# Utility Committee Meeting

**January 25, 2023 at 4:00 PM**

**HYBRID MEETING:**
Please join the meeting in-person at the Lake Stevens Sewer District Jim Mitchell Conference Room or virtually via GoToMeeting from your computer, tablet or smartphone.
https://global.gotomeeting.com/join/415356613
You can also dial in using your phone.
United States (Toll Free): 1 866 899 4679
United States: +1 (571) 317-3116
Access Code: 415-356-613

# Agenda

1. **Call to order**

2. **Roll Call** (2.17)[i]

3. **Public Forum** – Non-action items (please limit comments to 3 minutes)

4. **Information sharing:** planning, coordination, management (4.20)

    a. Annexations (4.3) – Update on District Annexation ILA
    b. Rates and charges (7.6) – Presentation of District Commercial Rate & GFC Analysis
    c. Accelerated Assumption Update

5. **Project Review** (4.20)

    a. Capital projects (6) – Update on 2022 CIP projects and slated 2023 projects

6. **Development review** (4.20)

7. **Action Items:**

    a. Approve Minutes from December 21, 2022

8. **Next Meeting** (7.2)

9. **Adjourn**

[i] City of Lake Stevens and Lake Stevens Sewer District Unified Sewer Services and Annexation Agreement, May 23, 2005

**INTERLOCAL AGREEMENT FOR**
**ANNEXATION OF CERTAIN AREAS WITHIN THE CITY OF LAKE STEVENS**
**INTO THE LAKE STEVENS SEWER DISTRICT**

THIS AGREEMENT is made and entered into this _____ day of _____, 2022, by and between the City of Lake Stevens, a municipal corporation of the State of Washington, hereinafter referred to as the "City" and the Lake Stevens Sewer District, a special purpose district of the State of Washington, hereinafter referred to as the "District".

A. WHEREAS, the District and the City entered into a Unified Sewer Services Agreement relating to the provision of public sanitary sewer service in the Lake Stevens Urban Growth Area ("UGA"); and

B. WHEREAS, the Unified Sewer Services Agreement describes, inter alia, the unification of the sewerage system within the UGA and coordination of capital projects and annexations of the District by the City which affect the sewerage system; and

C. WHEREAS, pursuant to the Unified Sewer Services Agreement the District acquired certain sewerage facilities from the City and agreed to provide sewerage services to customers within the City's incorporated boundaries and UGA; and

D. WHEREAS, the City and the District have determined and agree that it is in the public interest to ensure that the District's annexed boundaries include all real property located within the incorporated boundaries of the City, and accomplishment of that goal will require approximately 280.8 acres of real property currently in the City to be annexed into the District.

## AGREEMENT

IN CONSIDERATION OF THE TERMS AND CONDITIONS SET FORTH BELOW, THE PARTIES AGREE AS FOLLOWS:

### 1. ANNEXATION PROCESS

**A**. **Pursuit of Annexation.** The City and the District agree to pursue annexation of all real property located within the incorporated boundaries of the City into the District according to the provisions of RCW 57.24.230 -- .250 and the terms and conditions set forth in this Agreement and any amendments thereto.

**B.** **Annexation Territory.** At the District's expense**,** the District's consulting engineers shall determine and certify the boundary of the area to be annexed and if necessary in order to effectuate the annexation, shall prepare a perimeter legal description of the boundary to be annexed.

C. **Annexation Resolution.** The annexation process shall commence upon the adoption of a resolution by the Commissioners of the District calling for the question of annexation to be submitted to the voters of the territory proposed for annexation and setting forth the boundaries thereof. Following adoption by the District the annexation resolution will be filed with the Snohomish County Council as required by RCW 57.24.230.

D. **Boundary Review Board.** If it is determined that the proposed annexation is subject to review by the Boundary Review Board for Snohomish County, the District agrees to submit a notice of intent to annex as required by Chapter 36.93 RCW within ten (10) days of the full execution of this Agreement. The City and District agree to take all steps required by law to secure approval by the Boundary Review Board. Each party hereto agrees that it shall not seek to invoke the jurisdiction of the Boundary Review Board and will not request or encourage any third party to do so.

E. **Annexation Information.** The City and the District will work cooperatively to provide technical information about the proposed annexation to the public as allowed by RCW 57.24.200.

F. **Election Cost.** The cost of any election provided for by RCW 57.24.250 shall be borne by the District.

G. **Recording or Posting.** Pursuant to RCW 39.34.040 this Agreement shall be filed with the Snohomish County Auditor or listed by subject on the web site of the District or City.

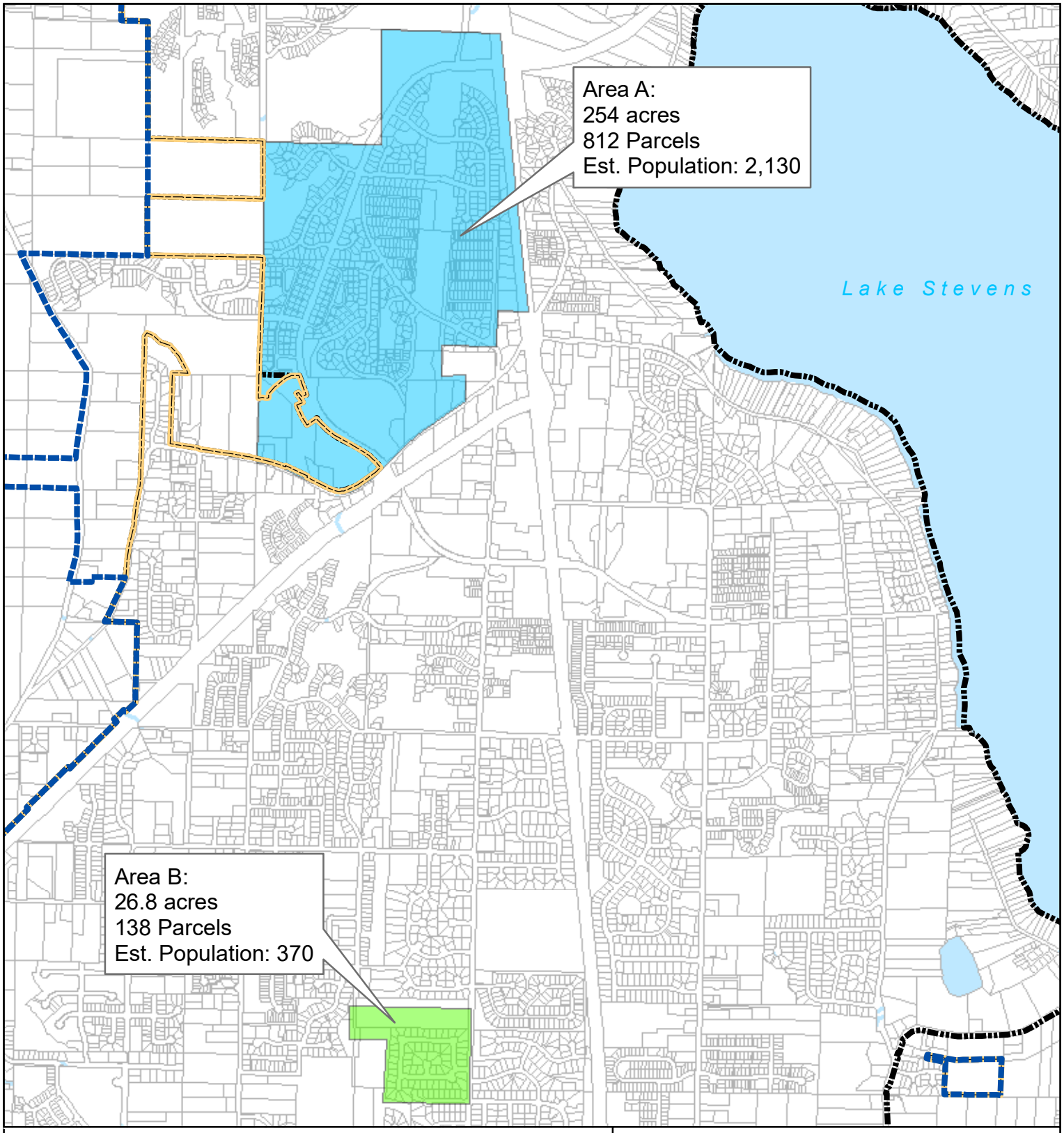
**2. UNIFIED SEWER SERVICES AGREEMENT.** Nothing contained in this Agreement shall be construed to modify or affect any of the understandings or agreements contained in the Unified Sewer Services Agreement between the parties or any amendment thereto.

