



**CROSS VALLEY**  
WATER DISTRICT

# Water and Sewer Utility Rate Study

**Final Report**  
**October 2023**

 **FCS GROUP**  
Solutions-Oriented Consulting

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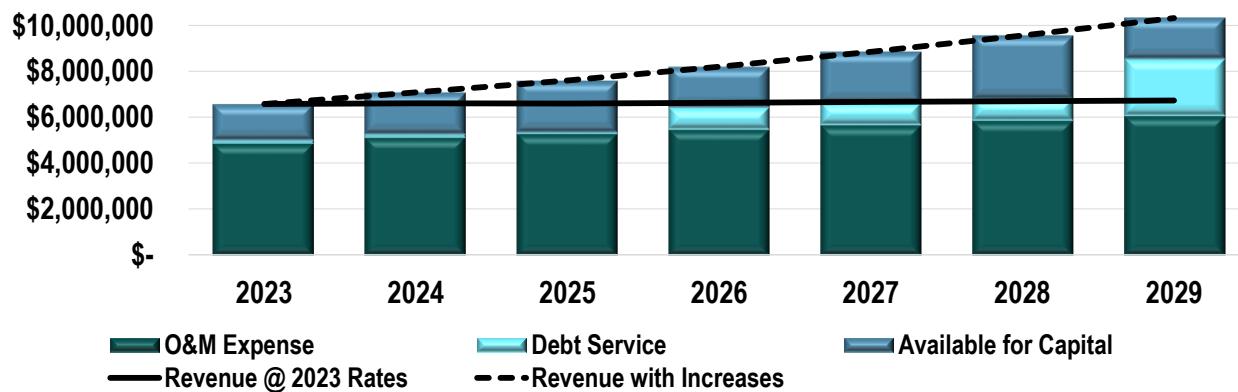
# EXECUTIVE SUMMARY

Cross Valley Water District (“District”) contracted with FCS GROUP in 2023 to review rates for its water and sewer utilities. This report summarizes the key findings and recommendations of the study, which was presented to the District’s Board of Commissioners on August 1, 2023.

## A. Water Rate Study

**Exhibit 1** provides a summary of the six-year financial plan for the water utility:

Exhibit 1: Water Financial Plan

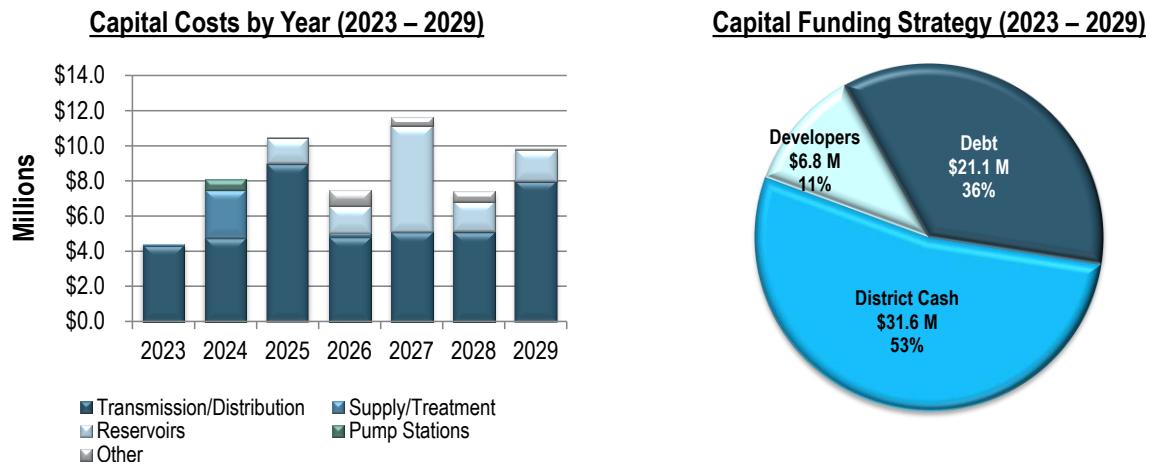


	Existing	Proposed				Projected		
		2023	2024	2025	2026	2027	2028	2029
Annual Rate Revenue Increase		8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
Bimonthly Residential Bill @ 16 ccf	\$120.46	\$130.07	\$140.56	\$151.78	\$163.92	\$176.95	\$191.15	
Change From Prior Year		+\$9.61	+\$10.49	+\$11.22	+\$12.14	+\$13.03	+\$14.20	

**Exhibit 1** suggests the District’s water rates are sufficient to cover current operating costs and debt service. Rate increases will be needed to generate cash funding for the water capital improvement program, as well as cover the payments on new debt issued to fund the planned capital projects. It is worth noting that the forecast assumes that the District’s cost of purchasing water will increase by 8.0% per year based on anticipated wholesale water rate increases from the City of Everett.

