

Proposed 2025 Sewer Rate and Capacity Charge and 2025-2034 Financial Forecast

May 2024



King County

Table of Contents

Table of Figures.....	3
Executive Summary.....	4
Introduction.....	5
Operating Expenditures	9
Operating Forecast.....	9
WTD Operating Expenditures Forecast.....	10
Capital Improvement Program (CIP)	10
Portfolio Management.....	10
2023 Performance and Accomplishment Rate	11
Estimated CIP Spending for 2025-2034 Financial Forecast	12
Capital Expenditure Delivery Capacity Analysis	14
Capital Improvement Program Funding	17
Cash Funding.....	17
Debt Financing	17
Reserves Management	22
Water Quality Operating Fund 4611.....	23
Water Quality Construction Fund 3611	23
Debt Reserves 8921 and 8922	24
Revenue.....	24
4	
Revenue Requirement	25
Sewer Rate	27
Capacity Charge	30
Revenue	33
Reference.....	34
4	
Supplemental WTD Debt Information	34
Types of WTD Financing.....	34
Forecast Assumptions	35
2023 Wastewater Treatment Division Financial Performance.....	36
Contaminants of Emerging Concern (e.g., PFAS) – Cost Tracking	38
Appendix. A.....	41

Table of Figures

Figure 1 Proposed 2025 Sewer Rate and Projected 2026-2034 Sewer Rate	4
Figure 2 Adopted 2024 Sewer Rate and 2024-2033 Financial Forecast	5
Figure 3 Proposed 2025 Capacity Charge and Projected 2026-2030 Capacity Charge.....	5
Figure 4 System Map.....	7
Figure 5 2023 Average Reported RCEs by Local Sewer Agency	8
Figure 6 2023-2024 Operating Expenses (\$ '000s)	9
Figure 7 Historical Annual Increase in Operating Expenditures	9
Figure 8 Capital Portfolio Category Descriptions.....	11
Figure 9 Historical Accomplishment Rates for the Capital Program (\$ in millions).....	12
Figure 10 WTD 2025-2034 Financial Forecast CIP Investment Strategy.....	13
Figure 11 CIP Components for the 2025-2034 Financial Forecast.....	15
Figure 12 CIP Accomplishment Rate Forecast	15
Figure 13 2025 Proposed and 2024 Adopted 2024-2034 Projected Spending.....	16
Figure 14 Proposed Capital Investments by Portfolio Category for Ten-Year Forecast	16
Figure 15 Capital Funding Sources.....	18
Figure 16 Existing and New Debt Balances	18
Figure 17 Sample Defeasance	21
Figure 18 Summary of WTD Reserves.....	22
Figure 19 Surety Bond Summary	24
Figure 20 Operating Revenue Components Sorted by Size	25
Figure 21 2025 - 2034 Sewer Rate Forecast Revenue Requirement	26
Figure 22 Proposed 2025 Sewer Rate and 2026-2034 Forecast [also available on page 4]	26
Figure 23 History of WTD DSC and Ratings.....	27
Figure 24 RCE Reporting to Sewer Rate Billing Lag.....	27
Figure 25 Reported SFRs and Flow-Based RCEs by Quarter (2011-2023).....	28
Figure 26 Historical Sewer Rate Increases (1990-2024)	29
Figure 27 Adopted 2024 Sewer Rate and 2025-2033 Forecast	29
Figure 28 Proposed 2025 Sewer Rate and 2026-2034 Forecast.....	30
Figure 29 Historical Capacity Charge Increases (2003-2024).....	31
Figure 30 Proposed 2025 Capacity Charge and Projected 2026-2030 Capacity Charge [also available on page 5].....	32
Figure 31 Historical Capacity Charge Ongoing Payments and Prepayments (2012-2023)	33
Figure 32 2023 Year-End Outstanding Debt Balances	34
Figure 33 Forecast Assumptions Used in Financial Forecast	36
Figure 34 Wastewater Treatment 2023 Forecast vs. Preliminary 2023 Actuals.....	37

Executive Summary

Wastewater Treatment Division (WTD) Goals for 2025 Sewer Rate Development

- Increase **reliability** at West Point Treatment Plant and across the King County Wastewater system.
- Address the most critical **asset management** needs to reduce risk and ensure service provision.
- Reflect increasing **regulatory requirements** with new projects and staff.
- Accommodate **growth-related demand** with capacity enhancements.
- Reflect **King County priorities**: Clean Water Healthy Habitat, Strategic Climate Action Plan, Equity and Social Justice and others.^{1, 2, 3}
- **Meet key financial metrics** only charging what we will spend.
- Propose a 2025 rate and 10-year rate forecast that realistically **reflects high-priority system investments**.

Committee Engagement

WTD engaged the Metropolitan Water Pollution Abatement Advisory Committee (MWPAAC) Rates and Finance Subcommittee throughout 2023 on topics related to the sewer rate, including financial policy and rate-setting methodology. Beginning in January 2024, WTD engaged with the full MWPAAC and its Rates and Finance Subcommittee to share findings from early policy direction that informs the preliminary sewer rate forecast for 2025-2034. Details under consideration for the updated sewer rate forecast were shared by WTD staff in these forums, including costs and timing of capital investments.

The process to develop the proposed 2025 sewer rate included providing additional briefings earlier in the year for the Regional Water Quality Committee (RWQC) than in past years. The RWQC expressed interest in informing high-level policy direction that guides WTD’s sewer rate and financial forecast development. RWQC provided input following presentations by WTD of the preliminary sewer rate forecast in February and the proposed sewer rate in March.

The proposed 2025 sewer rate is \$58.28, or a 5.75 percent increase over the 2024 rate of \$55.11. The 2025-2034 sewer rate forecast shown in **Figure 1** includes smoothed annual increases rising from 7.00 percent annually through 2028, to 8.25 percent between 2029 and 2031, and 9.25 percent beginning in 2032.⁴ A smoothed sewer rate forecast allows for the collection of revenues that exceed expenditures in a given year and less than expenditures in subsequent years to fully fund the utility over the forecast period. These rate increases enable WTD to fund the projected Capital Improvement Program (CIP) and perform operations and maintenance.

Figure 1 Proposed 2025 Sewer Rate and Projected 2026-2034 Sewer Rate

2025-2034 Rate Forecast	Adopted	Proposed									
2025 Proposed Sewer Rate	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Rate Increase %	5.75%	5.75%	7.00%	7.00%	7.00%	8.25%	8.25%	8.25%	9.25%	9.25%	9.25%
Monthly Sewer Rate	\$55.11	\$58.28	\$62.36	\$66.73	\$71.41	\$77.31	\$83.69	\$90.60	\$98.99	\$108.15	\$118.16
Rate Increase \$	\$3.00	\$3.17	\$4.08	\$4.37	\$4.68	\$5.90	\$6.38	\$6.91	\$8.39	\$9.16	\$10.01

For reference, the 2024 sewer rate forecast is shown in **Figure 2**.

¹ More information on Clean Water Healthy Habitat is [here](#).

² The Equity and Social Justice Strategic Plan is available [here](#).

³ More information on the Strategic Climate Action Plan is [here](#).

⁴ In this context “smoothed annual increases” refers to avoidance of year-to-year volatility in the sewer rate.

Figure 2 Adopted 2024 Sewer Rate and Projected Sewer Rate from 2024-2033 Financial Forecast

2024-2033 Rate Forecast	Adopted										
2024 Adopted Sewer Rate	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Rate Increase %	5.75%	5.75%	5.75%	6.50%	6.50%	6.50%	7.00%	7.00%	7.00%	7.00%	
Monthly Sewer Rate	\$55.11	\$58.28	\$61.64	\$65.65	\$69.92	\$74.47	\$79.69	\$85.27	\$91.24	\$97.63	
Rate Increase \$	\$3.00	\$3.17	\$3.36	\$4.01	\$4.27	\$4.55	\$5.22	\$5.58	\$5.97	\$6.39	

The proposed capacity charge is \$76.09, or a 2.5 percent increase over the 2024 rate of \$74.23. The financial forecast incorporates capacity charge revenue increases as shown in **Figure 3**.

Figure 3 Proposed 2025 Capacity Charge and Projected 2026-2030 Capacity Charge

Capacity Charge	2024	2025	2026	2027	2028	2029	2030
Monthly Charge	\$74.23	\$76.09	\$77.99	\$79.94	\$81.94	\$83.99	\$86.09
Increase %	2.4%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Increase \$	\$2.05	\$1.86	\$1.90	\$1.95	\$2.00	\$2.05	\$2.10
Annual Total	\$891	\$913	\$936	\$959	\$983	\$1,008	\$1,033
Total Payments (15 years)	\$13,361	\$13,696	\$14,038	\$14,389	\$14,749	\$15,118	\$15,496
Upfront Payment*	\$10,105	\$10,358	\$10,616	\$10,882	\$11,154	\$11,433	\$11,719

*Discount rate of 4.01%

Key Assumptions for the Proposed 2025-2034 Financial Forecast

- Mouth of the Duwamish Combined Sewer Overflow (MDCSO) project contingency reallocated from 2034 to 2029-2034 to reflect likely programmatic delivery.
- New conceptual projects, updated conceptual project forecasts, and updated forecasts for projects currently in delivery. These changes are discussed in more detail in Section IV (Estimated CIP Spending for 2025-2034 Financial Forecast).
- Operating costs re-baselined to capture recent inflation (i.e., significant electric and chemical cost increases). Forecast includes higher inflation assumptions through 2025 before returning to long-term average of three percent for general inflation and four percent for labor inflation.
- Near-term growth in operating costs averaging 3.5 percent annually through 2027 and then returning to long-term assumption of 1.5 percent.

Introduction

King County Wastewater Treatment Division

The Wastewater Treatment Division (WTD) of the Department of Natural Resources and Parks (DNRP) is a utility providing wholesale wastewater treatment and major conveyance for 34 local sewer agencies (cities and districts) in the Puget Sound region. Distributed over a 424-square-mile service area, the King County (County) sewer system collects and treats an average of 184 million gallons of sewage a day from approximately two million residents. WTD’s service area map can be found in **Figure 4**.

2025 Sewer Rate Technical Memorandum

WTD is responsible for the construction, operation, and maintenance of the County’s regional wastewater conveyance and treatment system. The system includes three regional secondary treatment plants (West Point in Seattle, South Plant in Renton, and Brightwater in southern Snohomish County); 397 miles of conveyance lines; 48 pump stations; and 25 regulator stations.⁵ Other WTD facilities include five combined sewer overflow (CSO) treatment plants, four CSO storage facilities, 39 CSO outfall locations, two secondary community-scale treatment plants (Vashon Island and Carnation) and one community septic system on Vashon Island.⁶

Local Sewer Agencies (LSAs)

WTD’s service area is comprised of Local Sewer Agencies (LSAs), which include 18 cities and 15 sewer districts in King County, southern Snohomish County, northern Pierce County, and the Muckleshoot Tribe.

LSAs contract directly with WTD for wholesale wastewater treatment services. WTD does not have a direct relationship with individual sewer ratepayers, except for Capacity Charge, High-Strength Surcharge, and Industrial Waste customers.^{7, 8} Engagement with the LSAs is accomplished through MWPAAC and RWQC. The sewage disposal contracts with the LSAs specify that the following year’s sewer rate must be determined before July 1 of the current year. This provides time for the LSAs to include the WTD rate in preparing budgets and proposing local sewer collection rates for the following year.

The LSA contracts define two customer classes for billing the sewer rate: single-family residential (SFR) and flow-based residential customer equivalents (RCEs). Flow-based RCEs include all other customer classes (commercial, multifamily, and industrial) and one flow-based RCE is equivalent to one SFR. The service contracts specify that each flow-based RCE equals 750 cubic feet per month of water usage. In addition to sewer fees, LSAs are invoiced for their customers’ high-strength surcharge and industrial waste compliance and monitoring fees.⁹ To compensate for seasonal variation in water use, the service contracts provide for a quarterly rolling average to convert reported water use to billed RCEs. A list of the LSAs and their average 2023 reported RCEs is provided in **Figure 5**.

Financial Forecast

Utilities such as WTD are self-supporting enterprise funds and therefore must set fees to recover the cost of providing services.¹⁰ Utility costs include operations, maintenance, debt service, and building new capital infrastructure. Utilities must also account for cash requirements from financial policies, such as funding reserves and how capital projects are funded. The total revenue that must be generated by a utility, in any given year, to cover costs and meet financial policies is referred to as a utility’s revenue requirement.

WTD’s sewer rate and capacity charge are adopted annually and include development of a 10-year financial forecast (currently 2025-2034). The proposed 2025 sewer rate and capacity charge are prepared in the context of the utility’s

⁵ Secondary treatment includes aeration, settling, disinfection, and discharge through an outfall. Secondary treatment in conjunction with primary treatment removes about 85 to 90 percent of suspended solids in wastewater.

⁶ Combined sewer overflows (CSOs) are relief points in sewer systems that carry sewage and stormwater in the same pipe. When heavy rains fill the pipes, CSOs release sewage and stormwater into rivers, lakes, or Puget Sound. They prevent sewage backups into homes and businesses but can harm people and animals living in the water because they carry chemicals and germs.

⁷ “High strength” refers to more concentrated waste. The surcharge covers the additional cost of treating this waste at the treatment plant.

⁸ The [capacity charge](#) is billed to new connections to the system. The charge is assessed monthly for a term of 15 years from the date the new service is established and is based on the cost of system capacity necessary to serve a new connection.

⁹ More information on compliance and monitoring fees can be found [here](#).

¹⁰ More information on enterprise funds can be found in the [WA State Administrative and Accounting Manual](#).

2025 Sewer Rate Technical Memorandum

revenue requirements over the 10-year financial forecast. This document will cover each element of the financial forecast (Operating Expenditures, Capital Expenditures, Reserves Management, and Revenue).

