Combined System Management

RWSP Update

MWPAAC

June 24, 2026

Policy Analysis Schedule

11 "Groups" of Policy Analyses with policy options for RWQC & MWPAAC:

March	Group #1: Separated System Conveyance
April	Group #2: Pollution Source Control & Legacy Pollution
May	Group #3: Asset Renewal & Replacement
June	Group #4: Climate Impact Preparedness & Natural Hazard Resiliency
July	Group #5: Affordability Metrics
August	**Group #6: Combined System Management**
September	Group #7: Treatment
October	Group #8: Resource Recovery
Nov / Dec	Group #9: Finance/Rate Structure
Throughout	Group #10: Equity & Social Justice
Throughout	Group #11: Relationship to Contracts

“Major Policy Question” - Combined System Management

How should WTD best upgrade the combined system to address regulatory requirements, regional water quality, and West Point operations?

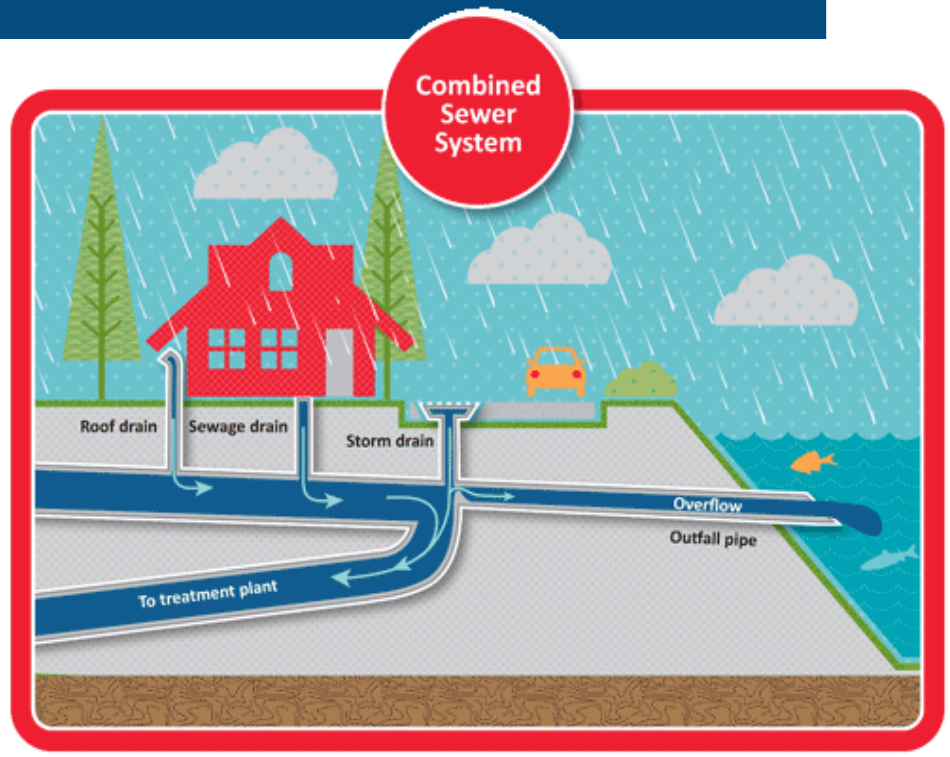
How can combined system costs be fairly apportioned?

