King County

1200 King County
Courthouse
516 Third Avenue
Seattle, WA 98104

Meeting Agenda

Regional Water Quality Committee

Councilmembers:
Claudia Balducci, Chair
Reagan Dunn
Alternate:

Sound Cities Association: Vice Chair, Laura Mork, Shoreline;
Conrad Lee, Bellevue; Jessica Rossman, Medina;
Sarah Moore, Burien

Alternates: Penny Sweet, Kirkland; Yolanda Trout Manuel, Auburn

Sewer/Water Districts: Chuck Clarke, Woodinville Water District; Lloyd Warren, Sammamish Plateau Water District
Alternate: Ryika Hooshangi, Sammamish Plateau Water

City of Seattle: Joy Hollingsworth, Robert Kettle
Alternate: Rob Saka

Lead Staff: Jenny Giambattista (206-477-0879)
Committee Clerk: Marka Steadman (206-477-0887)

3:00 PM | **Wednesday, April 2, 2025** | **Hybrid Meeting**

Hybrid Meetings: Attend the King County Council committee meetings in person in Council Chambers (Room 1001), 516 3rd Avenue in Seattle, or through remote access. Details on how to attend and/or to provide comment remotely are listed below.

Pursuant to K.C.C. 1.24.035 A. and F., this meeting is also noticed as a meeting of the Metropolitan King County Council, whose agenda is limited to the committee business. In this meeting only the rules and procedures applicable to committees apply and not those applicable to full council meetings.

HOW TO PROVIDE PUBLIC COMMENT: The Regional Water Quality Committee values community input and looks forward to hearing from you on agenda items.

Sign language and interpreter services can be arranged given sufficient notice (206-848-0355).
TTY Number - TTY 711.
Council Chambers is equipped with a hearing loop, which provides a wireless signal that is picked up by a hearing aid when it is set to 'T' (Telecoil) setting.

The Committee will accept public comment on items on today's agenda in writing. You may do so by submitting your written comments to kcccomitt@kingcounty.gov. If your comments are submitted before 2:00 p.m. on the day of the meeting, your comments will be distributed to the committee members and appropriate staff prior to the meeting.

HOW TO WATCH/LISTEN TO THE MEETING REMOTELY: There are three ways to watch or listen to the meeting:
1) Stream online via this link: www.kingcounty.gov/kctv, or input the link web address into your web browser.
2) Watch King County TV on Comcast Channel 22 and 322(HD) and Astound Broadband Channels 22 and 711(HD).
3) Listen to the meeting by telephone.

Dial: 1 253 215 8782
Webinar ID: 827 1536 1574

To help us manage the meeting, please use the Livestream or King County TV options listed above, if possible, to watch or listen to the meeting.

1. **Call to Order**

2. **Roll Call**

To show a PDF of the written materials for an agenda item, click on the agenda item below.

3. **Approval of Minutes**

March 5, 2025 meeting

4. **Chair's Report**

5. **MWPAAC Report**

6. **Wastewater Treatment Division (WTD) Report**

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Briefing

7. Briefing No. 2025-B0041 **p. 7**

Wastewater Treatment Division's 2026 Sewer Rate and Capacity Charge Recommendations and Status Update on Long-Term Rate Forecast Motion 16449

Kamuron Gurol, Director, Wastewater Treatment Division
Courtney Black, Financial Services Manager, Wastewater Treatment Division

8. Briefing No. 2025-B0042 **p. 90**

Regional Wastewater Services Plan: Briefing on Emerging Options for the Vision for Clean Water

Darren Greve, Government Relations, Wastewater Treatment Division
Janice Johnson, Regional Wastewater Services Plan Update Project Manager, Wastewater Treatment Division

9. Briefing No. 2025-B0005 **p. 101**

Discussion of 2025 Regional Water Quality Committee Work Program

Jenny Giambattista, Council staff

Other Business

Adjournment

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Meeting Minutes

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Committee Clerk: Marka Steadman (206-477-0887)

3:00 PM **Wednesday, March 5, 2025** **Hybrid Meeting**

DRAFT MINUTES

1. Call to Order

Chair Balducci called the meeting to order at 3:02 p.m.

2. Roll Call

Present: 12 - Balducci, Clarke, Dunn, Lee, Mork, Moore, Rossman, Warren, Hollingsworth, Kettle, Sweet and Hooshangi

3. Approval of Minutes

Councilmember Dunn moved approval of the February 5, 2025, meeting minutes. There being no objections, the minutes were approved.

4. Chair's Report

Chair Balducci provided an overview of the discussion topics for the meeting.

5. MWPAAC Report

John McClellan, Chair, MWPAAC, reported on the February general meeting where the 2026 sewer rates and financial forecast were the primary topics; and the Executive Board's retreat on February 28th with discussion on their work plan, intent to align to the decree as well as issues at play this year. The next general meeting is on March 26th. Other comments covered a presentation by WTD and their consultants on cost and cost estimating efforts for the mouth of the Duwamish CSO project; concern among members on policies related to CSOs, capacity charge, and rate equity and affordability; along with concerns and challenges around rate projections in light of infrastructure work that MWPAAC members need to address.

6. Wastewater Treatment Division (WTD) Report

Kamuron Gurol, Director, Wastewater Treatment Division, commented on the projected 2026 Sewer Rate and associated forecast; a presentation tomorrow on the proposed rate to MWPAAC; the cost of the regulatorily-mandated MDCSO project; the contribution of regulatory requirements, asset management and capacity needs to the higher rate path; WTD's pledge to employ transparency, best practices and collaboration; vision for clean water; bills being followed in the State legislature; and the State Pollution Control Hearings Board ruling that invalidated the Puget Sound Nutrient General Permit.

Briefing

7. **Briefing No. 2025-B0030**

Wastewater Treatment Division's Preliminary 2026 Sewer Rate Forecast Discussion

Kamuron Gurol, Director, Wastewater Treatment Division, briefed the committee and answered questions from the members. Chair Balducci provided an overview of the role of the Auditor's Office.

This matter was Presented

8. **Briefing No. 2025-B0031**

Regional Wastewater Services Plan Update - Wastewater Treatment Division's Framing of Challenges and Opportunities Which are Informing Development of the Options for the Vision for Clean Water

Darren Greve, Government Relations Administrator, Wastewater Treatment Division; briefed the committee and answered questions from the members.

This matter was Presented

9. **Briefing No. 2025-B0032**

Capital Program Overview and Market Factors Influencing Delivery

Crystal Fleet, Capital Portfolio Planning and Analysis Unit Manager, Wastewater Treatment Division; and Chad Merrill, Capital Delivery Strategy, Quality, and Standardization Manager, Wastewater Treatment Division; briefed the committee.

This matter was Presented

10. **Briefing No. 2025-B0033**

Lower Duwamish Waterway Superfund Site Cleanup Consent Decree and Settlements

Kamuron Gurol, Director, Wastewater Treatment Division; and Kristie Elliott, Senior Deputy Prosecuting Attorney; briefed the committee and answered questions from the members.

This matter was Presented

11. **Briefing No. 2025-B0005**

Discussion of 2025 Regional Water Quality Committee Work Program

Chair Balducci commented on upcoming tour opportunities and future discussion topics.

This matter was Deferred

Other Business

There was no further business to come before the committee.

Adjournment

The meeting was adjourned at 4:58 p.m.

Approved this _____ day of _____

Clerk's Signature

King County

Metropolitan King County Council

Regional Water Quality Committee

STAFF REPORT

Agenda Items:	7	**Name:**	Jenny Giambattista
Proposed No.:	2025-B0041	**Date:**	April 2, 2025

SUBJECT

Briefing on the Wastewater Treatment Division's 2026 sewer rate and capacity charge recommendations and a status update on the developing a long-term rate forecast as requested by Motion 16449.

SUMMARY

The Wastewater Treatment Division (WTD) will provide a briefing on the Division's 2026 sewer rate recommendation to the Executive. The Executive is expected to transmit a proposed rate ordinance to the Council by April 24. Additional, detailed information on the rate proposal will be included with the transmitted proposed ordinance authorizing the 2026 rate.

The tentative schedule for the sewer rate process is below:

- April 2—Briefing in RWQC on WTD's 2026 proposed sewer rate.
- April 24—Executive transmits 2026 sewer rate proposal to King County Council
- May 7—Briefing in RWQC on Executive's 2026 proposed sewer rate and capacity charge.
- May 28 and June 11— Briefing and action by Budget and Fiscal Management Committee
- Council consideration/action—June 17 or June 24 (as emergency), assuming action by BFM by June 11
- Approval date requirement for sewer rate—prior to July 1

Briefing Questions: At the direction of the Chair, today's briefing will focus on why the sewer rate is projected to increase significantly more than projected in 2024.

Questions include:

- Explain why the Mouth of Duwmaish CSO costs are now so much higher than projected when the Modified CSO Consent decree was approved. What are the specific categories of costs that are increasing?
    - Compare the consent decree CSO dollars that were in the forecast previously by year to the costs included in WTD's proposed forecast.
    - Is WTD considering less expensive alternatives?
    - What opportunities will there be for RWQC members to weigh in on the alternatives before the final one is selected?
    - Show how the timeline of cash needed for the project delivery schedule for the modified CSO consent decree informs the rate.
    - Other than being required by the consent decree, explain the level of confidence WTD has in the project delivery schedule for the MODCSO.
- A stacked bar chart or other visual representation showing the factors driving the overall rate costs higher in this forecast period when compared to last.
- Details on what is driving the increase in asset management forecast from 2025 to 2026. Why the significant increase in conveyance expenditures for 2026? What is driving the near-term asset management decisions. And long term as well. Please describe how these projects get included in the forecast. What are the risk calculations that are made? What specific asset management projects are funded in 2026?
- What were the alternatives that were considered across various variables and what were their rate impacts. For example, what capital spending scenarios were considered? What cash funding scenarios? What asset management scenarios? Different approaches to depreciation?
- Are there other factors such as financing approaches that could exert downward pressure on the rates?

BACKGROUND

In 2023, the Council adopted Motions 16410 and 16449, developed by RWQC, requesting WTD develop a long-term capital forecast and rate forecast.

Motion 16410 Long-term Capital Forecast (Attachment 2)**.** The motion requests WTD research and identify methodologies to forecast the long-term costs of its capital improvement needs. The following are the key provisions of Motion 16410:

- It specifies that the forecast should include, but not be limited to the following capital improvement categories: asset management; capacity improvements including projects for population growth and those projects addressing infiltration and inflow; and known and potential regulatory requirements
- The recommended methodologies should allow for forecast periods of up to 75 years.
- The methodology should also allow for changes in various assumptions including growth capacity and known and projected regulatory requirements such that forecast scenarios can be compared using different assumptions.

Motion 16410 encouraged WTD to engage an outside expert and consistent with the motion WTD engaged Consor, a national engineering firm with previous knowledge of WTD, and Raftelis, a nationally known firm specializing in providing financial and management consulting expertise to local utilities.

The completed report, *Capital Investment Forecasting Methodologies and Recommendations* (Attachment 3) appears to meet the request set forth in Motion 16410. WTD has marked the report "draft" to reflect that additional changes could be made as work is done to develop a long-term financial and sewer rate forecast as requested by Motion 16449.

Motion 16449 Long-term rate forecast (Attachment 4) In October 2023, the Council adopted Motion 16449 requesting WTD develop and maintain a long-term financial and sewer rate forecast. The motion specifies that the forecast should be based on revenue requirements needed for the operating and capital investment needs of the regional wastewater system and allow for forecasting periods of up to 75 years. The motion requests a briefing in April 2025 on the progress in developing a long-term financial and sewer rate forecast. As requested by the motion WTD will brief the Regional Water Quality Committee in July 2025 on the Division's long-term financial and sewer rate forecast.

RWQC Resolution 2024-01 (Attachment 5). In April 2024, RWQC adopted a resolution expressing RWQC's interest in the sewer rate and capacity charge and requesting the Metropolitan Water Pollution Abatement Advisory Committee continue performing a technical review of the annual sewer rate and capacity charge.

In addition, the resolution states the RWQC may choose, upon its policy review of the proposed annual sewer rate and capacity charge and the Metropolitan Pollution Abatement Advisory Committee recommendations, to convey its policy recommendations on the proposed sewer rate and capacity charge to the King County council. Attachment 6 is the 2024 letter sent by RWQC to the King County Council.

Metropolitan Water Pollution Abatement Advisory Committee Comments. The Metropolitan Water Pollution Abatement Advisory Committee (MWPAAC) advises the King County Council and Executive on matters related to water pollution abatement. It was created by state law (RCW 35.58.210) and consists of representatives from cities and local sewer utilities that operate sewer systems within King County's sewer service area. These cities and sewer utilities deliver their sewage to King County for treatment and disposal.

Although MWPAAC does not have a formal role in approving the rate, MWPAAC closely follows the rate development process each year and works closely with WTD on issues related to the regional wastewater system and the sewer and capacity charge.

Each year, MWPAAC develops a letter to the Executive with its comments on WTD's proposed rate, and then when the proposed rate ordinance is transmitted to the County Council, MWPAAC sends another letter on the Executive's rate to the County Council. MWPAAC's letter to the Executive is included as Attachment 7.

INVITED

- Kamuron Gurol, Director, Wastewater Treatment Division
- Courtney Black, Financial Services Manager, Wastewater Treatment Division

ATTACHMENTS

1. Power Point WTD Recommended 2026 Sewer Rate and Capacity Charge
2. Motion 16410
3. Capital Investment Forecasting Methodologies and Recommendations
4. Motion 16449
5. RWQC Resolution 2024-01
6. 2024 RWQC letter to the King County Council
7. Metropolitan Water Pollution Abatement Advisory Committee Rate Recommendation to Executive

King County Wastewater Treatment Division 2026 Sewer Rate Proposal

Regional Water Quality Committee (RWQC)

April 2, 2025

Agenda

- Calendar
- Substantive Changes for 2026
- Capital Forecast – Focus on Cost Changes
- Funding Plan – Cash Funding and Debt Structuring
- Operations Forecast
- Rate Impacts
- Summary and Next Steps

Calendar

MONTH	ACTIVITIES
April	**April 2 – RWQC** – Briefing on WTD's 2026 sewer rate proposal
	April 3 and April 23 – MWPAAC considers and acts on rate recommendation letter to King County Council
	Late April – King County Executive transmits 2026 sewer rate proposal to King County Council
May	**May 7 – RWQC** - Briefing on the Executive's 2026 sewer rate proposal
June	Budget and Fiscal Management Committee briefings on the Executive's 2026 sewer rate proposal
	Public hearing and action on the Executive's 2026 sewer rate proposal by King County Council

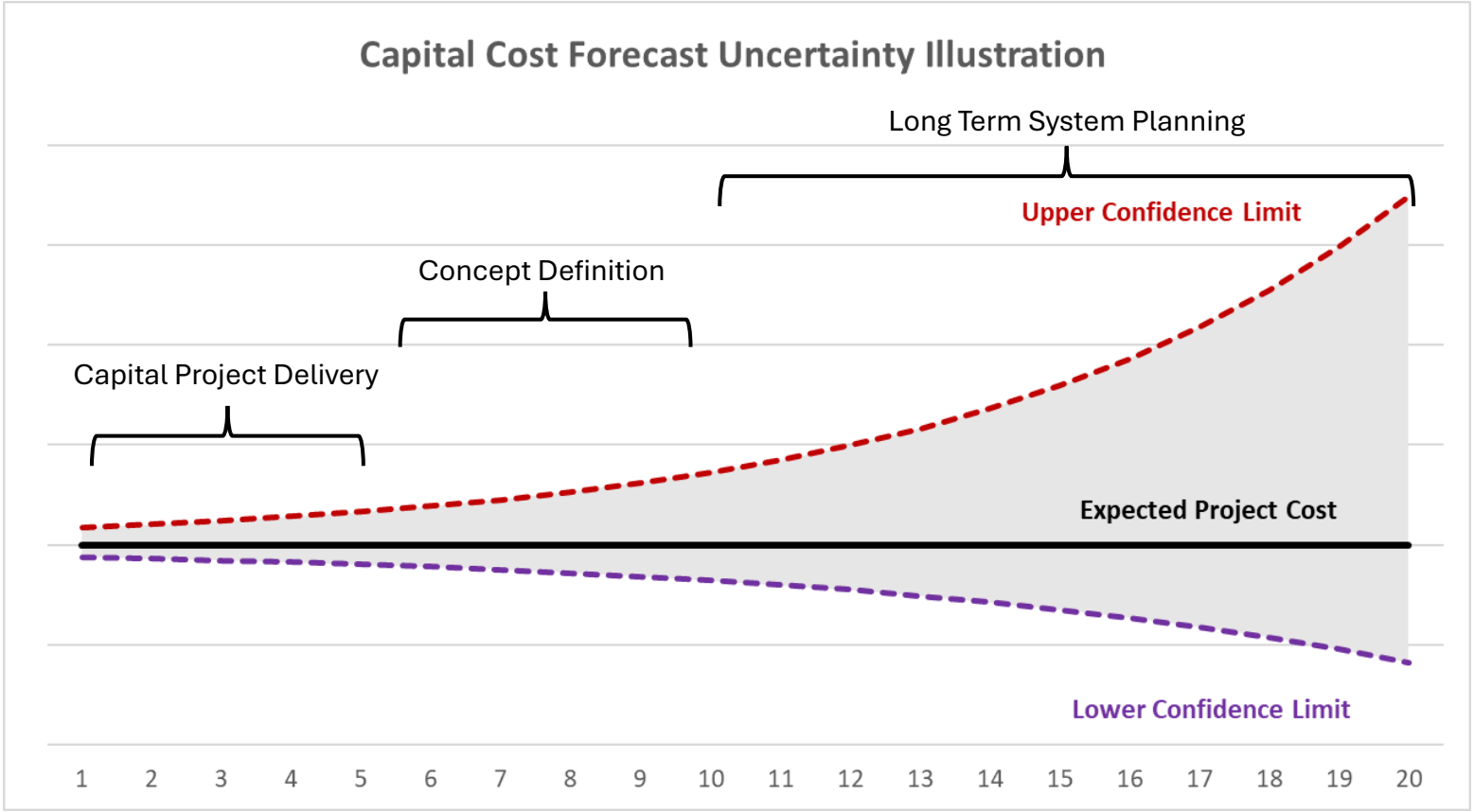
Substantive Changes for 2026

1. **Extending forecast from 10 to 20 years**
   - Initiated in response to Council Motion 16449 (long-term financial and sewer rate forecast)
   - Incorporated into sewer rate forecast, Motion response separate and in progress for July milestones
2. **CSO Consent Decree cost estimates and schedule - updated**
   - Mouth of the Duwamish (MDCSO) mega-project - *higher cost estimates*
   - 2037 vs 2040 - moves costs to earlier in forecast period
3. **Revised Approach to Forecasting Delivery Constraints**
   - Formerly Accomplishment Rate deferred costs outside of forecast period
   - Alternatively, project costs are now individually sequenced within expected delivery capacity constraints, and early years in the forecast are adjusted for schedule risk, deferring a portion of the costs to later years
   - $2.3 billion of project costs previously deferred outside the 10-year forecast period are fully represented in the 20-year forecast period

Long-Term Capital Forecasting Uncertainties (Motion 1 Findings)

Peer review findings - Raftelis/Consor Motion 16410 ("Motion 1") report:

- "**Rates are typically only forecasted for 5 years** due to the uncertainties associated with long-term capital forecasting and future costs."
- "Peers develop greater certainty for projects' scopes and costs across the project categories for the 5- to 10-year projected capital budgets. **Projects scopes and costs uncertainty increases for capital forecasting beyond a 10-year period** and appropriate qualifications on the selected projects are provided.
- Other than asset renewal/replacement, capital cost estimates beyond 10 years **"were noted to be order of magnitude and subject to large changes"**



Key Assumptions / Forecast Approach - Capital

1. Regulatory

- MDCSO with recent cost updates
- Conceptual projects to meet the CSO Long Term Control Plan through 2037
- Allowance for CSO supplemental compliance
- Nitrogen Reduction Planning, Nutrient Reduction Evaluation study, and near-term optimization investments (first permit cycle)
- New for 2026: Proactive/multi-benefit investment to optimize nitrogen removal at South Plant to stay within regulatory nitrogen limits ('action levels')
- *Potential Other Regulatory Not Included At This Time*:
  - Other nutrient reduction that may be required in future permit cycles
  - Contaminants of Emerging Concern (e.g., PFAS)

2. Asset Management Conveyance and Plants

- **First decade:** High risk asset replacement and renewal inventory (Tier 1)
  - High risk asset replacement and renewal projects continue to be identified and added as Asset Management and Portfolio Management processes continue to mature
- **Second decade:** Continues remaining current high-risk inventory, then transitions to replacing assets at end of useful life, cost projected to year of replacement

Key Assumptions / Forecast Approach - Capital

3. Capacity

- Planned conceptual projects; inflow and infiltration-driven projects deferred in 2024 sewer rate process are included in second decade
- Allowances for known capacity- limited treatment plant processes - conceptual projects not yet defined
- New for 2026: Alternatives analysis and preliminary design to reduce the risk of sewer backups and protect public health in the South Park neighborhood (~$5m)

4. Other Portfolio Categories (e.g., Resource Recovery, Op Enhancements, etc.)

- Conceptual projects from the portfolio inventory, sequenced by relative priority
- Average historical spending with escalation to forecast year (second decade)

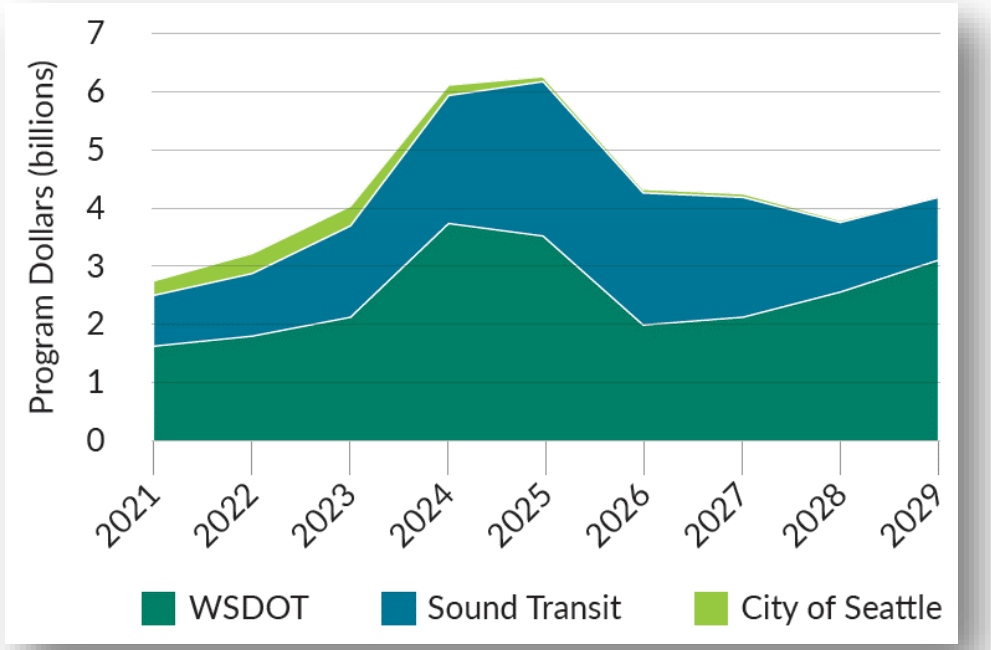
MDCSO Cost Drivers

$2B Charter Estimate (2023) → Concept Design Alternatives Analysis Estimates

- **Increased Design Flow Criteria**
  - Adjusted from **1-year to 1.5-year recurrence interval (2 in 3 years)**, requiring larger capacity infrastructure.
- **WWTS and Storage Expansion**
  - Wet Weather Treatment Station (WWTS) increased from 190 MGD to 240 MGD, increasing treatment system costs.
  - Onsite equalization storage expanded from 4 MG to 5 MG, adding construction and operational costs.
- **Additional Storage**
  - Refined Chelan Scope – now includes a dedicated storage tank, increasing excavation, structural requirements, and system integration to enhance flow management.
- **Larger Site and Complex Conditions**
  - Expanded (2x) facility footprint requiring more land and site development.
  - Available sites have challenging site conditions (contaminated soil, deep liquefiable soils) increasing mitigation, foundation, and construction costs
- Other Factors: Estimates incorporating latest market conditions information and improved understanding of risks and uncertainties.