Figure 4 System Map

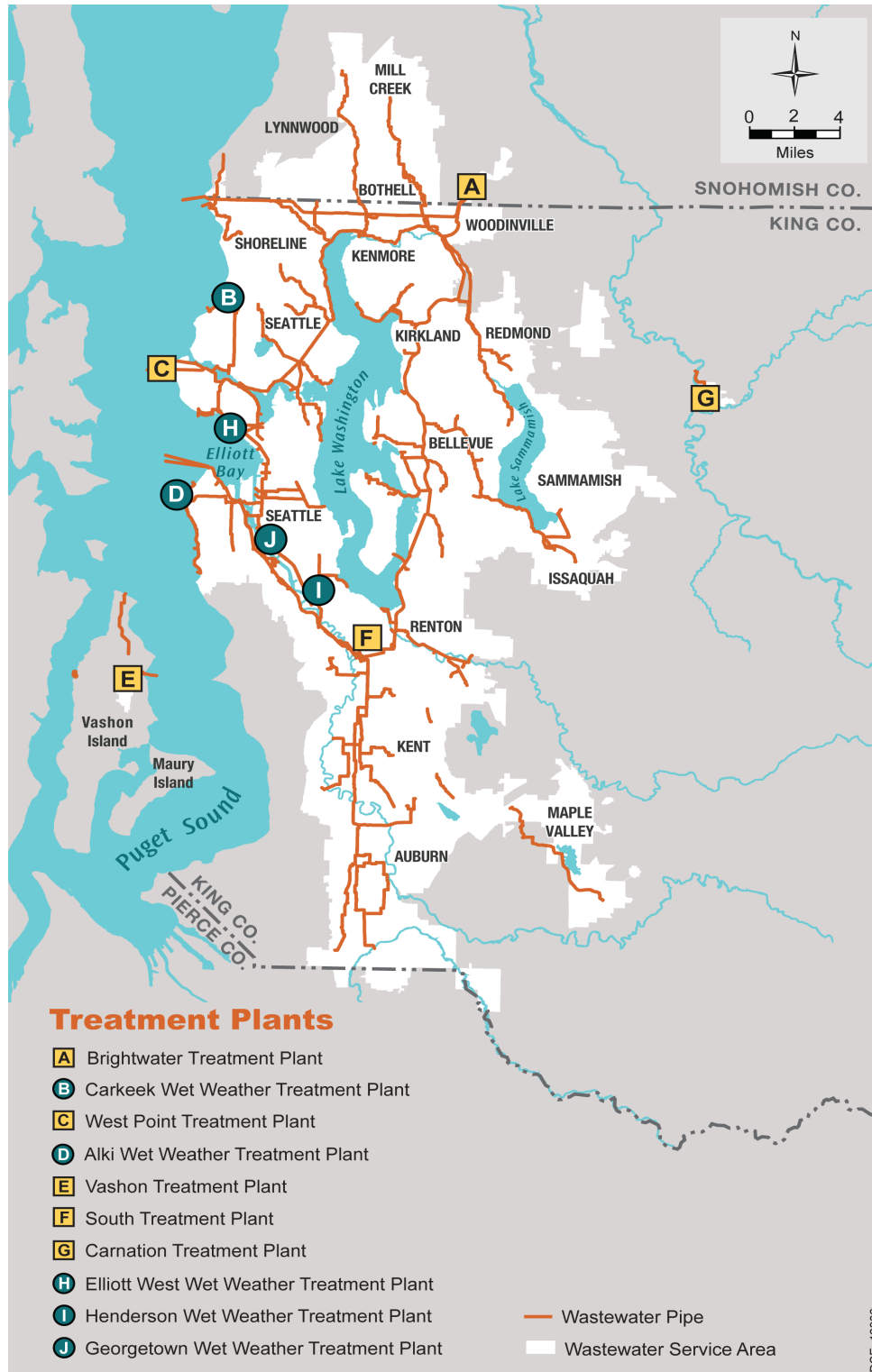


Figure 5 2023 Average Reported Residential Capacity Equivalents by Local Sewer Agency

	<u>Single Family</u> <u>RCEs</u>	<u>Flow-Based</u> <u>RCEs</u>	<u>Total RCEs</u>	<u>Percentage of</u> <u>Total (%)</u>
Local Sewer Agencies - Cities				
Algona	1,017	390	1,407	0.18%
Auburn	13,414	18,541	31,955	4.13%
Bellevue	32,595	26,069	58,664	7.59%
Black Diamond	2,226	107	2,334	0.30%
Bothell	5,015	3,186	8,200	1.06%
Brier	1,573	235	1,808	0.23%
Carnation	907	286	1,193	0.15%
Issaquah	7,062	6,536	13,597	1.76%
Kent	13,468	24,202	37,670	4.87%
Kirkland	10,226	5,331	15,557	2.01%
Lake Forest Park	3,608	508	4,116	0.53%
Mercer Island	7,187	1,474	8,661	1.12%
Pacific	1,554	1,090	2,643	0.34%
Redmond	15,410	17,714	33,124	4.28%
Renton	16,419	15,269	31,688	4.10%
Seattle	156,289	145,076	301,364	38.98%
Shoreline	15,407	4,894	20,301	2.63%
Tukwila	1,062	6,383	7,445	0.96%
Subtotal	304,435	277,289	581,724	75.24%
Local Sewer Agencies - Districts and Tribes				
Alderwood Water & Wastewater District	36,434	17,159	53,592	6.93%
Cedar River Water & Sewer District	4,161	1,372	5,533	0.72%
Coal Creek Utility District	3,282	1,399	4,681	0.61%
Cross Valley Water District	-	433	433	0.06%
Highlands Sewer District	106	1	107	0.01%
Lakehaven Utility District	1,104	11	1,115	0.14%
Muckleshoot Indian Tribe	352	98	450	0.06%
NE Sammamish Sewer & Water District	4,733	121	4,854	0.63%
Northshore Utility District	20,708	10,992	31,700	4.10%
Olympic View Water & Sewer District	215	0	215	0.03%
Sammamish Plateau Water & Sewer District	11,959	4,618	16,577	2.14%
Skyway Water & Sewer District	3,959	1,481	5,440	0.70%
Soos Creek Water & Sewer District	32,987	6,140	39,127	5.06%
Valley View Sewer District	7,156	10,821	17,977	2.33%
Vashon Sewer District	434	508	941	0.12%
Woodinville Water District	2,875	2,822	5,697	0.74%
Subtotal	130,463	57,975	188,438	24.37%
Non-Municipal Participants and Other Customers	-	2,981	2,981	0.39%
Grand Total	434,898	338,245	773,142	100.00%

Operating Expenditures

The utility’s 2023-2024 operating budget is the basis for forecasting operating costs for future years. The 2024 sewer rate and financial forecast included budgeted operating expenditures at \$194 million in 2023 and \$198 million in 2024.

WTD began 2023 with 96 newly authorized full-time equivalent (FTE) positions, which were budgeted at their full annual cost. Recruiting and hiring new positions takes time—the underspend in salaries and benefits reflected in **Figure 6** is primarily attributable to one-time vacancy savings for the months before positions are filled. Those funds will be necessary in following years to support a full year of personnel costs.

Figure 6 shows the 2023 preliminary actuals compared to the adopted budget, along with the 2023 budget with percent change, year over year.

Figure 6 2023-2024 WTD Operating Expenses (\$ ‘000s)

Expenditure Category	2023 Adopted Budget	2023 Unaudited Actuals	2023 Budget to Actuals Variance	2023 % Budget Spent	2024 Revised Budget	% Change 2023 to 2024
Salaries & Benefits	\$73,101	\$67,217	-\$5,885	92.0%	\$78,611	17.0%
Supplies	\$23,741	\$29,154	\$5,413	122.8%	\$25,511	-12.5%
Services	\$50,396	\$44,027	-\$6,369	87.4%	\$45,732	3.9%
Intra-governmental	\$46,675	\$43,984	-\$2,691	94.2%	\$48,055	9.3%
Other	\$0	\$2,803	\$2,803	n/a	\$0	-100.0%
Total	\$193,913	\$187,185	-\$6,728	96.5%	\$197,909	5.7%

Operating Forecast

Historically, annual growth in WTD operating expenditures has averaged nearly five percent as a composite of inflation, supporting new facilities that come online, and maintaining an aging and growing system. **Figure 7** shows the annual growth in operating expenditures going back to 2012.

Figure 7 Historical Annual Increase in WTD Operating Expenditures

Year	Operating Expenses	Annual Growth
2012	114,939	
2013	117,183	2.0%
2014	124,201	6.0%
2015	128,926	3.8%
2016	136,321	5.7%
2017	148,199	8.7%
2018	152,589	3.0%
2019	155,785	2.1%
2020	158,660	1.8%
2021	158,628	0.0%
2022	173,870	9.6%
2023	187,185	7.7%
Average		4.6%

WTD Operating Expenditures Forecast

In August 2022, a new Coalition Labor Agreement between the County and its labor partners through the Coalition of Unions went into effect. The agreement provided for a series of general wage increases for County staff, including a four percent increase for 2023 and a four percent increase for 2024.

Central service cost allocations to WTD are generated by internal service fund agencies and General Fund central agencies that provide those services.¹¹ The general wage increase impacted most, if not all, of these agencies. Agencies may also be susceptible to industry-specific cost pressures.

The operating costs for WTD's base year (2025) forecast include adjustments for significant known increases such as electricity and chemicals, in addition to updated prices where recent inflation exceeded previous forecast assumptions. The growth in operating costs assumption reflects new and expanding requirements, such as enhanced cybersecurity, contaminants of emerging concern/nutrient work, capital project participation, and added facilities such as Georgetown.

Beyond 2025, incremental operating costs are forecast based on general cost inflation at three percent and labor cost inflation at four percent. Growth in operating costs is forecast as shown in **Figure 33**. Operations staffing needs figure into the near-term increased rate of operating cost growth to address current staffing needs and anticipated growth in required staff over the forecast period.

WTD needs additional Operations staff to address current and emerging needs:

- In the last decade, WTD brought new facilities online with a minimal increase in Operations staffing.
- WTD facilities are aging, requiring attention to address hundreds of minor repairs and adjustments each month.
- With a large capital portfolio, Operations staff are needed to participate in the systems planning, design, construction, startup, and commissioning processes.
- Permit conditions are more complex, requiring more monitoring and adjustment to meet water and air quality requirements.
- Contracts and policy goals require that WTD reliably recover and put to beneficial use biosolids, biogas, recycled water, and sewer heat, all requiring Operations staff.
- Jobs in Operations are opportunities to recruit, hire, and train a next generation of WTD staff to better reflect the communities served.

WTD is preparing the specific package of requested positions and related business cases for submittal in the 2025 budget process. A portion of the identified staffing needs will be requested in 2025, and the remainder of requests are planned to be spread over following years.

Capital Improvement Program (CIP)

Portfolio Management

Beginning in 2017, WTD focused on developing a more comprehensive and structured approach to managing its capital program. This work included the goal of aligning the mix of projects in WTD's CIP with its strategic initiatives and overall mission. A pilot of this prioritization approach informed the 2019 sewer rate development and, since then, has been used to inform rate and budget-setting processes.

Projects are organized and prioritized within the following categories:

¹¹ Central services are services received from other County agencies that are considered "central" agencies, such as King County Information Technology, Facilities Management, and County Human Resources

Figure 8 Capital Portfolio Category Descriptions

Category	Description
Asset Management Plants and Conveyance	Maintain level of service through the rehabilitation or replacement of critical assets.
Capacity Improvement	Increase capacity in WTD facilities to accommodate future growth.
Operational Enhancements	Reduce/improve operating costs at treatment plants through the delivery of projects that create efficiencies.
Regulatory	Deliver projects and programs that respond to permit, regulation, and/or consent decree legal deadlines.
Resiliency	Improve the survivability and operability of core assets against natural disasters through the delivery of projects that address known deficiencies.
Resource Recovery	Support the King County Strategic Climate Action Plan (SCAP) initiative through the delivery of projects that reduce energy use or recover valuable resources from wastewater.
Planning and Administration	Incorporate programs and projects that facilitate execution of the overall capital portfolio through a series of planning- and administration-related efforts.

2023 Performance and Accomplishment Rate

The capital accomplishment rate is the amount of actual or forecasted capital spending that occurs in the year compared with the amount of capital spending planned. WTD’s capital program accomplishment rate target of 85 percent is evaluated against the actual spending in recent years to ensure it remains a valid assumption. Using an accomplishment rate allows WTD to adjust the capital program’s funding forecast to reflect the impact of potential delays in the execution of capital projects that, in turn, delay spending. The 85 percent accomplishment rate is applied to the cash flow forecast after adjusting total planned spending by the delivery capacity estimated limit (described in more detail in sections below).

The 2023 accomplishment rate was projected to be 71 percent and \$316 million. The 2023 actual spend of \$351 million resulted in a realized accomplishment rate of 79 percent, eight percentage points higher, and a cost difference of approximately \$35 million more in capital spending than forecast in 2023.

Drivers for this higher accomplishment rate include two large projects:

- The West Point Power Quality Improvement project achieved a 91 percent accomplishment rate.
- The North Mercer Island and Enatai Interceptors Upgrade project achieved a 145 percent accomplishment rate. Contract work has been expedited within the implementation phase.

The forecasts for these two projects comprised 34 percent of the total 2023 CIP forecast and 37 percent of the \$351 million in total actual spending.

Figure 9 presents the historical accomplishment rate performance from 2015 through 2023.

Figure 9 Historical Accomplishment Rates for the Capital Program (\$ in millions)

Accomplishment Rate (AR)	2015	2016	2017	2018	2019	2020	2021	2022	2023
Capital Improvement Program	\$191	\$207	\$211	\$246	\$262	\$247	\$291	\$376	\$443
Actual Annual CIP Spend	\$160	\$168	\$188	\$231	\$211	\$199	\$201	\$259	\$351
Actual Accomplishment Rate	84%	81%	89%	94%	81%	81%	69%	69%	79%

Estimated CIP Spending for 2025-2034 Financial Forecast

To update the 10-year financial forecast, WTD estimates spending for active projects and develops conceptual forecasts for future projects and programs. Updates to project and program spending estimates consider changes in scope, risk, and schedule. While WTD prepares a 10-year forecast for sewer rate planning, the County budgets capital projects on a six-year CIP schedule.

The following five projects are the largest individual components of WTD’s six-year CIP:

West Point Power Quality Improvements

The West Point Power Quality project includes construction of an uninterruptible power supply system using large battery storage and a replacement building to house the system that will limit or eliminate overflows to Puget Sound due to power quality problems (voltage sags).¹² Administrative Order #19477, issued by the Washington State Department of Ecology (Ecology), requires King County to address power reliability issues at the West Point treatment plant.¹³ The Executive issued a Declaration of Emergency on February 25, 2021, to accelerate this work.¹⁴ WTD project delivery staff resources began work on this coordinated effort with Seattle City Light in 2021. Substantial completion of the project is scheduled to occur in 2024.

Elliot West Wet Weather Treatment Station

The Elliott West Wet Weather Treatment Station (EWWTS) project consists of new and upgraded treatment facilities to treat CSOs prior to discharge through the existing outfall in Elliott Bay.¹⁵ The project will make improvements that will result in full National Pollutant Discharge Elimination System (NPDES) permit compliance at the EWWTS. Construction is anticipated to begin in 2027 and extend through 2033.

Coal Creek Sewer Upgrade

The County will upgrade a regional sewer line that serves Bellevue and Newcastle.¹⁶ The existing pipeline was built between 1966 and 1991. The pipeline is nearing its maximum capacity and needs to be upgraded to carry more wastewater and meet the growing needs of the community. The existing Coal Creek Trunk is approximately 2.5 miles

¹² More information on the West Point Power Quality project can be found [here](#).

¹³ Administrative Order #19477 can be found [here](#).

¹⁴ More information on the Emergency Declaration can be found [here](#).

¹⁵ A combined sewer system collects rainwater runoff and domestic wastewater into a single pipe and conveys it to a wastewater treatment plant. During heavy rain events, the amount of runoff can exceed the capacity of the system, resulting in a combined sewer overflow (CSO), where untreated wastewater and stormwater flows into nearby receiving waters. More information on WTD’s CSO control program can be found [here](#).

¹⁶ More information on the Coal Creek Sewer Upgrade can be found [here](#).

long and primarily follows the banks of Coal Creek in the Coal Creek Natural Area between Newcastle and I-405. The new pipeline alignment will move the active pipeline away from Coal Creek, offering better protection to this sensitive environmental area. The selected pipeline alignment also aims to decrease impacts to both the Natural Area and Coal Creek Parkway SE during construction. Construction is anticipated to begin in 2025 and extend through 2030.

West Point Treatment Plant Raw Sewage Pump Replacement

The existing raw sewage pump (RSP) system was built in 1966, with a capacity of 440 million gallons of wastewater and stormwater per day. While the capacity remained at 440 million gallons per day, pumping untreated combined sewage over a long time has resulted in significant wear on the pumps.¹⁷ The purpose of this project is to replace the RSP system and make seismic upgrades to meet National Fire Protection Association (NFPA 820) standards.¹⁸ In addition, the project will also replace the existing boiler system prior to completion of the RSP replacement to provide heat necessary to maintain a stable treatment process. Construction is anticipated to begin in 2024 and extend through 2030.