**IN WITNESS WHEREOF**, the Parties have executed this Agreement in duplicate as of the day first indicated above.

**CITY OF LAKE STEVENS** **LAKE STEVENS SEWER DISTRICT:**

By:_____ By:_____

Mayor President and Commissioner




**Legend**

- LSSD Border
- Lake Stevens UGA
- City of Lake Stevens
- Annexation Area A
- Annexation Area B

0 1,500 3,000

Scale in Feet

N

LAKE STEVENS SEWER DISTRICT

ANNEXATION AREAS

Gray & Osborne, Inc.
CONSULTING ENGINEERS

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**RCW 57.24.230 Annexation of territory within cities—Authorized—Process.** (1) If a district acquires either water facilities or sewer facilities, or both from a city, and the district and the city within which the facilities are located enter into an agreement stating that the district will seek annexation of territory within that city, the district commissioners may initiate a process for the annexation of such territory.

(2) The annexation process shall commence upon the adoption of a resolution by the commissioners calling for the question of annexation to be submitted to the voters of the territory proposed for annexation and setting forth the boundaries thereof. The resolution must be filed with the county legislative authority of each county in which the territory proposed for annexation is located.

(3) Upon receipt of the resolution, the county legislative authority shall cause a hearing to be held as provided in RCW 57.24.240. [2007 c 31 § 1.]

## Article 4. Step 1

4.1. Upon the effective date of Step 1 (June 1st, 2005), the City shall transfer the assets of the City System, not including real property and certain specific assets as specified herein, to the District. Such transfer shall be by bill of sale substantially in form presented in **Exhibit A**, attached and included herein by reference.

4.2. Upon the effective date of Step 1, and subject to the conditions of Articles 6 & 7, the District shall be solely responsible for the collection of rates and charges, planning, administration, operation, financing, maintenance, improvements, repair, replacement, upgrade and expansion of the Unified Sewer System, including funding of the City sewer obligations as described below. Such transfer shall continue until the effective date of Step 2. Upon the effective date of Step 1, the District System and City System shall be combined and integrated, and managed as one complete system (i.e. the Unified Sewer System).

4.3. Upon the effective date of this Agreement, the District adopts and establishes as policy with respect to City annexations in the UGA as follows, and such shall be included in all District Comprehensive Sewer Plans:

*A.* The City and District shall prepare a joint letter to applicants for District sewer service expressing support of City annexation in the UGA for local land use control and services. Such letter shall be included in materials presented to third parties interested in receiving sewer service from the District within the UGA.

B. Neither Party shall oppose lawful annexation proceedings commenced by the other Party at any time under this Agreement.

C. The District shall include a City-prepared annexation covenant substantially in the form presented in Exhibit B, included herein by reference, as a voluntary addendum to all District developer extension agreements and shall include the City-prepared annexation covenant with all District annexation application materials. Execution of the City-prepared annexation covenant shall be a voluntary element of developer extension applications and District annexation applications. The service to property that has not annexed to the City will be subject to paragraph D, below.

D. The District shall not provide sewer service to a property if such property is, at the time of application for sewer service, contiguous to the City limits and outside the District's corporate boundary unless City annexation covenants are duly executed for the entire subject property.

E. Originals of City annexation covenants received by the District shall be forwarded to the City within 15 days of receipt and the City will record such covenants at their own expense.

FCS GROUP
Solutions-Oriented Consulting

# | Memorandum

**To:** Mariah Low, Lake Stevens Sewer District **Date:** December 19, 2022

**From:** Chris Gonzalez, Senior Project Manager
Angie Sanchez Virnoche, Principal

**RE** Commercial Sewer Rate & General Facilities Charge Review

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The Lake Stevens Sewer District (District) engaged FCS GROUP earlier this year to evaluate its commercial sewer rate and general facilities charge (GFC) policies, building on the financial plan developed as part of the recently completed General Sewer/Wastewater Facility Plan. This memo documents the key questions considered as part of the evaluation, summarizing our findings and recommendations.

***Question #1: How consistent is the District's current methodology for assigning equivalent residential units (ERUs) to commercial users with the policies and practices used by other utilities?***

We conducted a survey of the commercial sewer rates and GFCs imposed by a group of cities and water/sewer districts in Washington. With the goal of providing the District with a greater understanding of the policies and practices that other utilities use to recover costs equitably from customers, we focused on a group of FCS GROUP clients who are local or otherwise comparable to the District. The survey compiled the following information:

- Methodology used to calculate the GFC per ERU, which can be conceptually separated into:
  - "Average-cost" methodology, which divides the total cost of existing and future facilities by the ERU capacity of the system to arrive at an average system cost per ERU
  - "Growth-pays-for-growth" methodology, which includes a proportionate buy-in to existing facilities plus a direct allocation of costs related to future facilities needed to serve growth
- Basis for assigning ERUs to commercial users for the purpose of calculating GFCs
  - Water meter size
  - Square footage
  - Other metrics used to estimate wastewater flow (e.g. seats, occupants, fixtures)
- Basis for charging commercial users for ongoing sewer service
  - Fixed ERU assignment
  - Water consumption

**Exhibit 1** summarizes the findings of our survey:



**Firm Headquarters**
Redmond Town Center
7525 166th Ave NE, Ste D-215
Redmond, Washington 98052

**Locations**
Washington | 425.867.1802
Oregon | 503.841.6543
Colorado | 719.284.9168

## Exhibit 1: Survey of Sewer Rate/GFC Practices

| Jurisdiction | GFC Methodology | Basis for Assigning ERUs to Commercial Users | |
|---|---|---|---|
| | | Sewer GFCs | Sewer Rates |
| Lake Stevens Sewer District | Average Cost | Varies by Business Type | Water Consumption |
| City of Bothell | Average Cost | Plumbing Fixture Units | Water Consumption |
| City of Bremerton | Hybrid[1] | Water Meter Size | Water Consumption |
| Coal Creek Utility District | Average Cost | Developed Acreage | Water Consumption |
| Douglas County Sewer District | Average Cost | Plumbing Fixture Units | Water Consumption |
| Lake Whatcom Water & Sewer District | Average Cost | Water Meter Size | Plumbing Fixture Units |
| City of Monroe | Average Cost | Water Meter Size | Water Consumption |
| Mukilteo Water & Wastewater District | Average Cost | Water Meter Size | Water Consumption |
| City of Olympia | Hybrid[1] | Building Floor Area | Water Consumption |
| Sammamish Plateau Water | Average Cost | Water Meter Size | Water Consumption |
| City of Shoreline | Average Cost | Plumbing Fixture Units | Water Consumption |
| City of Walla Walla | Average Cost | Water Meter Size | Water Consumption |

[1]Bremerton and Olympia use a hybrid methodology that allocates the cost of future growth-related projects directly to growth (as in the growth-pays-for-growth method) while allocating all other costs to all ERUs (as in the average-cost method).