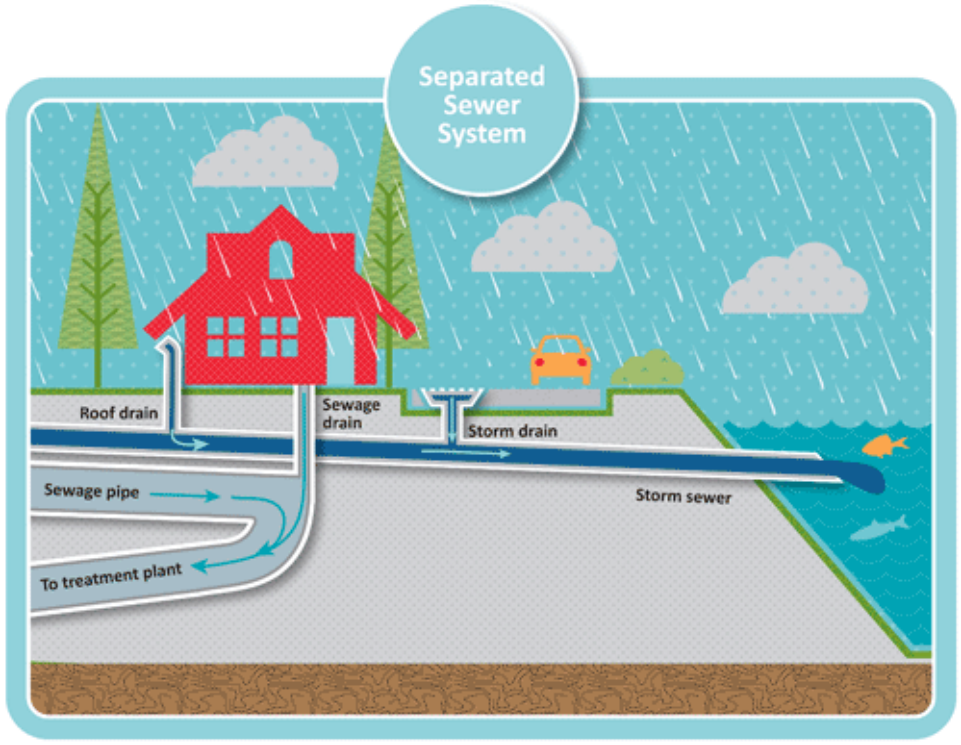
Combined Sewer Overflows (CSOs)

CSOs are relief points in older sewer systems that carry sewage and stormwater in the same pipe.

When heavy rains fill the pipes, CSOs protect homes and businesses by overflowing excess sewage and stormwater into local water bodies.

Separated sewer systems have separate pipes for sewage and stormwater.





Why is CSO Control important?