Lake Hills and NW Lake Sammamish Interceptor Upgrade

This project will increase the capacity of the Lake Hills Trunk and NW Lake Sammamish Interceptor sewers to convey 20-year storm peak-flow capacity through 2060.¹⁹ The project is located in the City of Redmond and in unincorporated King County. The sewer includes 4.5 miles of gravity pipe and two siphon sections. As a Washington State Department Fish and Wildlife (WDFW) permit requirement, a fish-passable culvert will be designed and constructed at Country Creek in Redmond. Construction is anticipated to begin in 2026 and extend through 2030.

Other Capital Projects

New projects, along with updated spending forecasts and schedules for the existing capital program, form the basis for developing the 10-year CIP for the financial forecast. The updated forecast includes continued deferral of pipeline capacity projects that have neither a population growth driver nor overflows within the last five years, so that capital delivery capacity can be dedicated to higher-priority system investments.

Figure 10 summarizes the capital investment strategy used to develop the proposed sewer rate forecast.

Figure 10 WTD CIP Investment Strategy

CIP Policy Topic	Basis for Investment Strategy
CSO Consent Decree Cost & Schedule	Moves forward project costs related to the CSO Consent Decree. For 2025 rate, MDCSO (Mouth of the Duwamish CSO Control Program) moved contingency amount from beyond the forecast period to appropriate implementation years.
Nutrient Removal - Ecology Permit	Includes Nitrogen Reduction Planning, Nutrient Reduction Evaluation Study, and Near-Term Optimization Capital Investments.
2020 SCAP Targets	Includes \$230 million total 2025-2034 for projects that contribute toward Strategic Climate Action Plan (SCAP) Target goals.
Asset Management Tier 1 Critical Inventory Projects	Includes conceptual forecasts necessary to complete Tier 1 projects by 2034 before the application of accomplishment rate.

¹⁷ More information on the WPTP Raw Sewage Pump system can be found [here](#).

¹⁸ More information on the National Fire Protection Association is available on their [website](#).

¹⁹ More information on the Lake Hills Trunk and NW Lake Sammamish Interceptor project can be found [here](#).

CIP Policy Topic	Basis for Investment Strategy
Capacity Category	Includes conceptual forecasts for projects identified by the Treatment Planning Program and Conveyance System Improvements Program to address plant and conveyance system capacity limitations.
Co-Digestion	Includes \$9 million total 2025-2026. Does not include a forecast for delivering a full Co-Digestion system, preliminarily estimated at \$70 million (2020\$). Cost sharing with Solid Waste Division to be determined.
Capital Program Staffing	Assumes that a ramp-up of capital delivery begins in 2025 to allow for additional staff to be budgeted, hired, onboarded, and trained.

Capital Expenditure Delivery Capacity Analysis

WTD will have to increase its throughput of capital projects to meet the CIP strategy targets outlined in the previous section. As it is growing that capacity, care is being taken to not overcommit and secure funding beyond what can be delivered. To understand what can be delivered as the capital program grows, WTD conducted an analysis of historical capital output in relation to the number of WTD FTEs dedicated to the capital program. The resulting metric projects an estimated capital spending target that reflects historic delivery capacity. This metric provides a proximate basis for estimating the annual capital program delivery along with staffing included in the forecast.

The analysis relied on several assumptions, including:

- New FTEs take two years to fully onboard and carry a project load equivalent to existing staff.
- Project staffing maintains the historical in-house-to-consultant ratio (for every \$1 spent on in-house direct labor, \$1.30 is spent on consultant contracts).
- The FTE count grows at the same rate as outsourcing to the consultant community.

WTD uses the approach of growing in-house staff at the same time as reliance on consultants because it:

- Meets equitable workforce development goals by deliberately recruiting and hiring a diverse workforce.
- Builds a strong bench of internal expertise that understands the wastewater system, with the ability to learn and adapt as the challenges and complexities grow, reduce the learning curve, and quickly respond to emergent issues.
- Increases broad understanding and experience of the wastewater system and improve staff retention by providing a variety of project assignments.

The financial forecast includes recognition of approaching milestones, including CSO costs. For the analysis, WTD assumed that these expenditures would be delivered by project teams that have an FTE-to-consultant ratio comparable to the distribution used by WTD in delivering the Brightwater Treatment Plant and Conveyance Megaproject.²⁰

A delivery capacity adjusted forecast was developed for use in the sewer rate forecast so that WTD does not secure funding for more than what it is able to spend with its anticipated resources. It was developed by multiplying the historical average expenditure per FTE (\$944,140 in 2023 dollars) by the projected total productive FTEs each year (350 in 2025). Annual FTE additions were capped at 50 per year as the basis for a reasonably realistic recruiting and hiring assumption. The capacity-adjusted forecast was applied to the forecast CIP, reducing the annual CIP so that it does not exceed the project delivery capacity estimate.

²⁰ The history of the construction of the Brightwater Treatment Plant and Conveyance Megaproject is [here](#).

The project delivery capacity constrained CIP is then further reduced by applying an 85 percent accomplishment rate to reflect project schedule risks beyond staffing capacity. The delivery-constrained CIP is a newly developed approach to forecast the annual CIP to address a significant increase to the CIP in coming years. WTD will continue to evaluate whether one or both of the delivery capacity limit and the accomplishment rate arrive at a reasonable way to forecast annual capital spend for purposes of sewer rate forecasting over the 10-year period.

The CIP before and after constraints and accomplishment rate is shown in **Figure 11** and **Figure 12**.

Figure 11 CIP Components for 2024 Baseline and the 2025-2034 Financial Forecast

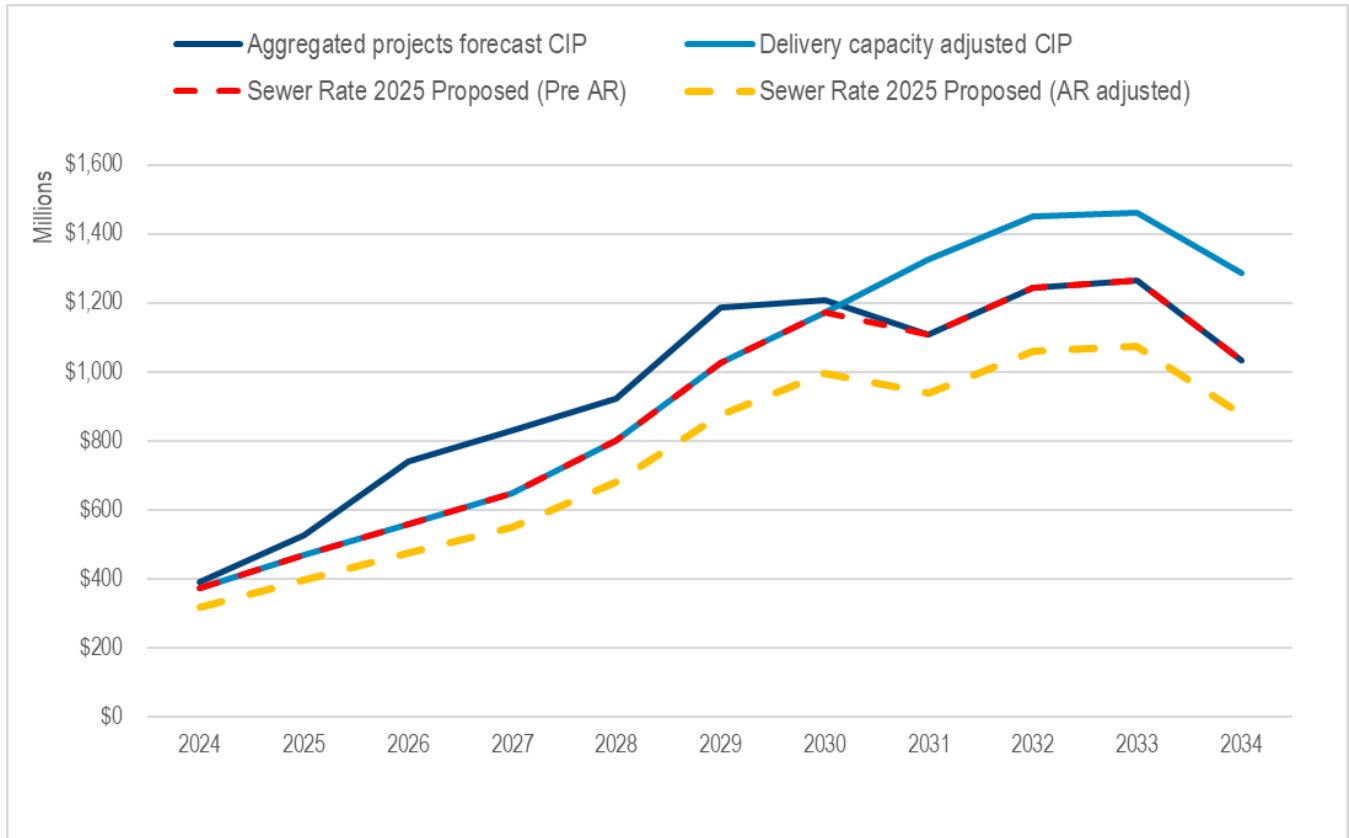


Figure 12 CIP Accomplishment Rate Forecast

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2024-2034
Aggregated projects forecast CIP	\$390	\$525	\$741	\$829	\$923	\$1,185	\$1,207	\$1,106	\$1,245	\$1,266	\$1,034	\$10,451
Accomplishment Rate (AR)	81%	76%	64%	66%	74%	74%	83%	85%	85%	85%	85%	79%
Capital Spending after AR	\$316	\$398	\$474	\$549	\$681	\$873	\$997	\$940	\$1,058	\$1,076	\$879	\$8,241

Figure 13 compares the 2025 Proposed and 2024 Adopted 2024-2034 CIP projected spending.

Figure 13 2025 Proposed and 2024 Adopted 2024-2034 Projected Spending

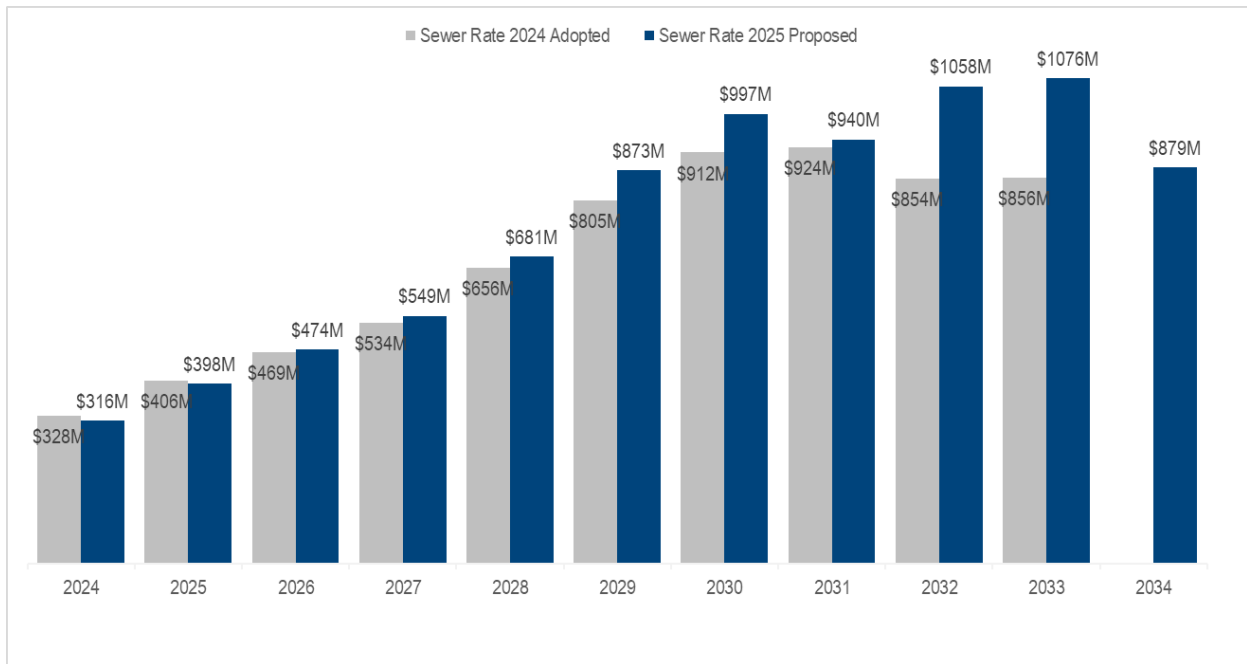
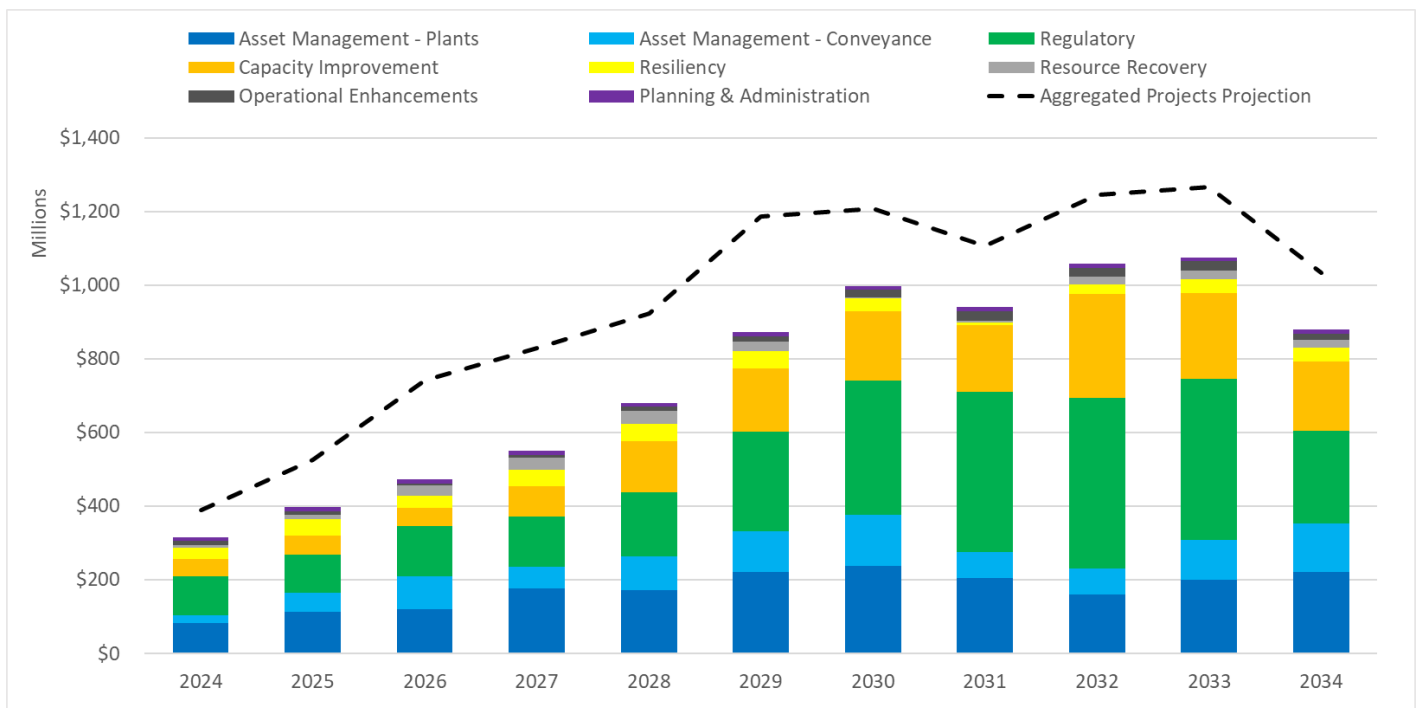


Figure 14 shows the annual capital investments included in the proposed sewer rate and financial forecast in their respective portfolio categories.