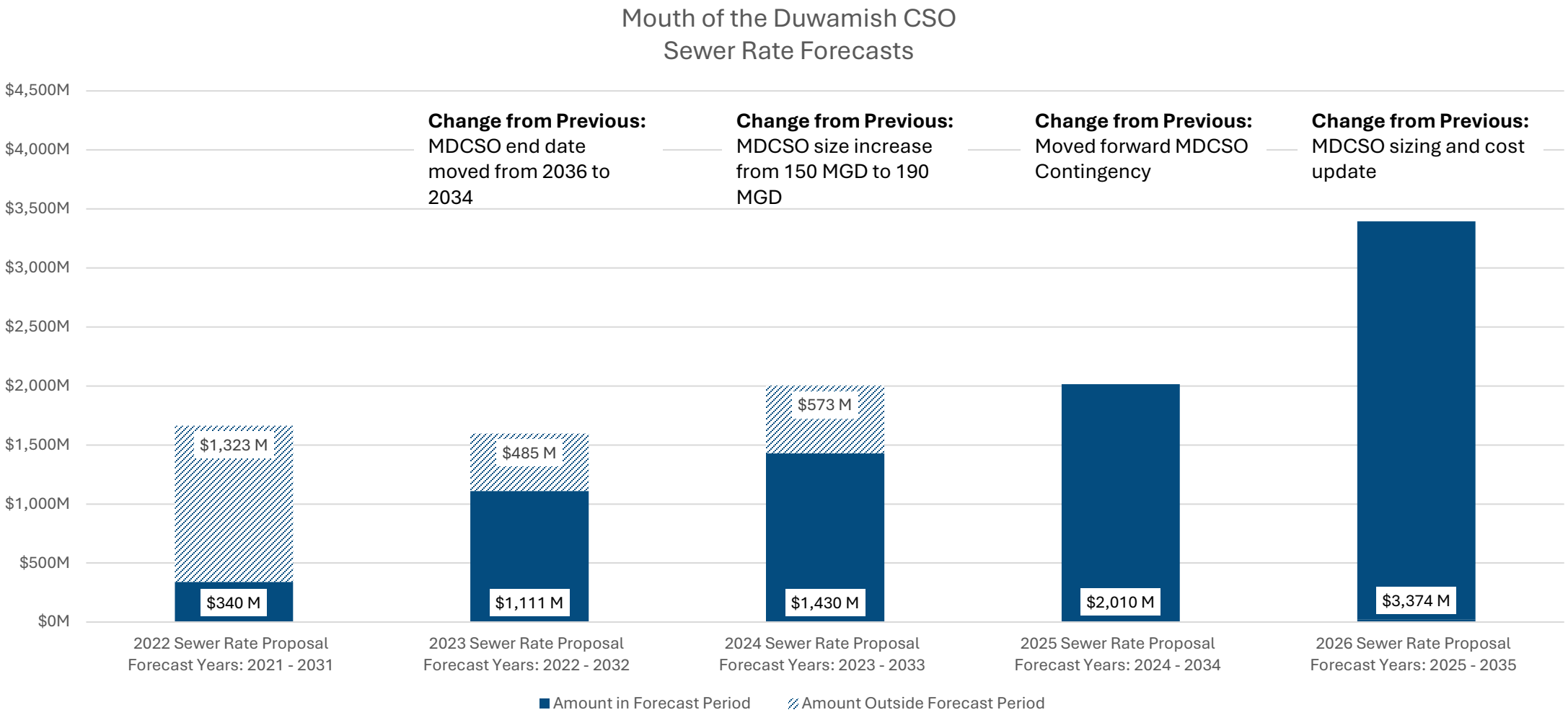
MDCSO – Escalation and Market Trends

- Construction materials typical for this type of program increased on average 30-40% from 2022-2024 (e.g., Steel, Equipment, Concrete)
- Construction Labor Escalation – Wages have increased on average 17-21% from 2022 to 2025
- Other Market Conditions
  - Concurrent Projects and Market Capacity
  - Labor Shortages for construction workers and engineering for Wastewater Projects
  - Program and project initiatives (CWAs and DBE) continue to pressure labor availability and pricing



Sources: *US Bureau of Labor Statistics – Producer Price Indices, Consumer Price Indices; Engineering News Record – Construction Cost Index; Mortensen Construction Labor Price Index; Puget Sound Regional Capital Improvement Plans – WSDOT, Sound Transit, City of Seattle*

MDCSO Capital Forecasts Since 2021

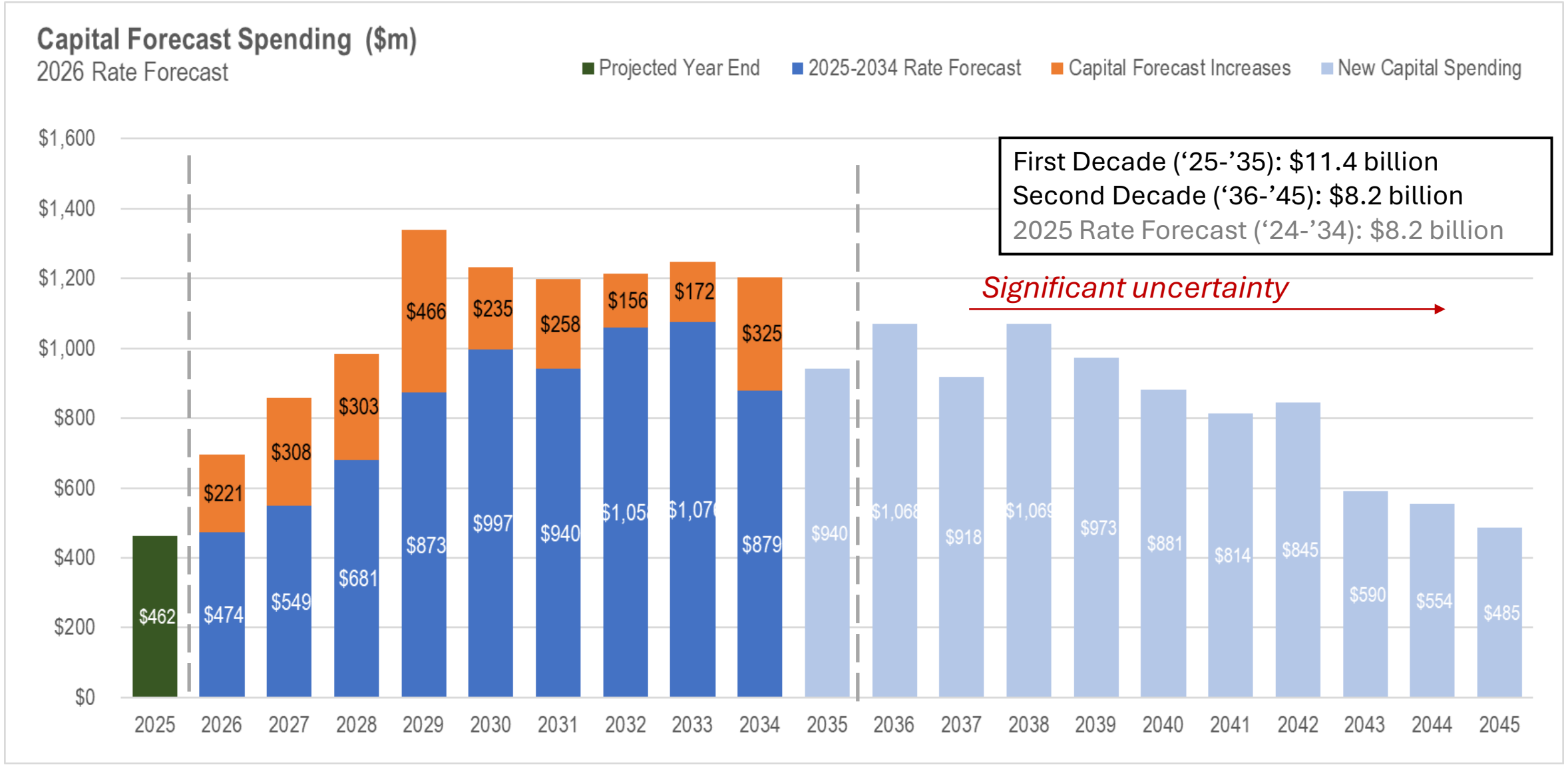


CIP Assumptions and Forecast Comparison

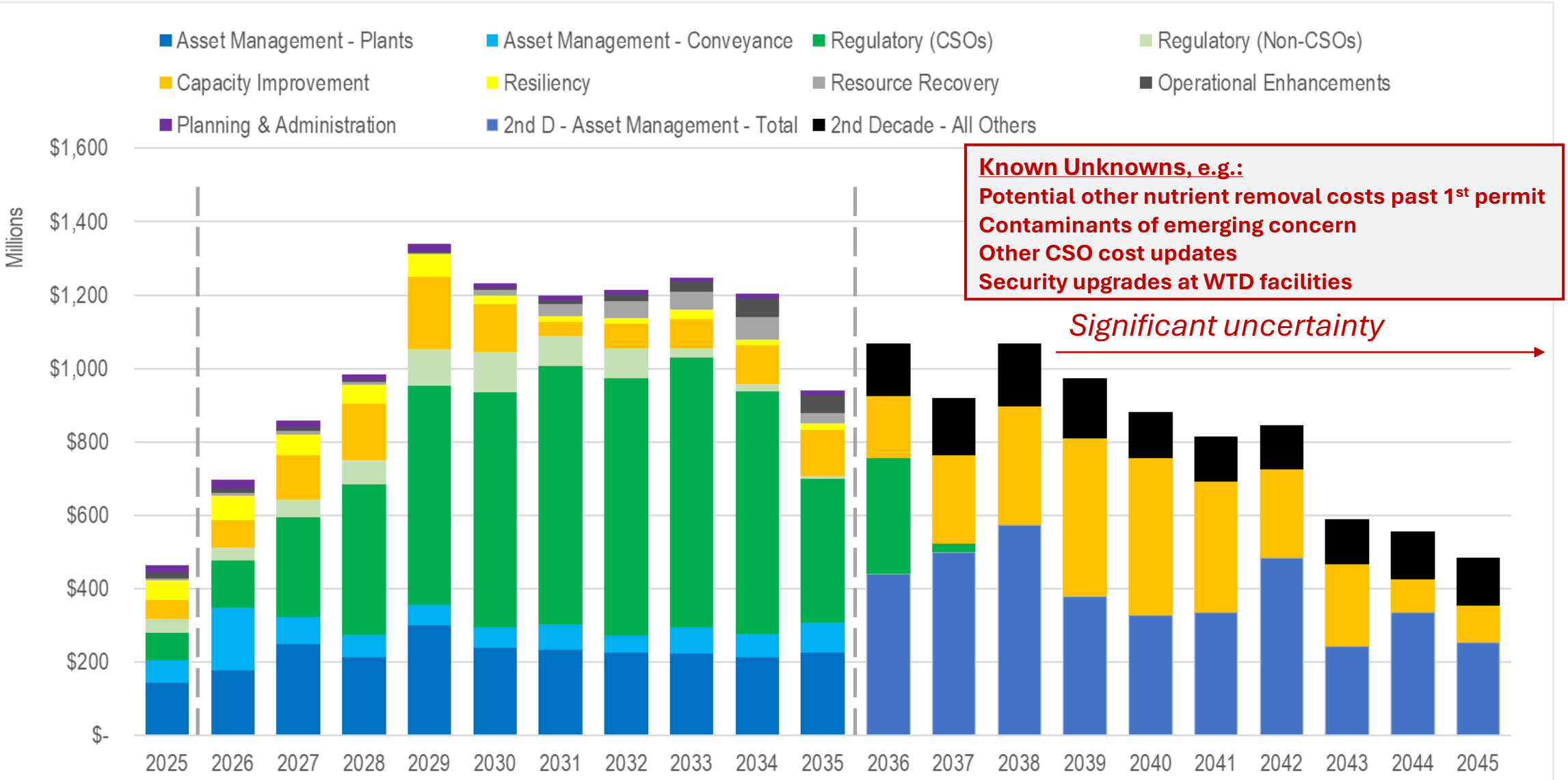
	Category	Adopted 2025 Forecast ('24-'34)	2026 Prop. First Decade ('25-'35)	2026 Prop. Second Decade ('36-'45)
Mouth of the Duwamish CSO	Regulatory	$1,980m	$3,370m	-
Additional Nitrogen Optimization Investments	Regulatory	-	350m	-
Other Newly Identified Investments	AM and other categories	-	155m	250m
Current Projects and Programs	All Categories	4,230m	4,830m	
Conceptual Projects Budgeted in 2025	All Categories	320m	370m	
Conceptual Projects	All Categories	4,000m	2,300m	4,800m
Forecast Deferred by Accomplishment Rate Approach		-2,290m		
Allowances for long-term category projections	All Categories	-	-	3,150m
Total		**$8,240m**	**$11,375m**	**$8,200m**

Note: All costs are escalated to the projected year of expenditure. The first two columns cover slightly different time periods and are not directly comparable. In the Adopted 2025 Forecast, costs deferred outside the 10-year forecast window are shown as a deduction. Increases are due to scope definition resulting in increased complexity and market factors.

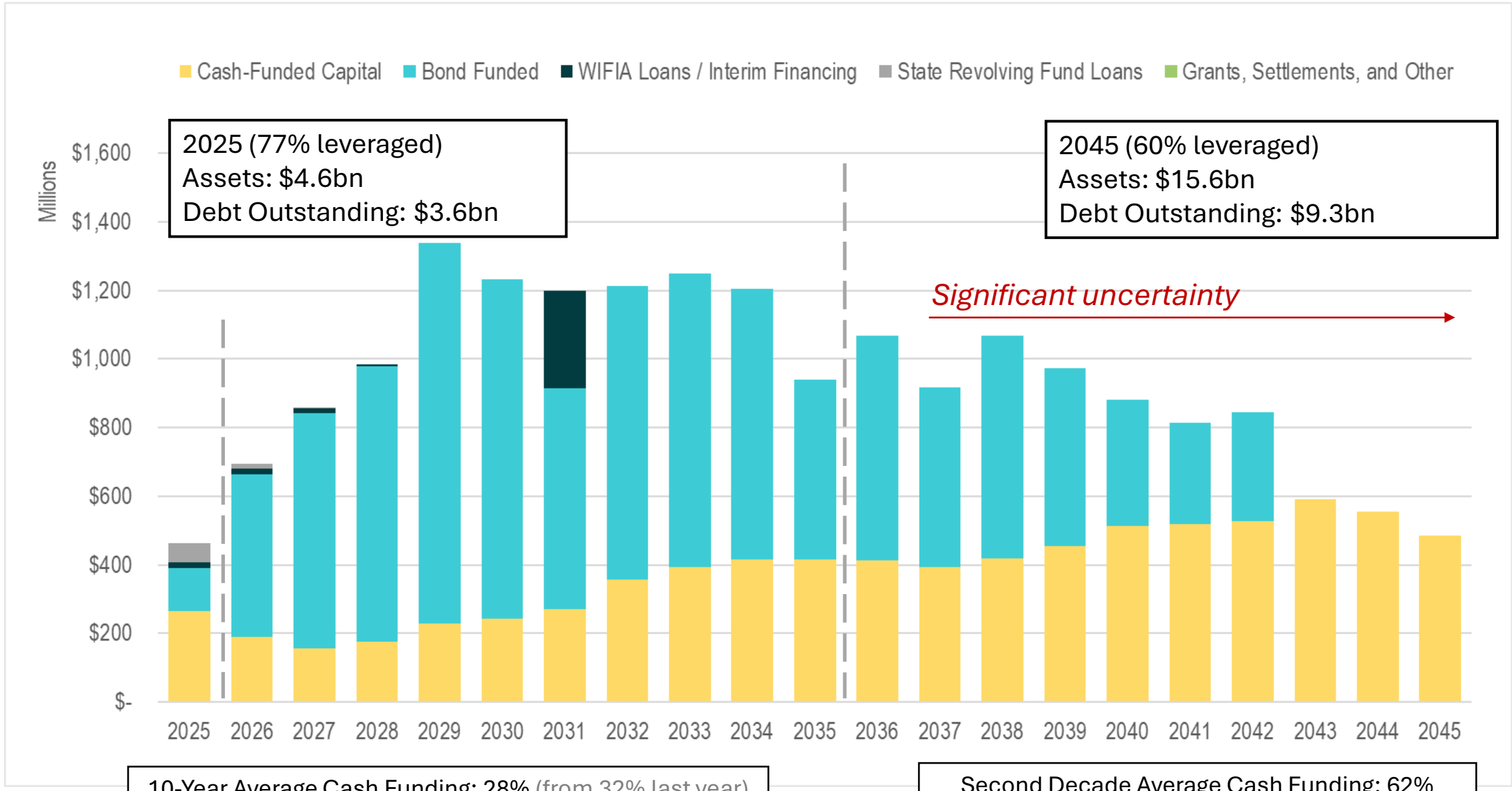
Current Capital Forecast vs. Adopted 2025 Plan



20-Year Capital Forecast by Portfolio Category

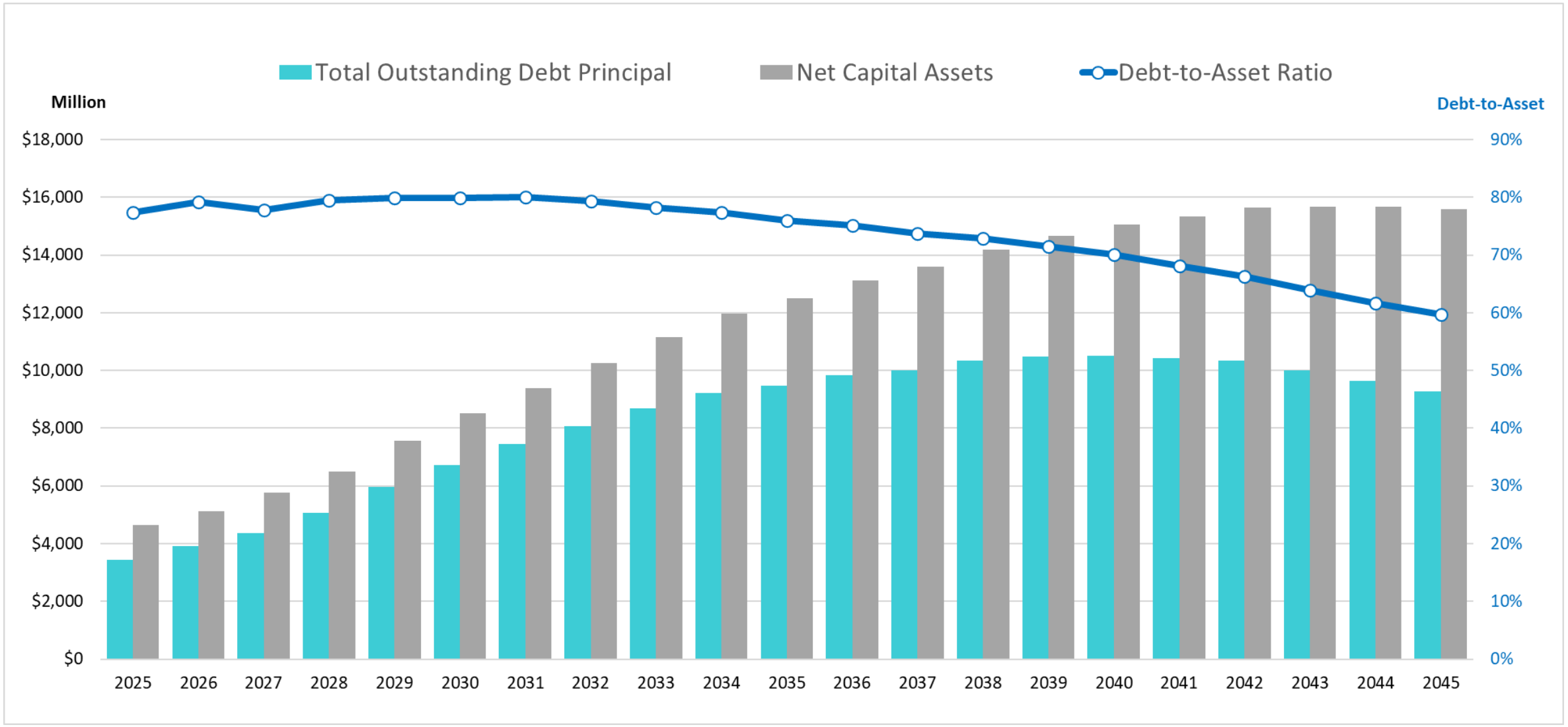


Capital Funding Forecast



*Higher cash funding in 2025 is the result of debt defeasance transaction postponed from November 2024 to February 2025