Summarized in **Exhibit 2** below, the District expects to fund approximately \$59.5 million in water capital projects between 2023 and 2029 including \$41.1 million in water main replacements and fire flow improvements, \$12.3 million in reservoir projects, \$3.3 million in supply and treatment projects, \$0.6 million in pump station improvements, and \$2.2 million for property acquisition and miscellaneous planning efforts. Recognizing recent trends in capital costs, the forecast assumes an annual construction cost inflation rate of 6.0%.

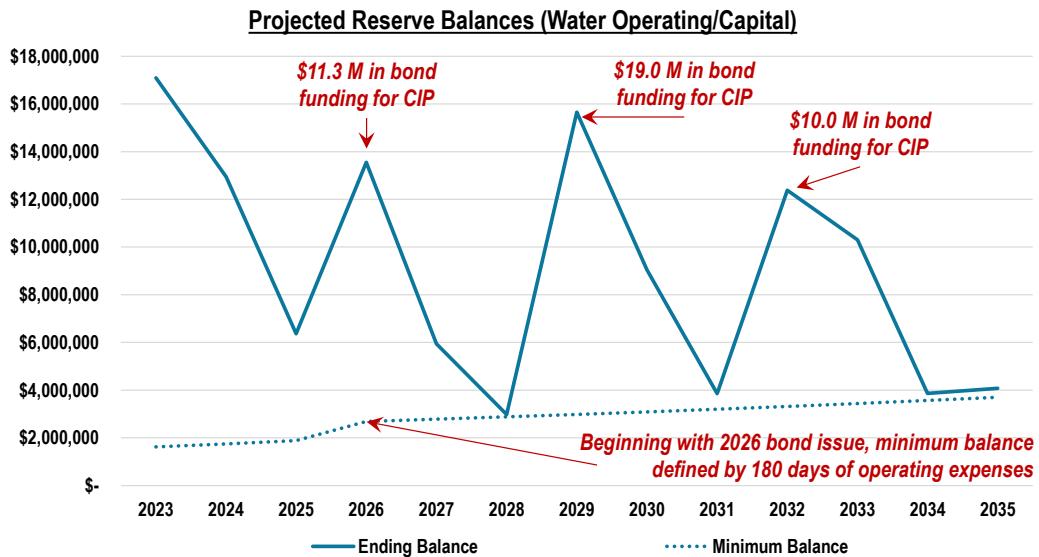
**Exhibit 2: Water Capital Plan**



**Exhibit 2** shows that the District's cash resources (including existing reserves, rate revenues, and connection charge revenues) are expected to be adequate to fund \$31.6 million (53%) of the projected costs through 2029. The District projects that developers will fund \$6.8 million (11%) in fire flow improvements. The remaining \$21.1 million (36%) is expected to require external funding. Assuming that the District issues 20-year revenue bonds with an interest rate of 4.0% to cover these costs, this borrowing will increase the water utility's total annual debt service by \$2.4 million.

**Exhibit 3** provides a long-term financial forecast for the water utility.

**Exhibit 3: Long-Term Water Utility Financial Forecast (Assuming 8.0% Annual Water Rate Increases)**



**Exhibit 3** shows the water utility ending 2023 with \$17.1 million in reserves that it draws down steadily with the planned capital projects. The first bond issue is projected to occur in 2026, providing the funding needed to cover projected capital expenditures from 2026 – 2028. A second

bond issue is expected to occur sometime around 2029, providing funding to cover the planned 2029 – 2031 expenditures (the bond issuance summarized in **Exhibit 2** includes only the portion of the bond attributable to 2029 costs). Longer-term, another bond issue is projected to occur around 2032.

Beginning with the first bond issue in 2026, the financial plan assumes that the District sets its utility rates to maintain a minimum unrestricted cash balance (excluding restricted bond reserves) of 180 days of operating expenses. The bond rating agencies have recommended this policy for municipalities seeking to optimize their bond ratings and secure the most favorable interest rates. **Exhibit 3** shows the minimum balance target jumping up in 2026 as a result of this policy assumption; the debt issues are sized to fund capital needs in excess of other cash resources, managing the combined reserve balance to the targeted minimum balance.