Figure 14 Proposed Capital Investments by Portfolio Category for Ten-Year Forecast



Capital Improvement Program Funding

The capital improvement program is funded by two primary sources: 1) cash generated from the sewer rate and capacity charge revenues; and 2) debt financing from revenue bonds or low-interest state and federal loan programs.

Cash Funding

Since 2023, WTD uses an original cost depreciation method for setting cash funding targets for its capital program.²¹ This method consists of targeting annual cash funding generated from sewer rate revenue, equivalent to WTD's annual depreciation (including estimated new depreciation resulting from completion of projects in the CIP that become depreciating assets). The total forecasted depreciation over the next 10 years translates into approximately 32 percent of the total CIP. Cash-funding requirements are averaged over the forecast period, allowing WTD to smooth rate increases and produce a more stable rate path.

Since the target cash funding is accumulated over the course of the year, a single, year-end transfer to the construction fund from the operating fund makes the cash available for funding capital projects in the following year.

Debt Financing

Debt financing is used to provide the remaining funds needed after the use of cash. Debt financing represents 68 percent of total project funding over the next 10 years. The main sources of debt available to WTD include state loans, federal Water Infrastructure Finance and Innovation Act (WIFIA) loans, and revenue bonds.²²

As interest rates started to rise, WTD avoided issuing new debt in the form of revenue bonds from 2021 to 2023. This beneficial timing was possible due to a large bond issuance in 2020 at record-low interest rates, and the availability of state and federal loans at below-market interest rates.

Figure 15 shows the capital funding forecast and the use of various debt instruments secured to fund the capital program. Unlike in 2023, when the majority of debt proceeds came from Clean Water State Revolving Fund (SRF) loans, future years show a larger share of revenue bonds and interim financing backed by secured WIFIA loans. Since state and federal loans work on a reimbursement basis, WTD needs to issue interim debt prior to being reimbursed for the project costs. Once reimbursed, WTD can retire the interim debt, which is then available for future projects that require interim financing. Due to the increased availability of SRF loans in 2023, WTD carried a balance of cash from the loan proceeds into 2024, which will reduce the size of the next revenue bond issuance.

²¹ Depreciation is an accounting concept that divides an asset's cost by its estimated useful life, representing how much that asset is expected to wear out or lose value every year. Original cost refers to the actual cost of an asset, rather than the cost adjusted for inflation.

²² Debt financing occurs when WTD borrows from investors in the municipal bond capital markets or signs loan agreements with state and federal agencies.

Figure 15 Capital Funding Sources

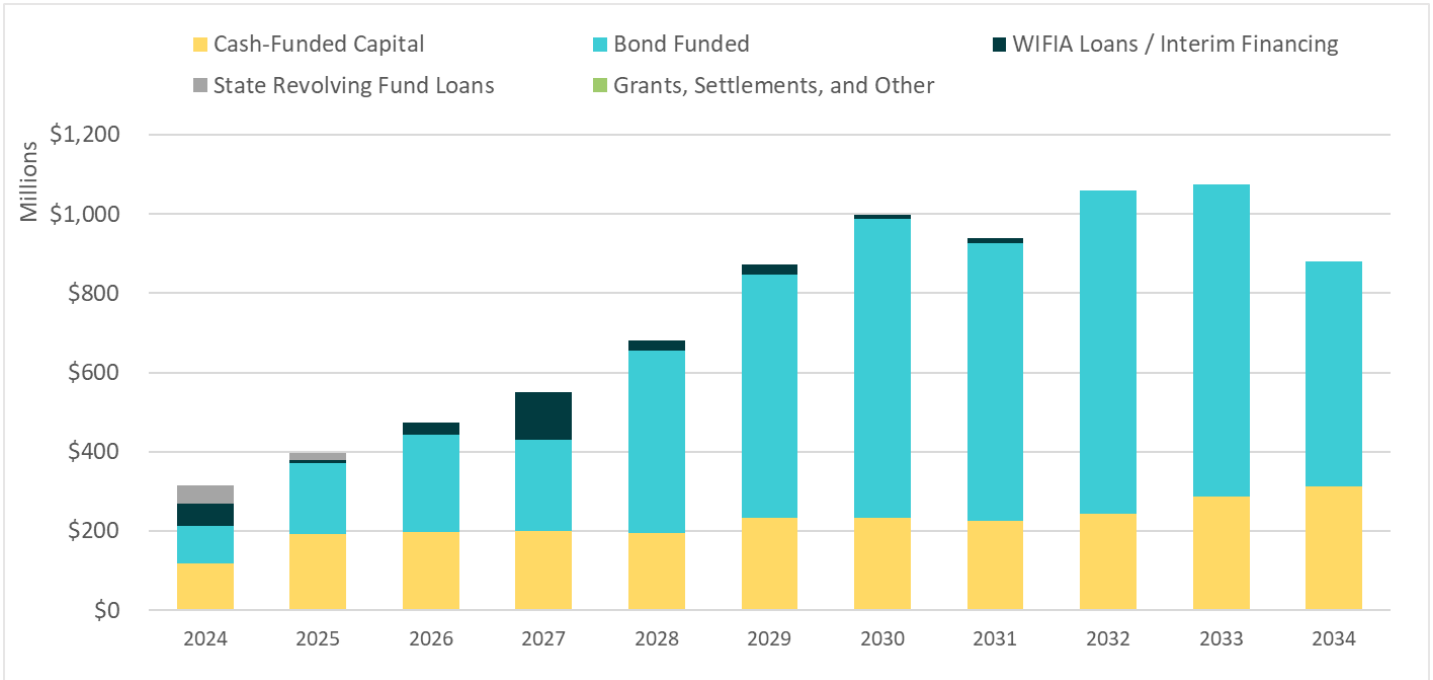
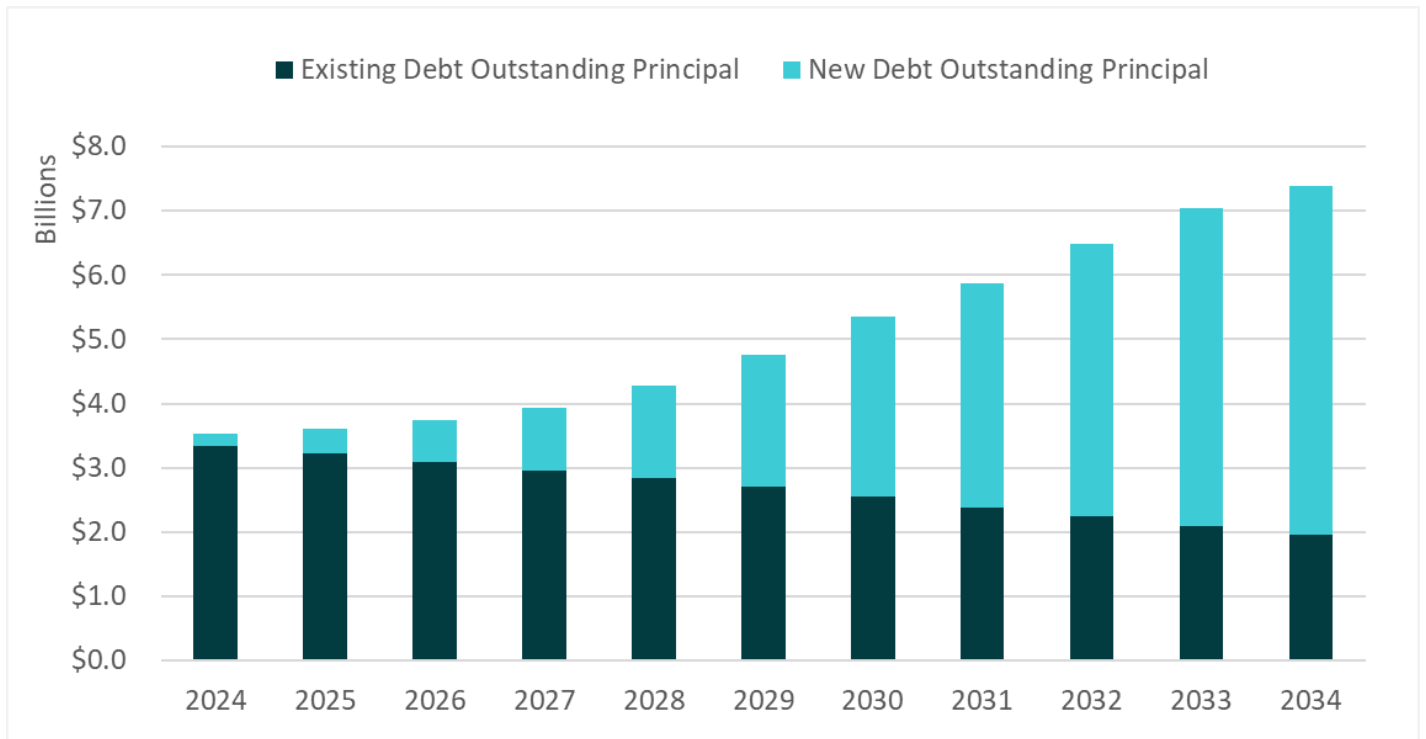


Figure 16 illustrates how, as existing debt is retired, repayment capacity is replaced by new debt issued to fund the capital program.

Figure 16 Existing and New Debt Balances



State Revolving Fund Loans

Georgetown Wet Weather Treatment Station. In January 2024, WTD completed its final Georgetown SRF loan draw of \$25.9 million at 1.4 percent interest. This action officially closed the \$139.3 million SRF loan agreement, which will provide an estimated \$68.9 million in total savings over the next 30 years compared to a revenue bond issuance.

Joint Ship Canal Water Quality Project. In 2022, the Joint Ship Canal project was awarded \$3 million in addition to \$23 million awarded in 2021 for a total of \$26 million at 1.4 percent interest. The \$26 million SRF loan amendment was approved by Ordinance 19575 in February 2023. It will provide \$12.5 million in total savings over a 30-year period due to a low interest rate.²³ As construction progresses over the course of 2024 and 2025, WTD plans on drawing from this loan.

Water Infrastructure Finance and Innovation Act Loans

Joint Ship Canal Water Quality Project. In January 2021, WTD was awarded a \$96.8 million WIFIA loan at 1.69 percent interest, which will provide an estimated \$32.5 million in total savings over a 35-year period due to a low interest rate. WTD will begin drawing upon the loan over three years, with the final draw to occur in 2026.

WIFIA Master Agreement. In January 2024, the County was awarded its first WIFIA Master Agreement for the King County Wastewater 2024 Improvement Projects in the amount of \$498.3 million, estimated to generate \$73.9 million in total savings. The Master Agreement will finance 14 water quality projects across three separate loan tranches over the eight years of construction. The first loan tranche was signed in conjunction with the Master Agreement in the amount of \$194.1 million at 4.4 percent interest for the group of West Point Treatment Plant projects. WTD plans to fund the projects with interim commercial paper and draw upon the first loan tranche in 2027.²⁴ Although the interest rate is higher than prior WIFIA loan agreements, WTD can apply for an interest rate reduction over the next two years, which would reduce WTD's expected debt service. The subsequent two loan tranches – totaling \$304.2 million – are slated to close by the end of 2024.

Proposed Legislation to Restore Tax-Exempt Advanced Refunding

Tax-exempt bonds are issued by state and local governments for public infrastructure projects. WTD uses tax-exempt bond financing as its primary source of long-term financing for the capital program. Investors who purchase these bonds are exempt from paying federal income tax on interest earnings, so they are willing to buy the bonds at a lower interest rate than conventional bonds, which translates as lower-cost debt to the borrower. Prior to the 2017 federal Tax Cuts and Jobs Act (TCJA), tax-exempt advance refunding bonds could be issued to refund outstanding tax-exempt debt with higher-than-current-market interest rates.²⁵ The TCJA eliminated tax-exempt advance refunding bonds.

In March 2023, proposed federal legislation H.R. 1837, the Investing in Our Communities Act, was introduced in the U.S. House of Representatives. This legislation would amend the federal tax code to restore state and local governments' ability to use advance refunding to manage bond debt and reduce borrowing costs for public projects.²⁶ In May 2023, proposed federal legislation S. 1453, the LOCAL Infrastructure Act, was introduced in the U.S. Senate. This legislation would also restore the tax-exempt status of advance refunding bonds.²⁷ Both bills are bipartisan and would accomplish

²³ Ordinance 19575 can be found [here](#).

²⁴ Commercial paper is a commonly used type of unsecured, short-term debt typically used for interim financing purposes with maturities ranging between one and 270 days. WTD can issue up to \$175 million in commercial paper for new money interim financing and \$250 million in aggregate for both new money interim financing and refunding purposes per [Ordinance 19114](#).

²⁵ The Tax Cuts and Jobs Act can be found [here](#).

²⁶ The Investing in Our Communities Act can be found [here](#).

²⁷ The LOCAL Infrastructure Act can be found [here](#).

the same goal. WTD is closely monitoring the viability of this effort as it moves through the legislative process and has prepared a list of potential refunding opportunities should the legislation be enacted.

The current restriction resulting from the TCJA on issuing tax-exempt advance refunding bonds does not limit the use of cash for advance refunding. In comparison with issuing tax-exempt advance refunding bonds, the ability to take high-interest-rate debt off the books through defeasance is limited by the utility's ability to generate cash from ongoing revenue sources.²⁸

The Financial Data Transparency Act of 2022

President Biden signed the Financial Data Transparency Act of 2022 (FDTA) into law in December 2022.²⁹ The FDTA sets forth a sequence of regulatory steps to implement structured data requirements for the securities markets, including the municipal bond market, with the goal of providing machine-readable, searchable, comparable (e.g., standardized), structured financial data to investors and others. Along with other federal financial regulatory agencies, the Securities and Exchange Commission (SEC) is required to adopt data standards, including municipal market data standards for information submitted to the Municipal Securities Rulemaking Board (MSRB). In developing these standards, the SEC is required to consult with municipal market participants and may consider the burden on smaller issuers.

The sequence of regulatory steps is expected to take place over the next three years, with municipal market data standards adopted in 2026. As the proposed scope and content of these standards becomes clearer, including rulemaking through SEC and MSRB, state and municipal issuers will have an opportunity to comment directly and through industry groups, and to take steps to be ready to comply with the final standards. WTD is following this development closely with Bond Counsel and the County's Financial Advisor.

Defeasance

Cash generated from the funding policy can be used to directly fund capital spending or to pay down higher-interest outstanding debt. This accomplishes the same debt-balance outcome as directly cash-funding the CIP, while replacing high-interest-rate debt with lower-interest-rate new debt in the current market. A defeasance transaction usually occurs when interest rates are favorable enough to achieve maximum savings and meet the County's minimum savings threshold of five percent of the par amount of the refunded bond.³⁰ In 2023, WTD generated \$20.1 million in total savings and \$13.4 million in present-value savings through this mechanism.³¹

Figure 17 demonstrates how the use of the cash collected from sewer rate revenue for CIP funding can be used for defeasance and accomplish the same debt-balance management goal.