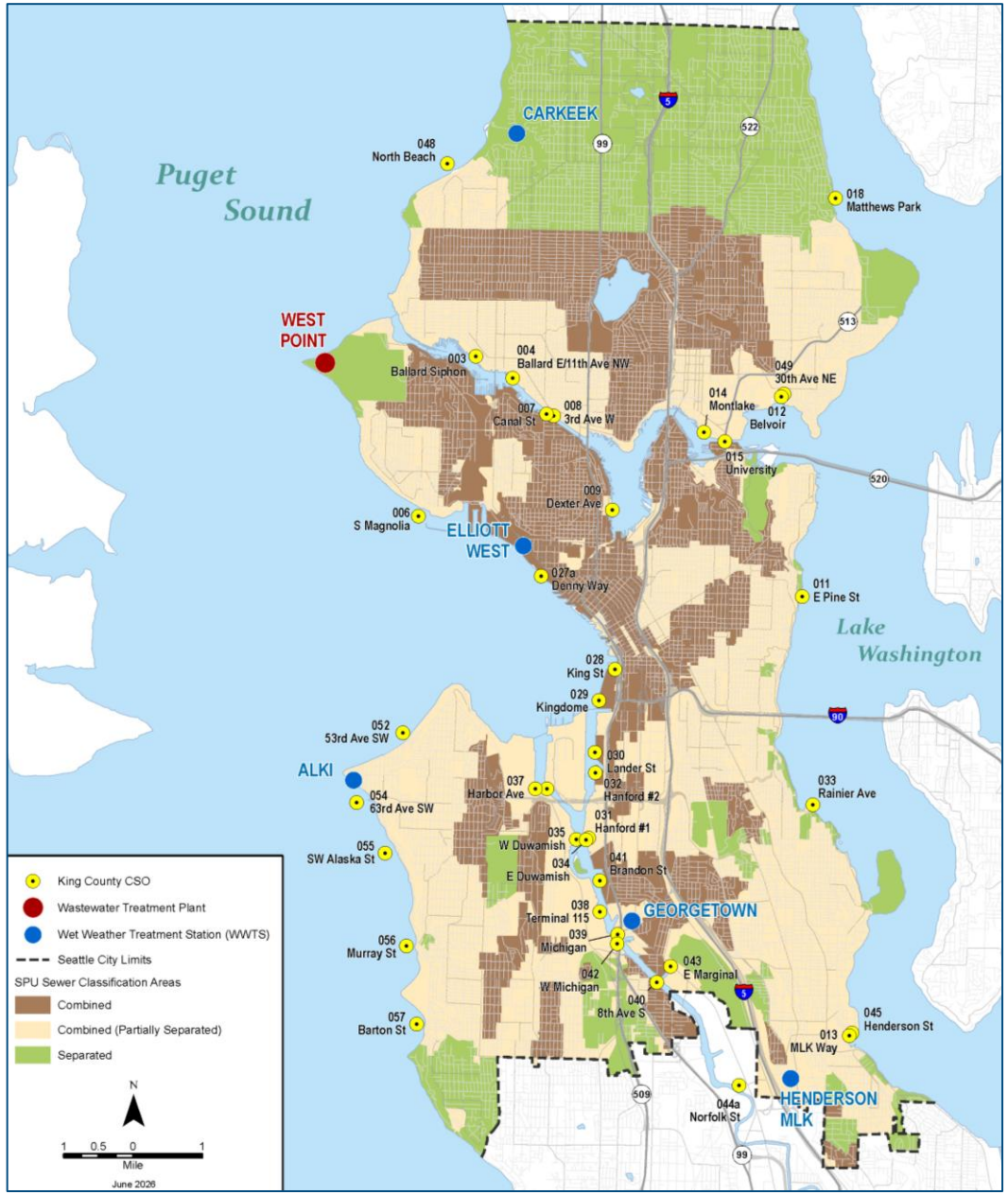
- CSOs are a recognized source of water pollution and public health concern, regulated under the Federal Clean Water Act and Washington State administrative code.
- Outfalls must be controlled so that no more than one untreated discharge occurs per year on average. (WAC 173-245-20)
- West Point's NPDES Permit, renewed in 2024, updated the CSO control program to include corrective actions for CSOs that have trended above the one discharge per year average.
- In 2013, a Consent Decree was signed between the EPA, WA State, and King County to bring all CSOs under control by 2030. In 2024-25, this consent decree was updated to extend the deadline to 2037.

Combined vs Separated flows in Seattle

Seattle's wastewater conveyance system shows legacy of combining and separating storm and sanitary flows:

- 29% is fully **combined**
- About 44% of Seattle is **partially separated/ combined**, with right-of-way storm flows conveyed to the drainage system and parcel-based flows conveyed to the combined sewer system
- About 26% is fully **separated** into storm/drainage and sanitary flows*

*In some cases, separated storm flows reconnect to the downstream combined system