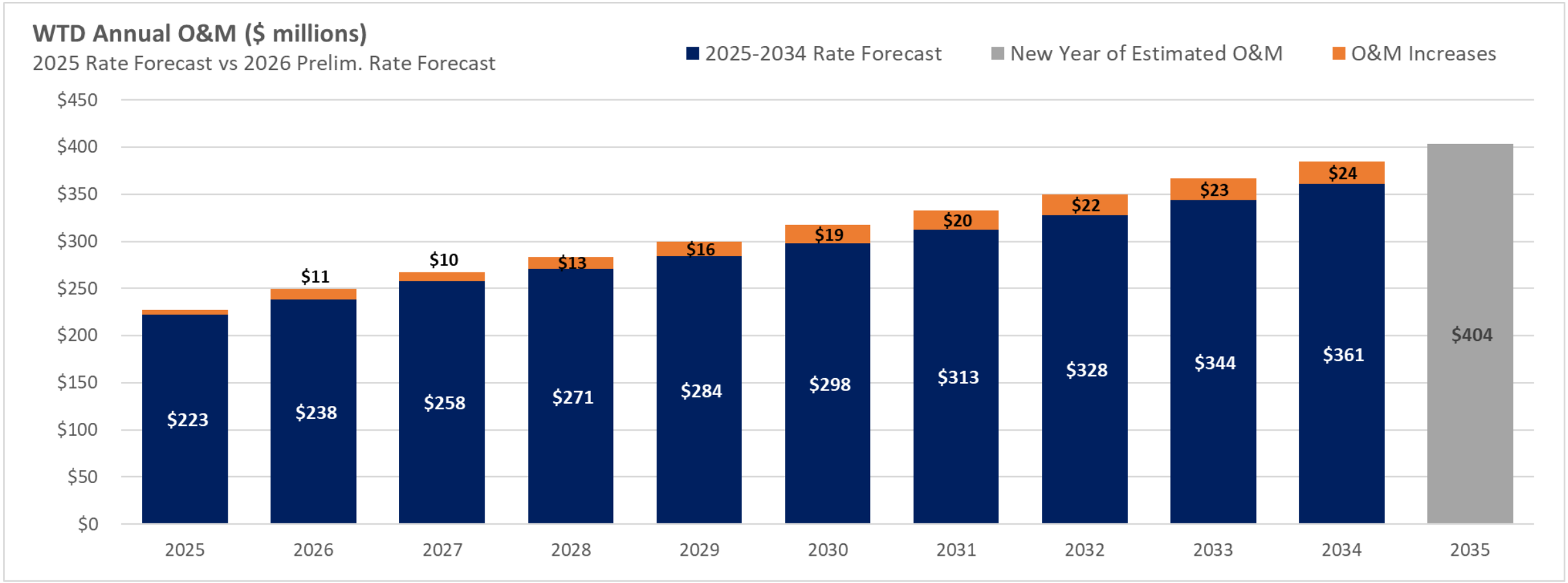
Debt and Asset Balances Forecast



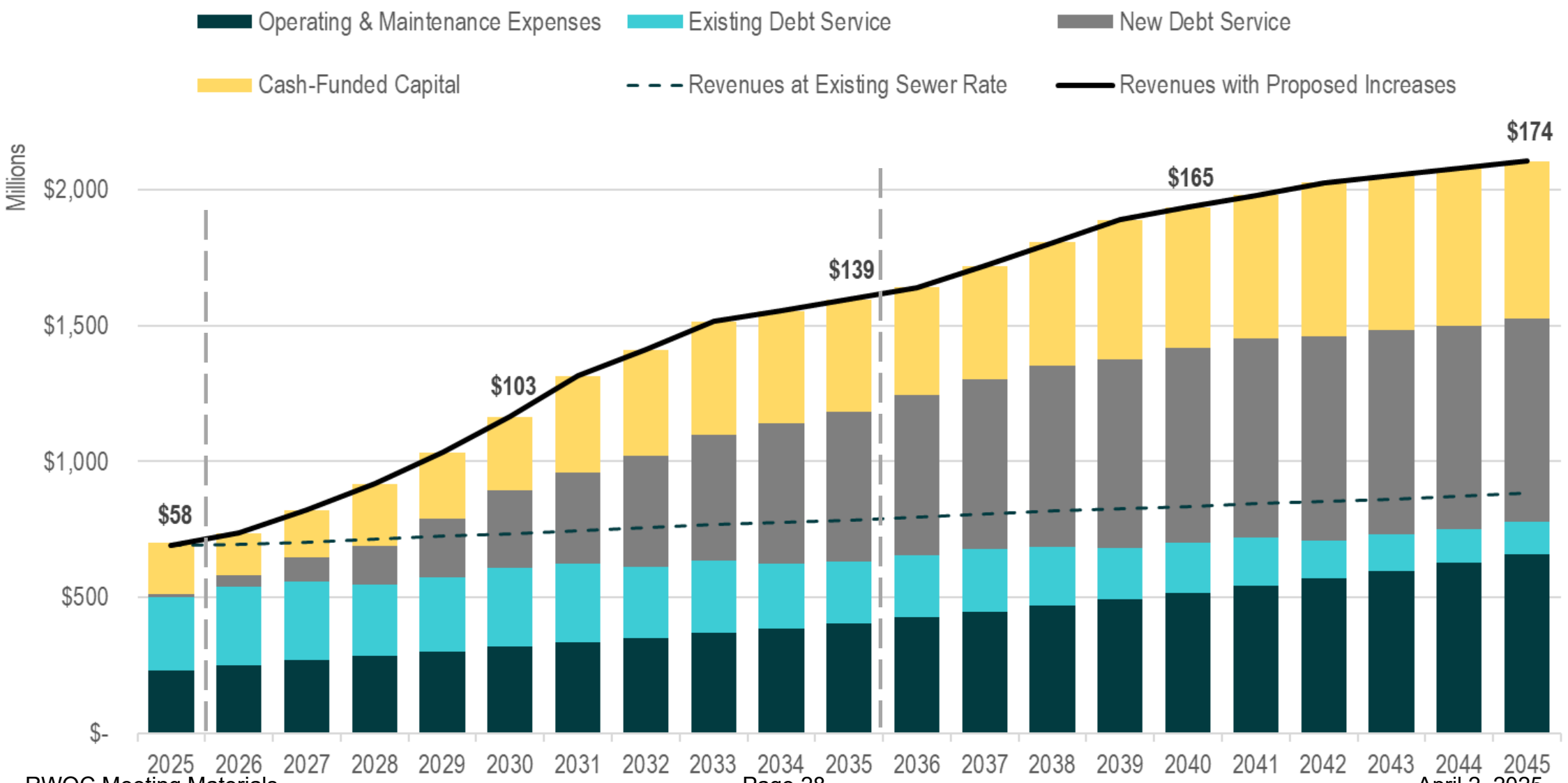
Key Assumptions / Forecast Approach - Operations

- **Meaningfully address** operational needs by growing resources over the next 5 years
- **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, start-up, 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 we 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 we serve**.

O&M Forecast vs. Adopted 2025 Plan



Revenue Requirement



Sewer Rate Forecast

Adopted 2025 Rate and 2026-2034 Forecast:

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Rate Increase %	**5.75%**	7.00%	7.00%	7.00%	8.25%	8.25%	8.25%	9.25%	9.25%	9.25%
Monthly Sewer Rate	**$58.28**	$62.36	$66.73	$71.41	$77.31	$83.69	$90.60	$98.99	$108.15	$118.16
All-In Debt Service Coverage	**1.74x**	1.68x	1.59x	1.69x	1.60x	1.49x	1.48x	1.53x	1.52x	1.63x

Proposed 2026 Rate and 2027-2045 Forecast:

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Rate Increase %	5.75%	**7.50%**	12.75%	12.75%	13.50%	13.50%	13.50%	7.25%	7.25%	2.00%	2.00%
Monthly Sewer Rate	$58.28	**$62.66**	$70.65	$79.66	$90.42	$102.63	$116.49	$124.94	$134.00	$136.68	$139.42
All-In Debt Service Coverage	1.65x	**1.48x**	1.47x	1.57x	1.50x	1.47x	1.57x	1.59x	1.57x	1.55x	1.53x

	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Rate Increase %		2.00%	4.50%	4.50%	4.50%	1.75%	1.75%	1.75%	0.50%	0.50%	0.50%
Monthly Sewer Rate		$142.21	$148.61	$155.30	$162.29	$165.14	$168.03	$170.98	$171.84	$172.70	$173.57
All-In Debt Service Coverage		1.48x	1.49x	1.52x	1.58x	1.58x	1.58x	1.64x	1.65x	1.67x	1.67x

Capacity Charge

Capacity Charge	2025	2026	2027	2028	2029	2030
Monthly Charge	$76.09	$77.99	$79.94	$81.94	$83.99	$86.09
Increase %	2.5%	**2.5%**	2.5%	2.5%	2.5%	2.5%
Increase $	$1.86	$1.90	$1.95	$2.00	$2.05	$2.10
Annual Total	$913	$936	$959	$983	$1,008	$1,033
Total Payments (15 years)	$13,696	$14,038	$14,389	$14,749	$15,118	$15,496
Upfront Payment*	$9,684	$9,926	$10,174	$10,429	$10,690	$10,957

*Discount rate of 5.05%

- King County Code: “’Capacity charge’ means a charge levied on a new customer to recover capital costs needed to serve new customers,“ and "The capacity charge shall be based upon the costs, customer growth and related financial assumptions used for the Regional Wastewater Services Plan."
  - The current RWSP planning horizon ends in 2030
- Capacity charge calculations are updated every three years: latest includes 2024 through 2026
- In 2024, WTD resumed work with Raftelis to update the capacity charge methodology
  - Internal data collection in progress to generate scenarios in preparation to reengage with MWPAAC workgroup

Summary and Next Steps

- Significant rising costs, rates follow
- Main drivers continue to be Regulatory, Asset Management, and Capacity
- Continued focus on addressing operations current and growing needs
- WTD continuing to assess landscape of available and potential new approaches to large scale capital costs and ratepayer affordability

- MWPAAC R&F – April 3
- MWPAAC General – April 23

Proposed for Adoption in 2026	
Sewer Rate	**$62.66 (7.5% increase)**
Capacity Charge	**$77.99 (2.5% increase)**

Q & A

King County | Wastewater Treatment

King County

Wastewater Treatment

1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104

KING COUNTY

Signature Report

Motion 16410

Proposed No. 2023-0257.2 **Sponsors** Balducci

A MOTION requesting the wastewater treatment division research and identify methodologies to forecast the long-term costs of its capital improvement needs.

WHEREAS, the wastewater treatment division is responsible for construction, operation, and maintenance of the county's regional wastewater conveyance and treatment system, and

WHEREAS, the wastewater treatment division protects public health and the environment by collecting and treating wastewater, and

WHEREAS, the wastewater treatment system's capital assets are valued at over four billion dollars and include three regional treatment plants, three hundred ninety-seven miles of conveyance lines, forty-eight pump stations, twenty-five regulator stations, five combined sewer overflow treatment plants, four combined sewer overflow storage facilities, thirty-nine combined sewer overflow outfall locations, two small treatment plants, and one community septic system on Vashon, and

WHEREAS, the wastewater conveyance and treatment system includes facilities and equipment dating from the 1960s to the present day, and

WHEREAS, maintaining the wastewater system, making repairs, replacing aging components of the system, addressing climate change impacts, preserving the Puget Sound environment, meeting current and emerging regulatory requirements, and

preparing for future population growth are essential to ensure the wastewater system performs reliably and delivers value for customers now and into the future, and

WHEREAS, Section 270 of the King County Charter establishes three regional committees to develop, propose, review and recommend action on regional policies and plans for consideration by the metropolitan county council, and

WHEREAS, in accordance with K.C.C. 1.24.065, the regional water quality committee develops, recommends, and reviews countywide policies and plans related to the water pollution control functions including water quality comprehensive and long-range capital improvement plans, and

WHEREAS, the regional water quality committee's 2023 work program includes addressing long-term sewer rate projections, and

WHEREAS, capital improvements needed for regulatory purposes, growth capacity, and asset management are a primary driver of the increasing sewer rates, and

WHEREAS, "asset management" for the wastewater treatment division refers to the planning, design, procurement, refurbishment, or replacement of existing sewer lines, equipment, and structures at the county's wastewater treatment facilities and infrastructure, and

WHEREAS, capital assets can range in life expectancy from five to one hundred years and financing for some capital improvement projects can extend up to forty years, and

WHEREAS, developing a long-term rate forecast cannot be accomplished without forecasting the long-term costs of capital improvement needs, and

WHEREAS, wastewater treatment division's six-year capital improvement program identifies all capital improvements expected to be in process during the six-year plan period and includes, but is not limited to, projects related to asset management, capacity improvements, resiliency, and regulatory requirements, and

WHEREAS, the wastewater treatment division forecasts capital improvements over a ten-year period as part of the sewer rate development process, and

WHEREAS, the ten-year capital improvement forecast has less certainty and forecasts expected expenditures beyond six years by category rather than by project, and

WHEREAS, the wastewater treatment division has begun work to extend its ten-year forecast from ten years to twenty years for asset management, capacity improvements, resiliency, regulatory, and related needs, and

WHEREAS, the Regional Wastewater Services Plan was adopted in 1999 to provide policy guidance for the wastewater system through 2030, and

WHEREAS, the process to update the Regional Wastewater Services Plan is scheduled to restart in 2023 and will include long-term forecasting for capital investments in the regional wastewater system beyond a twenty-year period and up to fifty years or more, and

WHEREAS, developing a method to forecast the long-term costs of the wastewater treatment division's capital improvement needs beyond the next ten years will inform the development of a model to forecast long-term rates and could provide helpful information for decisionmakers to better assess the effect of policy choices, and

WHEREAS, developing a forecast of the long-term costs of the wastewater treatment division's capital improvement needs includes inherent uncertainty due to

unknown or uncertain future regulatory requirements, uncertainty in the system capacity needed to address future growth, and uncertainty in financial assumptions about inflation, interest rates, and other factors, and the level of uncertainty increases with the length of the forecast period, and

WHEREAS, in accordance with Section 270.30 of the King County Charter and K.C.C. 1.24.065, the regional water quality committee developed this motion to be proposed to the King County council;

NOW, THEREFORE, BE IT MOVED by the King County council:

A. The wastewater treatment division is requested to research and identify methodologies to forecast the long-term costs of its capital improvement needs and to seek comment and an advisory recommendation on the methodologies from the metropolitan water pollution abatement advisory committee. The forecast should include, but not be limited to, the following capital improvement categories: asset management; capacity improvements including projects for population growth and those projects addressing infiltration and inflow; and known and potential regulatory requirements. It is acknowledged that any forecasts beyond the standard six-year capital improvement program will have increasing levels of uncertainty with each year beyond the six-year capital improvement program. The recommended methodologies should allow for forecast periods of up to seventy-five years. Each methodology should allow for changes in various assumptions including but not limited to growth capacity, asset lifespan, and known and projected regulatory requirements such that forecast scenarios can be compared using different assumptions. In completing this work, the wastewater

treatment division is encouraged to engage an experienced and independent expert in proven national best practices for successful forecasting methodologies.

B. Implementation of long-term forecasting beyond twenty years would inform decision makers as they consider revisions to the county's regional wastewater services plan and should occur during the upcoming process to update to the regional wastewater services plan. Implementation could also occur earlier in consultation with the regional wastewater quality committee. The wastewater treatment division may, with written notice to the chairs of the regional water quality committee and the metropolitan water pollution abatement advisory committee, adopt revisions to the recommended methodologies as needed.

C. The wastewater treatment division is requested to provide a status update briefing to the regional water quality committee in September 2023 on the various methodologies under consideration, and by January 2024 to brief the regional water quality committee on a recommended methodology for forecasting the long-term costs of wastewater's capital improvement needs. In presenting the recommended methodology,

the wastewater treatment division should report on the options that were considered and why the recommended methodology was selected.

Motion 16410 was introduced on 7/18/2023 and passed by the Metropolitan King County Council on 9/5/2023, by the following vote:

Yes: 9 - Balducci, Dembowski, Dunn, Kohl-Welles, Perry, McDermott, Upthegrove, von Reichbauer and Zahilay

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

_____

ATTEST:

_____

APPROVED this _____ day of _____, _____.

_____

Attachments: None

King County

DEPARTMENT OF NATURAL RESOURCES AND PARKS
WASTEWATER TREATMENT DIVISION

Capital Investment Forecasting Methodologies and Recommendations

DRAFT REPORT/JANUARY 29, 2024

King County

RAFTELIS

consor

Contents

Tables

Figures

Introduction

This report builds on the information gathered from the peer agencies on methods for developing short- and long-term capital investment and rate forecasts. This report provides descriptions and recommendations for short- and long-term methodologies for capital program forecasting and describes the Wastewater Treatment Division's (WTD) current methodologies for developing short- and long-term capital investment forecasts. Differences between WTD's current methods and the recommended methods are noted and recommended steps for WTD to follow to move towards the recommended methods are also provided.

As part of the King County (County) Department of Natural Resources and Parks (DNRP), the WTD provides wholesale wastewater treatment in the Puget Sound region. WTD's wholesale services are contracted by Local Sewer Agencies (LSAs), which include 18 cities, 15 sewer districts and the Muckleshoot Tribe located in King County, southern Snohomish County, and northern Pierce County.

WTD is responsible for the construction, operation, and maintenance of the County's regional wastewater conveyance and treatment system. The system includes:

- 3 major 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
- 25 regulator stations

Other key WTD facilities include:

- 5 combined sewer overflow (CSO) treatment plants
- 4 CSO storage facilities
- 39 CSO outfalls
- 2 secondary treatment plants (Vashon Island and Carnation)
- 1 community septic system on Vashon Island

Utilities such as WTD are self-supporting and therefore must set fees and sewer rates to recover the cost of providing services. Utility costs include operations and maintenance (O&M), debt service, and construction of new capital infrastructure.

Transparency and appropriate validation of the methodologies used to forecast sewer rates are important considerations to WTD, the governance, customers, and other interested stakeholders. Because WTD's Capital Improvement Program (CIP) is such a significant driver of sewer rates, WTD is seeking methodologies from other peer agencies and utility best practices for extending CIP forecasts for a minimum of 10 years and a maximum of 75 years.

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Purpose

The purpose of this report is to provide descriptions and recommendations for short- and long-term methodologies for capital program forecasting based on the findings from peer agencies and best practices. WTD's current methodologies for developing short- and long-term capital investment forecasts are also summarized. Differences between WTD's current methods and the recommended methods are noted and recommended steps for WTD to follow to move towards the recommended methods are also provided. This work is in response to County Council motion No. 2023-0257.1, which requested that WTD research and develop methodologies for forecasting the extended costs associated with maintaining and enhancing its infrastructure. WTD intends to present the findings of this report to the general Metropolitan Water Pollution Abatement Advisory Committee (MWPAAC) as well as the MWPAAC Asset Management Work Group (AMWG) subcommittee. MWPAAC is comprised of representatives of wholesale customer LSAs. This research will be used to inform the development of a long-term financial forecast template in 2024.

Methodology Development Process

WTD engaged Raftelis, a nationally known firm specializing in providing financial and management consulting expertise to local utilities, to provide support to perform this work. Refer to the *Peer Agency Methods for Developing Long-term Capital Forecasts* report dated November 14, 2023, for the research and findings from the peer agencies review. The following key findings from the peer review are provided below:

1. Peer agencies perform long-term capital forecasting generally 30 to 40 years into the future. Rates are typically only forecasted for 5 years due to the uncertainties associated with long-term capital forecasting and future costs.

2. No peers are performing 75-year long-range capital planning or forecasts.

3. Forecasting capital costs for 20 to 40 years into the future depending on available data and cost assumptions can generally be of value. Asset management costs can be forecasted for longer than 40 years depending on available data and assumptions used for asset condition and consequence of failure.

4. Methodologies for developing capital projects and forecasting costs are unique to each project category, i.e., asset management, growth, consent decree, new regulations, etc.

5. Long-term capital forecasting is a balance of needs and available resources. The peer utilities identified more project needs than the funding available and affordability concerns to increase funding through rates or additional borrowing. Staff resources to execute and deliver the projects also needs to be evaluated and balanced.

From the peer review and knowledge of utility best practices, it was identified that developing short- and long-term capital investment and rate forecasts is primarily a balance of three elements:

1. Project selection - based on system needs and risk-based priorities

2. Financial and rates implications
3. Capital delivery and project staffing considerations

Further discussion of each element is provided below:

1. System Needs and Risk-Based Priorities Project Selection

When developing short- and long-term capital forecasts, the peer utilities selected, prioritized and ranked projects including the following criteria at a minimum:

a. Risk of failure
b. Consequence of failure
c. Immediate and long-term regulatory requirements
d. Growth/Capacity Needs
e. Community input and priorities

The methods for developing and selecting projects varies by the type of project and project categories, i.e., asset management, growth, consent decree, new regulations, climate change, operational enhancements, etc. These categories and methods for identifying projects is discussed in more detail in the Capital Program Forecasting Methodologies section below.