In the no-defeasance scenario, new bonds are issued and added to the debt balance at 60 percent of the annual CIP, while the remaining 40 percent is cash funded. The sample ending debt balance in this scenario is \$800.

In the defeasance scenario, additional debt is issued to cover the full CIP (rather than 60 percent), which frees the cash from rates to pay down outstanding higher-interest-rate debt. There is an effective exchange of higher-interest-rate debt on the books for lower-interest-rate debt available at current market conditions. The sample ending debt balance in this scenario is also \$800.

²⁸ Defeasance is the process of setting aside funds or assets to repay a debt or obligation, thereby releasing the debtor from further liability.

²⁹ The Financial Data Transparency Act can be found [here](#).

³⁰ Par value is the amount that the issuer agrees to pay the bondholder upon maturity of the bond. It is also used to calculate the interest payments on the bond.

³¹ "Present-value savings" assists in analyzing the current worth of future savings by taking the time value of money and interest rates into account. This can change based on interest rates and the year savings are realized.

Figure 17 Sample Defeasance

Capital Funding No Defeasance					
CIP	100	100	100	100	100
Cash from Sewer Rate Revenue	40	40	40	40	40
New Debt Proceeds	60	60	60	60	60
Total Funding	100	100	100	100	100
Beginning Debt Balance	500	560	620	680	740
Plus New Issuance	60	60	60	60	60
less: Defeasance	-	-	-	-	-
Outstanding Debt Balance Y-E	560	620	680	740	800
Capital Funding 100% Use of Cash for Defeasance					
CIP	100	100	100	100	100
Cash from Sewer Rate Revenue	40	40	40	40	40
New Debt Proceeds	100	100	100	100	100
Total Funding	140	140	140	140	140
Beginning Debt Balance	500	560	620	680	740
Plus New Issuance	100	100	100	100	100
less: Defeasance	(40)	(40)	(40)	(40)	(40)
Outstanding Debt Balance Y-E	560	620	680	740	800

Reserves Management

WTD maintains financial reserves that address minimums required by debt covenants (contracts), working capital targets, management of loan proceeds and other capital resources, rate increase smoothing, and mitigation of revenue risk. This section describes the reserves and the reserve levels targeted in the financial forecast.

Figure 18 Summary of WTD Reserves³²

Reserve Name	Policy Goal or Purpose	Establishment	American Water Works Assoc. Description
Liquidity Reserve	10% of operating expenses (equivalent to 36 "days" of cash) plus \$5 million of ending cash balance in the capital fund	In 2012 by Motion 13798	Maintaining adequate operating reserves enhance a system's ability to manage potential risks, provides the ability to manage fluctuations in revenue, and the ability to meet working capital needs
Capital Emergency Reserve	\$15 million for "unanticipated system repairs or equipment replacement in the event of a natural disaster or some unforeseen system failure"	In 2012 by Motion 13798	Even with the most diligent capital planning efforts, utilities must be prepared for unplanned or accelerated capital projects
Rate Stabilization Reserve	Allow WTD to "adopt a multiyear sewer rate to provide stable costs to sewer customers" and "ensure that adequate funds are available to sustain the rate through completion of the rate cycle"	In 1999 by the RWSP adopted by Ordinance 13680	When specifically included in a utility's bond indenture, rate stabilization reserves can be used to help meet debt service coverage requirements during times of revenue shortfalls
Parity Bonds Debt Service Reserve	Amount equivalent to the maximum annual debt service on outstanding senior lien debt (revenue bonds and WIFIA loans)	Bond covenants adopted by Bond Ordinances (most recent 19377)*	Most often, a debt service reserve fund (DSRF) is established as a legal covenant of a debt issuance and is used in whole or in part to pay debt service in the event of a revenue shortfall
SRF Loans Debt Service Reserve	Amount equivalent to the average annual debt service of each loan	Loan agreements adopted by individual ordinances	

*Springing amendment from Ordinance 18588 (2017) established that when bonds issued post amendment represent 51% of the total the reserve can be reduced or eliminated

³² The following legislation is available on the King County Council website: [Motion 13798](#), [Ordinance 13680](#), and [Ordinance 19112](#)

Water Quality Operating Fund 4611

Liquidity Reserve

The Liquidity Reserve is targeted to provide sufficient cash balances for variance of revenue and expenditures cycles throughout the year. The working capital target is established as 10 percent of operating expenditures in any given year. As a result, a reserve increase must be funded each year as operating expenditures increase. The proposed 2025-2034 financial forecast includes \$22.3 million in Operating Liquidity Reserve and \$5 million in Capital Liquidity Reserve for 2025.

Rate Stabilization Reserve

A Rate Stabilization Reserve (RSR) is unique in that bond covenants are written to allow that, in any given year, use of this reserve can be recognized as revenue eligible for inclusion in the bond coverage calculation. In years that WTD contributes to this reserve from Water Quality Fund revenues, that portion of revenue is deducted from the revenue basis for calculating bond coverage. This allows WTD to use reserves to manage rate levels without compromising the ability to meet annual bond coverage targets. Funds in the RSR also enhance the liquidity metrics used by the rating agencies when they evaluate WTD's credit quality.³³

WTD considers the use of reserve balances in the context of Ordinance 12353, which states that the RSR is for the purpose of smoothing rates between years.³⁴ Use of reserves represents a one-time resource, and excess reserves should be applied to one-time expenditures. There is no planned use of the RSR (\$46.25 million) in the proposed 2025-2034 sewer rate forecast.

Unrestricted Operating Balances

Funds exceeding minimum reserve levels in the Operating Fund at year-end are unrestricted and evaluated for optimal use. Some uses for unrestricted funds include potential transfer to the Construction Fund or contribution to defeasance transactions.

Water Quality Construction Fund 3611

Unrestricted Construction Fund Balances

WTD's Water Quality Construction Fund is where capital project costs are charged, loan proceeds are reserved and spent, transfers are received for cash-funded capital from the Operating Fund, and capital reserves, such as the Asset Management Reserve, are maintained. Accumulated reserves above the policy minimum are used to fund projects.

The Construction Fund balance is projected to end at the \$5 million liquidity reserve target in each year of the financial forecast.

Asset Management Reserve

The Asset Management Reserve is maintained as an emergency reserve and, as such, is not forecast to deviate from the \$15 million balance. This reserve could be an important resource if an asset failure should occur during a period of significant revenue constraint.

³³ Liquidity metrics refer to quantitative measures that evaluate an agency's ability to meet its financial obligations by assessing the availability of liquid assets (cash).

³⁴ [Ordinance 12353](#) is available on the King County website.

Debt Reserves 8921 and 8922

WTD Debt Reserve minimums are established as a requirement in bond covenants or by the loan-granting agency. Ordinance 19377 requires that a reserve be maintained in an amount equal to maximum annual debt service on outstanding parity bonds.^{35 36} The Debt Service Reserve Fund meets this minimum requirement by maintaining a balance of \$158.3 million in the reserve fund. The balance is comprised of \$128.8 million in cash and investments and \$29.6 million in surety bonds. However, once 51 percent of bondholders have consented to the First Springing Amendment by purchase of parity bonds, the County will have the ability to change the definition of reserve requirement under Ordinance 19377.³⁷ This means the County can create different reserve requirements for different sets of parity bonds, including the bonds themselves. The County could also lower any reserve requirement, even down to zero, in any calendar year, as long as it is less than the maximum annual parity debt service. WTD will receive recommendations on how to best utilize the \$128.8 million in the debt service reserve fund from the County’s Financial Advisor, along with input from credit rating agencies.

Ecology had a reserve requirement but eliminated this provision for loans awarded after 2018. Reserves for pre-2018 Ecology loans decreased from \$13.5 million to just \$981,000 after the refunding of a group of loans in 2021 and further repayments.

Figure 19 Surety Bond Summary

Source	Provider	Amount	Moody's/S&P Rating	Expiration
Surety Bonds	National Public Finance Guaranty Corp.	\$ 5,010,273	A3/A	2035
	Assured Guaranty Municipal Corp.	\$ 4,880,916	A3/AA	2036
	Assured Guaranty Municipal Corp.	\$ 7,189,850	A3/AA	2036
	Assured Guaranty Municipal Corp.	\$ 12,500,001	A3/AA	2047
	Subtotal	\$ 29,581,040		
Cash and Investments		\$ 128,763,597		
Total		\$ 158,344,637		

Revenue

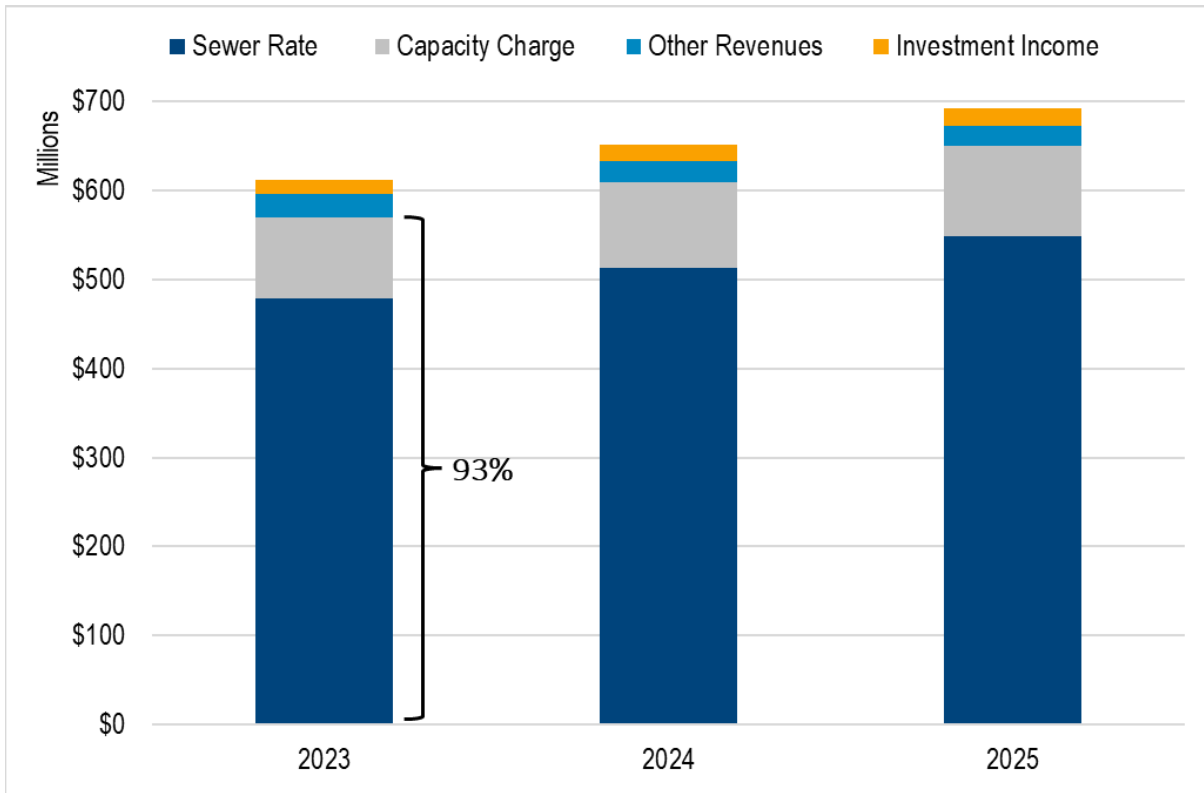
The sewer rate and capacity charge, together, made up 93 percent of total operating revenues for 2023. **Figure 20** shows WTD’s 2023 revenue and projected 2024 and 2025 revenue by source.

³⁵ [Ordinance 19377](#) is available on the King County website.

³⁶ Parity Bonds are secured by a lien on sewer revenue and hold a priority in payment second only to operating and maintenance expenses.

³⁷ “Springing” refers to a provision within an Ordinance that activates certain conditions or changes to the current terms or requirements.

Figure 20 Operating Revenue Components Sorted by Size



Revenue Requirement

Two tests guide rate setting and determine a utility’s annual revenue requirement: the cash test and the debt service coverage test.

Cash Test

The utility must ensure first that it can support its cash obligations, including operating expenditures, debt service repayment, and any financial policy targets, such as cash to fund the capital program.

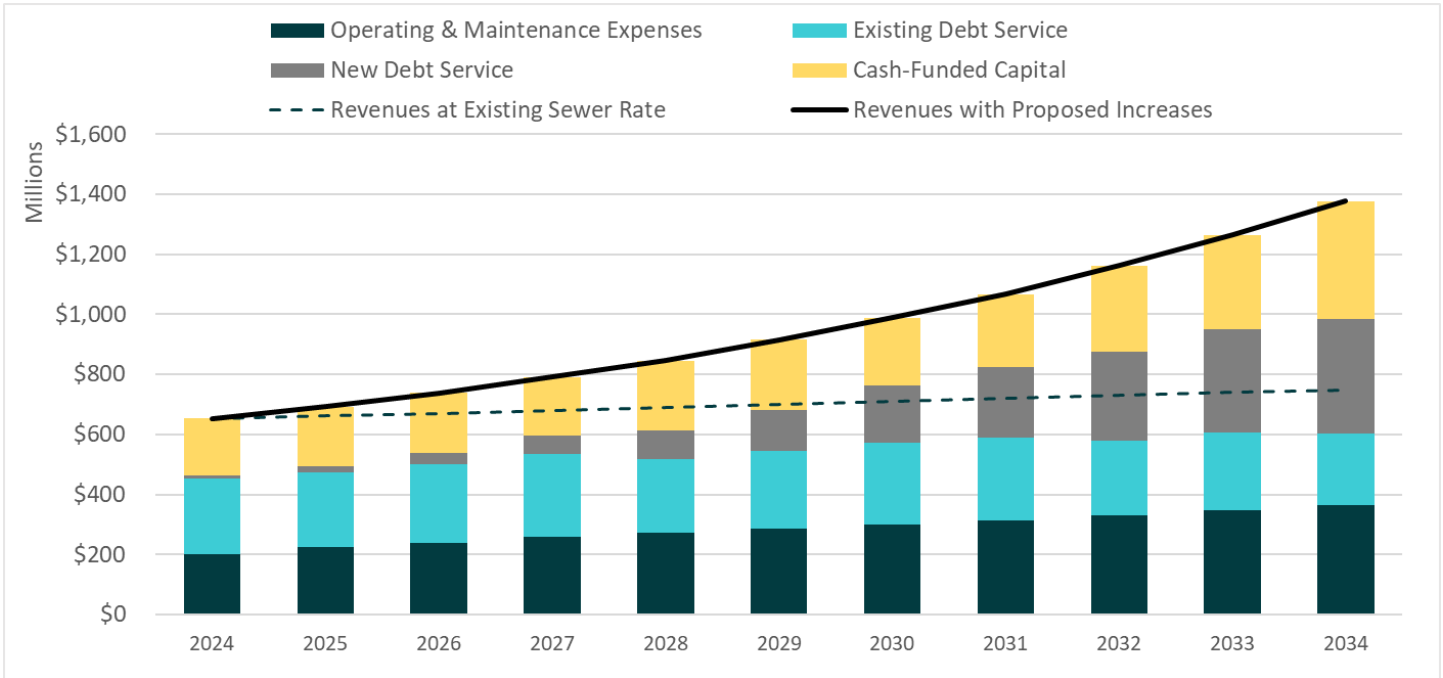
King County Code 28.86.160 Financial Policies state:

King County shall charge its customers sewer rates and capacity charges sufficient to cover the costs of constructing and operating its wastewater system. Revenues shall be sufficient to maintain capital assets in sound working condition, providing for maintenance and rehabilitation of facilities so that total system costs are minimized while continuing to provide reliable, high-quality service and maintaining high water quality standards.³⁸

Figure 21 shows the components that build to the total annual revenue requirement, compared with revenue under the existing sewer rate.