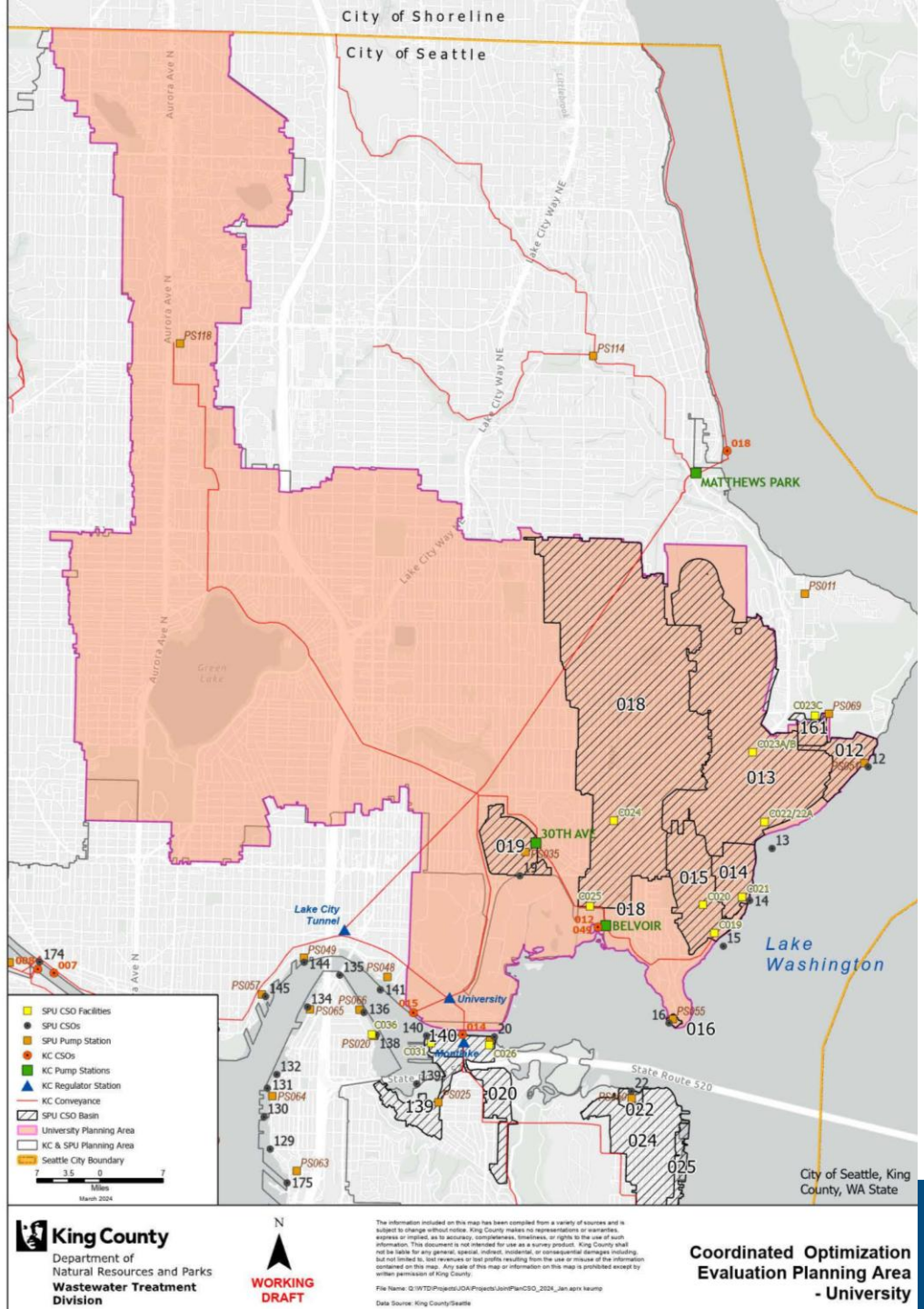
King County and Seattle each manage their own CSO systems

In 1958, voters created Metro and developed a regional wastewater treatment system

CSO authority based on sewersheds:

- King County manages CSOs from basins greater than 1000 acres
- Seattle manages CSO basins that serve smaller areas

University basin example:
Seattle manages seven "upstream" CSO basins (hatched basins in map) that geographically overlap with King County's University RS CSO basin