2. Financial and rates implications

Peer utilities set capital spending limits generally based on regulatory obligations, asset risk profiles, and their community ratepayer's affordability. Rates are often forecasted for 5 years, but capital funding sources and considerations often extend further out 20+ years. Projects identified in Element 1 are selected to fit within the identified rate and spending limitations. The selected projects' capital costs are developed at a planning level with defined cost contingencies appropriate for the level of project information available. The associated project unknowns or uncertainties that are used to select the appropriate cost contingencies are also clearly defined for each project. Generally, the Association for the Advancement of Cost Engineering (AACE) guidelines and cost contingency classes are used when selecting the appropriate levels of cost contingency.

Peers develop greater certainty for projects' scopes and costs across the project categories for the 5- to 10-year projected capital budgets. Projects scopes and costs uncertainty increases for capital forecasting beyond a 10-year period and appropriate qualifications on the selected projects are provided. Peers generally use 5- to 10-year intervals to update master plans and long-term financial forecasts.

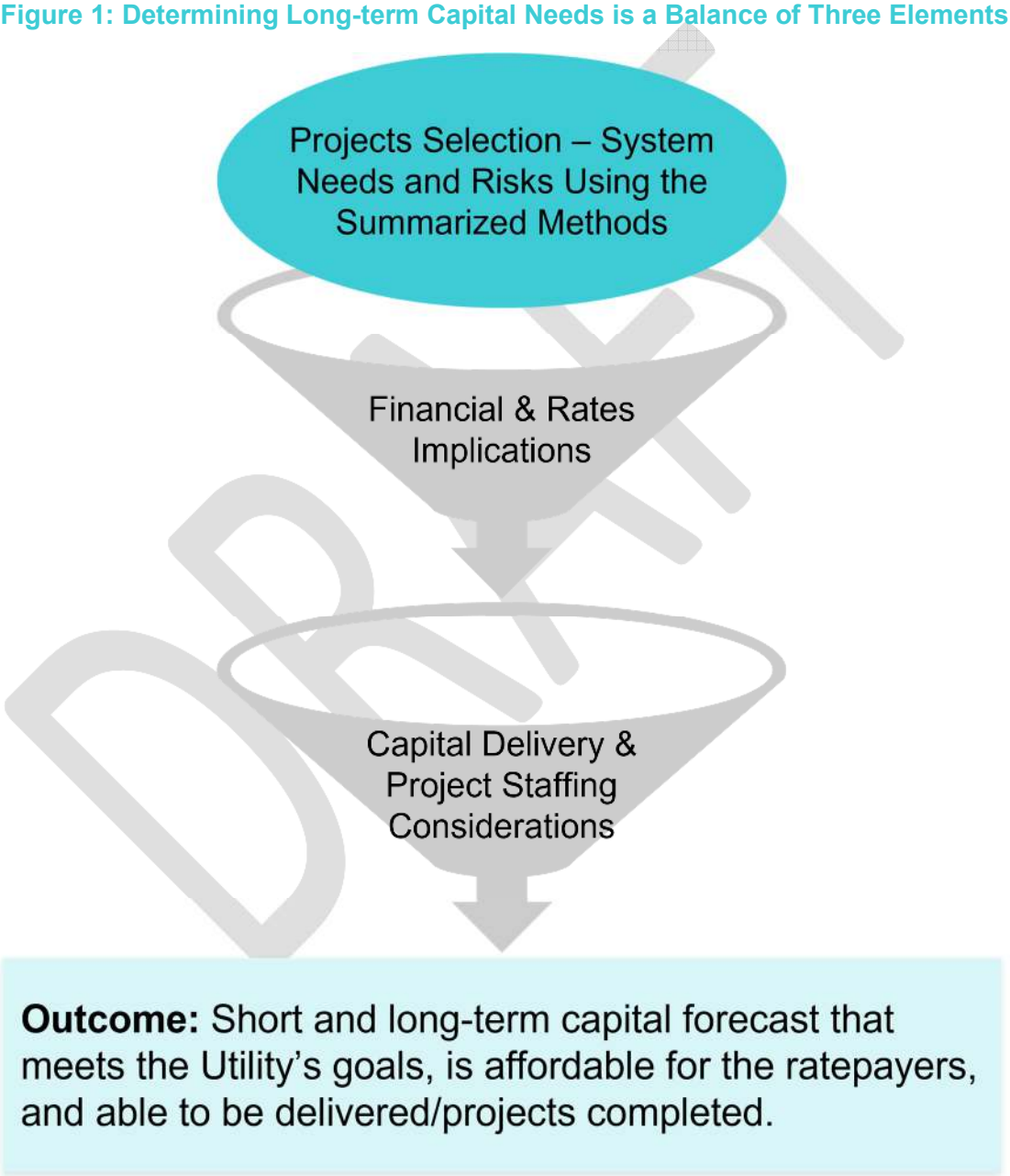
3. Capital delivery and project staffing considerations

The selected projects from Element 1 balanced with the spending targets and rate limitations from Element 2 are then further balanced with realistic and achievable capital delivery and project staffing needs and considerations. Annual capital spending and 5- to 10-year forecasted capital budgets were selected by the peers to be realistic and fit within the utility's capital delivery capabilities and available staffing. If increased capital delivery to meet annual capital spending targets was identified, peers performed the following:

- Evaluated current capital delivery processes and staffing,
- Identified limitations and realistic incremental and achievable recommended improvements,
- Implemented changes to meet the selected capital delivery targets.

Balancing the above three elements when developing short- and long-term capital forecasts allows utilities to meet their goals, develop affordable rates for their ratepayers, and deliver their capital projects on budget and schedule, as depicted in Figure 1 below.

Figure 1: Determining Long-term Capital Needs is a Balance of Three Elements



Capital Forecasting Scenarios Example

To illustrate the above elements and how other peers are generally developing their short- and long-term capital program forecasts and scenarios, the following examples are provided and discussed:

Example: Question: What is the right amount of capital we need to spend over the next 5 years? Over the next 10 years? Over the next 20 plus years? To help answer these questions, peers are asking and answering the following questions to build their capital forecast scenarios.

Scenario 1: If $X billion (2024$) is spent over 5 years:

- ❑ What Regulatory Obligations will not be fulfilled, if any?
- ❑ What Extreme and High-risk assets will fail, if any?
- ❑ What assets won't be completed to meet estimated growth requirements, if any?
- ❑ What Community priorities will not be achieved, if any?

Scenario 2: If $2X Billion is spent over 5 years:

- ❑ What Remaining Regulatory Obligations will not be fulfilled, if any?
- ❑ What remaining Extreme and High-risk assets will fail, if any?
- ❑ What assets won't be completed to meet estimated growth requirements, if any?
- ❑ Will all Community priorities be achieved?

Is another Scenario greater than $2X billion required to meet all of the regulatory, asset risk of failure, growth estimations, and community priorities? If Yes, then that capital scenario is also developed.

These Scenarios then form the basis for comparing capital forecasts for the short- and long-term and evaluating those scenarios against the financial and rate implications, and capital delivery considerations.

For extreme and high-risk assets, peers recognize the need to balance renewal and replacement with the available funding and with available condition assessment and business risk exposure (BRE) scores for their various linear and facilities assets. It may simply be too expensive or not possible from a capital delivery standpoint to renew or replace (R/R) all extreme risk (and/or high-risk) assets in a 5-year period or even in a 10-year period. Forecasting asset management projects needs careful consideration of available condition assessment and consequence of failure data. Simply using age, material and assumed useful life data, compared to a BRE based approach, can often oversimplify the estimations and lead to higher estimated capital cost needs, especially for timeframes beyond 5 years. The BRE-based approach for forecasting asset management costs is discussed further in the Methodologies section of this report.

With the above capital forecasting scenarios questions asked and answered, capital forecast scenarios cost tables can then be built similar to the example in Table 1 below. The capital forecast scenarios can then examine

multiple levels of expenditures based on the answers to the questions above and further balanced with the financial and rate implications and capital delivery and project staffing considerations.

Table 1: Capital Forecasting Scenarios Example

Project Category[1]	Annual Spend
1. Consent Decree to meet required schedules	$A
2. Asset Management based on reducing risk scores	$B
3. Regulatory/Permit Requirements a. New Regulations. i.e., nutrients b. Emerging Contaminants, i.e., PFAS, pharmaceuticals, etc.	$C
4. Growth/Capacity Limitations	$D
5. Planning and Administration	$E
Total	Target Annual Spend ($A + $B + $C + $D +$E)[2]

[1] All project categories would include relevant design criteria to address Resiliency items – natural hazards and climate change, such as seismic, sea level rise, flooding. etc.
[2] If the 5 above project categories don't exceed the target annual spend or rate limitations then add in projects from Operational Enhancements, Resource Recovery, other resiliency projects, etc.

The utility can use their current list of projects, results of their growth and biosolids master plans, regulatory studies, climate change assessments, operational enhancements/energy recovery studies, etc. to build these capital forecast tables. Where there are gaps in the projects, studies or evaluation costs can then be included in the budget to complete these studies over the next several years to help complete and fill-in any missing projects and budgets for the long-term capital forecasting. The recommended methods by project category for short- and long-term capital program forecasting are discussed in the next section.

Capital Program Forecasting Methodologies

For short- and long-term capital program forecasting, it was found the peer utilities developed projects and the associated capital cost estimates in four primary stages for capital forecasting as described below and illustrated in Figure 2:

- Years 1-5: Specific asset management and new infrastructure projects with accurate cost estimates were developed and adjusted as needed to fit within ratepayer affordability limitations. Staffing and capital delivery needs were also considered for the immediate next 5 years and beyond to ensure the cash flow spending projections could be realistically achieved.

- Years 6-10: Specific asset management and new infrastructure projects scopes and costs were less specific and defined, with added cost contingencies, because projects are likely to change or receive modifications. Consent Decree required costs were based on the long-term control plan or integrated watershed plan and cost estimates defined with appropriate contingencies for the implementation years. Rate forecasts were generally not performed or appropriately qualified as subject to change, because of the cost uncertainties.

- Years 11-20: Some projects such as sewer or equipment asset renewal/replacement could be defined based risk scores. Historical costs were used for estimating the asset renewal/replacement projects' future costs. Consent Decree required costs were based on the long-term control plan or integrated watershed plan and cost estimates defined with appropriate contingencies for the implementation years. Other projects identified to address items, such as new regulations, emerging contaminants and climate change, were included, but cost estimates were generally based on high level planning estimates and assumptions. Costs were noted to be order of magnitude and subject to large changes. Where possible climate change impacts, such as sea level rise, were estimated and design criteria developed to incorporate into future applicable asset renewal and replacement projects at the WWTPs, remote facilities and outfalls.

- Years 20+: Some projects such as sewer or equipment asset renewal/replacement could be defined, and historical costs used for estimating those asset renewal/replacement future costs. Other projects such as additional consent decree costs, new regulations, emerging contaminants, and climate change were included as order of magnitude costs. Historical costs were used where available, such as dollars per overflow gallon reduced, for estimating further potential overflow reductions, but detailed projects and cost estimates were not performed. Placeholder cost allowances based on limited information were used for new regulations, emerging contaminants, and climate change impacts.

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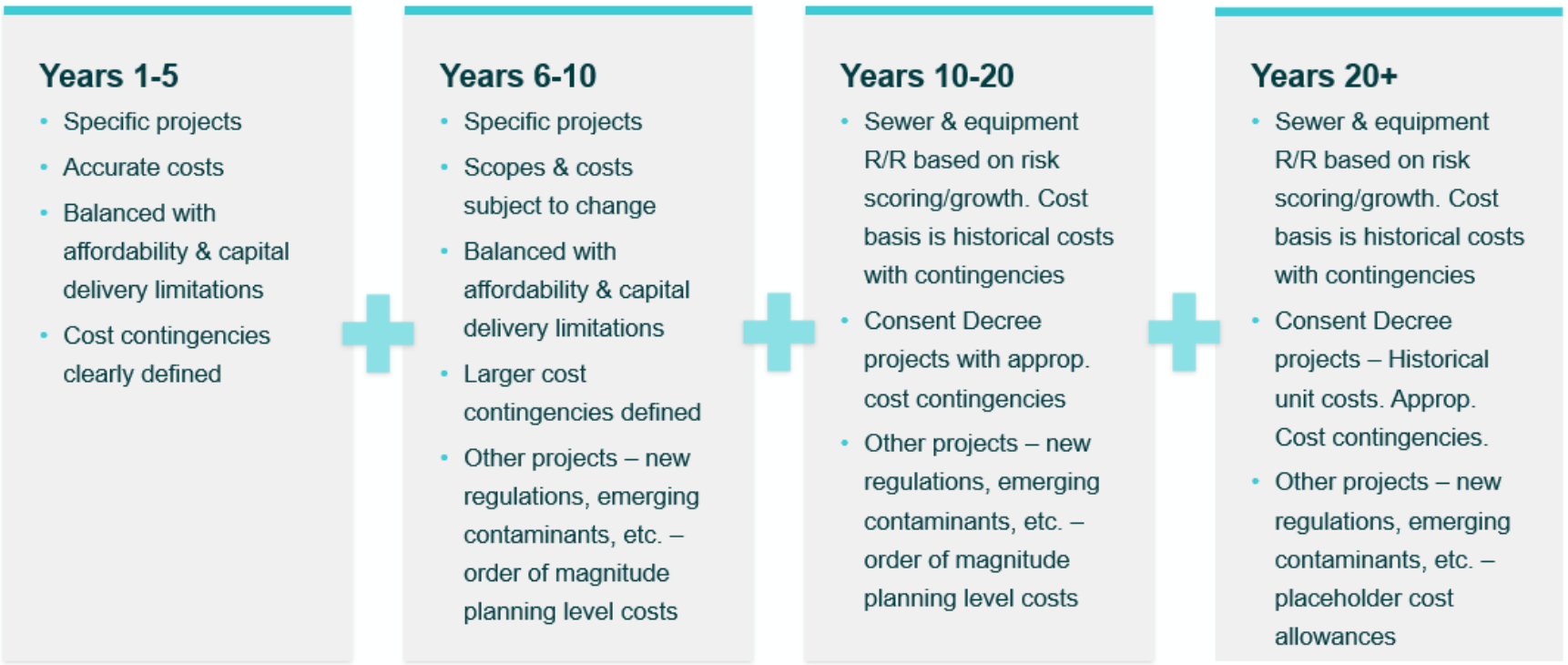
Figure 2 illustrates the identified Capital Planning and Financial Forecasting Stages the peer utilities generally followed.

Figure 2: Capital Planning and Financial Forecasting Stages



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From the peer review findings and knowledge of utility best practices, recommended methods for developing short- and long-term capital program financial forecasts were developed. The methods vary by the types of projects, so the various types of projects typically included in capital improvement program budgets are broken into project categories. The categories shown are generally based on the project categories used by the peer utilities. It was also identified that the number of methods for program forecasting also varies by project category. For example, there were three primary methods identified for determining short- and long-term financial forecasts for the sewer/conveyance asset renewal/replacement project category. Whereas, for the new infrastructure for growth project category, one primary forecasting method was identified and recommended. The project categories and number of forecasting methods identified are summarized in Table 2.

Table 2: Capital Program Forecasting Methods Vary by Category

Categories	1-5 Years	6-10 Years	11-20 Years	20+ Years
Asset Renewal/Replacement: Sewers/Conveyance	**Methods:** 1 *More Detailed,* 2, and/or 3 *Less Detailed*			
Asset Renewal/Replacement: WWTP/Remote Facilities Equipment	**Methods:** 1 *More Detailed,* and/or 2 *Less Detailed*			
New Infrastructure: Consent Decree/IWM Plan	**Methods:** 1			
New Infrastructure: Growth	**Methods:** 1			
New Regulations – i.e., Nutrients, PFAS, Biosolids	**Methods:** 1			
Emerging Contaminants – i.e., Pharmaceuticals, Endocrine Disruptors, etc.	**Methods:** 1			
Climate Change	**Methods:** 1			
Resource Recovery/Operational Enhancements*	**Methods:** 1			

** For illustration purposes. Operational Enhancements could include residual upgrades and energy recovery projects or those projects could be added in separate categories, as appropriate. Projects and costs definition would be similar to the above categories.*

Detailed descriptions of the recommended short- and long-term capital program forecasting methods for each project category shown in Table 2 are provided below.

Asset Renewal/Replacement: Sewers/Conveyance Category

This category includes all linear assets associated with the sewer conveyance system. Pump stations are included in the next category: Asset Renewal/Replacement: WWTP/Remote Facilities Equipment. It was found there is one primary method for identifying and developing projects in this category for Years 1-10 of capital program forecasting and three primary methods for Years 11-20 and Years 20+.

The methods are described in Table 3. For Years 1-5 and Years 6-10, the primary recommended method is similar and described in more detail below:

- Develop a target annual R/R rate by total system length of at least 1 percent tailored to the Utility. This R/R rate represents an average asset renewal timeframe of once every 100 years for renewing or replacing the asset. This R/R rate could be higher or lower depending on the actual condition of the linear assets and consequences of failure. Utilities that have invested in R/R for some time, or have newer sewer assets, may find 1 percent is too high because the sewer condition does not warrant the need for that much R/R. Other utilities moving from reactive to proactive asset renewal may find increasing the R/R rate to greater than 1 percent for the first several years of their program may be

needed to "catchup" on renewing existing Extreme or High-risk assets. Therefore, it is important to consider these details when selecting and tailoring an annual R/R rate for the utility.

- Projects should be selected from BRE scores developed for each asset (likelihood of failure [LOF] (asset condition) × consequence of failure [COF] scores) to address Extreme and High-risk assets. If asset condition or COF data is not available, the utility should spend the first year or so of its asset management program determining COF scores for the missing assets, and the first few years collecting and developing the missing asset condition data. When considering asset condition data, inspections or physical condition data of the asset should be collected. Using age, material and assumed useful life data can often oversimplify the estimations and lead to higher estimated capital cost needs, especially for timeframes beyond 5 years compared to a BRE based approach. This age, material and assumed useful life data can be used for initial future projections of asset renewal needs but should be appropriately qualified and BRE scores updated routinely as asset condition data gaps are filled from collected data.

- Accurate costs for the R/R projects should be developed based on recent bid costs or recent cost estimates. Engineering and construction costs should be calculated and used to develop a total project cost following the Association for the Advancement of Cost Engineering (AACE) Class 4 estimates or better, as WTD currently does for projects that are in delivery and estimated to cost more than $2.5M. For years 1-5, when projects are nearing funding approval and delivery, but before any engineering is performed, cost estimates should be Class 5 or better. For Years 6–10, larger contingencies may be appropriate depending on the unknowns and data availability for the particular asset R/R projects. These unknowns and reasons for larger contingencies should be clearly documented for the project so they can be addressed as the project proceeds into planning and design.

- For Extreme and High-risk assets, it may be too expensive or not possible from a capital delivery standpoint to renew or replace all Extreme risk (and/or High-risk) assets in a 5-year period or even in a 10-year period. There needs to be a balance and priority developed with asset renewal and replacement with the available funding and available condition assessment and BRE scores data.

For Years 11–20 and Years 20+, there are two primary recommended methods as highlighted in blue outline in Table 3 below. They are differentiated by the amount of condition and COF data available at the time when the budgets are being developed:

- Continue at the selected annual R/R rate by length and BRE score tailored to the Utility as described for Years 1–10 above.

- Where sewer condition data is not fully available use available age, material and useful life data to draw comparisons to similar assets that have available condition data. Set an annual budget spending amount or allowance based on the selected renewal rate and tailored to complete the remaining High-risk assets, then begin any Medium Risk assets R/R.

- Include budget for condition assessment costs to fill any remaining gaps in the asset condition data and for follow-up inspections of assets to confirm asset condition, monitor any changes and update BRE scores.

- The cost basis for the budget allowances should be based on historical costs with appropriate contingencies clearly defined based on the types and number of unknowns.

Table 3: Asset Renewal/Replacement: Sewers/Conveyance Capital Forecasting Methods

Methods	1-5 Years	6-10 Years	11-20 Years	20+ Years
1 *More Detailed*	• Target annual R/R rate – at least 1% by total system length tailored to the Utility. • Projects selected from BRE risk scoring (condition and consequence of failure scores) to address Extreme and High-risk assets. • Accurate costs – AACE Class 5 estimates or better. • Defined cost contingencies.	• Target annual R/R rate – at least 1% by total system length tailored to the Utility. • Projects selected from BRE risk scores. • Complete addressing Extreme Risk assets; continue addressing High-risk assets. • Scopes and costs basis similar to Years 1-5. • Larger cost contingencies if there are more unknowns.	• Continue at selected annual R/R rate by length tailored to the Utility. • Sewers R/R based on available condition and risk scoring data. • Focus on addressing remaining High-risk assets, then Medium Risk assets. • Cost basis = historical costs with contingencies.	Same as Years 11-20, except completing any remaining Medium Risk assets and continuing R/R on at least 1% annual rate by length.
2			• Continue at selected annual R/R rate by length tailored to the Utility. • Sewer condition data not available: R/R based on Risk scores from available age, material and useful life data. • Budget for condition assessment costs to fill gaps. • Focus on addressing remaining High-risk assets, then Medium Risk assets. • Cost basis = historical costs with contingencies.	Same as Years 11-20, except completing any remaining Medium Risk assets and continuing R/R on at least 1% annual rate by length.
3 *Less Detailed*			• Continue at selected annual R/R rate by length tailored to the Utility. • Sewer condition, age or material data not fully available. • Use assumptions based on available data; include an annual allowance for R/R costs based on the assumptions. • Budget for condition assessment costs to fill gaps. • Cost basis = historical costs with contingencies.	Same as Years 11-20.