³⁸ The King County Code Title 28 can be found [here](#).

Figure 21 2025 - 2034 Sewer Rate Forecast Revenue Requirement



Beginning from the bottom of **Figure 21**, the first stack (dark blue) in the bar represents the annual operating and maintenance (O&M) expenses with projected inflation and growth. The second stack (teal) shows the debt service obligations for existing outstanding WTD debt. The third stack (gray) represents new debt service repayments generated by funding the capital program in this forecast. The top stack (yellow) represents the policy to cash-fund the capital program from revenue, at an amount based on annual depreciation.

The dashed line shows the forecasted level of revenue generated if the sewer rate were to remain at the current 2024 rate of \$55.11 for all years of the forecast, to demonstrate the utility’s funding gap at the current rate. The solid line at the top of the bars shows the revenue meeting the annual requirement in each year based on the proposed rate forecast.

Figure 22 Proposed 2025 Sewer Rate and 2026-2034 Forecast [also available on page 4]

2025-2034 Rate Forecast	Adopted	Proposed									
2025 Proposed Sewer Rate	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Rate Increase %	5.75%	5.75%	7.00%	7.00%	7.00%	8.25%	8.25%	8.25%	9.25%	9.25%	9.25%
Monthly Sewer Rate	\$55.11	\$58.28	\$62.36	\$66.73	\$71.41	\$77.31	\$83.69	\$90.60	\$98.99	\$108.15	\$118.16
Rate Increase \$	\$3.00	\$3.17	\$4.08	\$4.37	\$4.68	\$5.90	\$6.38	\$6.91	\$8.39	\$9.16	\$10.01

Debt Service Coverage Ratio Test

The second revenue requirement test is the debt service coverage ratio (DSC) test. DSC is a financial metric used to assess an entity's ability to generate enough cash to cover its debt service obligations. DSC is calculated by taking free cash flow, cash available after paying for operation and maintenance, and dividing it by current debt obligations. DSC is broadly used in the industry and is of particular interest to rating agencies. MWPAAC recommended WTD maintain a DSC ratio above 1.4 in 2017 and WTD must maintain a DSC above 1.15 per bond Ordinance. The sewer rate proposal and financial forecast produce a DSC ratio of free cash flow to current debt obligations ranging from 1.48 to 1.74. As shown in **Figure 23**, WTD’s historical coverage performance has increased steadily since 2016 and achieved a record-high DSC in 2022.

2025 Sewer Rate Technical Memorandum

Figure 23 History of WTD DSC and Ratings

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
WTD All-in DSC Ratio	1.24x	1.33x	1.30x	1.32x	1.28x	1.33x	1.33x	1.36x	1.41x	1.51x	1.49x	1.58x	1.56x	1.57x	1.72x	1.56x
S&P Rating	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+
Moody's Rating	Aa3	Aa3	Aa2	Aa2	Aa2	Aa2	Aa2	Aa2	Aa2	Aa1	Aa1	Aa1	Aa1	Aa1	Aa1	Aa1

Sewer Rate

Sewer rate revenue is the largest component of WTD operating revenues at 78 percent. SFR customers make up 56 percent of the sewer rate customer base and are billed at one unit per household, regardless of water use. The remaining 44 percent of RCEs are comprised of commercial and multi-family customers in a combined rate class. An RCE is a unit used for billing purposes that converts reported water use (as a proxy for sewage flows) to the approximate equivalent of one SFR. As defined in the LSA contracts and King County Code 28.86.160, Financial Policy 15, one RCE is equal to 750 cubic feet of water usage per month.

Billing Structure

In contrast to the retail agencies that read meters and bill customers, either monthly or bimonthly, RCE reporting and billing are performed on a quarterly cycle. As shown in **Figure 24**, billings for the SFR class in a given quarter are based on RCEs reported in the quarter before the previous one (e.g., Q2 billing is based on Q4 reported).

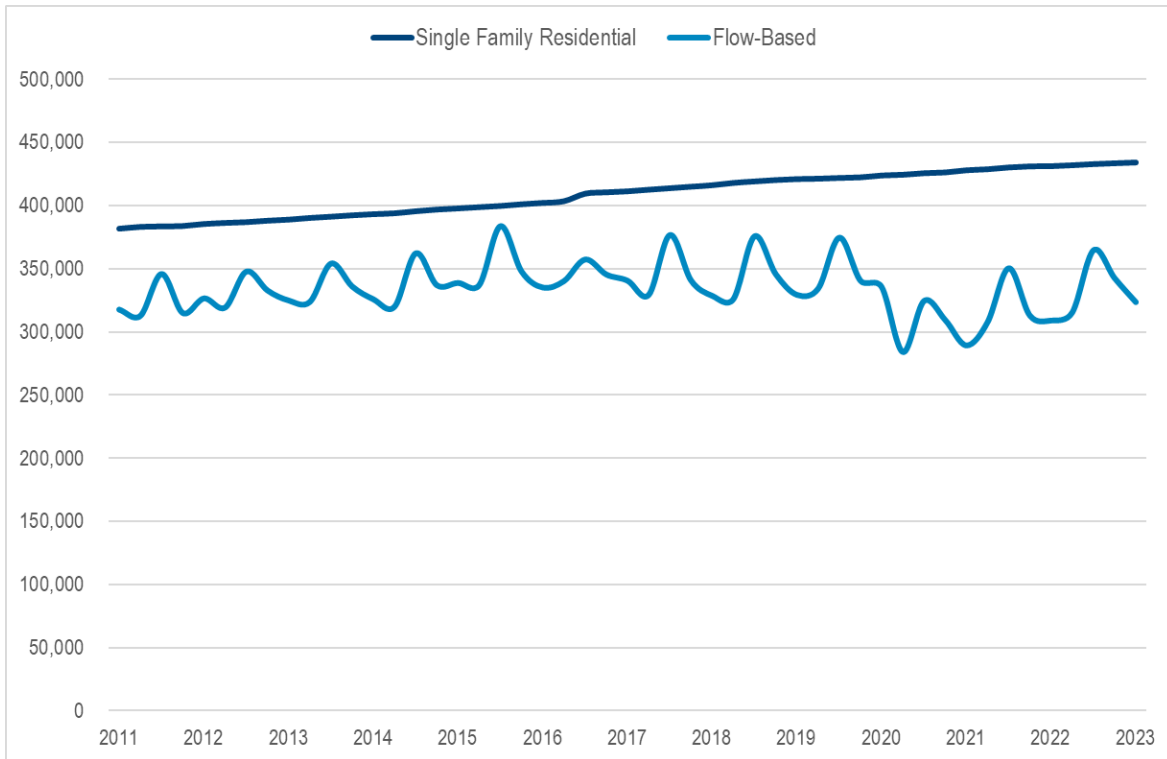
The commercial and multi-family billing structure includes additional delays because these billings are based on a quarterly rolling average of RCEs, with the intent to minimize variability of billings to the agencies.

Figure 24 RCE Reporting to Sewer Rate Billing Lag

	2023				2024	
	Q1-23	Q2-23	Q3-23	Q4-23	Q1-24	Q2-24
Single Family Residential				Reported		Billed
Commercial / Multi-Family	Four quarter average					Billed

Figure 25 shows the historical trend in total customers billed since 2011.

Figure 25 Reported SFRs and Flow-Based RCEs by Quarter (2011-2023)



Historical Sewer Rate Increases

To provide context for the historical rate of growth to the revenue needs of the utility, rate increases since 1990 are provided in **Figure 26**. Since 1990, the average annual rate increase is 4.6 percent.

Figure 26 Historical Sewer Rate Increases (1990-2024)

Year	Sewer Rate	Percent Change	Year	Sewer Rate	Percent Change
1990	\$11.90		2008	\$27.95	9.2%
1991	\$13.20	10.9%	2009	\$31.90	14.1%
1992	\$13.80	4.5%	2010	\$31.90	0.0%
1993	\$13.62	-1.3%	2011	\$36.10	13.2%
1994	\$15.90	16.7%	2012	\$36.10	0.0%
1995	\$17.95	12.9%	2013	\$39.79	10.2%
1996	\$19.10	6.4%	2014	\$39.79	0.0%
1997	\$19.10	0.0%	2015	\$42.03	5.6%
1998	\$19.10	0.0%	2016	\$42.03	0.0%
1999	\$19.10	0.0%	2017	\$44.22	5.2%
2000	\$19.50	2.1%	2018	\$44.22	0.0%
2001	\$19.75	1.3%	2019	\$45.33	2.5%
2002	\$23.40	18.5%	2020	\$45.33	0.0%
2003	\$23.40	0.0%	2021	\$47.37	4.5%
2004	\$23.40	0.0%	2022	\$49.27	4.0%
2005	\$25.60	9.4%	2023	\$52.11	5.8%
2006	\$25.60	0.0%	2024	\$55.11	5.8%
2007	\$27.95	9.2%			
				Annual Average	4.6%
				Biennial Average	9.4%

2025 Sewer Rate Proposal and 2025-2034 Forecast

After determining revenue requirements, and revenue generated from other sources, the sewer rate proposal is developed to meet both the cash test and the DSC test. A monthly sewer rate of \$58.28 in 2025, which is a 5.75 percent, is proposed in the Ordinance.

While an increase in the rate forecast is proposed, the 2025 proposed rate is unchanged from the 2024 adopted sewer rate forecast in Ordinance 19623. The 2025 updated rate forecast beyond the 2025 proposed rate include higher rate increases as shown in **Figure 27** and **Figure 28** below. Highlighted changes between rate forecasts include:

- Mouth of the Duwamish Combined Sewer Overflow (MDCSO) project contingency reallocated from 2034 to 2029-2034 to reflect likely programmatic delivery.
- New conceptual projects, updated conceptual project forecasts, and updated forecasts for projects currently in delivery. These changes are discussed in more detail on Section IV (Estimated CIP Spending for 2025-2034 Financial Forecast).
- Operating costs re-baselined to capture recent inflation (i.e., significant electric and chemical cost increases). Forecast includes higher inflation assumptions through 2025 before returning to a long-term average of three percent for general inflation and four percent for labor inflation.
- Near-term growth in operating costs at 3.5 percent annually through 2027 and then returning to a long-term assumption of 1.5 percent.

Figure 27 Adopted 2024 Sewer Rate and 2025-2033 Forecast

2024-2033 Rate Forecast	Adopted											
2024 Adopted Sewer Rate	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	
Rate Increase %	5.75%	5.75%	5.75%	6.50%	6.50%	6.50%	7.00%	7.00%	7.00%	7.00%		
Monthly Sewer Rate	\$55.11	\$58.28	\$61.64	\$65.65	\$69.92	\$74.47	\$79.69	\$85.27	\$91.24	\$97.63		
Rate Increase \$	\$3.00	\$3.17	\$3.36	\$4.01	\$4.27	\$4.55	\$5.22	\$5.58	\$5.97	\$6.39		

2025 Sewer Rate Technical Memorandum

Figure 28 Proposed 2025 Sewer Rate and 2026-2034 Forecast

2025-2034 Rate Forecast	Adopted	Proposed									
2025 Proposed Sewer Rate	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Rate Increase %	5.75%	5.75%	7.00%	7.00%	7.00%	8.25%	8.25%	8.25%	9.25%	9.25%	9.25%
Monthly Sewer Rate	\$55.11	\$58.28	\$62.36	\$66.73	\$71.41	\$77.31	\$83.69	\$90.60	\$98.99	\$108.15	\$118.16
Rate Increase \$	\$3.00	\$3.17	\$4.08	\$4.37	\$4.68	\$5.90	\$6.38	\$6.91	\$8.39	\$9.16	\$10.01

Capacity Charge

Since 1990, King County has levied a capacity charge on structures with new connections to the sanitary sewer system.^{39,40,41} This charge is paid over 15 years and is in addition to the monthly sewer bill assessed by the LSA. Newly connecting customers are directly billed by King County for the capacity charge. The capacity charge rate is set annually by the County Council and is \$74.23 per month over the 15-year payment period for properties connecting in 2024.

The Revised Code of Washington (RCW) 35.58.570 authorizing the capacity charge states:

- (1) A metropolitan municipal corporation that is engaged in the transmission, treatment, and disposal of sewage may impose a capacity charge on users of the metropolitan municipal corporation's sewage facilities when the user connects, reconnects, or establishes a new service to sewer facilities of a city, county, or special district that discharges into the metropolitan facilities. The capacity charge shall be based upon the cost of the sewage facilities' excess capacity that is necessary to provide sewerage treatment for new users to the system.
- (2) The capacity charge is a *monthly charge* reviewed and approved annually by the metropolitan council.⁴²

Currently, state statute does not allow the County to require up-front payment of the capacity charge, which is the most common industry approach to new development charges, such as impact fees and utility connection charges.⁴³ The monthly charge reference is unique to the authorizing language for metropolitan municipal corporations and is not included in RCW authority for city and special-purpose district connection charges that share much of the same language.⁴⁴

King County Code 28.86.160 Financial Policies state, “The capacity charge may be paid by new customers in a single payment or as a monthly charge at the rate established by the council...”

³⁹ More information on the King County Capacity Charge can be found [here](#).

⁴⁰ In 1992, voters approved an amendment to the County's charter that authorized the merger of King County with the Municipality of Metropolitan Seattle (Metro), with the phased merger effective in 1994. [More information on the merger is available here](#). As successor to Metro, the County assumed Metro’s rights and obligations, including authority to impose the capacity charge.

⁴¹ Revised Code of Washington [35.58.360](#)

⁴² Revised Code of Washington [35.58.570](#)

⁴³ A 2015 internal WTD survey of utility connection charges for 18 comparable agencies nationwide included data on when the charge is assessed to new connections for 13 of the 18 agencies. Of the 13, 100 percent required payment at the time of permitting or service application. Only WTD did not require payment as a condition of development through the permitting/service application process.

⁴⁴ <https://app.leg.wa.gov/RCW/default.aspx?cite=35.92.025> Cities and Towns

<https://app.leg.wa.gov/RCW/default.aspx?cite=57.08.005> Districts

Customers may elect to pay the capacity charge in one lump sum or be billed quarterly based on the monthly rate for 15 years. The charge is linked to the property, meaning that the charge transfers between owners of the property until the capacity charge is paid-off.

Capacity Charge Rate Structure

In 2020, the County approved updates to the rate structure of the capacity charge.⁴⁵ As of January 1, 2021, the County began using small, medium, and large classes for newly connecting single-family residential properties. The classification differential is based on data that links the home size to average persons per household, and average persons per household to capacity demands from the connecting property.

The RCEs assigned to single-family homes is based on size: small (<1,500 sq. ft. = 0.81 RCE), medium (1,500 – 2,999 sq. ft. = 1 RCE), and large (>3,000 sq. ft. = 1.16 RCE).

Using persons-per-household data also resulted in an update to RCEs assigned to multi-family units. King County Code provides a permanent classification for accessory dwelling units, such as backyard cottages and basement apartments, set at 0.59 RCE per unit.⁴⁶

Multi-family structures are billed by unit at 0.81 RCEs for two to four units and 0.64 RCEs for five or more units.

Commercial structures are billed based on fixture counts and/or flows.

A list of historical capacity charge rates from 2003 is provided in **Figure 29** below.