Consistent with the majority of the sewer utilities shown in **Exhibit 1**, the District's sewer GFC is based on the average-cost methodology. Of the utilities surveyed,

- Six (50%) impose sewer GFCs on commercial users based on water meter size, which is commonly used for sewer GFCs as a representation of potential wastewater flow. It is also readily known at the time of connection and promotes consistency in the scaling of sewer GFCs with the applicable water GFCs.

- Three (25%) of the utilities assign ERUs to commercial users based on plumbing fixture units, with Bothell and Shoreline directly using King County's residential customer equivalency form to determine ERUs. Because water meters are typically sized for reasons unrelated to wastewater generation (e.g. fire flow, peak capacity for irrigation), fixture units are sometimes used to assign sewer ERUs to capture the potential wastewater flow generation of a connection more accurately.

- Coal Creek Utility District imposes commercial GFCs based on developed acreage, which it defines to include "that area that comprises all structures, parking, Code-required buffers, and other frequently used areas." Acreage is a relatively uncommon basis for determining ERUs in our experience, considering that its correlation with water usage is weak at best (e.g. a standalone parking lot is unlikely to have fixtures that would generate wastewater).

- The City of Olympia uses building floor area (which can be more closely linked to water consumption than acreage) to assign ERUs, with the specific ERU assignment per 1,000 square feet varying by the type of business.

Section 9.05.060 of the Lake Stevens Sewer District Code assigns ERUs to commercial users based on various metrics as summarized below:

- Small retail/financial/service businesses (under 3,000 square feet), the Lake Stevens Fire Department, and Snohomish County Parks are assigned a fixed number of ERUs, generally ranging from 1 – 2.

- Drive-in restaurants are assigned ERUs based on the estimated number of cars per day; taverns are assigned ERUs based on the number of seats/booths/stools.

- Churches, halls, and health clubs are assigned ERUs based on the number of seats or legal occupants.

- Most other business types are assigned ERUs based on building square footage, though the Code specifies that the ERUs assignments are subject to negotiation for certain types of businesses:

  - » Breweries
  - » Electroplating/Silicon Chips
  - » Funeral Parlor
  - » Industrial Complexes
  - » Large Bakeries
  - » Laundromats
  - » Motels/Hotels
  - » Shopping Centers
  - » Swimming Pools

Compared to the other utilities that we surveyed, the District's policy of assigning ERUs to commercial users is relatively complicated and data-intensive. The District could potentially simplify its GFC structure by using a single metric to assign ERUs to all commercial users (with exceptions as appropriate for large and/or unique service connections).

Virtually all of the utilities in the survey group charge commercial users for ongoing sewer service based on water consumption.

- Most of them impose a base charge that includes a specified amount of water usage and consumption charges for any additional water usage. The amount of water consumption included in the base charge varies by utility:

  - » Monroe: 500 cubic feet
  - » Olympia: 700 cubic feet
  - » Bothell, Coal Creek UD, Lake Stevens SD, SP Water, Shoreline: 750 cubic feet
  - » Walla Walla: 6,000 gallons (≈ 800 cubic feet)

- Douglas County Sewer District assigns ERUs to commercial users based on their water consumption during the prior year, dividing the user's total consumption by 10,800 cubic feet (900 cubic feet per month). The District assigns commercial users a minimum of one ERU, updating the ERU assignment annually.

- Bremerton and Mukilteo Water & Wastewater District impose a monthly base charge plus a consumption charge that applies to all water usage, with the specific charges varying depending on the wastewater strength class that the business is assigned to. Summarized below, the wastewater strength classes are defined based on the average daily concentration of biochemical oxygen demand (BOD) and, in Bremerton's case, total suspended solids (TSS).

| Commercial Wastewater Strength Classes | |
|---|---|
| **Bremerton** | **Mukilteo WWD** |
| I: 0 – 200 mg/L BOD/TSS | I: 0 – 300 mg/L BOD |
| II: 201 – 400 mg/L BOD/TSS | II: 301 – 900 mg/L BOD |
| III: 401 – 600 mg/L BOD/TSS | III: 901 – 1,500 mg/L BOD |
| IV: 601 – 800 mg/L BOD/TSS | IV: Over 1,500 mg/L BOD |
| V: 801 – 1,000 mg/L BOD/TSS | |
| VI: 1,001 – 1,200 mg/L BOD/TSS | |
| VII: 1,201 – 1,800 mg/L BOD/TSS | |

- Lake Whatcom Water & Sewer District assigns ERUs to commercial users based on plumbing fixture units, defining an ERU as 18 fixture units.

The District's sewer rate structure assigns ERUs to commercial users in a manner consistent with how the majority of the utilities that we surveyed assign ERUs. The District's current ERU definition of 750 cubic feet of water usage per month is also the most common definition used by the utilities in the survey group.

***Question #2: How equitably do the District's current charges recover costs from commercial users?***

We considered this question in the context of two perspectives:

### A. How equitably do the District's charges recover costs among the District's customer classes?

In order to assess the relative equity in cost recovery among the District's customer classes (which is primarily relevant for the discussion of sewer rates), we developed a cost-of-service analysis. Under the general methodology approved by the American Water Works Association (AWWA), Water Environment Federation (WEF), and other industry associations, this analysis involved allocating costs to functions of service and then to customer classes. We allocated the District's annual revenue requirement to the following functions of service:

- ***Customer:*** Fixed costs that do not vary with the volume or strength of wastewater generated, such as utility billing and customer service costs.

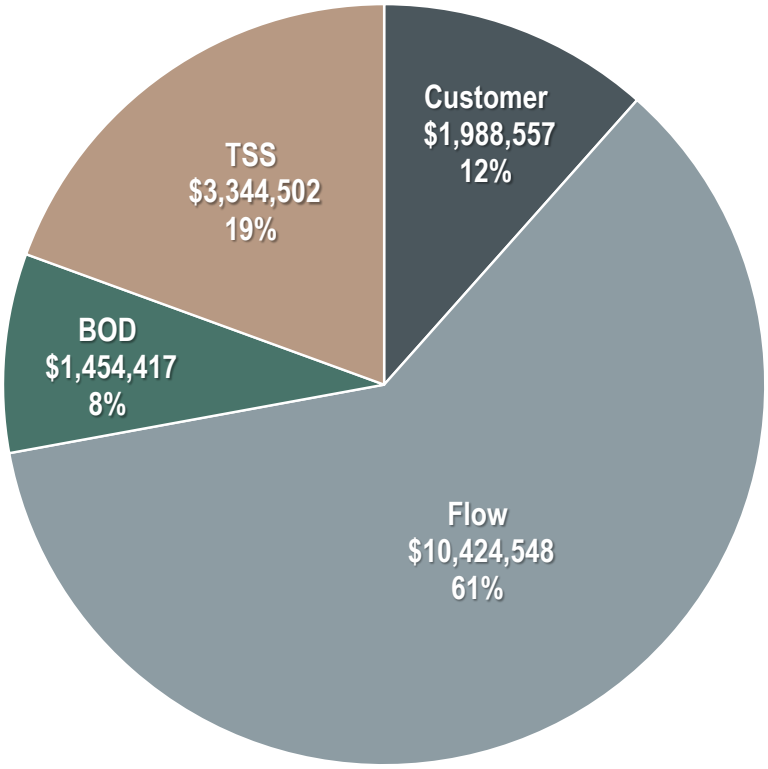
- ***Flow:*** Fixed and variable costs associated with providing capacity to convey wastewater flows to (and through) the District's wastewater treatment plant. Examples include labor costs for field employees and maintenance of sewer mains and lift stations.