**Exhibit 4** provides a schedule of water rates based on this recommended strategy.

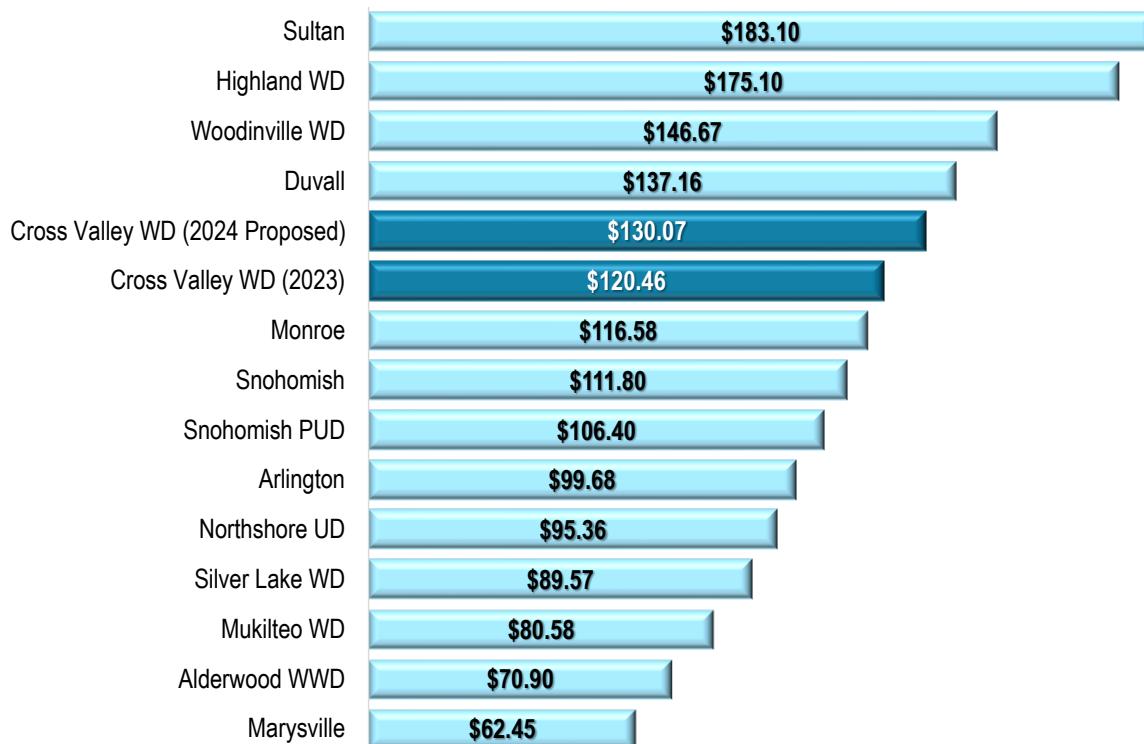
**Exhibit 4: Water Rate Forecast**

Bimonthly Water Rate Schedule	Existing	Proposed			Projected		
	2023	2024	2025	2026	2027	2028	2029
<b>Residential Customers</b>							
Bimonthly Base Rate	\$66.90	\$72.30	\$78.10	\$84.30	\$91.10	\$98.30	\$106.20
Bimonthly Rate per Additional Unit	\$66.90	\$72.30	\$78.10	\$84.30	\$91.10	\$98.30	\$106.20
Consumption Charges per 100 Cubic Feet							
0 – 1,500 Cubic Feet	\$3.31	\$3.57	\$3.86	\$4.17	\$4.50	\$4.86	\$5.25
1,501 – 3,000 Cubic Feet	\$3.91	\$4.22	\$4.56	\$4.93	\$5.32	\$5.75	\$6.20
3,001 – 6,000 Cubic Feet	\$5.12	\$5.53	\$5.97	\$6.45	\$6.97	\$7.52	\$8.12
6,001+ Cubic Feet	\$6.67	\$7.20	\$7.78	\$8.40	\$9.07	\$9.80	\$10.58
<b>Non-Residential/Mixed-Use Customers</b>							
Bimonthly Base Rate							
5/8" x 3/4" Meter	\$66.90	\$72.30	\$78.10	\$84.30	\$91.10	\$98.30	\$106.20
3/4" x 3/4" Meter	\$80.30	\$86.80	\$93.70	\$101.20	\$109.30	\$118.00	\$127.50
1" Meter	\$133.80	\$144.60	\$156.10	\$168.60	\$182.10	\$196.60	\$212.40
1-1/2" Meter	\$267.60	\$289.10	\$312.20	\$337.10	\$364.10	\$393.20	\$424.70
2" Meter	\$428.20	\$462.50	\$499.50	\$539.50	\$582.60	\$629.20	\$679.50
3" Meter	\$802.80	\$867.10	\$936.40	\$1,011.30	\$1,092.30	\$1,179.60	\$1,274.00
4" Meter	\$1,338.00	\$1,445.10	\$1,560.70	\$1,685.50	\$1,820.40	\$1,966.00	\$2,123.30
6" Meter	\$2,676.00	\$2,890.10	\$3,121.30	\$3,371.00	\$3,640.70	\$3,932.00	\$4,246.50
Bimonthly Rate per Additional Unit	\$66.90	\$72.30	\$78.10	\$84.30	\$91.10	\$98.30	\$106.20
Consumption Charges per 100 Cubic Feet							
0 – 1,500 Cubic Feet	\$3.31	\$3.57	\$3.86	\$4.17	\$4.50	\$4.86	\$5.25
1,501 – 3,000 Cubic Feet	\$3.91	\$4.22	\$4.56	\$4.93	\$5.32	\$5.75	\$6.20
3,001 – 6,000 Cubic Feet	\$5.12	\$5.53	\$5.97	\$6.45	\$6.97	\$7.52	\$8.12
6,001+ Cubic Feet	\$6.67	\$7.20	\$7.78	\$8.40	\$9.07	\$9.80	\$10.58
<b>Fire Protection Customers</b>							
Bimonthly Base Rate							
2" Detector Check	\$26.80	\$29.00	\$31.30	\$33.80	\$36.50	\$39.40	\$42.60
3" Detector Check	\$50.20	\$54.30	\$58.60	\$63.30	\$68.30	\$73.80	\$79.70
4" Detector Check	\$83.60	\$90.30	\$97.60	\$105.40	\$113.80	\$122.90	\$132.70
6" Detector Check	\$167.30	\$180.70	\$195.20	\$210.80	\$227.70	\$245.90	\$265.50
8" Detector Check	\$267.60	\$289.10	\$312.20	\$337.10	\$364.10	\$393.20	\$424.70
10" Detector Check	\$384.70	\$415.50	\$448.80	\$484.70	\$523.40	\$565.30	\$610.50
Consumption Charge per 100 Cubic Feet	\$6.67	\$7.20	\$7.78	\$8.40	\$9.07	\$9.80	\$10.58