Figure 29 Historical Capacity Charge Increases (2003-2024)

Year	Capacity Charge (per Month)	Percent Increase
2003	\$17.60	
2004	\$18.00	2.3%
2005	\$34.05	89.2%
2006	\$34.05	0.0%
2007	\$42.00	23.3%
2008	\$46.25	10.1%
2009	\$47.64	3.0%
2010	\$49.07	3.0%
2011	\$50.45	2.8%
2012	\$51.95	3.0%
2013	\$53.50	3.0%
2014	\$55.35	3.5%
2015	\$57.00	3.0%
2016	\$58.70	3.0%
2017	\$60.80	3.6%
2018	\$62.60	3.0%
2019	\$64.50	3.0%
2020	\$66.35	2.9%
2021	\$68.34	3.0%
2022	\$70.39	3.0%
2023	\$72.50	3.0%
2024	\$74.23	2.4%

⁴⁵ More information on the capacity charge review study can be found [here](#).

⁴⁶ [King County Code 28.84.050 O.3.](#)

Capacity Charge Updates

WTD’s regular updates to the underlying assumptions are guided by the King County Code 28.86.160, Financial Policy 15, which states, “Customer growth and projected costs, including inflation, shall be updated every three years beginning in 2003. The county should periodically review the capacity charge to ensure that the actual costs of system expansion to serve new customers are reflected in the charge.”

The 2023 capacity charge update was planned to be a transition from the County’s Regional Wastewater Service Plan (RWSP) to an updated comprehensive plan for the WTD system. The comprehensive plan for the utility serves as the basis for projecting the number of customers, capital projects needed for capacity, and financial assumptions.⁴⁷ The timing of this transition depended on progress of the regional plan update. The plan update was paused in 2021 to consider feedback and due to regulatory uncertainty for the Nutrients and Combined Sewer Overflow Consent Decree, and resumed in 2024.

Ordinance 19403 passed on March 8, 2022, and provided time to incorporate the updated regional planning inputs and develop the policy updates for the capacity charge methodology work that is in progress.⁴⁸ It deferred the update of customer growth and projected costs scheduled for transmittal to the Council with the proposed 2023 sewer rate in 2022. The update was deferred until the next annual sewer and capacity charge rate proposal following the Council’s approval of an update to the RWSP or 2024, whichever came first; 2024 came first.

The 2024 capacity charge update utilized the existing capacity charge methodology established in 2003 and calculated the proposed capacity charge rates for 2025 and 2026. This methodology work is resuming, and an updated methodology is anticipated to be in place ahead of the next three-year update cycle.

Figure 30 shows the 2025 proposed capacity charge, of \$76.09, and projects the charge and related lump-sum elective payment option for the forecast period.

Figure 30 Proposed 2025 Capacity Charge and Projected 2026-2030 Capacity Charge [also available on page 5]

Capacity Charge	2024	2025	2026	2027	2028	2029	2030
Monthly Charge	\$74.23	\$76.09	\$77.99	\$79.94	\$81.94	\$83.99	\$86.09
Increase %	2.4%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Increase \$	\$2.05	\$1.86	\$1.90	\$1.95	\$2.00	\$2.05	\$2.10
Annual Total	\$891	\$913	\$936	\$959	\$983	\$1,008	\$1,033
Total Payments (15 years)	\$13,361	\$13,696	\$14,038	\$14,389	\$14,749	\$15,118	\$15,496
Upfront Payment*	\$10,105	\$10,358	\$10,616	\$10,882	\$11,154	\$11,433	\$11,719

*Discount rate of 4.01%

Capacity Charge Revenue Forecast

The majority of capacity charge revenue comes from regular capacity charge customer billings, with the rest coming from elective pre-payments. Ongoing payments are stable, while pre-payments vary significantly from year to year and are difficult to forecast.

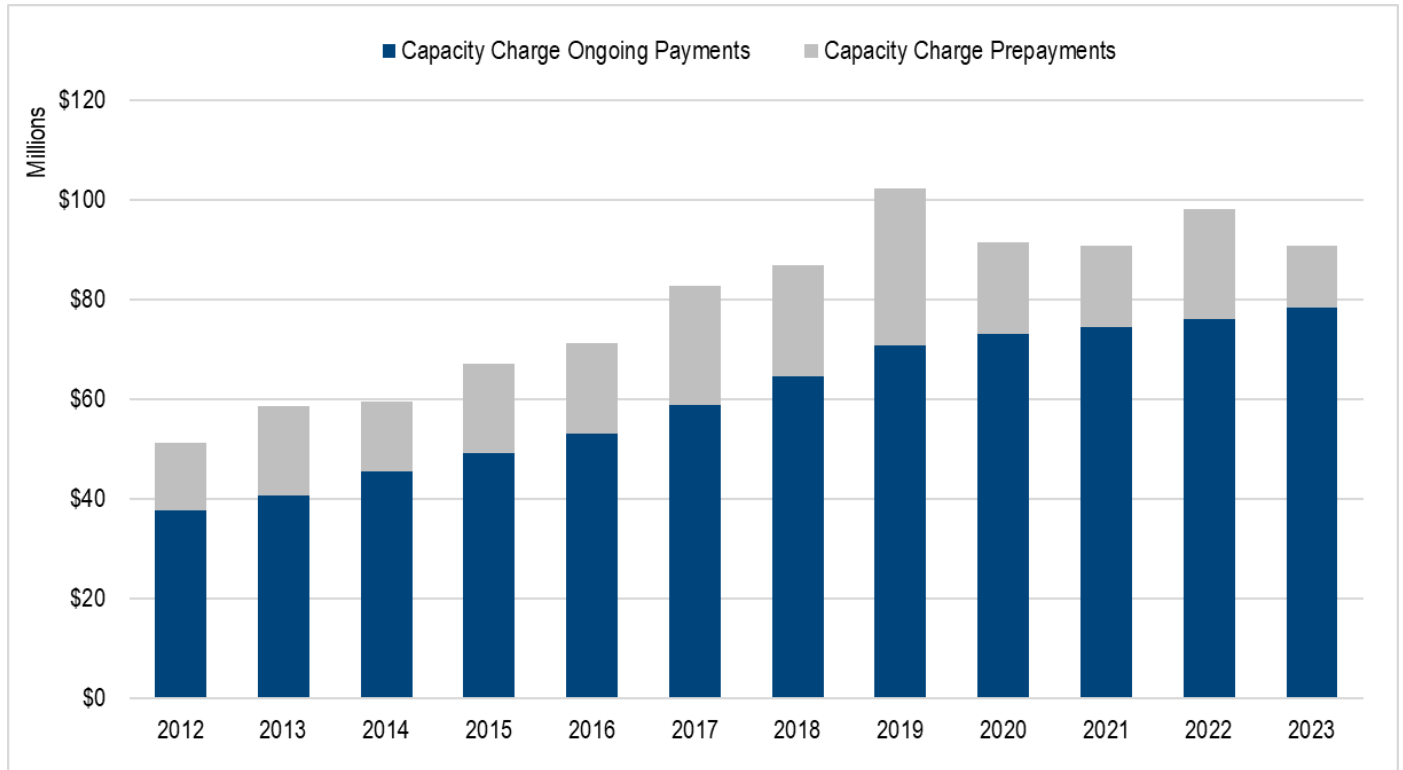
Figure 31 shows the historical split between ongoing payments and elective pre-payments for the last 12 years (2012-2023). Until 2019, ongoing capacity charge pre-payment revenues grew at an average annual rate of more than nine percent, driven by a regional construction boom that added large numbers of new connections every year. In contrast,

⁴⁷ Information on the RWSP is available [here](#).

⁴⁸ King County Ordinance 19403 can be found [here](#).

the growth rate slowed to, and averaged, between two and three percent during 2020-23. Capacity Charge pre-payments have ranged between 14 to 31 percent of total capacity charge revenues, without a clear, discernible pattern from one year to the next. Pre-payments in the global COVID-19 pandemic-impacted years of 2020 and 2021 decreased to levels close to the averages seen before the record-high years of 2017, 2018, and 2019. The full capacity charge revenue forecast can be found in the Appendix.

Figure 31 Historical Capacity Charge Ongoing Payments and Prepayments (2012-2023)⁴⁹



Capacity charge revenues are forecasted based on an analysis of connection growth and the percentage of pre-payments in any given year. This results in an overall capacity charge revenue increase of three to seven percent per year throughout the forecast period, as shown in **Figure 33**, page 36.

Revenue

Interest earnings

Interest earnings, also known as investment income, is revenue obtained by the County’s Water Quality Fund through investments of its cash balances in the King County Investment Pool (Pool). The Pool pursues a low-risk investment strategy that prioritizes the availability of funds for its participating agencies to meet daily cash-flow requirements. In 2023, WTD cash balances averaged approximately \$547 million throughout the year, which included cash balances for all WTD reserve accounts.

Interest-rate forecasts for the Pool come from King County’s Office of Economic and Financial Analysis. The 2024 interest rate is estimated to be 4.3 percent.⁵⁰ The economic impacts from COVID-19 resulted in a sharp decrease in interest rates and an initial commitment from the Federal Reserve (Fed) to maintain low interest rates to sustain the economic

⁴⁹ Ongoing payments include penalty fees that have ranged between \$0.4 million and \$1.3 million a year.

⁵⁰ The August 2023 forecast is available [here](#).

recovery. However, elevated and persistent inflation led the Fed to accelerate its rate-hike schedule and markets to expect considerably higher short-term rates throughout 2024.⁵¹ Lower interest rates have a limited impact on WTD revenues, representing less than one percent of total revenue. Any reduction of interest earnings is significantly offset by savings from a lower cost of debt.

High-Strength Surcharge, Septage, Resource Recovery

Other WTD income is generated from more than 25 separate revenue sources. The largest of these sources come from the high-strength surcharge, Resource recovery activities (methane sales with renewable identification numbers, or RINs) and septic hauler fees.⁵² WTD conservatively assumes that RINs revenue will decrease from over \$7 million in the last few years to \$4 million after 2024, due to the risk of changes to existing regulatory framework under a new federal administration. Most of the other revenue components are forecast at three percent annual growth.

Reference

Supplemental WTD Debt Information

Figure 32 2023 Year-End Outstanding Debt Balances⁵³

Sewer System Obligations	Amount Outstanding	Final Maturity	Ratings
Parity Bonds (Senior Lien)	\$ 1,991,685,910	2052	Aa1/AA+
Parity Lien Obligations (LTGO)	628,210,000	2039	Aaa/AAA
Junior Lien Obligations	240,295,000	2042	Aa2/AA
Multi-Modal LTGO/Sewer Revenue Bonds	346,695,000	2050	Aaa/AAA
SRF Loans and PWTF Loans	268,446,850	2055	
Total Sewer System Obligations Outstanding	<u>\$ 3,475,332,760</u>		

Types of WTD Financing

Bonds

Sewer revenue bonds are secured by a pledge of revenue of the sewer system, subject to payment of all operating and maintenance expenses of the sewer system. When revenue bonds are additionally backed by a pledge of the full faith and credit of the issuer (meaning the County’s General Fund revenue and taxing power), the bonds are referred to as limited tax general obligation (LTGO) bonds.

State Loans

WTD receives loans from Ecology under the SRF Loan Program and from the Washington State Department of Commerce’s Public Works Board under the Washington Public Works Trust Fund Loan Program.⁵⁴ The loans require either semi-annual or annual payments of principal and interest from 2024 through 2055, and bear interest at stated

⁵¹ Information on interest rates is available [here](#).

⁵² A RIN is a serial number assigned to a batch of [biofuel](#) for the purpose of tracking its production, use, and trading.

⁵³ Excludes principal payments from January 1, 2024, that had already been transferred to the debt service fund in December 2023.

⁵⁴ More information on the Public Works Trust Fund can be found [here](#).

rates from 0.0 percent to 2.7 percent. As of December 31, 2023, the balance due on all state loans is \$268 million. State loans are secured by a subordinate lien on the net revenues of the system.⁵⁵

WIFIA Loans

WIFIA is an established federal loan program administered by the EPA for eligible water and wastewater infrastructure projects. The WIFIA program accelerates investment in the nation's water infrastructure by providing long-term, low-cost supplemental loans for regionally and nationally significant projects at a maturity similar to the U.S. Treasury rates. The WIFIA loans, after draws are made, are secured by a pledge of revenue from the sewer system, subject to payment of all operating and maintenance expenses of the sewer system. WTD has successfully qualified for and received three federal WIFIA loan agreements to date, totaling \$729.6 million.

Commercial Paper

The Commercial Paper (CP) program provides low-cost, flexible, interim financing for WTD' capital projects. Its main purpose is to provide interim financing to pay for WTD's capital projects pending permanent financing from state and federal loans. CP has also been utilized to provide interim financing for the cash-funded portion of WTD's CIP, refund high-interest outstanding debt, and serve as a permanent element of WTD's variable-rate debt portfolio.

Variable-Rate Debt

King County Code 28.86.160, Financial Policy 14, limits the utility's variable-rate debt exposure to a maximum amount equal to 20 percent of all outstanding debt and currently, WTD uses a target of 15 percent in the financial forecast. WTD's initial variable-rate issuance was its \$100 million CP program in 1996. Over the past 25 years, WTD expanded its variable-rate portfolio to a total of approximately \$530 million. Variable-rate debt allows WTD to achieve a borrowing cost that historically has been much lower than traditional fixed-rate debt. Typically, an investor can sell variable-rate bonds back with just a week's notice. This type of investment warrants the lowest borrowing cost in any given interest rate environment.

Forecast Assumptions

Figure 33 summarizes the assumptions used to forecast revenues and expenditures in the 10-year financial forecast (2025-2034).

⁵⁵ "Subordinate" liens are those that can only be paid after more senior liens are released.

Figure 33 Forecast Assumptions Used in Financial Forecast⁵⁶

Assumptions: 2025-2034 Rate Forecast	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Single-Family Residences RCE Growth	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
Multi-Family & Commercial RCE Growth	1.6%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Capacity Charge Ongoing Payments	7.0%	7.0%	6.3%	5.0%	4.9%	4.1%	4.1%	3.2%	2.3%	1.8%
Capacity Charge Prepayments	4.1%	7.0%	5.9%	5.0%	4.2%	3.6%	3.1%	2.7%	2.5%	2.3%
General Cost Inflation		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Labor Cost Inflation		4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Expenditure Growth		3.5%	3.5%	3.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Capital Cost Escalation	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
CIP Effective Accomplishment Rate	75.8%	64.0%	66.3%	73.7%	73.6%	82.6%	85.0%	85.0%	85.0%	85.0%
Revenue Bond Rate (30 Year Term)	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Blended Variable Rate	3.03%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Investment Pool Earnings Rate	3.90%	3.02%	2.89%	2.88%	2.87%	2.87%	2.87%	2.87%	2.87%	2.87%

2023 Wastewater Treatment Division Financial Performance

Revenue

Figure 34 shows that total RCEs were 0.6 percent higher than projected and related sewer rate revenues were 0.3 percent higher in 2023.

Capacity charge revenues were \$3.9 million lower than previously forecast, due to lower-than-expected elective early payoff activity.

Other operating revenues presented better-than-forecast results mostly due to increased RINs revenue, methane gas sales, and sale of County-owned timber.

Investment income exceeded the forecast, with interest rates from the King County Investment Pool averaging 3.1 percent in 2023.

⁵⁶ The operating costs forecast for the base year (2025) includes adjustments for significant known increases such as electricity and chemicals, in addition to re-baselining where recent inflation has exceeded previous forecast assumptions.