The primary recommended steps for WTD to apply the above-described methods to develop the short- and long-term capital program budgets for the sewers/conveyance asset management category are:

1. Evaluate WTD's applicable linear asset classes, available linear asset condition, age and attribute data, and expected lifecycles/remaining useful life. Determine and list any data gaps.

2. Complete the existing work in the Asset Management Work Plan to develop a condition assessment and documentation program based on industry standards.

3. Establish an existing baseline of assets needing R/R, available BRE scores (Extreme, High, Medium, Low). Define assumptions for missing data and develop a plan and budget to acquire the missing data.

4. Establish the recent history of WTD's projects, level of service, and what assets still need R/R. Establish an annual R/R rate tailored to this history and level of service.

5. Develop BRE scores for missing assets using available data on asset condition and consequence of failure factors.

6. Use WTD recent project bid data, available design cost estimates, and regional project cost data to support the development of expenditures for assets by class, prioritized by BRE scores, and based on the selected annual R/R rate. Also include cost estimates for gathering the missing data. Project cost estimates should be defined with appropriate contingencies consistent with the developed project, level of unknowns, and the implementation years consistent with the AACE guidelines.

7. Develop short- and long-term forecast of expenditures based on the selected annual R/R rate, BRE scores (focus on Extreme assets first, then High-risk assets), available condition and COF data, available cost data, and defined assumptions (to address missing data and add cost contingencies for amount of unknowns).

8. The selected budgets to include in the short- and long-term capital forecast should then be balanced with financial and rates implications, capital delivery and staffing considerations, as discussed in the Methodology Development Process.

Asset Renewal/Replacement: WWTP/Remote Facilities Equipment Category

This category includes all treatment and remote facilities assets, including pump stations. It was found there is one primary method for identifying and developing projects in this category for Years 1-10 of capital program forecasting and two primary methods for Years 11-20 and Years 20+.

The methods are described in Table 4 below. For Years 1-5 and Years 6-10, the primary recommended method is similar and described in more detail below:

- Projects should be selected primarily from BRE scores developed for each asset (LOF [asset condition] × COF scores) to address Extreme and High-risk assets. If there is a backlog of existing projects or assets that need improvements, those projects should be prioritized for implementation based on the asset BRE score. If asset condition or COF data is not available, the utility should spend the first year or so of its asset management program determining COF scores for the missing assets, and the first few years collecting and developing the missing asset condition data. When considering asset condition data, inspections or physical condition data of the asset should be collected. Using age, material and assumed useful life data can often oversimplify the estimations and lead to higher estimated capital cost needs, especially for timeframes beyond 5 years compared to a BRE based approach. This age, material and assumed useful life data can be used for initial future projections of asset renewal needs but should be appropriately qualified and BRE scores updated routinely as asset condition data gaps are filled from collected data.

- Implement reliability centered maintenance approaches for all WWTP and Facilities primary assets to inform ongoing asset O&M and triggers for asset replacement. Evaluate if the current CMMS software

is sufficient for recording the necessary RCM data and adjust as necessary to efficiently record the needed data. Use the collected data to monitor asset performance and proactively rehabilitate or replace wear components of the assets, when O&M costs become excessive, or performance drops below allowable levels. Record O&M costs at the asset level and review annual asset O&M costs to compare to replacement costs for critical assets. Use this data to determine which assets should be prioritized to be replaced through a capital investment versus continuing to maintain. A good metric is when annual maintenance cost divided by asset replacement cost exceeds 4% to 5%, asset should be evaluated for replacement. Use the RCM data and the BRE scores to inform the asset life-cycle and the priority for inclusion of the asset renewal or replacement in the capital budget.

- Accurate costs for the R/R projects should be developed based on recent bid costs or recent cost estimates. Engineering and construction costs should be calculated and used to develop a total project cost following the Association for the Advancement of Cost Engineering (AACE) Class 4 estimates or better as WTD currently does for projects that are in delivery and estimated to cost more than $2.5M. For years 1-5, when projects are nearing funding approval and delivery, but before any engineering is performed, cost estimates should be Class 5 or better. For Years 6–10, larger contingencies may be appropriate depending on the unknowns and data availability for the particular asset R/R projects. These unknowns and reasons for larger contingencies should be clearly documented for the project so they can be addressed as the project proceeds into planning and design.

- For Extreme and High-risk assets, it may be too expensive or not possible from a capital delivery standpoint to renew or replace all Extreme risk (and/or High-risk) assets in a 5-year period or even in a 10-year period. There needs to be a balance and priority developed with asset renewal and replacement with the available funding and available condition assessment and BRE scores data.

For Years 11–20 and Years 20+, there are two primary recommended methods as highlighted in blue outline in Table 4. They are differentiated by the amount of condition and COF data available at the time when the budgets are being developed:

- Asset R/R should continue to be based on available condition and BRE scoring data. Where asset condition data is not fully available, use available age, material and useful life data to draw comparisons to similar assets that have available condition data. Set an annual budget spending amount or allowance based on the available asset BRE data or based on historical annual spending to complete the remaining High-risk assets, then begin any Medium Risk assets R/R.

- Include budget for condition assessment costs to fill any remaining gaps in the asset condition data and for follow-up inspections of assets to confirm asset condition, monitor any changes and update BRE scores.

- The cost basis for the annual spending should be based on historical costs with appropriate contingencies clearly defined based on the types and number of unknowns.

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Table 4: Asset Renewal/Replacement: WWTP/Remote Facilities Equipment Capital Forecasting Methods

Methods	1-5 Years	6-10 Years	11-20 Years	20+ Years
1 *More Detailed*	• Projects selected primarily from BRE risk scoring to address Extreme and High-risk assets. • Implement reliability centered maintenance approaches to inform ongoing O&M and triggers for asset replacement. • Accurate costs – AACE Class 5 estimates or better. • Defined cost contingencies.	• Projects selected primarily from BRE risk scoring to complete addressing Extreme Risk assets; continue addressing High-risk assets. • Scopes and costs basis similar to Years 1-5. • Larger cost contingencies if there are more unknowns.	• Equipment R/R based on available condition and risk scoring data. • Focus on addressing remaining High-risk assets, then Medium Risk assets. • Cost basis = historical costs with contingencies.	Same as Years 11-20.
2 *Less Detailed*			• Equipment R/R based on Risk scores from available age and useful life data. • Budget for condition assessment costs to fill in gaps. • Focus on addressing remaining High-risk assets, then Medium Risk assets. • Cost basis = historical costs with contingencies.	Same as Years 11-20.

The primary recommended steps for WTD to apply the above-described methods to develop the short- and long-term capital program budgets for the WWTP/Remote Facilities Equipment asset management category are:

1. Evaluate WTD's applicable equipment asset classes, available equipment asset condition, age and attribute data, and expected lifecycles/remaining useful life. Determine and list any data gaps.

2. Complete the existing work in the Asset Management Work Plan to develop a condition assessment and documentation program based on industry standards.

3. Establish an existing baseline of assets needing R/R and available costs, available BRE scores (Extreme, High, Medium, Low). Define assumptions for missing data and develop a plan to acquire the missing data.

4. Establish the recent history of WTD's facilities equipment projects, level of service, and what assets still need R/R. Determine how much has been spent annually to-date on facilities assets R/R.

5. Implement reliability centered maintenance approaches for all WWTP and Facilities primary assets to inform ongoing asset O&M and triggers for asset replacement. Evaluate if the current CMMS software is sufficient for recording the necessary RCM data and adjust as necessary to efficiently record the needed data. Use the collected data to monitor asset performance and proactively rehabilitate or replace wear components of the assets when O&M costs become excessive, or performance drops below allowable levels. A good metric is when annual maintenance cost divided by asset replacement cost exceeds 4 to 5 percent, asset should be evaluated for replacement. Use the RCM data and the BRE scores to inform the asset life-cycle and the priority for inclusion of the asset renewal or replacement in the capital budget.

6. Develop BRE scores for missing assets using available data on asset condition and consequence of failure factors.

7. Use WTD recent project bid data, available design cost estimates, and regional project cost data to support the development of expenditures for assets by class and prioritized by BRE scores. Also include cost estimates for gathering the missing data. Project cost estimates should be defined with appropriate contingencies consistent with the developed projects, level of unknowns, and the implementation years consistent with the AACE guidelines.

8. Develop short- and long-term forecast of expenditures based on the BRE scores (focus on Extreme assets first, then High-risk assets), desired level of service, available cost data and defined assumptions (to address missing data and add cost contingencies for amount of unknowns).

9. The selected budgets to include in the short- and long-term capital forecast should then be balanced with financial and rates implications, capital delivery and staffing considerations, as discussed in the Methodology Development Process.

New Infrastructure: Consent Decree/IWM Plan Category

This category includes all projects necessary to meet the regulatory requirements associated with a Consent Decree or Integrated Watershed Management Plan. It was found there is one primary method for identifying and developing projects in this category for Years 1-20 of capital program forecasting and one primary method for Years 20+.

The methods are described in Table 5. For Years 1-20, the primary recommended method is described in more detail below:

- Specific projects are selected based on the developed Long-Term Control Plan (LTCP) or integrated watershed plan. If a plan has not yet been developed, then confirm if any regulatory milestone schedule dates are required to be met within Years 1-20. If yes, align the identified projects to meet those milestone schedule dates. If a plan has not been developed and will be required in the next 5 years, include the appropriate cost budget line item(s) for the plan development in Years 1-5.

- Project cost estimates should be defined with appropriate contingencies consistent with the developed plan, level of unknowns, and the implementation years consistent with the AACE guidelines.

For Years 20+, there is one primary recommended method as summarized in Table 5:

- Projects to include for beyond 20 years are dependent on the length of the LTCP or integrated watershed plan. Detailed projects and cost estimates are not included unless those projects are identified in the LTCP or watershed plan.

- If there may be additional overflow or pollutant reduction projects after Year 20, historical costs are used where available, i.e., dollars per overflow gallon reduced, to provide planning level costs for those projects.

- Project cost estimates should be defined with appropriate contingencies consistent with the level of available details for the projects, level of unknowns, and the implementation years consistent with the AACE guidelines.

Table 5: New Infrastructure: Consent Decree/IWM Plan Capital Forecasting Methods

Methods	1-5 Years	6-10 Years	11-20 Years	20+ Years
1	• Specific projects based on Long-Term Control Plan (LTCP) or integrated watershed plan. • Cost estimates defined with appropriate contingencies for the implementation years.	Same as Years 1-5, except cost contingencies may be larger if there are additional unknowns.	Same as Years 1-5.	• Dependent on length of LTCP or integrated watershed plan. • If there may be additional overflow or pollutant reduction projects after Year 20, historical costs are used where available, i.e., dollars per overflow gallon reduced. • Detailed projects and cost estimates not performed unless included in LTCP.

The primary recommended steps for WTD to apply the above-described methods to develop the short- and long-term capital program budgets for the New Infrastructure: Consent Decree/IWM Plan category are:

1. Evaluate WTD's applicable LTCP projects, costs, and schedule data. Define cost assumptions and any need for cost refinements.

2. Determine regulatory obligations/milestone schedule dates and community priorities for any required implementation dates for select projects.

3. Define necessary assumptions based on uncertainties or limited data. Project cost estimates should be defined with appropriate contingencies consistent with the developed project, level of unknowns, and the implementation years consistent with the AACE guidelines.

4. If plan(s) need to be updated or developed and will be required in the next 5 years, include the appropriate cost budget line item(s) for the plan development in Years 1-5. Otherwise include plan update costs in the years after Year 5, as applicable.

5. Use the project scopes, cost data/cost allowances (depending on assumptions), and regulatory milestone schedules to develop expenditures and timeframes for LTCP implementation.

6. The selected budgets to include in the short- and long-term capital forecast should then be balanced with financial and rates implications, capital delivery and staffing considerations, as discussed in the Methodology Development Process.

New Infrastructure: Growth Category

This category includes all projects necessary to meet the estimated future growth capacity requirements anticipated within the service area. It was found there is one primary method for identifying and developing projects in this category for Years 1-5 and Years 6-10, and one primary method for Years 11-20 and Years 20+.

The methods are described in Table 6. For Years 1-5 and Years 6-10, the primary recommended method is similar and described in more detail below:

- Specific projects are selected based on known growth areas as identified in the service area capacity master plans and other available growth projections.

- Growth assumptions should be reviewed and adjusted annually to implement projects "just in time." Flow monitoring should be considered in portions of the service area to confirm actual flows and schedule the completion of growth-related capacity improvement projects to meet actual flow data versus prior assumptions. Include project budget cost(s) to provide for annual growth projects updates, as needed.

- For Years 6-10, projects scopes and costs are noted to be subject to change based on future annual review of growth assumptions. If master plans examine different growth scenarios, the range of projects and costs per scenario can be included.

- If growth plan(s) need to be developed for portions of the service area include the appropriate cost budget line item(s) for the plan(s) development in Years 1-5.

- Project cost estimates should be defined with appropriate contingencies consistent with the developed plan, level of unknowns, and the implementation years consistent with the AACE guidelines.

For Years 11-20 and Years 20+, there is one primary recommended method as summarized in Table 6:

- General projects are included based on anticipated growth areas as identified in the service area capacity master plans and other available growth projections beyond 10 years.

- If growth projections have not occurred beyond 10 years, define the assumptions and use the best available information to develop allowance costs for growth capacity projects. Include project budget cost(s) to provide for studies or evaluations of growth capacity needs beyond 10 years.

- If current master plans examine different growth scenarios beyond 10 years, the range of projects and costs per scenario can be included.

- Project cost estimates should be defined based on historical costs with appropriate contingencies consistent with the developed plan, level of unknowns, and the implementation years consistent with the AACE guidelines.

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Table 6: New Infrastructure: Growth Capital Forecasting Methods

Methods	1-5 Years	6-10 Years	11-20 Years	20+ Years
1	• Specific projects based on known growth areas. • Accurate costs consistent with AACE guidelines and level of unknowns. • Defined cost contingencies. • Growth assumptions reviewed and adjusted annually to implement projects "just in time".	• Specific projects based on anticipated growth. • Scopes and costs may change based on future annual review of growth assumptions. • Larger cost contingencies depending on level of unknowns.	• General projects based on master plans and growth trends with less specific scopes. • If master plans examine different growth scenarios, the range of projects and costs included per scenario. • Allowance costs, if growth projections have not occurred beyond 10 years, based on best available information and defined assumptions. • Cost basis = historical costs. • Contingencies, dependent on level of unknowns.	Same as Years 11-20.

The primary recommended steps for WTD to apply the above-described methods to develop the short- and long-term capital program budgets for the New Infrastructure: Growth category are:

1. Evaluate WTD's applicable growth and system build-out master plans. Develop project lists, costs, and schedule data for each forecasting time period (i.e., Years 1-5, 6-10, 11-20, and 20+). Define cost assumptions and any need for cost refinements.

2. Determine any adjustments based on new information and community priorities. Determine need for recent flow monitoring to confirm prior estimates of growth and capacity needs. Include budget costs for flow monitoring as applicable.

3. Determine need for new growth evaluations or updates to master plans and likely costs for those study projects. Include those update projects and budget costs in Years 1-5.

4. Define necessary assumptions based on uncertainties or limited data for each forecasting time period. Project cost estimates should be defined with appropriate contingencies consistent with the developed plan, level of unknowns, and the implementation years consistent with the AACE guidelines.

5. Use the project scopes, cost data/cost allowances (depending on assumptions), and schedules, to develop expenditures and timeframes for growth projects implementation.

6. The selected budgets to include in the short- and long-term capital forecast should then be balanced with financial and rates implications, capital delivery and staffing considerations, as discussed in the Methodology Development Process.

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New Regulations and Emerging Contaminants Category

This category includes all projects necessary for meeting anticipated new regulations and emerging contaminants requirements. It was found there is one primary method for identifying and developing projects in this category for Years 1-5 and Years 6-10, and one primary method for Years 11-20 and Years 20+.

The methods are described in Tables 7 and 8. For Years 1-5 and Years 6-10, the primary recommended method is similar and described in more detail below:

New Regulations

- If the new regulation(s) is likely to be required in the next 5 years, project alternatives, scopes and costs should be developed. Cost estimates should follow AACE Class 5 estimates or better, as applicable and all assumptions clearly defined.

- Where studies and costs have not yet been completed, allowance costs based on the best available information should be included in the capital forecast. Assumptions should be clearly defined. Include projects and costs for the necessary studies to be completed in Years 1-5.

- For Years 6-10, same process as Years 1-5, if the new regulation(s) is likely to be required in the next 10 years. Cost estimates should follow AACE Class 5 estimates depending on the number of unknowns and all assumptions clearly defined.

Emerging Contaminants

- Projects and costs are not typically defined, unless the new regulations and timing for emerging contaminants are well defined. If the new regulation(s) is likely to be required in the next 5 years, project alternatives, scopes and costs should be developed. Cost estimates should follow AACE Class 5 estimates or better, as applicable and all assumptions clearly defined.

- If the emerging contaminants regulations are not likely in the next 5 years but may be likely within 10 years, include project scopes and cost estimates based on high level planning allowances and assumptions.

- Where studies and costs have not yet been completed, allowance costs based on the best available information should be included in the capital forecast. Assumptions should be clearly defined. Include projects and costs for the necessary studies in the budget to be completed to inform this category.

For Years 11-20 and Years 20+, there is one primary recommended method as summarized in Tables 7 and 8 for both New Regulations and Emerging Contaminants:

- Project scopes and cost estimates are generally based on high level planning estimates and clearly defined assumptions. Project timing is adjusted based on the best available information for the likely schedules for the pollutant regulations.

Where studies and costs have not yet been completed, allowance costs based on the best available information should be included in the capital forecast. Assumptions should be clearly defined. Include projects and costs for the necessary studies in the budget to be completed to inform this category.

Table 7: New Regulations – i.e., Nutrients, PFAS, Biosolids Capital Forecasting Methods

Methods	1-5 Years	6-10 Years	11-20 Years	20+ Years
1	• Project alternatives, scopes and costs developed if new regulation(s) is likely to be required in next 5 years. Costs are AACE Class 5 or better depending on the number of unknowns. • Allowance cost based on best available information included where studies and costs have not yet been completed. Assumptions clearly defined.	• Same as Years 1-5, if new regulation(s) is likely to be required in next 10 years. • Costs may be AACE Class 5 depending on number of unknowns.	• Project scopes and cost estimates generally based on high level planning estimates and assumptions. • Allowance cost based on best available information and defined assumptions where studies and costs have not yet been completed. • Costs are order of magnitude AACE Class 5 and subject to large changes.	Same as Years 11-20.

Table 8: Emerging Contaminants – i.e., Pharmaceuticals, Endocrine Disruptors, etc., Capital Forecasting Methods

Methods	1-5 Years	6-10 Years	11-20 Years	20+ Years
1	Projects and costs not defined unless new regulations and timing are well defined.	• Project scopes and cost estimates generally based on high level planning allowances and assumptions. • Costs are order of magnitude AACE Class 5 and subject to large changes.	• Same as Years 6-10. • Project timing adjusted based on information available for likely schedule of pollutant limits.	• Same as Years 6-10. • Project timing adjusted based on information available for likely schedule of pollutant limits.

The primary recommended steps for WTD to apply the above-described methods to develop the short- and long-term capital program budgets for the New Regulations and Emerging Contaminants category are:

1. Confirm likely timeframes for the new regulations and emerging contaminants and clearly define those assumptions.

2. Evaluate WTD's available past or ongoing studies/analyses for needed projects scopes and costs. Define cost assumptions and any need for cost refinements.

3. Determine where additional studies/analyses may be required to determine project scopes and costs. Where studies and costs have not yet been completed, allowance costs based on the best available information should be included in the capital forecast. Assumptions should be clearly defined. Include projects and costs for the necessary studies to be completed in Years 1-5 or outer years, as applicable.

4. Develop list of potential projects and cost allowances. If studies have not yet been completed discuss with qualified staff/outside engineer(s) likely treatment processes needed and appropriate cost allowances to include in the capital forecast.

5. Cost estimates should follow AACE Class 5 estimates or better depending on the number of unknowns and all assumptions clearly defined.

6. Use the project scopes, cost data/cost allowances (depending on assumptions), and schedules, to develop expenditures and timeframes for projects implementation.

7. The selected budgets to include in the short- and long-term capital forecast should then be balanced with financial and rates implications, capital delivery and staffing considerations, as discussed in the Methodology Development Process.

Climate Change Category

This category is intended to include all projects necessary to address the likely impacts from climate change on the utility and infrastructure. It was found there is one primary method for identifying and developing projects in this category for Years 1-5 and Years 6-10, and one primary method for Years 11-20 and Years 20+.

The methods are described in Table 9 below. For Years 1-5 and Years 6-10, the primary recommended method is described in more detail below:

- Studies/evaluations are performed to understand the likely climate change impacts to the utility and the infrastructure. Climate change impacts can include sea level rise, changing weather patterns, increased amounts and intensity of rainfall or snowfall, drought conditions, changes in temperature, seismic activity changes, etc. A list of potential climate change impacts should be developed for the utility and the potential impacts clearly defined.

- The studies/evaluations should identify potential projects to address climate change impacts and design criteria to include in future applicable facility and system asset R/R projects.

- Develop list of potential projects and cost allowances. If studies have not yet been completed discuss with qualified staff/outside engineer(s) appropriate cost allowances to include in the capital forecast.

- Where studies have not yet been performed or completed, include projects and costs for the necessary studies to be completed in the capital forecast to inform this category.

- Project cost estimates should follow AACE Class 5 estimates or better depending on the number of unknowns and all assumptions clearly defined.

- Projects to address climate change should be incorporated into and generally follow the schedules for asset management and new infrastructure projects. Stand-alone climate change projects should be clearly defined and scheduled for implementation based on the likely timing of the impacts.

For Years 11-20 and Years 20+, there is one primary recommended method as summarized in Table 9:

- Project scopes and cost estimates are generally based on high level planning estimates, historical spending and clearly defined assumptions. Project timing is adjusted based on the best available information for the likely timing of climate change impacts.