The rate schedule shown in **Exhibit 4** reflects annual water rate increases of 8.0% based on the assumption that the District will issue revenue bonds to cover \$21.1 million in capital project costs that are expected to exceed its available cash resources. The District is in the process of pursuing low-cost loans through the Public Works Trust Fund as well as other state and federal assistance programs – if the District is successful in securing funding through these programs, it may be able to implement lower rate increases in future years.

The District's Water System Plan defines the average daily demand of a typical single-family home as 207.4 gallons per day, which equates to roughly 800 cubic feet of water per month (1,600 cubic feet bimonthly). **Exhibit 5** provides a comparison of the bimonthly water bill of a single-family residence (with a 5/8" x 3/4" meter) using 1,600 cubic feet of water under the District's rates versus those of neighboring communities.

**Exhibit 5: Bimonthly Single-Family Water Bill at 1,600 Cubic Feet**

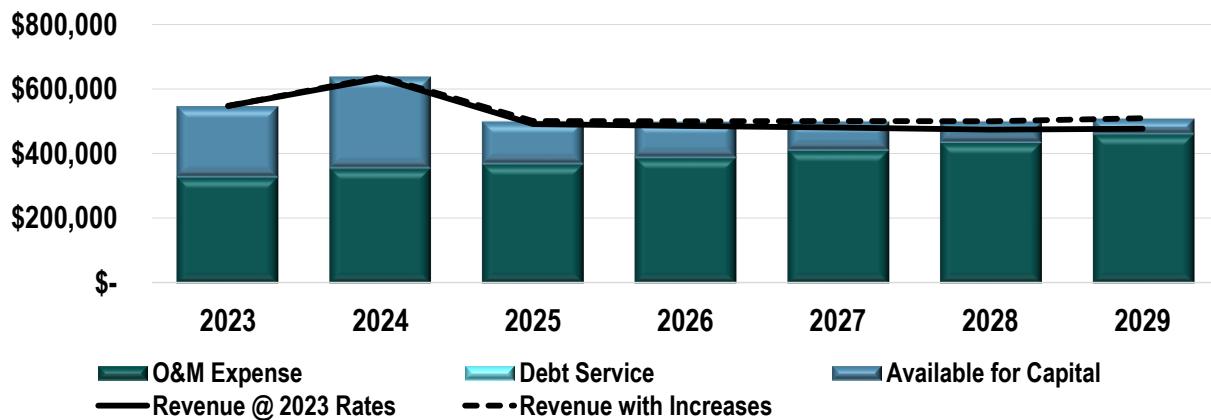


**Exhibit 5** shows that under the District's current water rates, the average bimonthly bill for a single-family residence using 1,600 cubic feet falls within the top third of the survey group but is notably lower than the bills that would be charged in several of the surveyed jurisdictions. The proposed 2024 rate increase of 8% is not expected to materially impact the District's relative ranking in the comparison.

