology.

See Volume I, telecommunication Policy UT.3.3, Policy UT.4.5 and Policy UT.4.6.

Telecommunication—Cable

Comcast, currently provides Video and High Speed Data (HSD) cable services to residential and commercial customers in the Sammamish area, including Klahanie. The type of facility that is required to provide cable service is a "fiber backbone" with a coaxial distribution system. The distribution cables are typically located on poles owned and maintained by Puget Sound Energy or they are located underground.

According to AT&T, the capacity of the current cable system in relation to the existing customer base is unlimited, and it does have the capabilities to expand cable service when needed.

Solid Waste

The King County Department of Natural Resources, Solid Waste Division, operates King County's transfer and disposal system comprised of a regional landfill, eight transfer stations, and two rural drop boxes for residential and non-residential self-haul customers and commercial haulers. Local hauling services in the unincorporated areas and a majority of cities are provided by

See Volume I, solid waste Policy UT.6.6.

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private garbage collection companies which receive oversight through the Washington State Utilities and Transportation Commission (WUTC). The closest waste transfer stations to the City of Sammamish are in Kirkland at the Rose Hill (Houghton) station, and at the Factoria transfer station in Bellevue.

Currently, local haulers within the City of Sammamish operate within two service areas: Republic and Waste Management. Waste Management serves the northern portion of the City of Sammamish to north side of NE 8th Street. Republic serves customers from the south side of NE 8th Street to the city limits in all directions.

Water

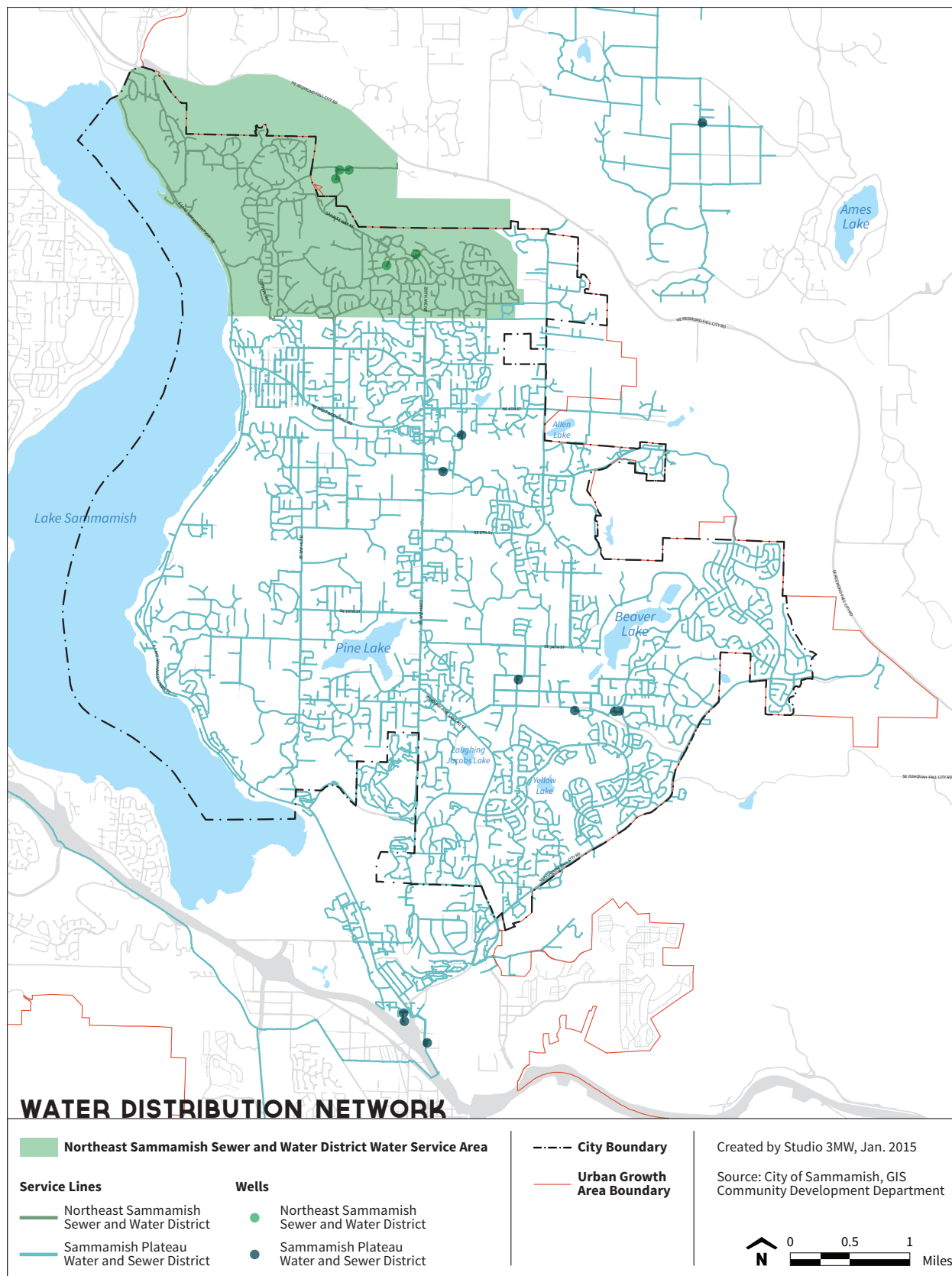
See Volume I, water
Policy UT.1.3, Policy
UT.1.4, Policy UT.6.1
and Policy UT.6.2.