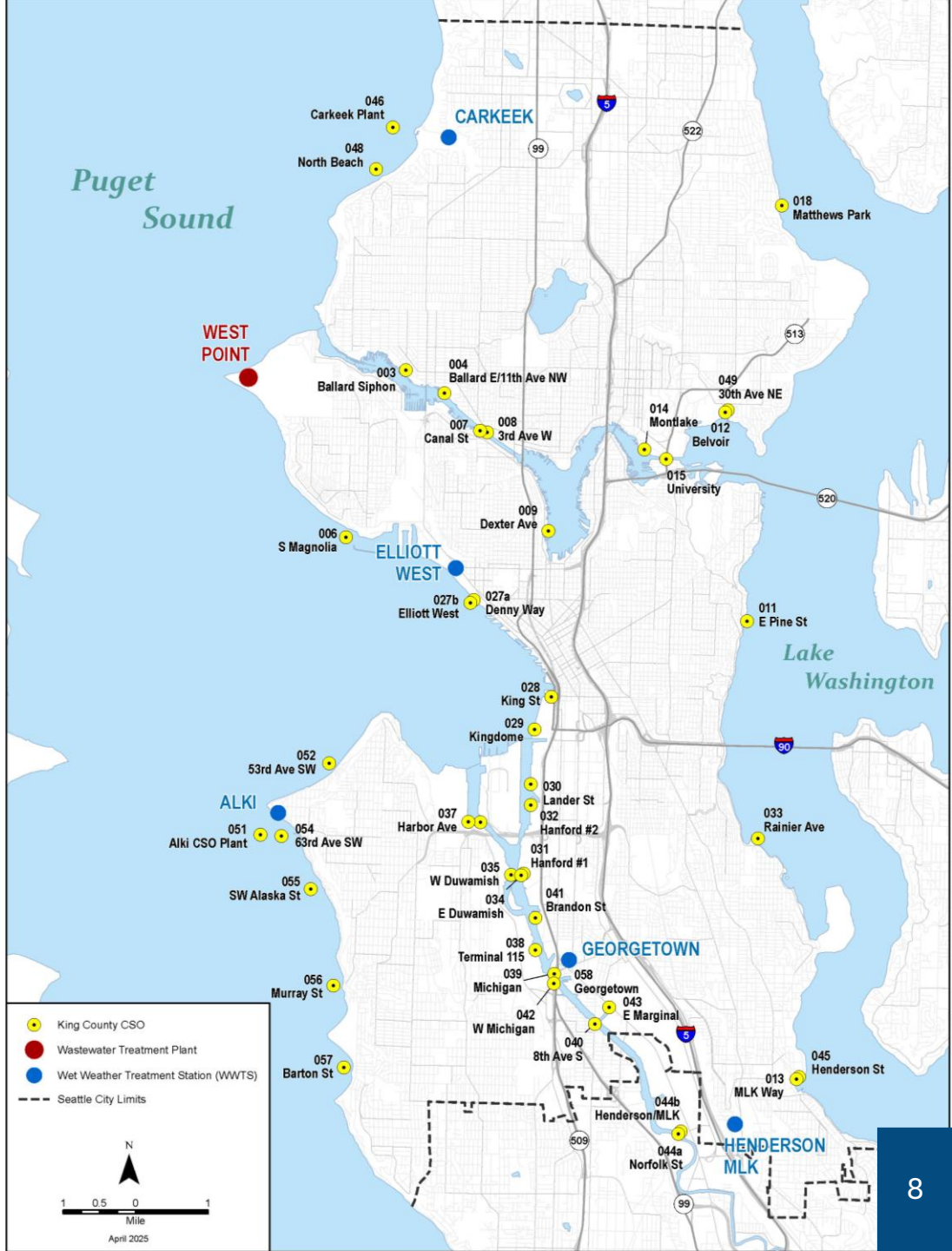


King County and Seattle each manage their own CSO systems

King County has 38 CSO outfalls.

Seattle has 82 CSO outfalls.

King County and Seattle are obligated to control their CSOs to meet the state standard of one untreated discharge per year on average.