## B. Sewer Rate Study

**Exhibit 6** provides a summary of the six-year financial plan for the sewer utility:

**Exhibit 6: Sewer Financial Plan**



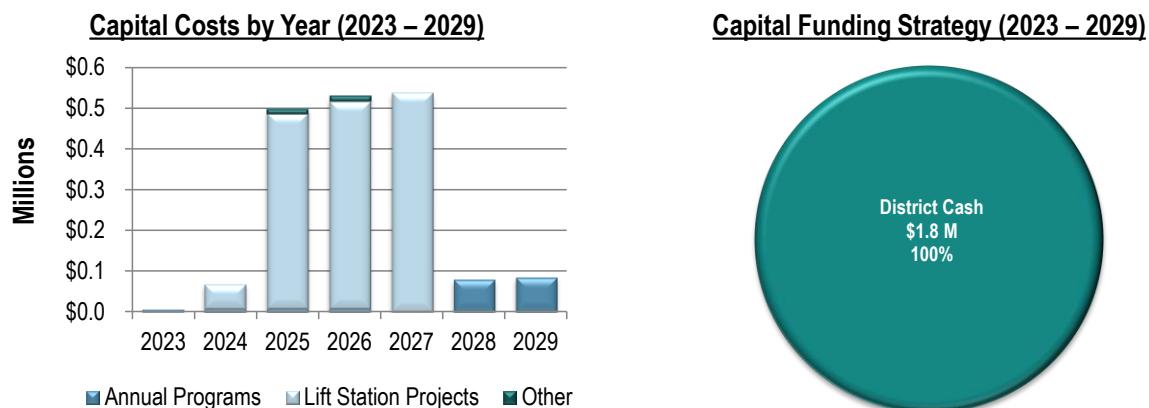
	Existing	Proposed				Projected		
		2023	2024	2025	2026	2027	2028	2029
Annual Rate Revenue Increase			6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
District Collection Charge	\$ 95.10	\$100.81	\$106.94	\$113.30	\$120.08	\$127.30	\$134.95	
King County Treatment Charge <sup>1</sup>	104.22	110.22	116.56	123.28	131.30	139.84	148.94	
Bimonthly Residential Bill @ 16 ccf	\$199.32	\$211.03	\$223.50	\$236.58	\$251.38	\$267.14	\$283.89	
Change From Prior Year		+\$11.71	+\$12.47	+\$13.08	+\$14.80	+\$15.76	+\$16.75	

<sup>1</sup>Based on King County's 2024 – 2033 wastewater rate forecast, dated April 5, 2023.

**Exhibit 6** suggests that rate increases are needed throughout the forecast to cover the utility's operational obligations as well as generate funding for future capital needs.

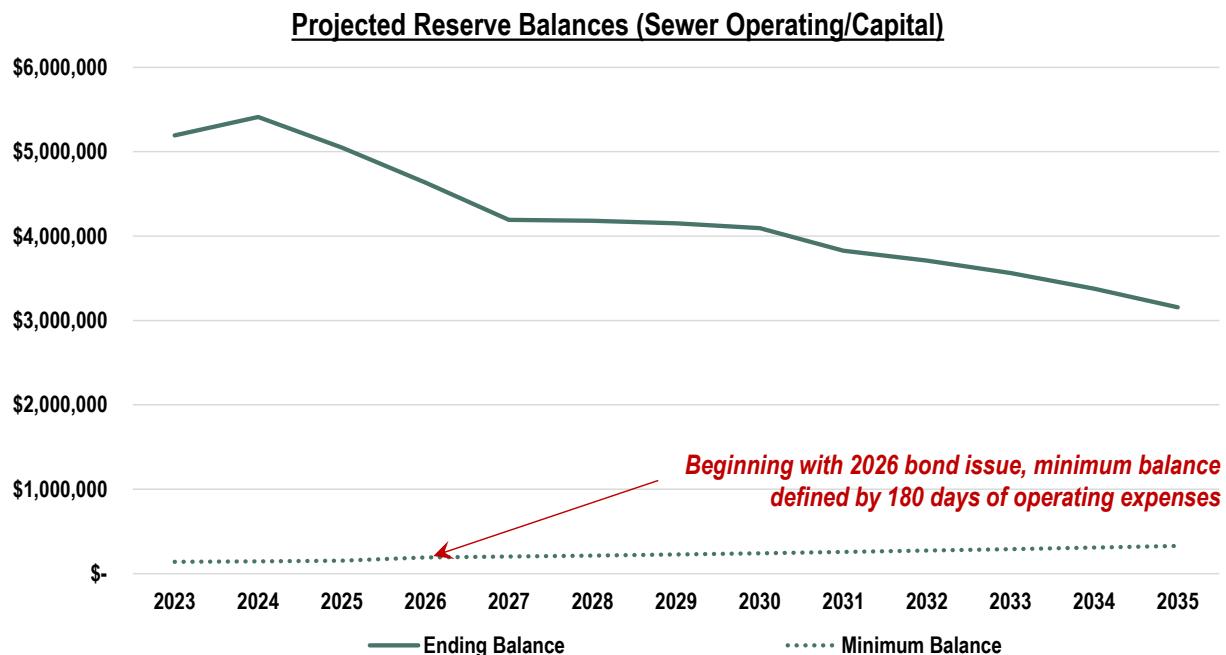
Summarized in **Exhibit 7** below, the District expects to fund approximately \$1.8 million in sewer capital projects between 2023 and 2029 including \$1.6 million in lift station upgrades, \$30,000 in capacity and inflow and infiltration (I&I) monitoring projects, and \$27,000 in manhole rehabilitation projects. The total projected capital cost also includes a provision of \$160,000 for ongoing replacement projects in 2028 and 2029.