- ***BOD:*** Fixed and variable costs associated with providing capacity to treat wastewater of varying strength, measured in terms of biochemical oxygen demand. Examples include a portion of labor costs for employees at the treatment plant and chemicals used in the treatment process.

- ***TSS:*** Fixed and variable costs associated with providing capacity to treat wastewater of varying strength, measured in terms of total suspended solids. Examples include a portion of labor costs for employees at the treatment plant and chemicals used in the treatment process.

**Exhibit 2** summarizes the allocation of the 2023 revenue requirement.

**Exhibit 2: Functional Allocation of 2023 Revenue Requirement**




The costs assigned to each function shown in **Exhibit 2** would then be allocated to the District's customer classes based on their demands and service characteristics. Costs assigned to the customer function are generally allocated based on the number of accounts served; costs assigned to the flow function are allocated based on estimated flows, and costs assigned to the BOD/TSS functions are allocated based on estimated BOD/TSS loadings. Because the District (like other sewer utilities) does not measure BOD/TSS loadings for its customers directly, we had to complete a mass-balance analysis to estimate the flows and loadings by customer class. The mass-balance analysis included the following steps:

1. ***Estimate average flows and loadings received at the treatment plant.*** Based on 2020 average dry-weather flow (ADWF, representative of the wastewater received from customers with minimal inflow and infiltration) and annual-average influent loadings reported in the District's 2022 General Sewer Plan (GSP), we estimated current ADWF of 2.37 million gallons per day (mgd), average BOD loadings of 5,792 pounds per day (ppd), and average TSS loadings of 5,027 ppd.

2. ***Estimate residential flows and loadings.*** The 2022 GSP specifies that an ERU contributes an average of 173 gallons per day (gpd) of wastewater with an average BOD loading of 0.44 ppd and an average TSS loading of 0.39 ppd. These loading assumptions equate to average concentrations of 373 milligrams per liter (mg/L) of BOD and 331 mg/L of TSS, which is

higher than what we typically see in this kind of analysis. Reviewing the GSP further, we found that these values were determined by dividing total flows and loadings by the total number of ERUs served by the system (including commercial ERUs). While this methodology might be appropriate for the purpose of forecasting future flows and loadings in aggregate, it fails to capture meaningful differences in flows and loadings by customer class for the purpose of allocating costs. For this reason, we defined an ERU as contributing 141 gpd of flow (based on the average winter water consumption of a single-family home documented in the GSP) and 0.35 ppd of BOD and TSS. The BOD/TSS loading estimates assumed an average concentration of 300 mg/L, which is near the upper end of the typical range for residential wastewater specified by the Washington State Department of Health.

3. ***Estimate flows and loadings for other significant users.*** The District has a septage filtrate disposal contract with Tenelco, and under the terms of that agreement the septage that Tenelco sends to the District should not exceed 400 mg/L of BOD and 450 mg/L of TSS.

**Exhibit 3** summarizes the findings of the mass-balance analysis:

**Exhibit 3: Wastewater Mass-Balance Analysis (Based on 2020 Data)**

| | Flow | BOD | TSS |
|---|---|---|---|
| Average Daily Flows/Loadings Received at WWTP[1] | 2.37 mgd | 5,792 ppd | 5,027 ppd |
| | | | |
| Estimate of Residential Contribution | | | |
| Assumed Domestic-Strength Concentration | | 300 mg/L | 300 mg/L |
| Unit Flows/Loadings per ERU | 141 gpd | 0.35 ppd | 0.35 ppd |
| Estimated Residential Flows/Loadings @ 12,767 ERUs[2] | 1.80 mgd | 4,515 ppd | 4,515 ppd |
| | | | |
| Estimated Tenelco Contribution | | | |
| Estimated Loading Concentration (Contract Limits) | | 400 mg/L | 450 mg/L |
| Estimated Tenelco Flows/Loadings | 0.05 mgd[3] | 176 ppd | 197 ppd |
| | | | |
| Net Commercial/School Contribution | 0.11 mgd[3] | 1,102 ppd | 315 ppd |
| Average Commercial Wastewater Strength | | 1,233 mg/L | 352 mg/L |
| | | | |
| *Net Remaining Flow* | *0.41 mgd* | | |
| *Percent Inflow & Infiltration* | *17%* | | |

[1]Estimated flow based on 2020 average dry-weather flow. Loadings based on 2013 – 2020 average values because the 2020 values were abnormally high.

[2]2020 residential ERUs based on an average of the monthly ERUs billed by the District.

[3]Flows for non-residential users (including Tenelco) were estimated based on 2020 actual water consumption.

Because most utilities do not measure wastewater loadings from specific customers (aside from significant industrial users and perhaps other special contract customers), the amount of data that is available to estimate the average concentrations of BOD/TSS in commercial wastewater is relatively

limited. One of the few sources that is available, the California Water Resources Control Board's *Revenue Program Guidelines for Wastewater Agencies, 1983*, specifies average BOD loadings of 800 – 1,000 mg/L and average TSS loadings of 600 – 800 mg/L for restaurants and supermarkets, which are likely to contribute the highest-strength wastewater in the District's service area (aside from Tenelco). **Exhibit 3** shows an aggregate average BOD loading of 1,233 mg/L for the District's commercial users, which appears to be unreasonably high when compared to the range outlined above. Considering the other elements of the mass-balance analysis,

- The estimated residential loadings are likely to be conservatively high. As previously noted, the assumed average BOD/TSS concentrations of 300 mg/L are at the upper end of the typically accepted ranges for domestic-strength wastewater.

- The stated residential flows are also likely to be conservatively high, for two reasons:

  - Though the GSP states that the average winter water consumption of a single-family home is 141 gpd, it also estimates that a single-family home generates a net wastewater flow of 134 gpd after accounting for consumptive uses (e.g. drinking water).

  - The District currently assigns 1 ERU per dwelling unit to multi-family residential users with dwellings larger than 600 square feet. Based on how the average water usage of a multi-family dwelling unit typically compares to the winter-average water usage of a single-family home, many sewer utilities assign multi-family users 0.6 – 0.8 ERUs per dwelling unit.

  Reducing the flows attributed to single-family residences and the ERUs assigned to multi-family users would reduce the estimated residential flows and related BOD/TSS loadings, further increasing the loadings attributed to commercial users.

- Tenelco's contract limits the strength of the septage discharged into the District's system to 400 mg/L of BOD and 450 mg/L of TSS. Direct measurements of BOD and TSS discharged from Tenelco were not available for this study, though District staff indicated that Tenelco's discharges have reached over 1,000 mg/L of BOD. The California guidelines referenced above estimate the average concentration of BOD for septage haulers at 5,400 mg/L, suggesting that Tenelco's BOD concentrations could be even higher than 1,000 mg/L unless Tenelco has been implementing pretreatment best-management practices. We would recommend that the District more closely monitor loadings received from Tenelco, considering enforcement measures and/or revisiting how costs are allocated to Tenelco as appropriate.