- Where studies and costs have not yet been completed, allowance costs for projects based on the best available information should be included in the capital forecast. Assumptions should be clearly defined. Include projects and costs for the necessary studies to be completed to inform this category.

Table 9: Climate Change Capital Forecasting Methods

Methods	1-5 Years	6-10 Years	11-20 Years	20+ Years
1	• Projects developed to account for estimated climate change impacts. • Studies/evaluations performed to understand likely climate change impacts. • Determine appropriate design criteria for projects. • Design criteria included in future applicable facility and system asset R/R projects. • Projects generally follow schedules for asset management and new infrastructure projects. • Costs are generally AACE Class 5 or better.		Project scopes and cost estimates generally based on high level planning allowances or historical spending, and defined assumptions.	Same as Years 11-20.

The primary recommended steps for WTD to apply the above-described methods to develop the short- and long-term capital program budgets for the Climate Change category are:

1. Evaluate WTD's available past or ongoing studies/analyses for climate change and applicable design criteria for projects scopes and costs.

2. Determine where additional studies/analyses may be required to address the likely impacts from climate change. Determine costs for those studies. If studies have not yet been completed discuss with qualified staff/outside engineer(s) likely cost allowances to include for climate change projects. Include projects and costs in the capital forecast for the necessary studies to be completed to inform this category.

3. Determine appropriate climate change-related design criteria to include in future applicable facility and system asset R/R projects. Clearly define scope and cost assumptions. Update design guidance documents as applicable.

4. Confirm applicable facility and system asset R/R projects to include climate change-related design criteria. Update project scopes and costs, if needed. Climate change projects will generally follow schedules for asset management and new infrastructure projects (from the other categories).

5. Use the project scopes, cost data/cost allowances (depending on assumptions), and schedules, to develop expenditures and timeframes for projects implementation. Cost estimates should follow AACE Class 5 or better estimates depending on the number of unknowns and all assumptions clearly defined.

6. The selected budgets to include in the short- and long-term capital forecast should then be balanced with financial and rates implications, capital delivery and staffing considerations, as discussed in the Methodology Development Process.

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Resource Recovery/Operational Enhancements Category

This category includes all projects associated with operational enhancements within the utility. Operational Enhancements could include residual upgrades and energy recovery projects, or those projects could be added in separate categories, as appropriate. It was found there is one primary method for identifying and developing projects in this category for Years 1-5 and Years 6-10, and one primary method for Years 11-20 and Years 20+.

The methods are described in Table 10. For Years 1-5 and Years 6-10, the primary recommended method is similar and described in more detail below:

- Business case evaluations are performed to identify projects to increase efficiencies and reduce costs across the asset classes. Projects can include reduction of power costs, income generation, reduction in O&M costs, etc.

- Schedule projects implementation based on return on investments, the scheduled timing of asset R/R projects associated with the operational enhancements, and available capital funding.

- Determine where additional studies/analyses may be required to address operational enhancements. Determine costs for those studies. If studies have not yet been completed discuss with qualified staff/outside engineer(s) likely cost allowances to include in the capital forecast for operational enhancement projects. Include projects and costs in the capital forecast for the necessary studies to be completed to inform this category.

- Cost estimates should follow AACE Class 5 or better estimates depending on the number of unknowns and all assumptions clearly defined.

For Years 11-20 and Years 20+, there is one primary recommended method as summarized in Table 10:

- Project scopes and cost estimates are generally based on high level planning estimates, historical spending and clearly defined assumptions. Project timing is adjusted based on the best available information for the likely timing of the operational enhancements based on expected return on investments.

- Where studies and costs have not yet been completed, allowance costs for projects based on the best available information should be included in the capital forecast. Assumptions should be clearly defined. Include projects and costs for the necessary studies in the capital forecast to be completed to inform this category.

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Table 10: Resource Recovery/Operational Enhancements Capital Forecasting Methods

Methods	1-5 Years	6-10 Years	11-20 Years	20+ Years
1	• Business case evaluations performed to identify projects to increase efficiencies and reduce costs across the asset classes. • Projects include reduction of power costs, income generation, reduction in O&M costs, etc. • Projects scheduled based on return on investments, scheduled timing of asset R/R projects, and available capital funding. • Costs are generally AACE Class 5 or better.		Project scopes and cost estimates generally based on high level planning allowances or historical spending, and defined assumptions.	Same as Years 11-20.

** For illustration purposes. Operational Enhancements could include residual upgrades and energy recovery projects or those projects could be added in separate categories, as appropriate. Projects and costs definition would be similar to the above categories.*

The primary recommended steps for WTD to apply the above-described methods to develop the short- and long-term capital program budgets for the Operational Enhancements category are:

1. Evaluate WTD's available past or ongoing studies/analyses for projects to increase efficiencies and reduce costs across the asset classes, i.e., power costs, income generation, O&M costs, etc.

2. Develop lists of applicable projects, costs and return on investments. Define cost assumptions and any need for cost refinements. Cost estimates should follow AACE Class 5 or better estimates depending on the number of unknowns and all assumptions clearly defined.

3. Determine where additional studies/analyses may be required. Determine costs for those studies. If studies have not yet been completed discuss with qualified staff/outside engineer(s) likely cost allowances to include for operational enhancement projects. Include projects and costs in the capital forecast for the necessary studies to be completed to inform this category.

4. Develop expenditures and timeframes for projects/additional studies implementation based on return on investments, and scheduled timing of associated asset R/R projects.

5. The selected budgets to include in the short- and long-term capital forecast should then be balanced with financial and rates implications, capital delivery and staffing considerations, as discussed in the Methodology Development Process.

WTDs Current Methodologies Assessment

This section describes WTD's current methodologies for developing short- and long-term capital investment forecasts. The primary differences between WTD's current methods and the recommended methods are noted. Recommended steps for WTD to follow to move towards the recommended methods are also provided. Developing 20 year or longer capital forecast scenarios is expected to take approximately 12–18 months following the recommended process described in the Capital Forecasting Scenarios Example section in this report. WTD should perform a detailed gap analysis to fully understand the appropriate steps and confirm available resources required to implement the long-term plan when verifying this 12 – 18 month timeline.

It should be noted the recommended steps are not necessarily to implement all items listed in each step. For example, where there are gaps in data, some steps recommend identifying projects scopes and budget costs to complete the studies/evaluations to obtain the missing data. This does not mean those studies/evaluations need to be completed to develop the capital forecast scenarios, just that the studies/evaluations scopes and budget costs are included in short- or long-term capital forecasting.

In addition, short- and long-term capital forecasting is an iterative process and a snapshot in time. A 5-, 10-, or 75-year capital program forecast prepared this year may be different when updated the following year because new information is available and data gaps that may exist this year may be partially or completely filled the following year. Those changes, assumptions and uncertainties should be clearly defined in the capital forecast.

Capital forecasting can also not be done without balancing these three elements (as discussed in the Methodology Development Process section):

1. Project selection – Based on system needs and risk-based priorities
2. Financial and rates implications
3. Capital delivery and project staffing considerations

There will likely be more project needs and costs than financial rates and capital delivery capabilities can support in any given year. Therefore, it is essential that multiple capital forecast scenarios balancing these three elements are developed (as discussed in Capital Forecasting Scenarios Example section). Capital forecasts are meant to inform, not dictate, a specific required capital investment and be balanced with all three elements.

WTD completed a self-assessment describing their current methods for determining capital projects for short- and long-term capital forecasts. The details of WTD's self-assessment are included in Table 11 below. The primary differences and steps to implement the recommended methods are also provided in Table 11. The steps to implement the recommended forecasting methods are summarized in Table 11 and refer the reader back to the recommended steps described in detail in each project category in the Capital Program Forecasting Methodologies section.

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Table 11: Capital Forecasting WTD Assessment and Steps to Implement Recommended Methods

WTD Portfolio Categories	WTD Current Forecasting Methods				Difference Between Current and Recommended Method	Steps to Implement Recommended Forecasting Method
	20+ Years	11-20 Years	6-10 years	1-5 Years		
Asset Management – Conveyance	Condition assessment information is available for all conveyance lines and is updated for each segment at least once every 10 years.	Program staff identify assets that are deteriorating faster than expected and adjust the prioritization and timing of projects accordingly. Very little information is documented this early, usually just a title and a rough order of magnitude (ROM) estimate.	Begin developing scope and budget information (ROM/Class 10 estimates) for projects that, based on their condition, will need to be R/R in 6 to 10 years. Projects are selected for inclusion based on scores developed for each asset that consider asset condition and consequence of failure. Projects included in Years 6-10 are high risk assets.	Conceptual projects are defined to the level needed for prioritization and budget approval. Costs are generally based on Class 5 estimates and are subject to change. Prioritization may be repeated if scope/budget changes significantly. Projects are selected for inclusion based on scores developed for each asset that consider asset condition and consequence of failure. Projects included in Years 1-5 are the highest risk assets and may include other coincidental benefits. WTD's Capital Project Formulation Program (Formulation) conducts a business case evaluation for complex, high-risk and/or expected to exceed $5M and be prioritized for funding in years 1-5.	Implement projects to achieve a target annual renewal/ replacement (R/R) rate of at least 1 percent by total system length tailored to the Utility. WTD has developed some of this risk data already. This data is currently used for project selection. WTD should continue to fill in data gaps on the asset level by completing Asset Management Work Plan items related to risk and condition assessment. Costs should be AACE Class 5 or better for Years 1-5, when available. Absent this information, typically a high-level planning cost estimate is developed and assumptions for those costs clearly defined. Historical costs with appropriate contingencies clearly defined based on the types and number of unknowns for Years 6-10 and beyond 10 years.	Detailed implementation steps are provided following Table 3. A summary is provided below. 1. Establish an annual R/R rate tailored to WTD's R/R history and desired level of service. 2. Complete the existing work in the Asset Management Work Plan to develop a condition assessment and documentation program based on industry standards. Develop BRE scores for missing assets using available data on asset condition and consequence of failure factors. 3. Use WTD recent project bid data to support the development of expenditures for assets by class, prioritized by BRE scores, and based on the selected annual R/R rate with appropriate contingencies clearly defined based on the types and number of unknowns. This work can be completed in phases with the available BRE data and then refined and adjusted as additional data is collected. 4. Develop short- and long-term forecast of expenditures based on the selected annual R/R rate, BRE scores (focus on Extreme assets first, then High-risk assets), available cost data and defined assumptions (to address missing data and add cost contingencies for amount of unknowns).
Asset Management – Plants/Facilities	Asset management is a division-wide, continuous process that initiated WTD's first formal Strategic Asset Management Plan (SAMP) in 2005. It includes program improvement recommendations and takes overall direction and guidance from WTD Management.	Update SAMP every 5 years to re-align changing program goals, objectives, and strategies with WTD's mission, vision, and goals.	Update SAMP. Identify assets, process areas and/or facilities that need to be repaired or replaced in the next decade; develop conceptual scopes and Class 10 estimates. Projects are selected for inclusion based on scores developed for projects that consider asset condition, obsolescence, and consequence of failure. Projects included in Years 1-5 are the highest risk assets and may include other coincidental benefits.	Update SAMP. Conceptual projects are defined to the level needed for prioritization and budget approval. Costs are generally based on Class 5 estimates and are subject to change. Prioritization may be repeated if scope/budget changes significantly. Projects are selected for inclusion based on scores developed for projects that consider asset condition, obsolescence, and consequence of failure. Projects included in Years 1-5 are the highest risk assets and may include other coincidental benefits. WTD's Formulation Program conducts a business case evaluation for complex, high-risk and/or expected to exceed $5M and be prioritized for funding in years 1-5.	Establish an existing baseline of assets needing R/R and available costs, available BRE scores (Extreme, High, Medium, Low). Define assumptions for missing data and develop a plan to acquire the missing data. WTD has developed some of this risk data already. This data is currently used for project selection. WTD should continue to fill in data gaps on the asset level by completing Asset Management Work Plan items related to risk and condition assessment. Costs should be AACE Class 5 or better for Years 1-5, when available. Absent this information, typically a high-level planning cost estimate is developed and assumptions for those costs clearly defined. Historical costs with appropriate contingencies clearly defined based on the types and number of unknowns for Years 6-10 and beyond 10 years.	Detailed implementation steps are provided following Table 4. A summary is provided below. 1. Establish an existing baseline of assets needing R/R and available costs, available BRE scores (Extreme, High, Medium, Low). Define assumptions for missing data and develop a plan to acquire the missing data. 2. Continue to implement reliability centered maintenance approaches for all WWTP and Facilities primary assets to inform ongoing asset O&M and triggers for asset replacement. 3. Complete the existing work in the Asset Management Work Plan to develop a condition assessment and documentation program based on industry standards. Develop BRE scores for missing assets using available data on asset condition and consequence of failure factors. This work can be completed in phases with the available BRE data and then refined and adjusted as additional data is collected. 4. Use WTD recent project bid data, available design cost estimates, and regional project cost data to support the development of expenditures for assets by class and prioritized by BRE scores. Also include cost estimates for gathering the missing data. Add appropriate cost contingencies clearly defined based on the types and number of unknowns. 5. Develop short- and long-term forecast of expenditures based on the BRE scores (focus on Extreme assets first, then High-risk assets), desired level of service, available cost data and defined assumptions (to address missing data and add cost contingencies for amount of unknowns).
Regulatory Consent Decree/LTCP	**Combined Sewer Overflows (CSO)** Required by Ecology to reduce the frequency of combined sewer overflows to one event per year on a 20-yr average at each CSO location. The CSO Long-Term Control Plan is updated every 5 years and describes how WTD will achieve and maintain CSO control at every CSO location. **Sediment Management**	For CSO control, update CSO Long-Term Control Plan and launch any projects as required. For sediment management, update the Sediment Management Plan and launch any projects as required.	For CSO control, update CSO Long-Term Control Projects and launch any projects as required by the applicable milestone dates. For sediment management, update the Sediment Management Plan and launch any projects as required.	For CSO control, update CSO Long-Term Control Projects and launch any projects as required by the applicable milestone dates. Several CSO control projects are planned to launch within the next 5 years per regulatory requirements. CSO projects are defined through planning options analysis and problem definition. Budgets are generally based on Class 5 estimates, and subject to change. For sediment management, launch any projects as required.	WTD's current method appears similar to the recommended method. Some differences may include: • Confirming any regulatory milestone dates that must be met over the next 1-5 years and future years beyond Year 5 upon final approval of revised Consent Decree. • Cost estimates should be consistent with the expected implementation year. For example, for projects to be implemented in Years 1-5, cost estimates should generally be AACE Class 5 estimates or better. • For projects that may be required after Year 5, include projects and costs based on the level of information	Detailed implementation steps are provided following Table 5. A summary is provided below. 1. Evaluate WTD's applicable LTCP projects, costs, and schedule data. Define cost assumptions and any need for cost refinements consistent with the AACE guidelines. 2. Determine regulatory obligations/milestone schedule dates and community priorities for any required implementation dates for select projects. 3. If plan(s) need to be updated or developed and will be required in the next 5 years, include the appropriate cost budget line item(s) for the plan development in Years 1-5. Otherwise include plan update costs in the years after Year 5, as applicable.

WTD Portfolio Categories	WTD Current Forecasting Methods				Difference Between Current and Recommended Method	Steps to Implement Recommended Forecasting Method
	20+ Years	11-20 Years	6-10 years	1-5 Years		
	WTD updates its sediment management plan as required by Ecology.				available. Costs can be planning level allowances if the projects have not been definitively determined yet.	4. Use the project scopes, cost data/cost allowances (depending on assumptions), and regulatory milestone schedules to develop expenditures and timeframes for LTCP implementation.
Growth/Capacity Improvements	**Separated Conveyance and Treatment Process Capacity:** Long-term plans [i.e., Conveyance System Improvement (CSI) Program Update; Long-term Treatment Plan (LTTP)] identify long-term capacity needs and conceptual projects over a 40- to 50-year planning horizon. These plans provide a prioritized list of projects to improve capacity in the separated conveyance system. Project scope/budget are conceptual, with ROM budgets, and subject to change. **Separated Conveyance Capacity:** CSI Plan is updated every 10 years and projects reprioritized based on updated flow monitoring, updated planning assumptions, and regional needs assessment. **Treatment Process Capacity:** This is WTD's first iteration of the LTTP and is anticipated to be updated on a similar timeline to the CSI Plan, with updated assumptions and project reprioritization every 10 years.	Further refine/update plans based on updated information. Project scopes and budget are conceptual, and subject to change. Some plans may develop Class 10 estimates for specific projects (see * note in next column) and are prioritized based on known information.	Conceptual projects are defined to the level needed for prioritization and budget approval. Costs are generally based on Class 5 estimates and are subject to change. Prioritization may be repeated if scope/budget changes significantly. *Large or complex projects that may take 8-10+ years to design and construct may go through planning alternative analysis or problem definition 10+ years prior to project funding. Less complex or smaller projects are more likely to go through planning alternative analysis or problem definition within 2-5 years prior to project funding. Projects are selected for inclusion based on remaining capacity as determined through monitoring and/or modeling efforts and coincidental benefits such as asset condition.	Conceptual projects are defined to the level needed for prioritization and budget approval. Costs are generally based on Class 5 estimates and are subject to change. Prioritization may be repeated if scope/budget changes significantly. Projects are selected for inclusion based on remaining capacity as determined through monitoring and/or modeling efforts and coincidental benefits such as asset condition. If needed, WTD's Formulation Program conducts a business case evaluation for complex, high-risk and/or expected to exceed $5M and be prioritized for funding in years 1-5. Many of WTD's planning programs produce Class 5 estimates as part of their plan so Formulation isn't usually required but may be needed if other programs are resource limited.	WTD's current method is similar to the recommended method. WTD will confirm growth assumptions are reviewed and adjusted annually to implement projects "just in time", where applicable. WTD currently performs flow monitoring in portions of the service area to confirm actual flows and schedule the completion of growth-related capacity improvement projects to meet actual flow data versus prior assumptions. Include project budget cost(s) to provide for annual growth projects updates, as needed. Project cost estimates should be defined with appropriate contingencies consistent with the developed plan, level of unknowns, and the implementation years consistent with the AACE guidelines.	Detailed implementation steps are provided following Table 6. A summary is provided below. 1. Evaluate WTD's applicable growth and system build-out master plans. Develop project lists, costs, and schedule data for each forecasting time period (i.e., Years 1-5, 6-10, 11-20, and 20+). Define cost assumptions and any need for cost refinements consistent with the AACE guidelines. 2. Determine any adjustments based on new information and community priorities. Determine need for recent flow monitoring to confirm prior estimates of growth and capacity needs. Include budget costs for flow monitoring as applicable. 3. Determine need for new growth evaluations or updates to master plans and likely costs for those study projects. Include those update projects and budget costs in Years 1-5. 4. Use the project scopes, cost data/cost allowances (depending on assumptions), and schedules, to develop expenditures and timeframes for growth projects implementation.
Regulatory New Regulations/ Emerging Contaminants	**New, Existing Regulations** Studies to determine technologies and estimate conceptual costs needed to achieve new or existing regulations. Conceptual projects are not defined but may include a range of possibilities to achieve the regulation's objective. **Potential Future Regulations** Monitor state and direction of wastewater industry and federal, state, and local regulatory environment for emerging contaminants, potential future regulations. Monitor state of technology for removal of emerging contaminants and potential for source or upstream control. Conceptual projects are not defined until the regulation is developed and close to implementation.	Initiate studies to determine potential removal technologies and estimate conceptual costs. Conduct technology pilots as/if needed to test potential technologies.	Potential regulations are likely shifting to become New and Existing; continue to monitor regulatory environment and using studies and pilots to determine technologies that will meet regulatory objectives. Depending on the anticipated cost and complexity of the potential projects, and any compliance timelines within recently implemented regulatory permits, further scope definition is done via planning alternative analysis and/or problem definition. Project scopes and budgets are conceptual, with Class 5 to Class 10 estimates, and subject to change. Projects are selected for inclusion if they are the result of an issued regulatory order.	Projects are further defined through planning alternative analysis and/or problem definition; consider interdependencies with projects in other categories. Conceptual project scopes are further defined and budgets are generally based on Class 5 estimates, and subject to change. Any interim regulatory requirements (for example, optimization to achieve limited removal or stay below interim limits with existing infrastructure) is implemented with project scope and costs generally at Class 5 estimates, and subject to change. Projects are selected for inclusion if they are the result of an issued regulatory order.	WTD's current method appears similar to the recommended method. Some differences may include: • Confirming any regulatory milestone dates that must be met over the next 1-5 years and future years beyond Year 5. • Defining cost assumptions and developing cost estimates consistent with the expected implementation year. For example, for projects to be implemented in Years 1-5, cost estimates should generally be AACE Class 5 estimates or better. • If the new regulation(s) is likely to be required in the next 10 years, cost estimates should follow AACE Class 5 estimates depending on the number of unknowns and all assumptions clearly defined. • Where studies and costs have not yet been completed, allowance costs based on the best available information should be included in the capital forecast. Assumptions should be clearly defined. Include projects and costs in the budget in the appropriate years for the necessary studies to be completed to inform this category.	Detailed implementation steps are provided following Table 8. A summary is provided below. 1. Confirm likely timeframes for the new regulations and emerging contaminants and clearly define those assumptions. 2. Evaluate WTD's available past or ongoing studies/analyses for needed projects scopes and costs. Define cost assumptions and any need for cost refinements. 3. Determine where additional studies/analyses may be required to determine project scopes and costs. Include projects and costs for the necessary studies and allowance costs for potential future projects to be completed in Years 1-5 or outer years, as applicable. 4. Cost estimates should follow AACE Class 5 estimates or better depending on the number of unknowns and all assumptions clearly defined. Complete based on available information. Note where cost refinements are needed and expected completion dates for the updated cost estimates. 5. Use the project scopes, cost data/cost allowances (depending on assumptions), and schedules, to develop expenditures and timeframes for projects implementation.