**Exhibit 7: Sewer Capital Plan**



**Exhibit 7** shows the sewer utility covering the entire projected capital cost with its cash resources including existing reserves and rate revenues. **Exhibit 8** provides a long-term financial forecast for the sewer utility.

**Exhibit 8: Long-Term Sewer Utility Financial Forecast (Assuming 6.0% Annual Sewer Rate Increases)**



**Exhibit 8** shows the sewer utility ending 2023 with \$5.2 million in reserves that it draws down by approximately \$1.0 million from 2024 – 2027 as it completes the planned sewer capital projects. Even with 6.0% annual sewer rate increases, the combined reserve balance is projected to fall by another \$1.0 million by 2035. While the balance appears to remain well above the minimum balance (which, beginning in 2026, increases to 180 days of operating expenses consistent with the water utility, as the water utility's bond issue will be secured by the revenues of both utilities), a higher reserve balance is appropriate for the sewer utility given uncertainty surrounding if and when it will expand its service area into the Rural/Urban Transition Area (RUTA) and the capital improvements that will be required as part of that process.

**Exhibit 9** provides a schedule of sewer rates based on this recommended strategy.

**Exhibit 9: Sewer Rate Forecast**

Bimonthly Sewer Rate Schedule	Existing	Proposed				Projected		
	2023	2024	2025	2026	2027	2028	2029	
King County Treatment Rate <sup>1</sup>	\$104.22	\$110.22	\$116.56	\$123.28	\$131.30	\$139.84	\$148.94	
Cross Valley Collection Rate <sup>2</sup>								
Collection Fixed Rate	\$88.30	\$93.60	\$99.30	\$105.20	\$111.50	\$118.20	\$125.30	
Collection Volume Rate per 100 Cubic Feet <sup>3</sup>	\$6.80	\$7.21	\$7.64	\$8.10	\$8.58	\$9.10	\$9.65	

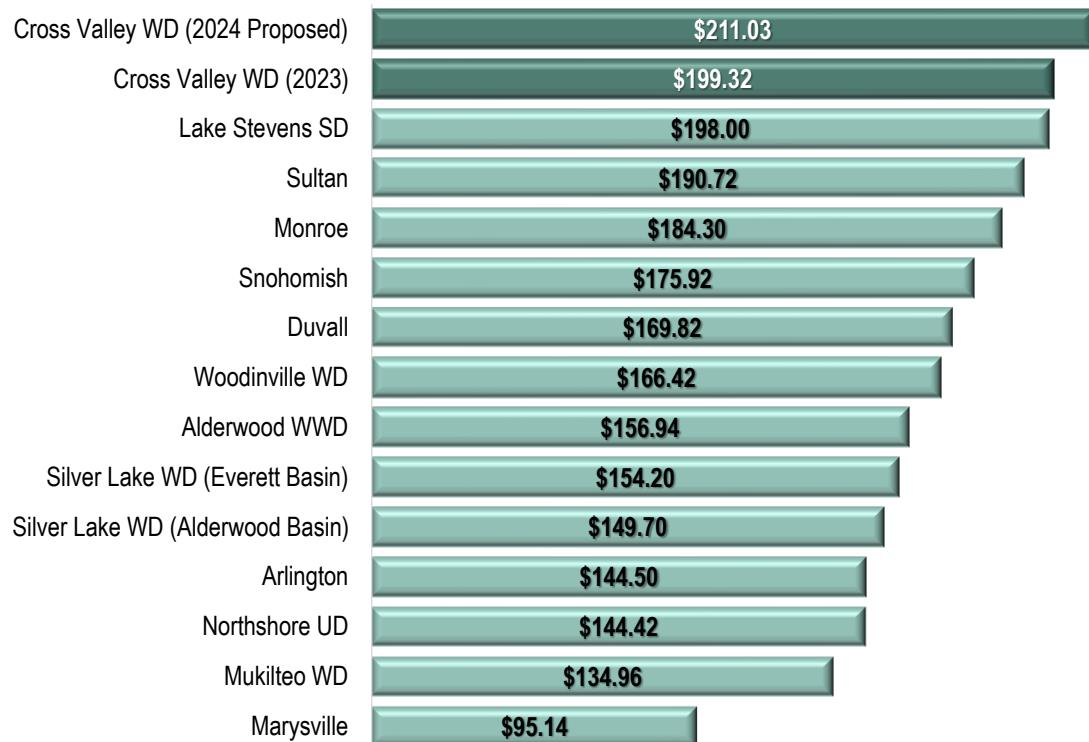
<sup>1</sup>Based on King County's 2024 – 2033 wastewater rate forecast, dated April 5, 2023.