For the reasons outlined above, we would not recommend that the District use the mass-balance analysis shown in **Exhibit 3** as a basis for changing how it allocates costs among its customer classes. However, we would recommend revising the District's definition of an ERU to reflect the water usage of a typical single-family home. **Exhibit 3** indicates that an average single-family home uses 141 gpd of water during the winter months, which equates to approximately 575 cubic feet per month. Based on this information, we recommend that the District consider changing its ERU definition from 750 to 600 cubic feet of water usage per month – this change would increase what most commercial users pay but would improve the overall equity in cost recovery under the District's rate structure.

### B. How equitably do the District's charges recover costs within the commercial class?

To evaluate the relative equity of cost recovery within the commercial class, we evaluated the water usage patterns of the majority of the District's commercial accounts. Based on discussions with District staff, we focused this analysis on evaluating differences in the average monthly water consumption per 1,000 square feet. The District provided historical water consumption data from 2017 – 2021 for each of the District's 178 commercial accounts and provided parcel measurements for 162 out of the District's 178 accounts. **Exhibit 4** summarizes the historical average monthly water consumption of this data set for each type of business served by the District:

**Exhibit 4: Average Monthly Water Usage per 1,000 Square Feet (SF)**

| Average Monthly Usage in Cubic Feet (cf) | 2017 | 2018 | 2019 | 2020 | 2021 | Avg. |
|---|---|---|---|---|---|---|
| Food-Service Establishments | 114 cf | 125 cf | 135 cf | 113 cf | 118 cf | **117 cf** |
| Mixed-Use Commercial | | | | 108 cf | 111 cf | **110 cf** |
| Government | 177 cf | 91 cf | 84 cf | 10 cf | 17 cf | **91 cf** |
| Grocery/Convenience Store | 68 cf | 60 cf | 63 cf | 82 cf | 75 cf | **70 cf** |
| Assisted Living | 38 cf | 45 cf | 40 cf | 39 cf | 47 cf | **42 cf** |
| Medical/Dental | 32 cf | 38 cf | 39 cf | 31 cf | 35 cf | **35 cf** |
| ***Aggregate/Total*** | ***27 cf*** | ***29 cf*** | ***28 cf*** | ***23 cf*** | ***27 cf*** | ***28 cf*** |
| Other Commercial | 29 cf | 26 cf | 29 cf | 20 cf | 26 cf | **25 cf** |
| Industrial/Auto Repair | 14 cf | 17 cf | 16 cf | 11 cf | 17 cf | **18 cf** |
| Retail Store | 24 cf | 20 cf | 21 cf | 14 cf | 13 cf | **18 cf** |
| Office Building | 12 cf | 11 cf | 14 cf | 15 cf | 15 cf | **14 cf** |
| Worship Center | 9 cf | 9 cf | 9 cf | 5 cf | 8 cf | **8 cf** |
| School | 9 cf | 8 cf | 8 cf | 4 cf | 5 cf | **7 cf** |
| Bank/Credit Union | 4 cf | 4 cf | 5 cf | 6 cf | 13 cf | **7 cf** |
| Warehouse/Storage | | | | | 4 cf | **4 cf** |

**Exhibit 4** suggests that food-service establishments, groceries/convenience stores, and mixed-use commercial accounts use considerably more water than the majority of the other commercial users. Note that the "government" category fell in this category as well during 2017 – 2019, when it included a senior apartment complex – the subsequent reclassification of that account resulted in the sharp decrease in the average water consumption of that customer type shown for 2020 and 2021. Noteworthy limitations in this data set include:

- The square footage estimates provided by the District represent the gross area of each parcel according to the records maintained by the Snohomish County Assessor. Considering that a parcel can include significant amounts of undeveloped land (or even developed land with few if any water fixtures), the correlation between gross parcel area and water usage is relatively weak.

- The District serves shopping centers, which typically include multiple sewer accounts (often representing a variety of business types) on the same parcel. With only the total gross square footage by parcel available, it was unclear how much square footage was attributable to a given

account (or how much square footage was not attributable to any specific account, such as a shared parking area).

To provide another basis of evaluating the water usage patterns of various business types, District staff measured the building area of 15 accounts. **Exhibit 5** summarizes the five-year average usage per account for these accounts by business type, providing the equivalent usage per 1,000 SF of gross parcel area shown in **Exhibit 4** for comparative purposes:

**Exhibit 5: 2017 – 2021 Average Water Use per 1,000 SF**

| Average Monthly Usage per 1,000 SF | Per Business Measurements | *Per Parcel Measurements* |
|---|---|---|
| Food-Service Establishments | 943 cf | *117 cf* |
| Grocery/Convenience Store | 724 cf | *70 cf* |
| Other Commercial | 661 cf | *25 cf* |
| Retail Store | 66 cf | *18 cf* |
| Bank/Credit Union | 54 cf | *7 cf* |

**Exhibit 5** shows a considerable difference between the average water usage per 1,000 SF of building area and the average water usage per 1,000 SF of gross parcel area, suggesting that the defensibility of using the latter metric as a basis for imposing sewer rates and charges would be questionable at best. **Exhibit 5** does, however, appear to support the conclusion that food establishments, grocery stores, and convenience stores use materially more water than other business types and would merit a different assignment of ERUs as a result. Based on this, we would recommend that the District group its commercial users into two categories:

- High Users: Food-Service Establishments, Groceries, and Convenience Stores
- All Other Commercial Users

The "other commercial" group shown in **Exhibit 5** includes only a single account, a gas station that shares a parcel with a coffee stand – this account would logically be included in the high-user group. **Exhibit 6** summarizes the five-year usage history in terms of these two commercial user groups:

**Exhibit 6: 2017 – 2021 Commercial Water Usage by Proposed User Category**

| | 2017 | 2018 | 2019 | 2020 | 2021 | Average |
|---|---|---|---|---|---|---|
| High Users | | | | | | |
| Average Monthly Water Usage per 1,000 SF | 653 cf | 684 cf | 761 cf | 743 cf | 770 cf | **722 cf** |
| ERUs per 1,000 SF @ 750 cf per ERU | 0.87 | 0.91 | 1.02 | 0.99 | 1.03 | **0.96** |
| ERUs per 1,000 SF @ 600 cf per ERU | 1.09 | 1.14 | 1.27 | 1.24 | 1.28 | **1.20** |
| | | | | | | |
| All Other Commercial Users | | | | | | |
| Average Monthly Water Usage per 1,000 SF | 148 cf | 121 cf | 122 cf | 71 cf | 113 cf | **115 cf** |
| ERUs per 1,000 SF @ 750 cf per ERU | 0.20 | 0.16 | 0.16 | 0.10 | 0.15 | **0.15** |
| ERUs per 1,000 SF @ 600 cf per ERU | 0.25 | 0.20 | 0.20 | 0.12 | 0.19 | **0.19** |

**Exhibit 1** suggests that square footage is less commonly used as the basis for imposing sewer charges than other metrics such as water meter size, fixture units, and water consumption. We were, however, able to find a couple of jurisdictions that impose commercial sewer GFCs based on square footage:

### A. Olympia, WA

The City of Olympia assigns ERUs to commercial users based on building square footage, with the specific ERU assignment varying based on the type of business. **Exhibit 7** summarizes these ERU assignments in terms of Olympia's ERU definition (700 cf per month) and the District's ERU definition, including the current value of 750 cf and the proposed value of 600 cf.