Water facilities serving the City of Sammamish are provided primarily through the Sammamish Plateau Water and Sewer District. The Sammamish Plateau Water and Sewer District is a Class A water system which is hydraulically divided into two parts: the Plateau Zone, located south of Redmond-Fall City Road, and the Cascade View Zone, located north of Redmond-Fall City Road. The system includes a total of 14 wells, two connections to the Cascade Water Alliance's regional supply, 8 storage tanks, and more than 270 miles of transmission and distribution pipelines, and currently serves more than 54,000 people. The District's service area boundary has evolved as a function of growth and reflects hydraulic and topographical constraints.

The northern portion of the city is served by the Northeast Sammamish Sewer and Water District. Within the Northeast Sammamish Sewer and Water District, water is supplied by five groundwater wells. Three of the production wells, and a monitoring well, are located in the Evans Creek Valley. The other two wells (Well 3 and 4) are located in the Plateau above Evans Creek Valley and ground elevations 200 to 300 feet higher than the Evans Creek Well Field.

See Background Figure UT-1 for a map of the water distribution network in Sammamish. For more information on existing water facilities serving the City of Sammamish, consult the *Sammamish Plateau Water and Sewer District Water Comprehensive Plan* (2010) and the *Northeast Sammamish Sewer and Water District Water Comprehensive Plan* (October 2010).

Background Figure UT-1
 Water Distribution Network



WATER DISTRIBUTION NETWORK

Green Area: Northeast Sammamish Sewer and Water District Water Service Area

- Service Lines**
- Northeast Sammamish Sewer and Water District
 - Sammamish Plateau Water and Sewer District

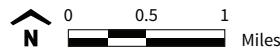
- Wells**
- Northeast Sammamish Sewer and Water District
 - Sammamish Plateau Water and Sewer District

Dashed Line: City Boundary

Red Line: Urban Growth Area Boundary

Created by Studio 3MW, Jan. 2015

Source: City of Sammamish, GIS Community Development Department



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See Volume I, sewer Policy
UT.1.3, Policy UT.1.4,
Policy UT.6.3, Policy
UT.6.4 and Policy UT.6.5.

Sewer

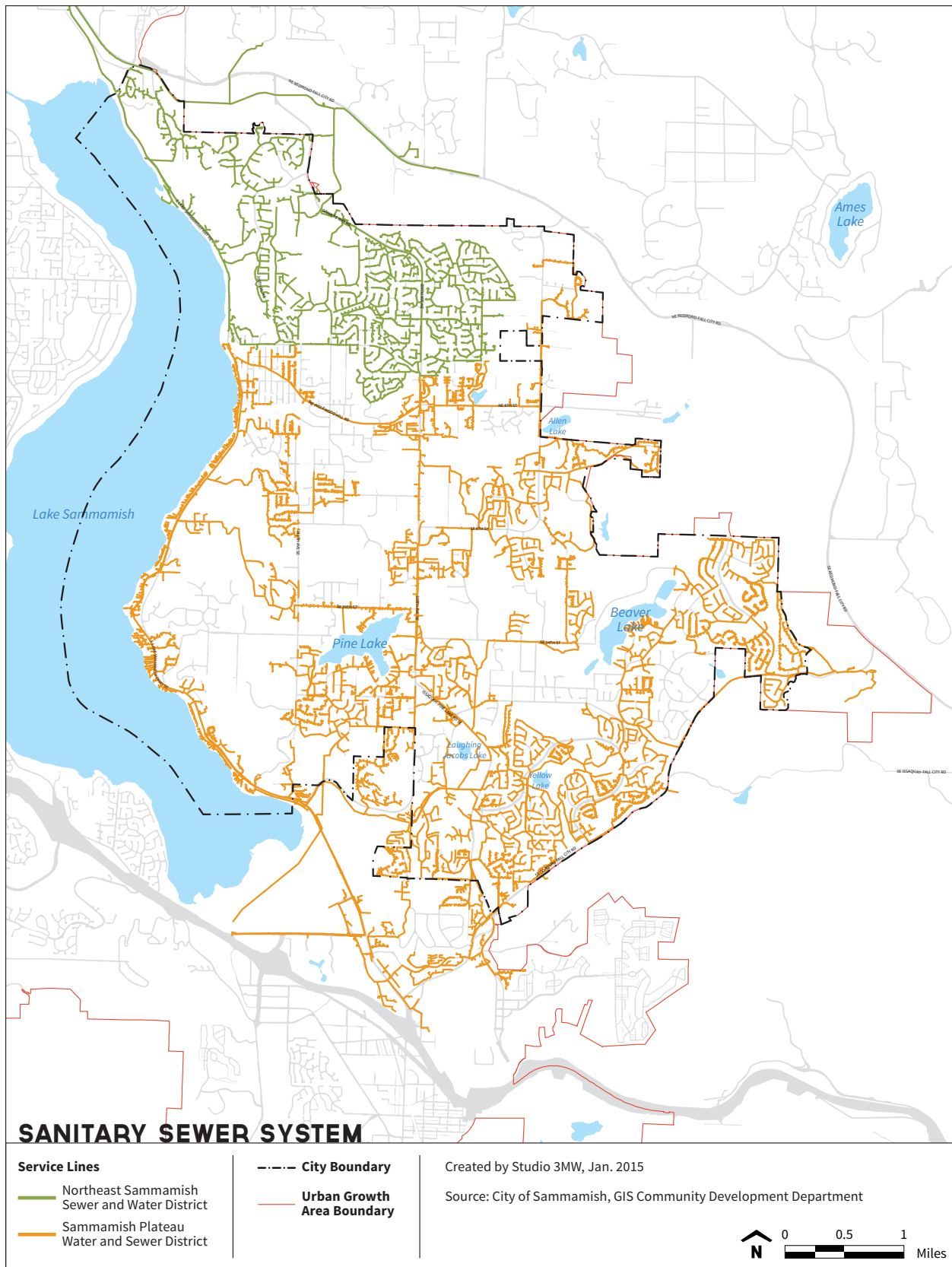
The City of Sammamish is provided sewer service through two districts: Sammamish Plateau Water and Sewer District and the Northeast Sammamish Sewer and Water District. Wastewater is discharged to King County Water Pollution Control Facilities in the City of Redmond.