<sup>2</sup>Applies only to customers receiving sewer service from Cross Valley Water District. Customers receiving sewer service from Silver Lake Water & Sewer District pay SLWSD passthrough charges instead of Cross Valley Water District's collection rate.

<sup>3</sup>Applies to metered water consumption above 1,500 cubic feet per bimonthly billing period.

**Exhibit 10** provides a comparison of the bimonthly sewer bill of a single-family residence using 1,600 cubic feet of water under the District's rates versus those of neighboring communities.

**Exhibit 10: Bimonthly Single-Family Sewer Bill at 1,600 Cubic Feet**



**Exhibit 10** shows that the District's sewer rates are the highest in the survey group. The key drivers behind this finding include:

- ***Economies of Scale:*** With only 113 sewer customers, the District's sewer system has a relatively limited customer base across which it can spread the largely fixed costs of providing sewer service. The other surveyed jurisdictions serve customer bases that are orders of magnitude larger than the District's customer base – with roughly 2,000 – 2,500

customers each, Sultan and Duvall have the next smallest sewer systems in the survey group. Given that many of a sewer utility's costs do not scale proportionately with the size of the utility, larger utilities can simply spread fixed costs over a greater number of customers.

- **Different Wastewater Treatment Providers:** The District's bimonthly sewer bills include King County's wastewater treatment charge, which is currently \$104.22 and forecasted to increase to \$110.22 in 2024. King County's charges are relatively high and reflect the anticipated cost of operating and maintaining regional transmission lines and treatment facilities across King County's service area. Many of the other jurisdictions shown in **Exhibit 10** do not use King County for wastewater treatment and pay less for treatment as a result.

## C. Combined Utility Bill

**Exhibit 11** summarizes the forecasted impacts of the proposed rates to a single-family customer.

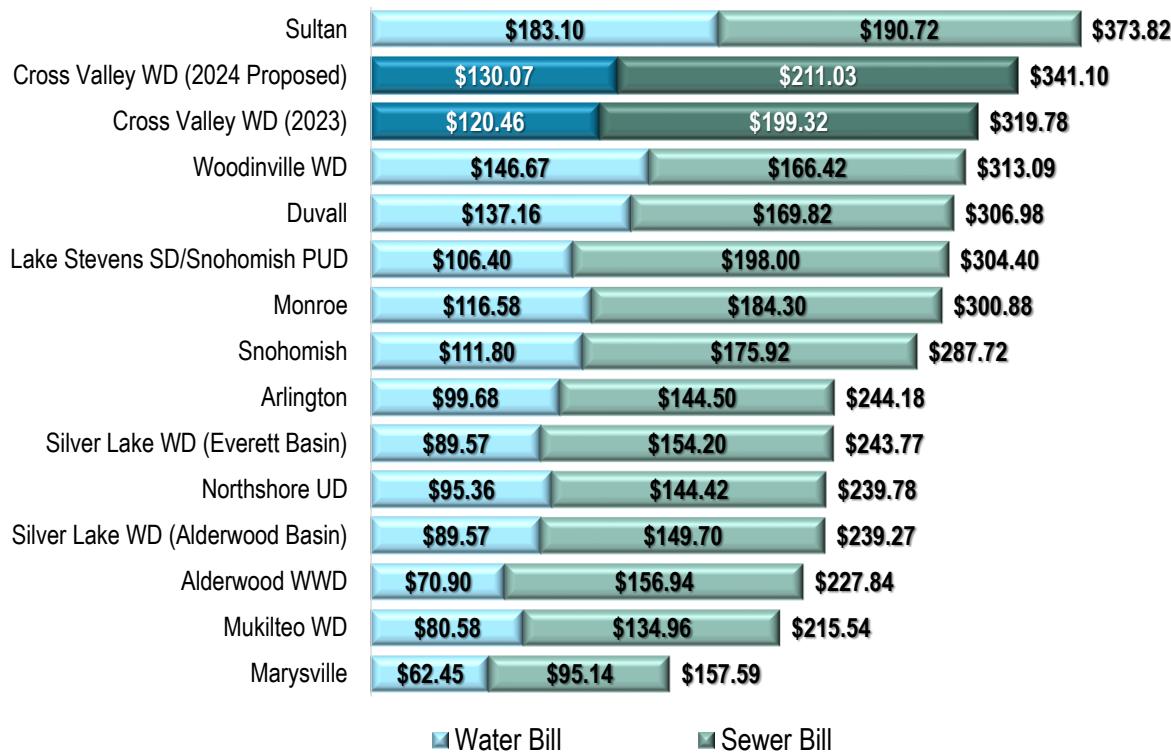
**Exhibit 11: Single-Family Utility Bill Forecast (5/8" x 3/4" Meter, 1,600 Cubic Feet of Water Usage)**