**Exhibit 7: 2017 – 2021 Average Water Use per 1,000 SF**

| Number of ERUs per 1,000 SF | Olympia ERU | *District ERU Definition* | | Number of District Accounts | Proposed District User Category |
|---|---|---|---|---|---|
| | 700 cf | Current: 750 cf | Proposed: 600 cf | | |
| Auto Repair | 0.28 | 0.26 | 0.32 | 9 | Other User |
| Auto Sales | 0.35 | 0.32 | 0.40 | | |
| Bank | 0.22 | 0.20 | 0.26 | 6 | Other User |
| Church | 0.12 | 0.11 | 0.14 | 8 | Other User |
| Grocery Store | 0.68 | 0.63 | 0.79 | 5 | High User |
| Hotel/Motel | 1.32 | 1.24 | 1.55 | | |
| Medical Clinic | 0.16 | 0.15 | 0.18 | 10 | Other User |
| Mini-Mart | 1.45 | 1.35 | 1.69 | 6 | High User |
| Nursing Home/Rest Home | 2.38 | 2.22 | 2.78 | 1 | Other User |
| Office | 0.15 | 0.14 | 0.18 | 61 | Other User |
| Pub Tavern | 0.82 | 0.77 | 0.96 | | |
| Restaurant[1] | 1.98 | 1.85 | 2.31 | 38 | High User |
| Retail Store | 0.06 | 0.06 | 0.07 | 17 | Other User |
| School | 0.19 | 0.18 | 0.23 | 16 | Other User |
| Service Station | 1.94 | 1.81 | 2.26 | | |
| Storage Unit/Warehouse | 0.03 | 0.03 | 0.04 | 1 | Other User |
| **Average ERUs per 1,000 SF** | | | | | |
| **High Users** | **1.78** | **1.66** | **2.08** | | |
| **Other Users** | **0.17** | **0.16** | **0.20** | | |

[1]Reflects an averaging of the ERU assignments for high-service restaurants and low-service restaurants, given that the District's food-service establishments were not readily separable into those categories.

**Exhibit 7** indicates that after adjusting for differences in how Olympia and the District define an ERU, the high-user group (food-service establishments, grocery stores, and convenience stores) would be assigned 1.66 ERUs per 1,000 SF under the District's existing ERU definition of 750 cf and 2.08 ERUs per 1,000 SF under the proposed ERU definition of 600 cf. While somewhat higher than the 1.20 ERUs per 1,000 SF shown in **Exhibit 6**, this appears to be of the same order of magnitude. The District's other commercial users would be assigned 0.16 – 0.20 ERUs per 1,000 SF depending

on the ERU definition used, which is very close to the 0.15 – 0 .19 ERUs per 1,000 SF shown for these customers in **Exhibit 6**.

### B. Orange County Sanitation District (OCSD), CA

OCSD currently imposes the following GFC structure on its sewer customers:

- Standard Residential: $5,719 per ERU
- Low-Demand Commercial (Nurseries, Warehouses, Churches, Truck Terminals, RV Parks/Storage Yards, Lumber/Construction Yards, and Public Storage Buildings): $360 (0.06 ERUs) per 1,000 SF
- High-Demand Commercial (Food/Beverage Establishments, Supermarkets, Car Washes, Coin Laundries, Amusement Parks, Shopping Centers with Food Service Establishments/Food Courts, Food Processing Facilities, Textile Manufacturers, Breweries): $5,309 (0.93 ERUs) per 1,000 SF
- Average-Demand Commercial (All other business types): $2,234 (0.39 ERUs) per 1,000 SF

The effective assignment of 0.93 ERUs per 1,000 SF to high-demand commercial users appears to be consistent with the 0.96 ERUs per 1,000 SF shown for high users in **Exhibit 6**. OCSD's structure appears to validate the proposed "high user" group, both in terms of the types of businesses included in it as well as the effective ERU assignment per 1,000 SF. OCSD's ERU assignment to other commercial users is roughly twice what we came up with for other users (0.39 vs. 0.19 ERUs per 1,000 SF), but that difference can possibly be explained by differences in the makeup of local businesses lumped into the "average-demand" classification (OCSD's service area has a considerably larger tourism sector than the District's service area).

Based on the relatively limited number of data points that we were able to find, the ERU assignments shown in **Exhibit 6** appear to be within reasonable bounds for the purpose of imposing GFCs. These ERU assignments should be based on building square footage rather than parcel square footage, which District staff indicated will be available for new development in most cases.

We have found that virtually all jurisdictions charge commercial customers for ongoing sewer service based on some variation of water usage, whether it is current billed usage or usage reported for the previous year. Equating building square footage to water consumption would require knowing the building square footage for all commercial customers, which would likely be cumbersome to generate and maintain over time. Consequently, we would recommend that the District continue to assign ERUs to commercial users based on water consumption – given that the District bills commercial customers for a minimum of 1 ERU, adopting the proposed ERU definition of 600 cf per month would enable the District to recover costs more equitably within the commercial class.

**Question #3: Considering various objectives such as revenue stability, affordability, equity, and simplicity, is the current ERU-based sewer rate structure still the best fit for the District?**

We believe that the District's current sewer rate structure is still the best fit for the District, given that it has a relatively established process for obtaining and processing water consumption data. As

shown in **Exhibit 1**, water consumption is by far the most common basis for imposing sewer rates on commercial users. While building square footage can provide a reasonable estimate of commercial wastewater flow generation for GFCs, it is objectively inferior (from the perspective of equitable cost recovery) to actual water consumption for ongoing service rates.