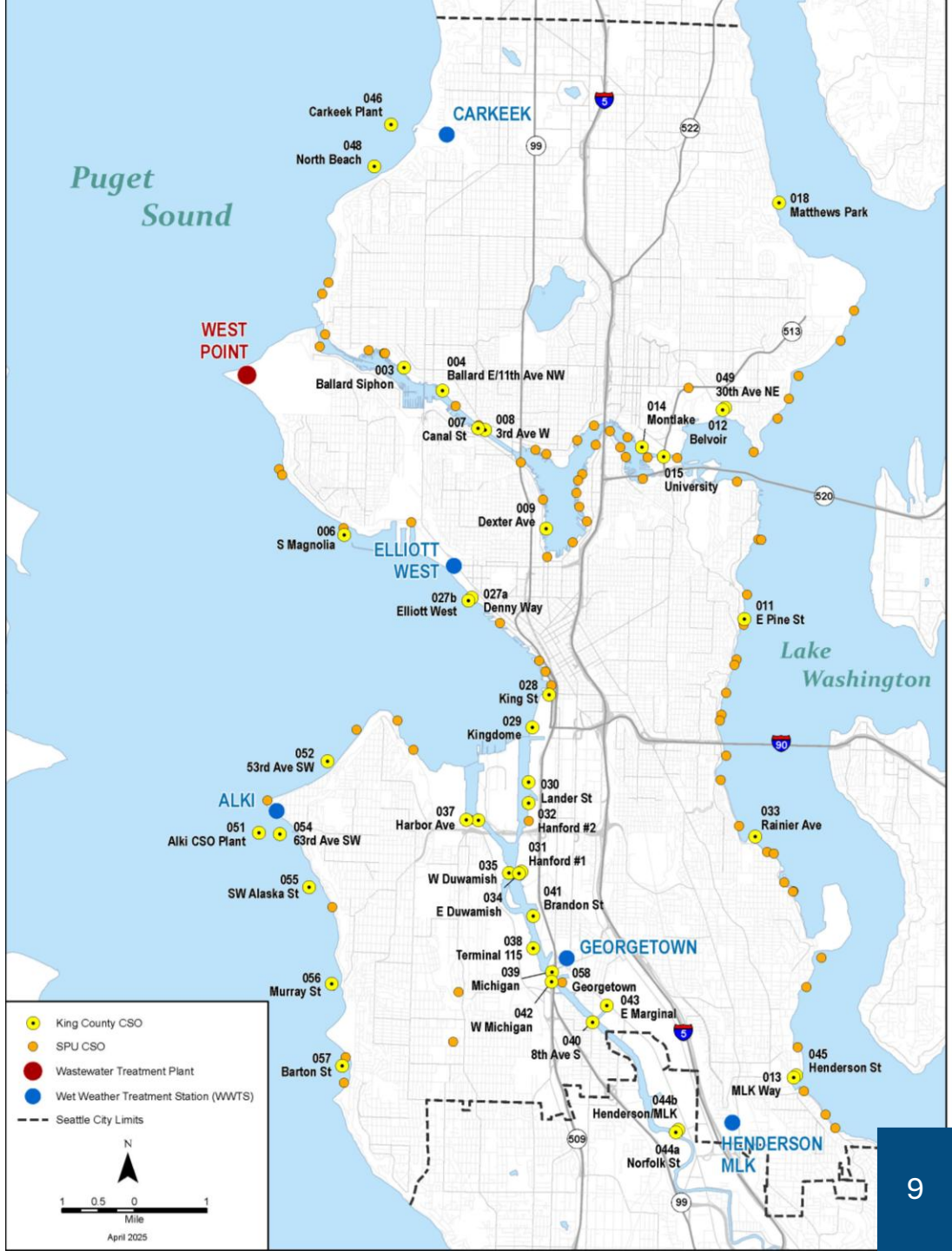


King County and Seattle each manage their own CSO systems

King County has 38 CSO outfalls.

Seattle has 82 CSO outfalls.