WTD Portfolio Categories	WTD Current Forecasting Methods				Difference Between Current and Recommended Method	Steps to Implement Recommended Forecasting Method
	20+ Years	11-20 Years	6-10 years	1-5 Years		
Resiliency/Climate Change	Studies to determine technologies and estimate conceptual costs needed to address likely climate change impacts. Conceptual projects are not defined but may include a range of possibilities to achieve the objective. WTD is implementing a resiliency plan that will be updated on a routine basis.	Initiate studies to determine potential projects and estimate conceptual costs. Conduct technology pilots as/if needed to test potential technologies.	Continue to monitor climate change estimates and likely impacts. Use studies to determine potential projects that will meet climate impact objectives. Depending on the anticipated cost and complexity of the potential projects, further scope definition is done via planning alternative analysis and/or problem definition. Project scopes and budgets are conceptual, with Class 5 to Class 10 estimates, and subject to change. Projected spending is capped based on an average of the previous 5 years adjusted for inflation. For seismic resiliency, projects are selected for inclusion based on scoring that incorporates life safety, system criticality, impacts to public health, level of redundancy, and level of asset degradation.	Projects are further defined through planning alternative analysis and/or problem definition; consider interdependencies with projects in other categories. Conceptual project scopes are further defined, and budgets are generally based on Class 5 estimates, and subject to change. Where climate change impacts and associated design criteria can be incorporated into current projects that work is completed. Projected spending is capped based on a percentage of the overall capital program as directed by leadership. For seismic resiliency, projects are selected for inclusion based on scoring that incorporates life safety, system criticality, impacts to public health, level of redundancy, and level of asset degradation. Inclusion of climate change projects is still to be determined based on upcoming Climate Adaptation Planning efforts. If needed, WTD's Formulation Program conducts a business case evaluation for complex, high-risk and/or expected to exceed $5M and be prioritized for funding in years 1-5. Many of WTD's planning programs produce Class 5 estimates as part of their plan so Formulation isn't usually required but may be needed if other programs are resource limited.	WTD's current method appears similar to the recommended method. Some differences may include: • Establish Climate Adaptation planning program. • Determine where additional studies/analyses may be required to address the likely impacts from climate change. If studies have not yet been completed discuss with qualified staff/outside engineer(s) likely cost allowances to include for climate change projects. Include projects and costs in the capital forecast for the necessary studies to be completed to inform this category. • Determine appropriate climate change-related design criteria to include in future applicable facility and system asset R/R projects. Clearly define scope and cost assumptions. Update design guidance documents as applicable.	Detailed implementation steps are provided following Table 9. A summary is provided below. 1. Establish Climate Adaptation planning program. 2. Evaluate WTD's available past or ongoing studies/analyses for climate change and applicable design criteria for projects scopes and costs. 3. Determine where additional studies/analyses may be required to address the likely impacts from climate change. If studies have not yet been completed discuss with qualified staff/outside engineer(s) likely cost allowances to include for climate change projects. Include projects and costs in the budget for the necessary studies to be completed to inform this category. 4. Determine appropriate climate change-related design criteria to include in future applicable facility and system asset R/R projects. 5. Confirm applicable facility and system asset R/R projects to include climate change-related design criteria. Update project scopes and costs, if needed. 6. Use the project scopes, cost data/cost allowances (depending on assumptions), and schedules, to develop expenditures and timeframes for projects implementation. Cost estimates should follow AACE Class 5 or better estimates depending on the number of unknowns and all assumptions clearly defined.
Resource/Recovery/ Operational Enhancements **Resource Recovery -** recycled water, biosolids, energy, sustainability, technology assessment	Technology Assessment and Innovation Program (TAIP) identifies innovative, sustainable and resilient ways to improve treatment processes and system reliability to increase efficiency and reduce WTD's environmental footprint. At this stage, TAIP identifies and investigates opportunities that are consistent with WTD's vision, mission, and goals. WTD is creating strategic plans (Biosolids, Recycled Water, Energy, Sustainability, Technology Assessment). All plans are updated every 5 to 10 years. Existing plans, like the Strategic Climate Action Plan (SCAP), are updated every 5 years.	Update TAIP to re-align changing program goals, objectives, and strategies with WTD's mission, vision, and goals. Further refine/update plans based on updated information. Project scopes and budget are conceptual, and subject to change with ROM costs estimated for large, significant projects.	Begin developing scope and budget information (ROM/Class 10 estimates) for projects that are desired in 6-10 years. Further refine/update plans based on updated information. Project scopes and budget are conceptual, and subject to change with ROM costs/Class 10 estimates for large, significant projects. Project prioritization is done when project scope and objective are more definite. Plans like the SCAP contain longer term commitments that drive project development. The SCAP is updated with new specific priority actions every 5 years and the next update is in 2025. Projected spending is capped based on an average of the previous 5 years adjusted for inflation. Projects are included based on relative criteria scoring in the respective categories.	Conceptual projects are defined to the level needed for prioritization and budget approval. Costs are generally based on Class 5 estimates and are subject to change. Prioritization may be repeated if scope/budget changes significantly. Projected spending is capped based on a percentage of the overall capital program as directed by leadership. Projects are included based on relative criteria scoring in the respective categories. If needed, WTD's Formulation Program conducts a business case evaluation for complex, high-risk and/or expected to exceed $5M and be prioritized for funding in years 1-5. Many of WTD's planning programs produce Class 5 estimates as part of their plan so Formulation isn't usually required but may be needed if other programs are resource limited.	WTD's current method appears similar to the recommended method. Some differences may include: • Determine where additional studies/analyses may be required to address operational enhancements. If studies have not yet been completed discuss with qualified staff/outside engineer(s) likely cost allowances to include in the budget for projects. Include projects and costs in the budget for the necessary studies to be completed to inform this category. • Clearly define scope and cost assumptions. Cost estimates should follow AACE Class 5 estimates or better depending on the number of unknowns and all assumptions clearly defined.	Detailed implementation steps are provided following Table 10. A summary is provided below. 1. Evaluate WTD's available past or ongoing studies/analyses for projects to increase efficiencies and reduce costs across the asset classes. 2. Develop lists of applicable projects, costs and return on investments. Define cost assumptions and any need for cost refinements. Cost estimates should follow AACE Class 5 estimates or better depending on the number of unknowns and all assumptions clearly defined. 3. Determine where additional studies/analyses may be required. If studies have not yet been completed discuss with qualified staff/outside engineer(s) likely cost allowances to include for operational enhancement projects. Include projects and costs in the budget for the necessary studies to be completed to inform this category. 4. Develop expenditures and timeframes for projects/additional studies implementation based on return on investments, and scheduled timing of associated asset R/R projects.

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Table 11 General Notes:

- WTD's official rate and financial forecasts cover a 10-year period based on capital spending estimates as described in Table 11 above. However, some internal rate analyses require capital spending projections that go beyond 10 years (e.g., CSO completion scenarios). For these types of analyses, WTD assumes each CIP portfolio category maintains a level of spending based on its 5-year historical average, escalated to the year of spending.

- WTD currently lacks a holistic, comprehensive plan like the Regional Wastewater Services Plan (RWSP), last updated in 2017, or the now paused Clean Water Plan that was intended to replace the RWSP. The detailed plans that made up the RWSP are still revised, and new ones created as needed. Those plans are what is summarized above. More information on all of WTD's system plans can be found here: System planning – King County, Washington;[1] some of the plans noted above are being updated or created and have not yet been published publicly.

- Section 110 Proviso P1 of the 2015/2016 Biennial Budget Ordinance 17941 required establishment of a cost estimating Technical Working Group (TWG). As part of its work plan, the TWG performed a current-state analysis of the processes that WTD used to evaluate projects as they move through time in the table described above. That group found that problems and potential needs do not have enough information to be described as formal projects. The TWG recommended that WTD adopt a Project Formulation Program to develop conceptual needs into recommended projects and that program was initiated in 2017. WTD's Capital Project Formulation Program (aka Formulation) confirms expected benefits and conceptual scope of potential projects in a business case development exercise that also delivers Class 5 estimates. Due to limited resources, Formulation focuses on potential projects that are complex, high-risk and/or are expected to cost more than $5M and be prioritized in a near-term budget (years 1-5). The program primarily estimates projects in WTD's Asset Management – Plants, Asset Management – Conveyance, Operational Enhancements, Resource Recovery and Capacity Improvement portfolio categories.

[1] https://kingcounty.gov/en/legacy/depts/dnrp/wtd/system-planning

1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104

KING COUNTY

Signature Report

Motion 16449

Proposed No. 2023-0308.1 **Sponsors** Balducci

A MOTION requesting the wastewater treatment division develop and maintain a long-term financial and sewer rate forecast.

WHEREAS, the wastewater treatment division protects public health and the environment by collecting and treating wastewater, and

WHEREAS, King County charges a sewer rate to the contract agencies that deliver, treat and discharge wastewater, and

WHEREAS, sewer rate revenue is the wastewater treatment division's primary funding source, and

WHEREAS, the monthly sewer rate revenue collected by the county goes to support all wastewater treatment division expenses, including operating costs, debt service, and capital expenses, and

WHEREAS, as part of the rate setting process each year, the wastewater treatment division includes a ten-year rate forecast, and

WHEREAS, Section 270 of the King County Charter establishes three regional committees to develop, propose, review and recommend action on regional policies and plans for consideration by the metropolitan county council, and

WHEREAS, the regional water quality committee's 2023 work program includes addressing long-term sewer rate projections, and

WHEREAS, developing a long-term forecast of rates and revenue requirements would inform decision makers about the primary rate drivers and the effect of policy choices on long-term rates, and

WHEREAS, the Regional Wastewater Services Plan was adopted in 1999 to provide policy guidance for the wastewater system through 2030, and

WHEREAS, the process to update the Regional Wastewater Services Plan is scheduled to restart in 2023 and will include long-term planning for the regional wastewater system beyond a twenty-year period and up to fifty years or more, and

WHEREAS, decision makers desire information from the wastewater treatment division that will facilitate informed discussions on the policy decisions related to the update to the Regional Wastewater Services Plan, and

WHEREAS, developing a forecast of the long-term sewer rates includes inherent uncertainty due to unknown or uncertain future regulatory requirements, uncertainty in the system capacity needed to address future growth, uncertainty in financial assumptions about inflation, interest rates, and other factors, and the level of uncertainty increases with the length of the forecast period, and

WHEREAS, in accordance with Section 270.30 of the King County Charter and K.C.C. 1.24.065, the regional water quality committee developed this motion to be proposed to the King County council;

NOW, THEREFORE, BE IT MOVED by the King County council:

A. The wastewater treatment division is requested to develop and maintain a long-term financial and sewer rate forecast. The forecast should be based on revenue

requirements needed for the operating and capital investment needs of the regional wastewater system. The forecast should allow for periods of up to seventy-five years.

B. The wastewater treatment division is requested to seek comments from ratepayers and other stakeholders and advisors, including the metropolitan water pollution abatement advisory committee. Additionally, the wastewater treatment division is requested to seek an advisory recommendation from an independent national expert on the methodology used to develop the forecast and revenue requirements. The expert may also offer observations and insights as to how such information might be best utilized in decision-making.

C.1. The revenue requirements should be reported in total and by categories including but not limited to:

a. operating expenditures with separate line items for at least the following categories: employee wages; employee benefits; supplies; services; intragovernmental services; and intragovernmental contributions;

b. capital expenditures with separate items for at least the following capital portfolio categories: asset management; known and potential regulatory requirements; capacity improvements including projects for population growth; and those projects addressing infiltration and inflow;

c. insurance;

d. debt service; and

e. reserves, with the type of reserves separated into line items.

2. The wastewater treatment division may, with written notice to the chairs of the regional water quality committee and the metropolitan water pollution abatement advisory committee, modify categories for reporting revenue requirements.

D. The long-term financial and sewer rate forecast should allow for changes in various assumptions including, but not limited to, the following: expected capital expenditures; asset life expectancy, interest rates on debt; capital project accomplishment rates; general and cost of construction inflation rates; percent of debt financing; length of debt; revenue requirements; number of residential customer equivalents; and revenue sources such that forecast scenarios can be compared using different assumptions.

E. The wastewater treatment division is requested to develop an executive summary that explains the long-term financial and sewer rate forecast, the drivers behind the rates, and changes from prior years in simple-to-understand terms.

F. The wastewater treatment division is requested to provide status update briefings to the regional water quality committee in January 2024, July 2024, and April 2025, on the progress in developing a long-term financial and sewer rate forecast. By July 2025, the wastewater treatment division is requested to brief the regional water quality committee on the wastewater treatment division's long-term financial and sewer rate forecast. The July 2025 briefing should include supporting materials explaining the rate models used to generate the forecast in simple-to-understand terms. In presenting the long-term financial and sewer rate forecast in July 2025, the wastewater treatment division should report on the assumptions that were adopted for the forecast and why the assumptions were selected. It is expected that the briefing on the long-term financial and sewer rate forecast will be completed after the wastewater treatment division has

developed a methodology to forecast the long-term costs of capital improvement needs as requested by Motion XXXXX (Proposed Motion 2023-0257).

Motion 16449 was introduced on 9/5/2023 and passed by the Metropolitan King County Council on 10/24/2023, by the following vote:

Yes: 8 - Balducci, Dembowski, Dunn, Perry, McDermott, Upthegrove, von Reichbauer and Zahilay
Excused: 1 - Kohl-Welles

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

_____

ATTEST:

_____

APPROVED this _____ day of _____, _____.

_____

Attachments: None

1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104

KING COUNTY

Signature Report

RWQC Resolution

Proposed No. RWQC2024-01.3 **Sponsors**

A RESOLUTION expressing the regional water quality committee's interest in the sewer rate and capacity charge and requesting the metropolitan water pollution abatement advisory committee continue performing a technical review of the annual sewer rate and capacity charge.

WHEREAS, the regional water quality committee is one of three regional committees formed by charter when voters approved the merger of the Municipality of Metropolitan Seattle and King County, and

WHEREAS, the regional water quality committee addresses countywide policies and plans for wastewater treatment and sewer services, capital facilities plans, rate policies and facilities siting, and

WHEREAS, the metropolitan water pollution abatement advisory committee is established in RCW 35.58.210, and

WHEREAS, the function of the metropolitan water pollution abatement advisory committee as established in its charter is to advise the King County executive, the King County council, the regional water quality committee, and the King County council's standing committees on all matters relating to abatement of water pollution throughout King County's wastewater service area, and

WHEREAS, the metropolitan water pollution abatement advisory committee is made up of representatives from cities and local sewer utilities that operate sewer systems

within King County's wastewater service area. and provides a forum for discussing a wide range of issues related to regional wastewater treatment services, and

WHEREAS, the metropolitan water pollution abatement advisory committee has a finance subcommittee that provides valuable expert advisory review of the financial policies and assumptions used in determining King County's established sewer rates, capacity charge, operating budget and capital programs, and

WHEREAS, the development of the annual sewer rate and capacity charge is informed by long-term service agreements with participating entities, the adopted Regional Wastewater Services Plan, K.C.C 28.86.160C and other King County Code provisions, some of which have not been updated since 1999, and

WHEREAS, the wastewater treatment division has begun the process to update the Regional Wastewater Services Plan, and

WHEREAS, both the regional water quality committee and the metropolitan water pollution abatement advisory committee have a strong interest in understanding the annual sewer rate proposal and long-term rate projections, and

WHEREAS, in 2023, the regional water quality committee developed Motions 16449 and 16410, which were passed by the King County council, to provide stakeholders, including the regional water quality committee, with better information on the long-term sewer rate trajectory and as part of each motion an advisory recommendation is requested from the metropolitan water pollution abatement advisory committee, and

WHEREAS, the regional water quality committee has expressed an interest through the annual work plan for a resolution to support role clarity, collaboration and

efficiency between the metropolitan water pollution abatement advisory committee and the regional water quality committee in the annual rate review process;

NOW, THEREFORE, BE IT RESOLVED by the King County Regional Water Quality Committee:

A. The regional water quality committee seeks to better understand how the development of the proposed annual sewer rate and capacity charge comport with the regional wastewater services plan, the King County Code, other county plans and policies ("adopted county policies") and long-term service agreements with participating entities.

B. The regional water quality committee seeks to understand the relative rate burden of the proposed annual sewer rate for current and future rate payers and agencies, and the context of member agency contributions and usage since the inception of the contract. Additionally, through this review of the annual rate, the update to the regional wastewater services plan, and other adopted county policies, the committee will seek to identify those policies impacting the sewer rate and capacity charge that might benefit from interjurisdictional discussion held in the regional water quality committee and, where appropriate, identify desired policy objectives.

C. In order to provide timely information on the development of the annual sewer and capacity charge, the regional water quality committee requests an annual fall briefing from the wastewater treatment division on the emerging policy themes impacting the rate proposal under development.

D. The regional water quality committee requests the metropolitan water pollution advisory committee continue its technical review of the annual sewer rate and capacity charge and identify any policy issues for RWQC and Council consideration. The

technical review in particular, could include reviewing and evaluating the financial assumptions used to determine the sewer rate, including debt assumptions and long-term capital planning. The regional water quality committee requests the metropolitan water pollution abatement advisory committee share its findings and recommendations with the executive, the regional wastewater quality committee, and the county council.

E. The regional water quality committee may choose, upon its policy review of the proposed annual sewer rate and capacity charge and the metropolitan pollution abatement advisory committee recommendations, to convey its policy recommendations on the proposed sewer rate and capacity charge to the King County council.

RWQC Resolution was introduced on and passed by the Regional Water Quality Committee on 4/3/2024, by the following vote:

The amended resolution passed unanimously.

Attachments: None

King County

Metropolitan King County Council
Regional Water Quality Committee

June 11, 2024

The Honorable Dave Upthegrove
Chair, King County Council
King County Courthouse
516 3rd Ave.
Seattle, WA 98104

RE: Proposed Ordinance 2024-0146 2025 Proposed Sewer Rate and Capacity Charge

Dear Chair Upthegrove,

Over the last 17 months, the Regional Water Quality Committee (RWQC) and the Metropolitan Water Pollution Abatement Advisory Committee (MWPAAC) have worked collaboratively to address the complex and often competing challenges facing our regional wastewater system. As chair and vice chair of the Regional Water Quality Committee, we would like to offer the RWQC's support and concurrence with the attached letter of the MWPAAC dated April 24, 2024 on the proposed 2025 sewer rate and capacity charge.

The RWQC appreciates that the proposed 2025 sewer rate increase of 5.75 percent is the same increase projected in the rate forecast that accompanied the 2024 proposal. The predictability of the proposed rate allows King County's contract partners to more accurately budget and communicate their agencies' rate increases to ratepayer. However, the RWQC shares MWPAAC's concerns with the significant projected growth of the sewer rate over the 10-year forecast period.

The projected rate increases are particularly concerning because the regional wastewater system does not have a current roadmap to guide our region through the challenges of aging infrastructure, growing population, changing climate, increasing regulatory demands, and rate affordability. Without a comprehensive plan, there is also no way for King County to share projected costs beyond the 10-year forecast period with contract agencies. With the many complex issues facing our system, the need for a comprehensive plan and long-term forecasting methodology that addresses the financial needs of the system has never been greater. Without such a plan and long-term forecast, it will be difficult for the Council to evaluate rate forecasts and how affordability goals are balanced with needed capital expenditures.

In 2023, the Council adopted motions 16410 and 16449, developed by RWQC, requesting WTD develop a long-term forecast for capital needs and a long-term rate forecast. This work is currently underway. Additionally, the Wastewater Treatment Division (WTD) has begun to engage both MWPAAC and RWQC in a process to update the Regional Wastewater Services Plan which has served as a foundational guide for the operation and development of the wastewater system for the last 25 years. We look forward to continuing to partner with WTD, MWPAAC, and other stakeholders in the development of these important plans.

Sincerely,

Claudia Balducci
Claudia Balducci (Jun 11, 2024 13:00 PDT)

Claudia Balducci, Chair
Regional Water Quality Committee

Conrad Lee
Conrad Lee (Jun 11, 2024 13:05 PDT)

Conrad Lee, Vice Chair
Regional Water Quality Committee
Sound Cities Association Caucus
Chair

cc: King County Councilmembers
John Taylor, Director, Department of Natural Resources and Parks (DNRP)
Kamuron Gurol, Director, Wastewater Treatment Division
Karan Gill, Chief of Staff, Office of the Executive
Penny Lipsou, Director of Council Relations, Office of the Executive
Sharman Herrin, Government Relations Administrator, Wastewater Treatment Division
Katherine Taylor, Government Relations Administrator, DNRP
Tom Goff, Director, Local and Regional Affairs, King County Council

Metropolitan Water Pollution Abatement Advisory Committee
King Street Center, 201 S Jackson St, MS: KSC-NR-5504, Seattle, WA 98104
206-477-4435

April 24, 2024

The Honorable Dave Upthegrove
Chair, King County Council
516 Third Ave., Room 1200
Seattle, WA 98104

SUBJECT: Wastewater Treatment Division 2025 Rate Recommendation

Dear Councilmember Upthegrove:

The Metropolitan Water Pollution Abatement Advisory Committee (MWPAAC) is pleased to offer this letter to accompany the 2025 sewer rate proposal. The King County Council approves this rate on an annual basis, and MWPAAC represents the 34 agencies (cities, special purpose districts and one tribal nation) that pay it. For many MWPAAC agencies, the sewer treatment charges paid to King County are the largest single expenditure in our respective budgets, and thus the largest impact on each agency's rate-making.

MWPAAC supports the proposed 2025 sewer rate increase of 5.75 percent. We are pleased that this is the same increase projected in the rate forecast that accompanied the 2024 rate proposal. The consistency and predictability of the proposed rate allows member agencies to more accurately budget and communicate our own agencies' rate increases to our ratepayers. However, **we continue to be concerned with the growth and affordability of the sewer rate over the long term**, shown in the 2025 – 2034 rate forecast**.**

Long-Term Capital and Rate Forecasting

Helping our agencies better understand system needs versus affordability over the long term, we are broadly supportive of the actions of the Regional Water Quality Committee (RWQC) over the past year.

Over the past few months, Wastewater Treatment Division (WTD) staff and consultants engaged in a process to create a methodology for long-term capital forecasting, satisfying a RWQC motion. MWPAAC participated as a close observer of this work and are generally satisfied with the final report and its recommendations.