Figure 34 Wastewater Treatment 2023 Forecast vs. Preliminary 2023 Actuals⁵⁷

Wastewater Treatment Division 2023 Financial Performance ('000s)	Forecast 2023	Preliminary 2023	Variance (\$)	Variance (%)
Monthly Sewer Rate	\$52.11	\$52.11	\$0.00	0.0%
Rate Increase	5.75%	5.75%	0.00%	0.0%
Residential Customer Equivalents (RCEs)	764,063	768,447	4,385	0.6%
Revenue				
Sewer Rate*	\$ 477,784	\$ 479,425	\$ 1,642	0.3%
Capacity Charge	94,799	90,860	(3,939)	-4.2%
Industrial Waste Program	10,539	10,769	230	2.2%
Resource Recovery	8,639	10,857	2,218	25.7%
Other Income	4,509	4,687	178	3.9%
Investment Income	14,015	15,234	1,219	8.7%
Use (Transfer to) Rate Stabilization Reserve	-	-	-	n.a.
Total - Revenue	\$ 610,285	\$ 611,832	\$ 1,548	0.3%
Expenditures & Transfers				
O&M Expenses	\$ (193,913)	\$ (187,185)	\$ 6,728	-3.5%
Debt Service on Parity Bonds	(143,343)	(138,211)	5,133	-3.6%
Debt Service on Parity Lien Obligations	(57,774)	(57,774)	-	0.0%
Debt Service on Subordinate Lien	(47,466)	(48,380)	(914)	1.9%
Debt Retirement/ Defeasance Use of Cash	(18,570)	(172,180)	(153,610)	827.2%
Minimum Operating Reserve Contribution	(1,755)	(1,082)	673	-38.3%
Total - Expenditures & Transfers	\$ (462,822)	\$ (604,812)	\$ (141,991)	30.7%
Net Cash Flow	\$ 147,463	\$ 7,020	\$ (140,443)	-95.2%
Beginning Balance	\$ 42,431	\$ 42,431	\$ -	0.0%
Net Cash Flow	147,463	7,020	(140,443)	-95.2%
Policy Cash-Funded Capital (Transfer to Capital Fund)	(189,893)	(43,000)	146,893	-77.4%
Ending Balance	\$ -	\$ 6,451	\$ 6,451	n.a.
Ending Reserve Balances				
Water Quality Operating Liquidity Reserve	\$ 19,391	\$ 18,718	\$ (673)	-3.5%
Rate Stabilization Reserve Account	\$ 46,250	\$ 46,250	\$ -	0.0%
Debt Service Coverage on Parity Bonds	2.90x	3.07x	0.17x	5.8%
Debt Service Coverage on Parity Bonds and Parity Lien Obligations	2.07x	2.17x	0.10x	4.7%
Debt Service Coverage on Total Debt Payments	1.67x	1.74x	0.06x	3.7%
*Sewer rate revenue includes a billing adjustment of \$1.1m				

Expenditures

In 2023, WTD realized operating expenditure savings of \$6.7 million below budget. The largest contributors to this underspend were staffing vacancies, lower use of central services, and delays in the WaterWorks Grant Program.

⁵⁷ Audited 2023 financial information will be available in May 2024. Preliminary (unaudited) year-end financial data is presented for comparison to the 2023 forecast from the 2024-2033 Financial Forecast.

Debt

In 2022, Ecology awarded WTD two separate SRF loans, one for \$139.3 million and one for \$26 million, totaling \$165.3 million for the Georgetown and Ship Canal projects. WTD drew upon \$134.1 million in 2023, using \$72.1 million to redeem all CP that had provided interim financing for these projects and depositing the remaining \$62.0 million into the construction fund to support ongoing project costs. Despite this draw, however, the aggregate amount of funding from state loans in 2023 was \$21.0 million less than projected due to reimbursement delays and mandatory loan closeout waiting periods for other projects.

In October, WTD refunded \$40.7 million of 2013B Sewer Revenue Bonds and \$100.6 million of 2020A Junior Lien Put Bonds (a component of the variable-rate debt portfolio) that were subject to a January 1, 2024 mandatory purchase date.

Due to the decreased levels of debt service and slightly higher net revenue, WTD projects that it will comfortably exceed each of its key coverage targets in 2023, namely 1.25 times senior lien debt service and 1.15 times total debt service.

Cash Funding and Defeasance

A new money par issuance of \$129.9 million of senior lien 2023A Sewer Revenue Bonds was sold in June 2023. The net proceeds – in the amount of \$137.8 million – were deposited into the capital project fund, freeing up the same amount of operating cash that was subsequently used in October to defease outstanding high-coupon bonds. This transaction produced \$20.1 million in total savings and \$13.4 million in present value savings.

Net Cash Flow

WTD used \$143 million of operating revenue in October 2023 to defeasance higher-interest debt and transferred \$43 million of operating revenue to the capital fund at year-end. The total \$186 million in cash-funded capital, in addition to an ending balance of \$6.5 million, translates into a positive variance of \$2.6 million when compared to the \$189.9 million in cash-funded capital (and zero ending balance) originally projected.

Contaminants of Emerging Concern (e.g., PFAS) – Cost Tracking

Per Motion 16434: “Beginning with the 2025 sewer rate forecast, the wastewater treatment division shall include in its technical memorandum submitted with the annual sewer rate Ordinance a section identifying the cost of activities it has undertaken and plans to undertake to address contaminants of emerging concern, including PFAS.”⁵⁸

PFAS Costs to Date

Between 2019 and 2021, King County evaluated the use of reclaimed water from the Brightwater Treatment Plant and its effects on soil, groundwater, and plant tissue. Samples were analyzed for PFAS and other chemicals of emerging concern. PFAS compounds were detected in river water, reclaimed (reuse) water, soils, and in plants that were grown in this soil and irrigated with either river water or reuse water. These actions total an estimated \$93,750 in costs, to date, for the PFAS-portion of this work.

Between 2021-2022, King County conducted an investigation and published a report on Toxics in King County Wastewater Effluent, Evaluating the Presence of Toxic Elements in the Effluent of Treatment Plants.⁵⁹ This investigation

⁵⁸ Per- and Polyfluoroalkyl Substances. PFAS are a group of chemicals used to make fluoropolymer coatings and products that are widely used in consumer products. PFAS are a concern because they do not break down in the environment, are able to move through soils and water sources, and build up in fish and wildlife. More information about PFAS can be found [here](#).

⁵⁹ Report submitted as part of Motion 16384 can be found [here](#)

included the sampling of wastewater effluent for PFAS compounds at three County Wastewater Treatment Plants. Estimated out-of-pocket costs connected to this project totaled \$24,990, related specifically to PFAS.

In 2023, King County allocated approximately \$421,000 for a further investigation of PFAS in King County wastewater facilities and landfill leachate, anticipated to be completed by mid-2025.

Costs associated with the Nutrient Reduction Evaluation (total estimate of approximately \$8 million) include hiring an external consultant to conduct analyses of nitrogen removal but also with potential compounds of emerging concern and toxics removal, including PFAS chemicals. To date, an estimated \$63,500 has been spent on work attributable to PFAS chemicals.

Costs also include 2,090 documented staff hours spent on PFAS.

Future Costs

WTD will incur costs to comply with Ecology's draft NPDES permit for the West Point Treatment Plant, which requires the County to update its industrial user survey by April 30, 2025, and begin to include requirements for industries to complete PFAS pollution prevention/source reduction evaluations starting in July 2025. The draft permit also requires the County to include best management practices and pollution prevention strategies in its permits to industries beginning July 2025. The cost estimate for this work is \$1 million over five years.

Other future unknown costs include monitoring for PFAS in stormwater, wastewater treatment plant influent and effluent, biosolids, and industrial waste.

Appendix. Attachment A

Wastewater Treatment Division Attachment A - Financial Forecast	Actual 2023	Budget 2024	Rate Proposal 2025	Projected 2026	Projected 2027	Projected 2028	Projected 2029	Projected 2030	Projected 2031	Projected 2032	Projected 2033	Projected 2034
Operating Financial Forecast - 4611 (\$ '000)												
Monthly Sewer Rate	\$52.11	\$55.11	\$58.28	\$62.36	\$66.73	\$71.41	\$77.31	\$83.69	\$90.60	\$98.99	\$108.15	\$118.16
Rate Increase	5.75%	5.75%	5.75%	7.00%	7.00%	7.00%	8.25%	8.25%	8.25%	9.25%	9.25%	9.25%
Residential Customer Equivalents (RCEs)	768,447	775,653	784,252	789,176	794,108	799,049	803,999	808,958	813,925	818,901	823,886	828,880
Revenue												
Sewer Rate ¹	\$ 479,425	\$ 512,955	\$ 548,475	\$ 590,556	\$ 635,890	\$ 684,721	\$ 745,886	\$ 812,420	\$ 884,899	\$ 972,756	\$ 1,069,239	\$ 1,175,286
Capacity Charge	90,860	96,060	102,369	109,517	116,355	122,181	128,032	133,148	138,379	142,656	145,937	148,706
Industrial Waste	10,769	10,825	10,880	10,936	10,993	11,050	11,107	11,164	11,222	11,280	11,339	11,398
Resource Recovery	10,857	9,274	7,372	7,593	7,821	8,056	8,297	8,546	8,802	9,067	9,339	9,619
Other Income	4,687	3,392	3,405	3,419	3,433	3,448	3,463	3,479	3,495	3,511	3,528	3,546
Investment Income	15,234	19,041	20,153	16,153	16,093	16,656	18,590	19,673	20,733	22,447	25,160	27,253
Use (Transfer to) Rate Stabilization Reserve	-	-	-	-	-	-	-	-	-	-	-	-
Total - Revenue	\$ 611,832	\$ 651,546	\$ 692,654	\$ 738,175	\$ 790,585	\$ 846,112	\$ 915,375	\$ 988,430	\$ 1,067,531	\$ 1,161,717	\$ 1,264,542	\$ 1,375,807
Expenditures & Transfers												
O&M Expenses	\$ (187,185)	\$ (198,208)	\$ (222,912)	\$ (238,307)	\$ (258,412)	\$ (271,281)	\$ (284,533)	\$ (298,440)	\$ (313,035)	\$ (328,353)	\$ (344,429)	\$ (361,301)
Existing Debt Service	(273,545)	(251,743)	(249,021)	(259,861)	(274,108)	(274,766)	(257,349)	(273,915)	(273,915)	(249,327)	(258,833)	(240,104)
New Debt Service	-	(9,350)	(21,009)	(37,179)	(61,754)	(95,291)	(138,481)	(190,216)	(237,433)	(295,159)	(346,532)	(381,526)
Debt Retirement/ Defeasance Use of Cash	(143,000)	-	-	-	-	-	-	-	-	-	-	-
Minimum Operating Reserve Contribution	(1,082)	(2,520)	(2,470)	(1,539)	(2,011)	(1,287)	(1,325)	(1,391)	(1,459)	(1,532)	(1,608)	(1,687)
Total - Expenditures & Transfers	\$ (604,812)	\$ (461,821)	\$ (495,413)	\$ (536,886)	\$ (596,285)	\$ (612,625)	\$ (681,689)	\$ (763,962)	\$ (825,675)	\$ (874,370)	\$ (951,401)	\$ (984,618)
Net Cash Flow	\$ 7,020	\$ 189,725	\$ 197,242	\$ 201,289	\$ 194,300	\$ 233,487	\$ 233,686	\$ 224,469	\$ 241,855	\$ 287,347	\$ 313,141	\$ 391,189
Beginning Balance	\$ 42,431	\$ 2,520	\$ 0	\$ 0	\$ 0	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Cash Flow	7,020	189,725	197,242	201,289	194,300	233,487	233,686	224,469	241,855	287,347	313,141	391,189
Policy Cash-Funded Capital (Transfer to Capital Fund)	(43,000)	(192,245)	(197,242)	(201,289)	(194,300)	(233,487)	(233,686)	(224,469)	(241,855)	(287,347)	(313,141)	(391,189)
Ending Balance ²	\$ 6,451	\$ 0	\$ 0	\$ 0	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Ending Reserve Balances												
Water Quality Operating Liquidity Reserve	\$ 18,718	\$ 19,821	\$ 22,291	\$ 23,831	\$ 25,841	\$ 27,128	\$ 28,453	\$ 29,844	\$ 31,304	\$ 32,835	\$ 34,443	\$ 36,130
Rate Stabilization Reserve Account	\$ 46,250	\$ 46,250	\$ 46,250	\$ 46,250	\$ 46,250	\$ 46,250	\$ 46,250	\$ 46,250	\$ 46,250	\$ 46,250	\$ 46,250	\$ 46,250
Debt Service Coverage - Parity Bonds (Senior Lien)	3.07x	3.12x	3.19x	2.92x	2.53x	2.67x	2.58x	2.19x	2.06x	2.13x	2.01x	2.07x
Debt Service Coverage - All-In Debt Service	1.55x	1.74x	1.74x	1.68x	1.58x	1.69x	1.59x	1.49x	1.48x	1.53x	1.52x	1.63x
¹ Sewer rate revenue includes a billing adj. of \$1.1m												
² Difference between 2023 ending balance and 2024 beginning balance driven by reconciliation of cash and accrual timing of transfers between funds												
Capital Funding Forecast - 3611 & 3612 (\$ '000)												
Beginning Balance	\$ 201,482	\$ 119,476	\$ 192,245	\$ 197,242	\$ 201,289	\$ 194,300	\$ 233,487	\$ 233,686	\$ 224,469	\$ 241,855	\$ 287,347	\$ 313,141
WIFIA Proceeds	17,686	-	-	96,845	111,905	32,690	25,440	9,544	14,547	-	-	-
State Loan Proceeds	133,894	46,571	17,856	-	-	-	-	-	-	-	-	-
Variable Rate Debt Proceeds	-	-	15,974	16,693	21,519	50,439	77,592	100,198	118,588	113,204	141,343	131,341
Commercial Paper / Interim Financing	-	73,945	20,391	21,314	8,032	1,796	-	-	-	-	-	-
Retirement of Interim Financing	(72,100)	(17,953)	(10,548)	(32,149)	(55,000)	(9,828)	-	-	-	-	-	-
Net Bond Proceeds	138,239	94,086	162,064	174,027	261,507	411,384	536,223	653,478	582,590	703,018	647,063	434,564
Debt Reserve Contribution/(Requirement)	459	-	-	-	-	-	-	-	-	-	-	-
Grants, Settlements, and Other	568	-	-	-	-	-	-	-	-	-	-	-
Capital Expenditures	(361,117)	(316,126)	(397,982)	(473,971)	(549,251)	(680,782)	(872,741)	(996,906)	(940,193)	(1,058,077)	(1,075,753)	(879,047)
Ending Balance Before Transfers	\$ 59,111	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Year-end Transfers from Operating Fund	43,000	192,245	197,242	201,289	194,300	233,487	233,686	224,469	241,855	287,347	313,141	391,189
Ending Balance	\$ 102,111	\$ 192,245	\$ 197,242	\$ 201,289	\$ 194,300	\$ 233,487	\$ 233,686	\$ 224,469	\$ 241,855	\$ 287,347	\$ 313,141	\$ 391,189
Ending Reserve Balances												
Capital Liquidity Reserve	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Emergency Capital Reserve	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Revenue Bonds Reserve Account	128,764	130,709	141,435	157,725	183,996	212,751	249,875	295,254	336,512	384,190	429,840	461,395
State Revolving Fund Reserve Account	981	219	219	176	133	133	133	68	-	-	-	-