The Sammamish Plateau Water and Sewer District provides sewer service to portions of the cities of Sammamish and Issaquah and portions of unincorporated King County. The District's sewer service population, as of December 2011, is estimated at 37,340 people served by 10,433 connections. Based on population growth rates established by the Puget Sound Regional Council in concert with planned developments and information provided by the District, the Cities of Sammamish and Issaquah, and King County, the District's sewer service population is estimated to grow to 56,897 people by 2032. There are urban areas within the District's sewer service area that do not currently have sewer service available, and sewer extensions will be required for both infill (new) development and backfill connections where existing developed properties transition from septic systems to sewer service. The District Plan reflects eventual sewer service being provided to all properties within the future sewer service area, estimated to occur around the year 2053.

The Northeast Sammamish Water and Sewer District serves the northeast portion of the City of Sammamish, including areas along Sahalee Way NE and 228th Avenue NE to approximately NE 12th Street. Service in this area is generally divided into two parts by the western ridge of the Sammamish Plateau. The western portion is served by gravity sewers located along East Lake Sammamish Parkway NE and, in part by a single lift station that pumps the wastewater to a gravity sewer which conveys it to the East Lake Sammamish Parkway NE. The eastern portion of the service area is served by gravity sewers and several lift stations. The sewage flows to a regional lift station, which conveys the sewage via force main along NE 50th Street and the Redmond/Fall City Highway to the Northeast Lake Sammamish Interceptor.

See Background Figure UT-2 for a map of the sanitary sewer system in Sammamish. For more information on existing sewer facilities serving the City of Sammamish, consult the *Sammamish Plateau Water and Sewer District Sewer System Plan* (July 2006) and the *Northeast Sammamish Sewer and Water District Wastewater Comprehensive Plan* (2013).

Background Figure UT-2
Sanitary Sewer System



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See Volume I, stormwater
Policy UT.1.5.

Stormwater

The built infrastructure that conveys, detains, and treats surface and stormwater runoff in Sammamish is a mix of open ditches, closed pipes, culverts, streams and a variety of stormwater facilities that have been installed prior to and post-Sammamish incorporation. According to King County GIS records, at least 100 of the stormwater facilities constructed in Sammamish were built before 2000, and 30% of those were constructed prior to 1990. Stormwater facilities including ponds, vaults, swales, catch basins, pipes, and ditches are currently being mapped in GIS, but known system components include approximately:

- 218+ miles of pipe
- 8,120+ structures (e.g. catch basins)
- 64 miles of open ditches and swales
- 425+ publicly owned and maintained surface water facilities, and
- 120+ privately owned and maintained surface water facilities

In 2001, a *Stormwater Management Comprehensive Plan* was developed by the City in compliance with the regulatory requirements of the Growth Management Act, the National Pollutant Discharge Elimination System (NPDES) Phase II Rule, and the Puget Sound Water Quality Management Plan. The updated NPDES Phase II Permit for 2013–2018 became effective on August 1, 2013. The City updated the Plan in 2015 and renamed it the *Storm and Surface Water Management Comprehensive Plan*.