A long-term capital forecast will supply MWPAAC and RWQC with a more complete picture of the system needs, allowing a more effective evaluation of rates forecasted in the near-term. This will also help us to assess the usage of debt vs. cash funding, a continuing concern to MWPAAC members. Another concern of MWPAAC is how rate affordability goals in the short term are balanced with the funding of non-discretionary expenditures over the long term. Put another way, we don't wish to front load affordability now at the expense of causing non-affordable rates in the future.

System Planning

The Clean Water Plan process to update the Regional Wastewater Services Plan (RWSP) was paused in November 2021. MWPAAC is eager to see the system planning effort restart in 2024, with appropriate focus and specific goals. With the many complex issues facing WTD, the need for a comprehensive analysis of the system has perhaps never been greater. It's important that the RWSP update process allows for meaningful participation from MWPAAC member agencies during plan development. To that end, MWPAAC is ready to form a System Planning subcommittee to support this important work. Our work planning over the next several years will prioritize system planning discussions with County staff.

Sewage Agreement

MWPAAC members anticipate revisiting Sewage Agreement discussions in 2025, prior to renegotiating the agreement. Understanding that negotiations will take significant time, and that parts may depend on the RWSP update, it would be prudent to begin reviewing work previously done in preparation for contract negotiations. Many current MWPAAC agency representatives were not present for the contract review work that took place from 2015 to 2019.

In closing, we wish to acknowledge the continuing positive relationship between MWPAAC and WTD. Recently, each year has brought improved communications, increased transparency, and closer collaboration. We are grateful for this constructive partnership, and we hope that, together with our RWQC colleagues, we can work together to make substantial progress on these regional issues.

Sincerely,

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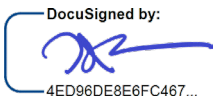
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John McClellan
MWPAAC Chair

e-cc: King County Councilmembers
MWPAAC Members
The Honorable Dow Constantine, County Executive, King County
John Taylor, Director, Department of Natural Resources and Parks (DNRP)
Kamuron Gurol, Division Director, Wastewater Treatment Division, DNRP

RWQC Letter to KCC

Final Audit Report 2024-06-11

Created:	2024-06-11
By:	Blake Wells (blake.wells@kingcounty.gov)
Status:	Signed
Transaction ID:	CBJCHBCAABAAe4GGviBPTVZA4ewujd5bgOzhJhLnUIBO

"RWQC Letter to KCC" History

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Signer Chair Balducci (claudia.balducci@kingcounty.gov) entered name at signing as Claudia Balducci
2024-06-11 - 8:00:52 PM GMT

Document e-signed by Claudia Balducci (claudia.balducci@kingcounty.gov)
Signature Date: 2024-06-11 - 8:00:54 PM GMT - Time Source: server

Signer Vice Chair Lee (clee@bellevuewa.gov) entered name at signing as Conrad Lee
2024-06-11 - 8:05:01 PM GMT

Document e-signed by Conrad Lee (clee@bellevuewa.gov)

Signature Date: 2024-06-11 - 8:05:03 PM GMT - Time Source: server

Agreement completed.

2024-06-11 - 8:05:03 PM GMT

Metropolitan Water Pollution Abatement Advisory Committee

King Street Center, 201 S Jackson St, MS: KSC-NR-6200, Seattle, WA 98104
206-477-4435

March 26, 2025

The Honorable Dow Constantine
County Executive, King County
401 Fifth Avenue
Seattle, WA 98104

Subject: Wastewater Treatment Division 2026 Rate Recommendation

Dear Executive Constantine:

The Metropolitan Water Pollution Abatement Advisory Committee (MWPAAC) supports a sustainable regional wastewater treatment system. The proposed sewer rate forecast has surpassed a point where we can justify these proposed increases to our local elected officials. The steep projected rates are threatening to overwhelm not only our ability to adequately fund necessary local system improvements, but also our customers' ability to pay. Our region must develop a new approach to assuring a proper balance of regional versus local investments.

MWPAAC can support the proposed 2026 sewer rate, however we have not been given adequate time and information to responsibly understand the costs driving the rates beyond 2026. Managing expenditures will be essential to achieving rate stability and affordability as all agencies struggle to meet their local system needs in the face of rapidly growing treatment costs. Transparent prioritization of investments is critical, and we must have the tools to make the hard decisions entrusted to us.

Several key points require additional discussion, all of which influence the rate path:

1. **Third-Party Oversight for Capital Programs**: MWPAAC agencies wish to engage third-party oversight for Wastewater Treatment Division's (WTD) capital program. This approach was successfully adopted for Brightwater, representing a $1.85B capital program. Given that we are presented with an $11B program over the next 10 years, it seems even more appropriate to employ a third-party consultant to assess project conception and prioritization,

organizational capabilities, budgeting, financing, program management, long-range forecasts, and rate-setting.

2. **Fixed Rates for Multiple Years**: We strongly recommend committing to rates for a multi-year period, at a minimum for two years. This approach provides more discipline in rate-setting and forecasting and allows for better long-term planning and stability for WTD and for MWPAAC member agencies.

3. **Long-Term Forecasting**: It is imperative that we continue to develop and refine long-term forecasts. Early and timely sharing of mega-project costs and the analysis of project alternatives would allow MWPAAC to understand drivers and provide feedback. This effort must be ongoing to ensure that we are prepared for the future needs of the system and have a clear understanding of revenue requirements.

4. **Deeper Discussion on Capital Improvement Program Assumptions**: MWPAAC wishes to better understand what contributes to the large cost buckets – specifically policy drivers for each project, project cost projection per year, and project alternatives. Having ample time to fully understand the projects and the planning behind them is essential for us to inform our leadership effectively.

5. **Revisit Regulatory Timelines**: We implore WTD to pursue appropriate timeline extensions for regulatory requirements in any areas requiring significant regional investment, such as nutrient reduction and combined sewer overflows. This would allow for a more phased approach to implementation of required projects and provide a measure of relief to the significant rate compression imposed on local agencies by these regional projects.

6. **Policy Effects on Rate Growth:** MWPAAC seeks clarity on how policies drive capital prioritization, particularly for projects that are not principally related to asset management or regulatory compliance. The tri-annual 2013 *Comprehensive Review* presented a review of the Regional Wastewater Services Plan (RWSP) policy implementation from 2007 through 2013. We ask that an updated review be provided by the end of the year. The RWSP policies, as well as the financial policies, have direct or indirect effects on rates. Upcoming conversations on contract renewal will also daylight other concerns that require rate impact analysis, such as the Residential Customer Equivalent factor and a Capacity Charge that does not adequately account for the costs imposed by growth.

Our region is experiencing growing costs and strained financial resources, presenting extraordinary challenges to achieving lasting solutions and a system that is affordable for

all ratepayers. While these challenges seem overwhelming, I have also seen a new engagement and collaboration growing to meet these obstacles. We must be prepared to make hard choices to prioritize the projects that must be done to maintain the integrity of the system. MWPAAC can support the proposed 2026 sewer rate; however, we urge the Executive to work with Wastewater Treatment Division to make meaningful progress on these issues summarized above before the next rate cycle begins.

Sincerely,

DocuSigned by:
4ED96DE8E6FC467...
John McClellan
MWPAAC Chair

e-cc: MWPAAC members
Regional Water Quality Committee members
John Taylor, Director, Department of Natural Resources and Parks (DNRP)
Kamuron Gurol, Division Director, Wastewater Treatment Division, DNRP

Vision for Clean Water

Emerging Options

RWQC

April 2, 2025

King County | Wastewater Treatment

Water Quality has Improved

We have more work to do…

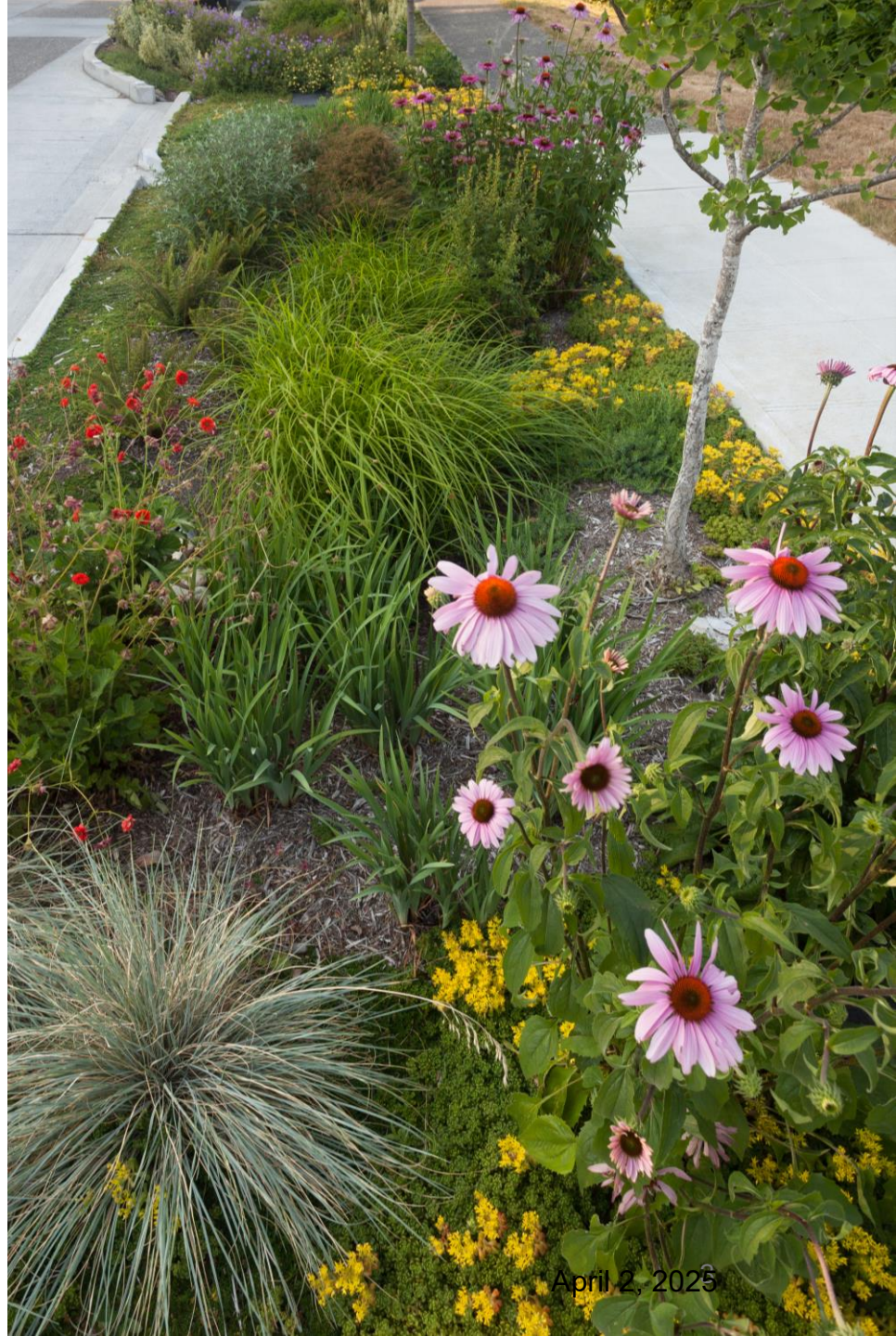
Look out 75 years to 2100

Describe what we want for future generations

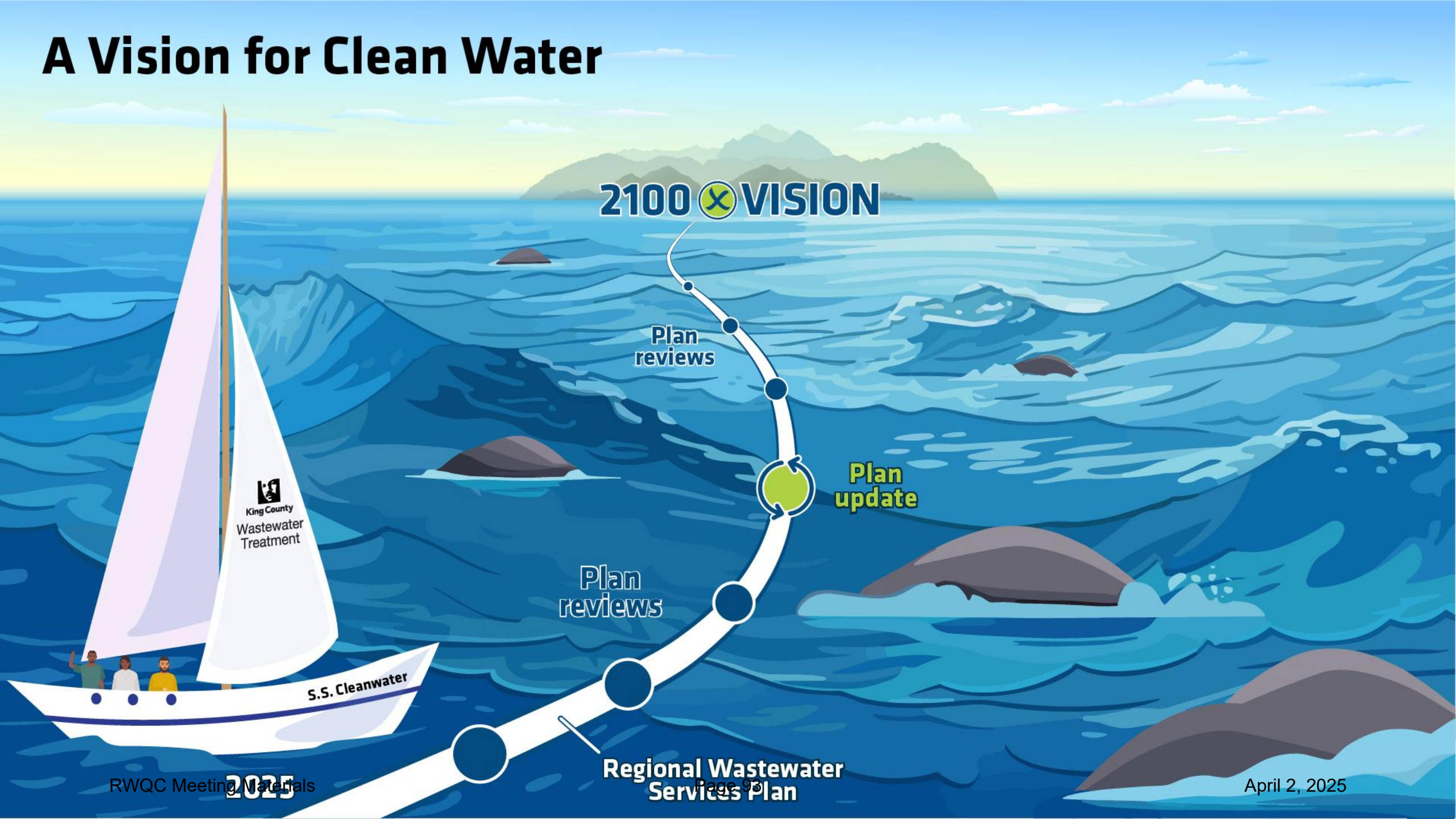
- ***Imagine what's possible if we get this right…***

Shared regional values, such as:

- Water quality and public health
- Equity and social justice
- Customer Affordability
- Sustainability, stewardship, and resiliency
- Climate and hazard resiliency



A Vision for Clean Water



Regional Vision Package

Regional Vision statement

- Brief and high-level

Core Commitments

- Complement and support the vision
- High-level implementation

Challenges and Opportunities

- Drivers (regulation, capacity, climate, affordability…)

Challenges and Opportunities

Aging infrastructure

Changing regulations

Climate change

Community engagement

Customer affordability of wastewater services

Digital technology & AI

Emergency preparedness

Equity & social justice

Pollution reduction & source control

Population Growth

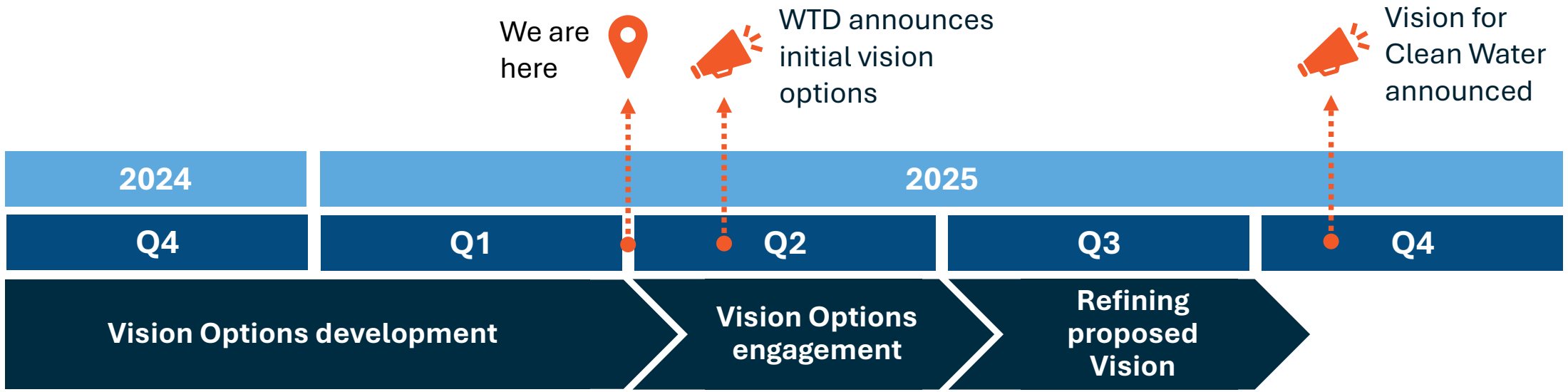
Workforce development

Core Commitments

Water Quality & Public Health	Reliability & Resiliency	Thriving Workforce	Equity & Social Justice	Customer Affordability
Treat wastewater to protect public health and local waterways.	Ensure consistent service and swift response to any disruptions. Make our system able to withstand climate impacts, natural disasters, and security threats.	Create excellence in our workforce with desirable, well-paying wastewater careers, professional development opportunities, and expert management.	Address the inequitable impacts of pollution and climate change by investing in underserved communities.	Implement strategies that consider wastewater affordability and support sustainable long-term service delivery.

Vision Options

Process to develop the Vision for Clean Water



Upcoming Vision Touchpoints

1. **RWQC May 7:** Presentation on Vision Options and Input

2. **RWQC June 4:** Opportunity for additional input

Questions ?

King County | Wastewater Treatment

RWQC Monthly Work Program for 2025
April 2, 2025

The suggested topics are based on the latest scheduling information available. The committee will adjust the schedule throughout the year to accommodate any necessary changes.

January–Special Meeting January 16, 2025

- ✓ **Regional Wastewater Services Plan Update (45 minutes):**
  - **Resolution Supporting Scope**
  - **Charter briefing**
- ✓ 2025 Work Program (45 minutes)

February 5, 2025

- ✓ **Regional Wastewater Services Plan Update (35 minutes):**
  - **Charter**
  - **Vision for Clean Water Plan**
- ✓ Mouth of Duwamish CSO Briefing (35 minutes)
- ✓ A Look Back at the Robinswood Agreement (20 minutes)

March 5, 2025

- ✓ Wastewater Treatment Division's Preliminary 2026 Sewer Rate (20 minutes)
- ✓ Regional Wastewater Services Plan Update (20 minutes):
  - **Briefing: WTD's framing of Challenges and Opportunities which are informing development of the Options for the Vision for Clean Water**
- ✓ Briefing on Selected Capital Projects and Common themes in Capital program Delivery (25 minutes)
- ✓ Briefing only Lower Duwamish Waterway Consent Decree (25 minutes)

Optional March 7, 2025 Georgetown Wet Weather Treatment Station Site Visit. This is not a RWQC meeting.

April 2, 2025

- WTD's 2026 Rate Recommendations and Status Update on Long Term Rate Motion 16449 (75 minutes)
- **Regional Wastewater Services Plan Update (15 minutes)**
  - **Briefing on Emerging Options for the Vision for Clean Water**

May 7, 2025

- Executive's Proposed 2026 Sewer Rate and Capacity Charge (45 minutes)
- **Regional Wastewater Services Plan Update (30 minutes):**
  - **Input on RWSP Vision Options for Clean Water**

Optional May 30th Site Visit West Point Available to members and staff. This is not a RWQC meeting. (Contact Olivia.Robinson@kingcounty.gov for details)

June 4, 2025

- Executive's Proposed 2026 Sewer Rate and Capacity Charge (30 minutes)
- **Regional Wastewater Services Plan Update (25 minutes)**
  - **Input on RWSP Vision Options for Clean Water**
- Briefing on selected West Point Capital Projects and Common Themes in Capital Program Delivery (30 minutes)

July 2, 2025

- **Regional Wastewater Services Plan Update (15 minutes):**
- Long Term Rate Forecasting Final Briefing per Motion 16449 (45 minutes)
- Update on Puget Sound Nutrient General Permit (20 minutes)
- Update on Federal Funding (15 minutes)

August 6, 2025 Council Recess.

August Optional Forest Biosolids Tour. Date TBD

September 3, 2025

- **Regional Wastewater Services Plan Update:**
  - **Capital Program Plan and Policies Status Briefing (55 minutes)**
- Briefing Strategic Asset Management Plan (35 minutes)

October 1, 2025

- **Regional Wastewater Services Plan Update:**
  - **Final Vision for Clean Water (55 minutes)**
- Briefing on Selected Capital Projects and Common Themes in Capital Program Delivery (35 minutes)

November 5, 2025

- **Regional Wastewater Services Plan Update (10 minutes)**
- Briefing Executive's Proposed 2026-2027 WTD Budget (40 minutes)
- Stormwater Solutions

December 3, 2025

- ☐ **Regional Wastewater Services Plan Update (10 minutes)**
- ☐ Briefing Strategic Asset Management Plan (55 minutes)
- ☐ PFAS Annual Update (25 minutes)