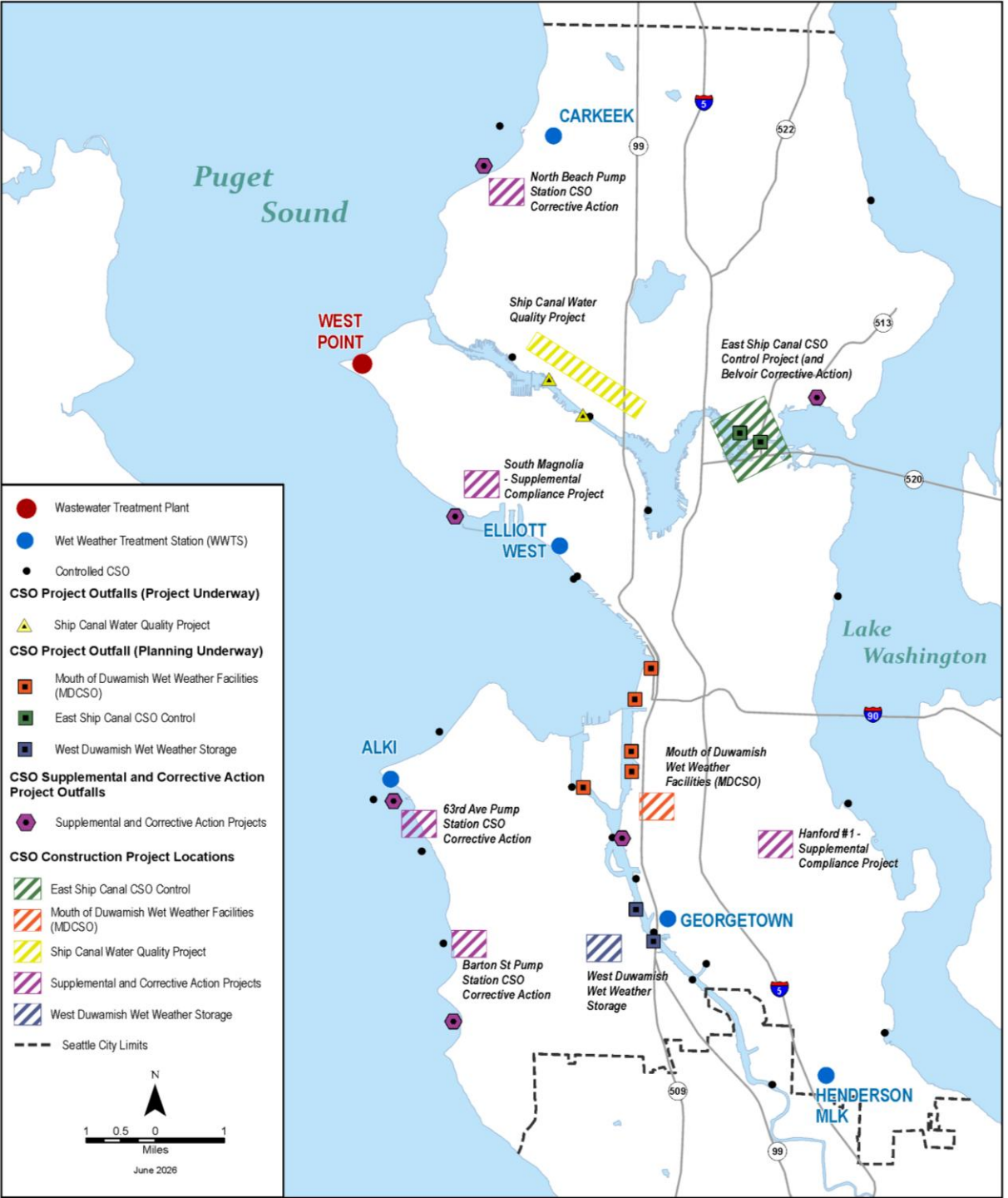
King County and Seattle are obligated to control their CSOs to meet the state standard of one untreated discharge per year on average.