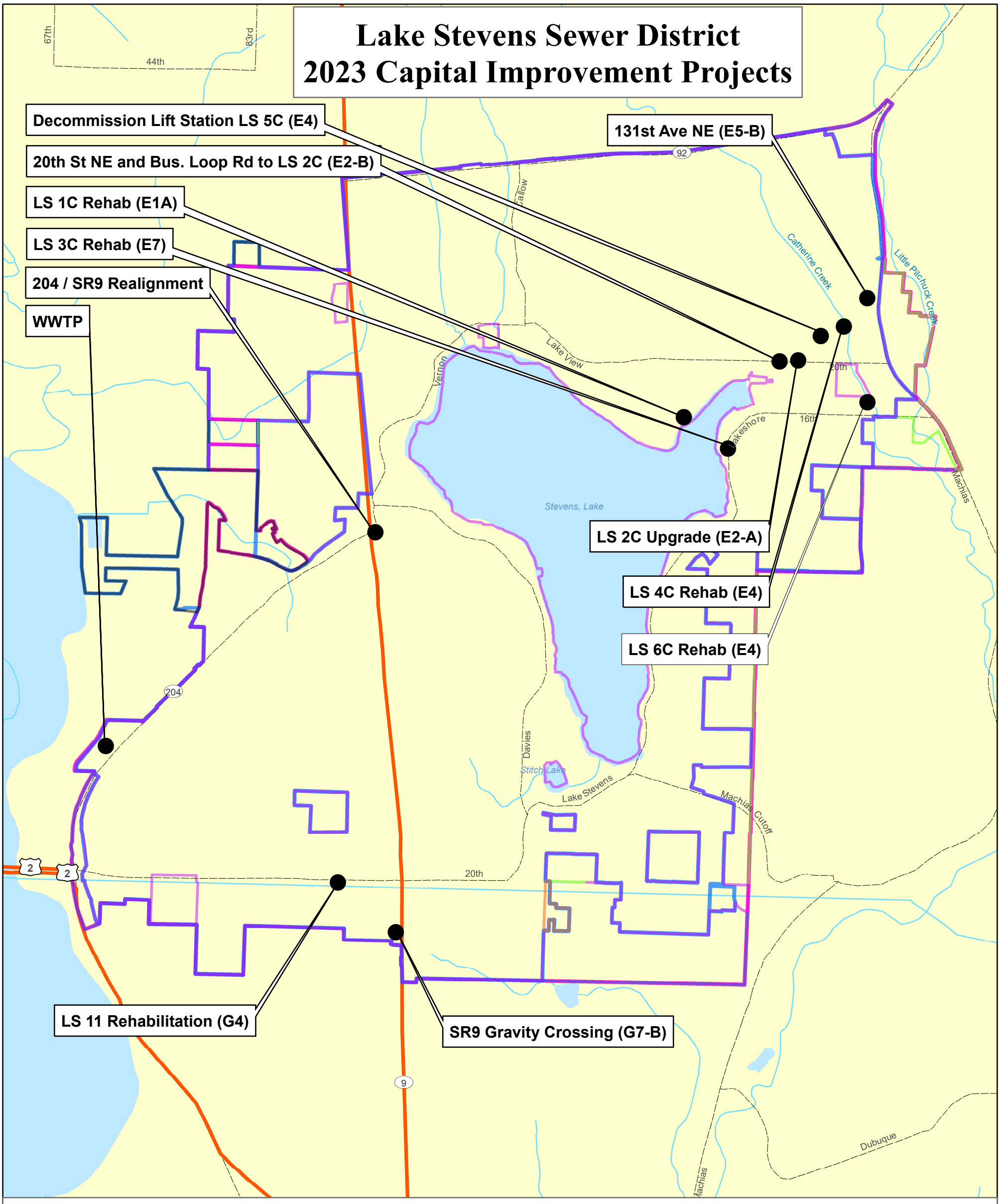
Though a couple of utilities that we surveyed charge different rates for customers in designated high-strength user categories, that appears to be relatively uncommon given the data requirements and the necessary reliance on a variety of assumptions. The District could further consider a high-strength commercial rate alternative in the future but doing so would likely require a concerted effort on the District's part to monitor and collect the necessary data to administer it. A high-strength sewer rate structure also arguably requires an appeal program for customers classified as high-strength users, as the lack of such a program could undermine the District's efforts to encourage businesses to implement pretreatment best-management practices. There would also need to be a process for monitoring customers that qualify to be reclassified under the "normal" strength category, ensuring that they undertake the maintenance needed to keep their pretreatment equipment operating as intended. Overall, the introduction of a high-strength rate class would improve equity in cost recovery but would significantly complicate the administration of the District's rate structure.

### Summary of Findings & Recommendations

We recommend that the District revise its ERU definition from 750 to 600 cf of monthly water usage. While multiple jurisdictions use 750 cf to define an ERU, that benchmark is relatively dated and does not account for the long-term decline in water consumption that has been observed in the Puget Sound region. Reducing the ERU from 750 to 600 cf per month will increase what most commercial customers pay, but more accurately capture the difference in impacts that businesses have on the system versus a typical single-family residence.

The District can consider simplifying its GFC structure, assigning ERUs to new commercial development based on building square footage. Based on the values shown in Exhibit 6, we would suggest assigning 1.20 ERUs per 1,000 SF to restaurants, grocery stores, and convenience stores, and 0.19 ERUs per 1,000 SF to all other commercial users. We recommend compiling a more comprehensive inventory of commercial building square footage over time, periodically revisiting these ERU values to ensure that they remain accurate and representative of the District's customer base.

# Lake Stevens Sewer District
# 2023 Capital Improvement Projects




Sewer District Only

UGA And City Limits

UGA Only

UGA and Sewer District

UGA,City,LSSD

## Wastewater Treatment Plant Improvements:

Annoxic Zone Wall Improvements,
TIN Optimization Report
Process Blower Enclosure Cooling
Mixed Liquor Alkalinity Addition System Improvements
Carbon Addition System
Membrane Replacement

N
W E
S

LAKE STEVENS SEWER DISTRICT

0 1,300 2,600 5,200 7,800 10,400 Feet

# SCHEDULE 5

| | COMPREHENSIVE PLAN PROJECTS | Estimated Cost [1] | Actuals[2] | Remaining Budget |
|---|---|---|---|---|
| 1. | Gravity Sewer System Repair & Replacement | $1,500,000.00 | $0.00 | $1,500,000.00 |
| 2. | Anoxic Zone Wall Improvements (WWTF) | $6,000.00 | $0.00 | $6,000.00 |
| 3. | TIN Optimization Report (WWTF) | $30,000.00 | $0.00 | $30,000.00 |
| 4. | 20th St NE & Bus. Loop Rd to LS 2C (E2-B) | $1,150,000.00 | $104,456.08 | $1,045,543.92 |
| 5. | SR 9 Gravity Crossing (G7-B) | $500,000.00 | $265,508.05 | $234,491.95 |
| 6. | LS 2C Upgrade (E2-A) | $2,700,000.00 | $189,331.20 | $2,510,668.80 |
| 7. | LS 2C Upgrade - Force Main (E2-C) | $2,730,000.00 | $116,094.64 | $2,613,905.36 |
| 8. | LS Decommission (Lift Sta) LS 5C (E4) | $491,000.00 | $25,301.54 | $465,698.46 |
| 9. | LS Rehab (Lift Sta) LS 4C (E4) | $504,000.00 | $14,264.43 | $489,735.57 |
| 10. | LS Rehab (Lift Sta) LS 6C (E4) | $715,000.00 | $14,264.44 | $700,735.56 |
| 11. | LS 11 Rehabilitation (G4) | $590,000.00 | $0.00 | $590,000.00 |
| 12. | Process Blower Enclosure Cooling (WWTF) | $87,200.00 | $0.00 | $87,200.00 |
| 13. | Mixed Liquor Alkalinity Addition System Improvements (WWTF) | $130,300.00 | $0.00 | $130,300.00 |
| 14. | Carbon Addition System (WWTF) | $231,100.00 | $0.00 | $231,100.00 |
| 15. | District Office Upgrades - Generator (VBC-A) | $250,000.00 | $12,135.33 | $237,864.67 |
| 15. | WWTF Membrane Replacement | $3,858,000.00 | $0.00 | $3,858,000.00 |
| 15. | LS 1C rehabilitation (E1-A) | $740,000.00 | $22,761.01 | $717,238.99 |
| 16. | LS 3C rehabilitation (E7) | $550,000.00 | $0.00 | $550,000.00 |
| 17. | 131st Avenue NE (E5-B) | $1,020,000.00 | $0.00 | $1,020,000.00 |
| | **Subtotal** | **$17,782,600.00** | **$764,116.72** | **$17,018,483.28** |

| | DETAILED CAPITAL PROJECTS | Estimated Cost | Actuals[2] | Remaining Budget |
|---|---|---|---|---|
| 18. | GE HMI Computer & VPN | $85,000.00 | $0.00 | $85,000.00 |
| 19. | SR204/SR9 Realignment | $131,917.00 | $70,174.14 | $61,742.86 |
| 20. | Micro-C 2000 TP Pilot Project | $85,000.00 | $0.00 | $85,000.00 |
| 21. | Vehicle Replacements | $230,000.00 | $0.00 | $230,000.00 |
| 22. | Collection System Pipe Repairs (annual amount) | $270,000.00 | $0.00 | $270,000.00 |
| | **Subtotal** | **$801,917.00** | **$70,174.14** | **$731,742.86** |
| | **TOTAL CAPITAL COSTS** | **$18,584,517.00** | **$834,290.86** | **$17,750,226.14** |

**Notes**

(1) Estimate from Comp plan, does not include allied costs (such as engineering, legal, etc.)