Bimonthly Bill Forecast	Existing	Proposed				Projected		
		2023	2024	2025	2026	2027	2028	2029
Water Base Rate	\$ 66.90	\$ 72.30	\$ 78.10	\$ 84.30	\$ 91.10	\$ 98.30	\$106.20	
Water Volume Charge	53.56	57.84	62.47	67.47	72.87	78.70	84.99	
Sewer Base Rate	88.30	93.60	99.30	105.20	111.50	118.20	125.30	
Sewer Volume Rate	6.80	7.21	7.64	8.10	8.58	9.10	9.65	
King County Treatment Rate	<u>104.22</u>	<u>110.22</u>	<u>116.56</u>	<u>123.28</u>	<u>131.30</u>	<u>139.84</u>	<u>148.94</u>	
Total	\$319.78	\$341.17	\$364.07	\$388.35	\$415.35	\$444.14	\$475.08	
Change from Prior Year		+\$21.39	+\$22.90	+\$24.28	+\$27.00	+\$28.79	+\$30.94	
Percent Change from Prior Year		+6.7%	+6.7%	+6.7%	+7.0%	+6.9%	+7.0%	

**Exhibit 11** shows that the average bimonthly utility bill for a typical single-family residence will increase by 6.7% – 7.0% per year from 2024 – 2029. It is worth noting that while only a limited number of customers currently receive both water service and sewer service from the District, the District expects that number to increase over time as additional townhouse and mixed-use housing units are constructed in its sewer service area.

**Exhibit 12** provides a comparison of the bimonthly water and sewer bill of a single-family residence using 1,600 cubic feet of water under the District's rates versus those of neighboring communities.

**Exhibit 12: Combined Bimonthly Single-Family Water and Sewer Bill at 1,600 Cubic Feet**



It is worth noting that each jurisdiction has a unique set of geographic traits, customers, and system characteristics that can have a significant impact on rates. **Exhibit 12** shows that the combined water/sewer bill under the District's rates is near the top of the survey group, primarily due to the District's sewer rates. As previously noted, relatively few of the District's customers currently pay both its water rates and its sewer rates – based on planned development projects, the District expects the number of customers receiving both services to grow as new townhouses are constructed. This growth would also have the beneficial effect of spreading the District's fixed sewer utility operating costs over a greater number of customers, reducing the average cost per customer.

## D. Other Considerations

It is important to note that these findings rely on a number of economic, financial, and planning assumptions. While FCS GROUP has used reputable sources of information to formulate these assumptions (and validate them with District staff) where possible, the actual financial performance of the District's utilities may differ from the projections summarized in this report due to uncontrollable factors. There are a variety of these factors that could impact the viability of the near-term financial plans, including:

- **Inflation:** Despite recent cost increases, the rate forecasts assume general cost inflation of 3.0% per year after 2024 based on long-term inflationary trends in the Consumer Price Index (CPI) for the Seattle Metropolitan Area. In the context of the Washington State Economic & Revenue Forecast Council's projections for inflation in the Seattle CPI (which drop down to

roughly 2.0% per year after 2024), this assumption seems relatively conservative. However, if inflation continues at recent elevated levels for a prolonged period, higher rate increases may be needed.

- **Regulatory Requirements:** Unanticipated environmental regulations may require additional investments in infrastructure and/or increase ongoing operating costs for the District's wholesale service providers, which may in turn lead to unanticipated increases in the District's costs for water purchases and wastewater treatment.
- **Grant/Loan Opportunities:** District staff continue to pursue grants and low-cost loans to fund its capital projects. If the District is successful in obtaining these funding sources, it might be able to reduce future rate increases.

We recommend that the District monitor the financial position of its utilities regularly and take action as needed to address any unanticipated expenses or revenue losses. It would be prudent for the District to conduct a “refresh” of the financial plans as part of the 2027 budgeting process.