(2) Actuals through Dec 31, 2022

| District Development Name | District Project No | Development Location | ERU Count | Project Open Date | DEA Approval Date | Construction started | Title Xfr Record Date | GFC's Paid | 2-Year Inspection Date |
|---|---|---|---|---|---|---|---|---|---|
| BATCHELDOR DEA | 12205 | 11927 & 12009 20TH St SE | 80 | 4/29/2022 | 6/27/2022 | N | | | |
| CENTENNIAL SHORT PLAT | 12005 | 2105 131st Ave NE | 9 | 9/17/2020 | 10/22/2020 | N | | | |
| COSTCO LAKE STEVENS | 12002 | 2404 S Lake Stevens RD | 12.7 | 4/2/2020 | 9/22/2021 | Y | 11/23/2022 | 11/11/2022 | 11/23/2024 |
| DUNHAM HEIGHTS DEA | 12207 | 7xxx 10th St SE | 21 | 6/2/2022 | 7/28/2022 | N | | | |
| FAGERLIE DEA | 12209 | 12014 20th St SE & 12207 Williams Rd | 69 | 11/9/2022 | | N | | | |
| GOLD CREEK LAKE STEVENS | 12104 | 8002 8th St SE | 3 | 7/14/2021 | 10/28/2021 | N | | | |
| HILLCREST ESTATES | 11709 | 7625 10th St SE | 12 | 6/2/2017 | 7/3/2017 | Y | 11/29/2021 | 11/18/2021 | 11/29/2023 |
| HINTZ DEA | 11907 | 811 Rhodora Heights Rd | 10 | 7/24/2019 | 11/1/2019 | Y | 9/7/2021 | 9/3/2021 | 9/7/2023 |
| HISEY I DEA | 12204 | 119XX Machias Cutoff | 36 | 4/7/2022 | 4/28/2022 | N | | | |
| LAKE DR | 11905 | NHN Lake Dr | 48 | 3/27/2019 | 4/26/2019 | Y | 12/21/2021 | 12/21/2021 | 12/21/2023 |
| LEWANDOWSKI 2021 | 12106 | 2618 Cedar Rd | 2 | 12/6/2021 | 1/4/2022 | Y | 6/14/2022 | 6/10/2022 | 6/14/2024 |
| MATTSON HILL | 12206 | Lot 21, Rucker's Mill Plant No. 2 | 8 | 5/18/2022 | 11/18/2022 | N | | | |
| MOUNTAIN VIEW I DEA | 11713 | 910 123rd Ave SE | 100 | 8/10/2017 | 11/29/2018 | Y | 9/7/2021 | 9/3/2021 | 9/7/2023 |
| MOUNTAIN VIEW II DEA | 11911 | 910 123rd Ave SE | 91 | 12/2/2019 | 12/23/2019 | Y | 12/21/2021 | 12/21/2021 | 12/21/2023 |
| PELLERIN II DEA | 11809 | 10813,10913,10919,11007,11017 18th St SE | 104 | 9/14/2018 | 12/5/2018 | Y | 6/18/2021 | 6/18/2021 | 6/18/2023 |
| SEDONA DEA | 12001 | 9627 20th St SW | 38 | 1/21/2020 | 1/21/2020 | Y | 3/10/2021 | 2/24/2021 | 3/10/2023 |
| SMITH PROPERTY | 12103 | 9929 South Lake Stevens RD | 15 | 7/8/2021 | 10/14/2021 | N | | | |
| SOPER HILL COMMERCIAL 2022 | 12208 | 9023 Soper Hill Rd | 8 | 7/21/2022 | 8/1/2022 | Y | 9/26/2022 | 8/25/2022 | 9/26/2027* |
| STEVENS RIDGE ESTATES | 11607 | 502 West Davies Loop Road | 12 | 8/12/2016 | 9/30/2016 | Y | 4/18/2018 | PAYP | 4/18/2020 |
| STILLWATER DEA | 12202 | 524 S Davies Rd | 23 | 3/17/2022 | 8/11/2022 | N | | | |
| SKYLINE ELEMENTARY PORTABLES | 12102 | 1033 91st Ave SE | 0 | 4/20/2021 | 5/12/2021 | Y | 5/5/2022 | 5/2/2022 | 5/2/2024 |
| TOLL ESTATE SUBDIVISION | 12003 | 918 & 927 83rd Ave SE | 31 | 3/30/2020 | 6/12/2020 | Y | 1/24/2022 | 1/13/2022 | 1/24/2024 |
| VINJE HILLS ESTATES | 12203 | 1317 71ST Ave SE | 18 | 4/6/2022 | 5/11/2022 | Y | | | |
| WEST LAKE TOWNHOMES | 12101 | 10230 9th St SE | 27 | 4/14/2021 | 6/22/2021 | Y | | | |
| WRONA | 12105 | 10212 South Lake Stevens Rd | 36 | 9/3/2021 | 10/12/2021 | Y | 11/2/2022 | 10/21/2022 | 11/2/2024 |

| | | |
|---|---|---|
| | TOTAL OPEN DEA ERU COUNT | 813.7 |
| **1/20/2023 MRL** | TOTAL OPEN DEA ERU TO BE PAID | 309 |
| | TOTAL OPEN DEA ERU TO BE PAID UNDER CONSTRUCTION | 45 |

**Utility Committee Meeting Minutes**
**December 21, 2022, 4:00 pm**

City of Lake Stevens / Lake Stevens Sewer District
By remote participation via GoTo Meeting, Lake Stevens, Washington

1. **Called to Order:** 4:01 PM by Councilmember Marcus Tageant

2. **Roll Call** (2.17)**:** Lake Stevens Sewer District – Mariah Low, Johnathan Dix, Commissioner Dan Lorentzen, Commissioner Andrea Wright and Commissioner Kevin Kosche, City of Lake Stevens – Mayor Brett Gailey, Director Anya Warrington, Director Russ Wright, Director Barb Stevens, Director Aaron Halverson, Councilmember Marcus Tageant and Councilmember Gary Petershagen

3. **Public Forum –** None

4. **Project Review (4.20)**

   a. **Sewer Assumption Update**: Council member Petershagen opened up discussion on the topic, discussion occurred, no action was taken.

5. **Development Review (4.20)** Manager Low made a presentation, discussion occurred, no action was taken.

6. **Action Items**

   a. **Approval of Meeting Minutes-November 30, 2022-** MOTION. Commissioner Dan Lorentzen made a motion seconded by Commissioner Andrea Wright to approve the meeting minutes as presented. The motion passed unanimously.

7. **Schedule the Next Meeting (7.2)** Monthly meetings were agreed upon and will be the fourth Wednesday of each month. In order to accommodate the holiday break, January 25, 2023, was chosen as the next meeting date.

   **A.** Commissioner Lorentzen requested a brief update on Costco**.** Director Wright provided a brief update on this topic, discussion occurred, no action was taken.

8. **Adjourn –** MOTION. Councilmember Petershagen made a motion seconded by Mayor Gailey to adjourn the meeting**.** The Motion passed unanimously. The meeting adjourned at 4:24pm.

2023 Utility Committee Chair:

_____
Andrea Wright, Commissioner