Link to King County CSOCPs

Existing King County CSO Policy Summary

- **Control of CSOs by 2030** (CSOCP-1) **consistent with schedule in CD** and approved long-term control plan (CSOCP-12)
- Adherence to state and federal **regulations and agreements** (CSOCP-2)
- **Prioritization** of CSO control activities for human health and environmental benefits (CSOCP-3)
- **Coordination with Seattle** as appropriate when separating stormwater from the combined system (CSOCP-4) and to consider joint CSO control projects when cost effective (CSOCP-8)
- Preclusion of design for new or contaminated **stormwater** sources unless certain considerations are addressed (CSOCP-5 and 6)
- Consideration of **green stormwater infrastructure** projects (CSOCP-7)
- Implementation of **sediment management** strategies (CSOCP-9)
- Implementation and regular amendments of the **Long-term CSO Control Plan** with most current studies and information and appropriate Council and regulatory approvals. (CSOCP-10 and 11)
- **Water Quality Assessment and Monitoring Study** by 2018 (CSOCP-13)



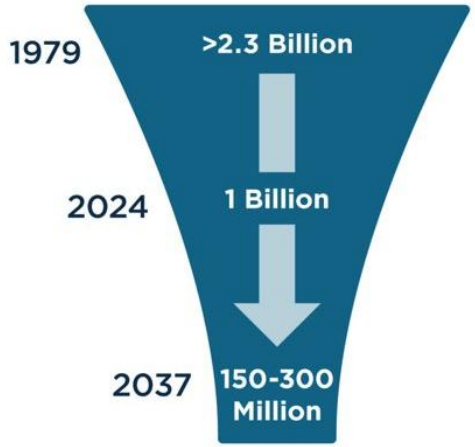
Combined Sewer Projects

- Over $1B invested since the early 1990s

Outfall Status May 2026	Number of Outfalls
Controlled	21
Uncontrolled, project underway	9
Uncontrolled, under supplemental compliance	3
Uncontrolled, previously controlled	3
Uncontrolled, future project in planning	2

King County CSO Reduction over Time

Significant reduction in the average annual gallons of untreated stormwater and wastewater overflows



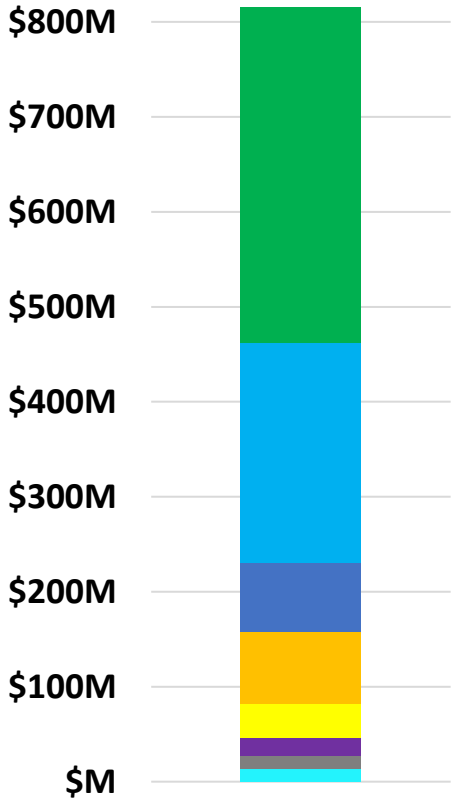
Current and Budgeted Expenditures – Combined System

- Projected CSO expenditures included in the Regulatory Portfolio category total $6.5 billion for the period 2026 through 2046.

- The adopted 2027 Sewer Rate and accompanying financial forecast assume completion of the CSO projects in 2037, as required in the modified Consent Decree.

Breakdown of forecasted $815M of capital spend in 2027

Capital Projects with Largest Forecasted 2027 Spend by Portfolio

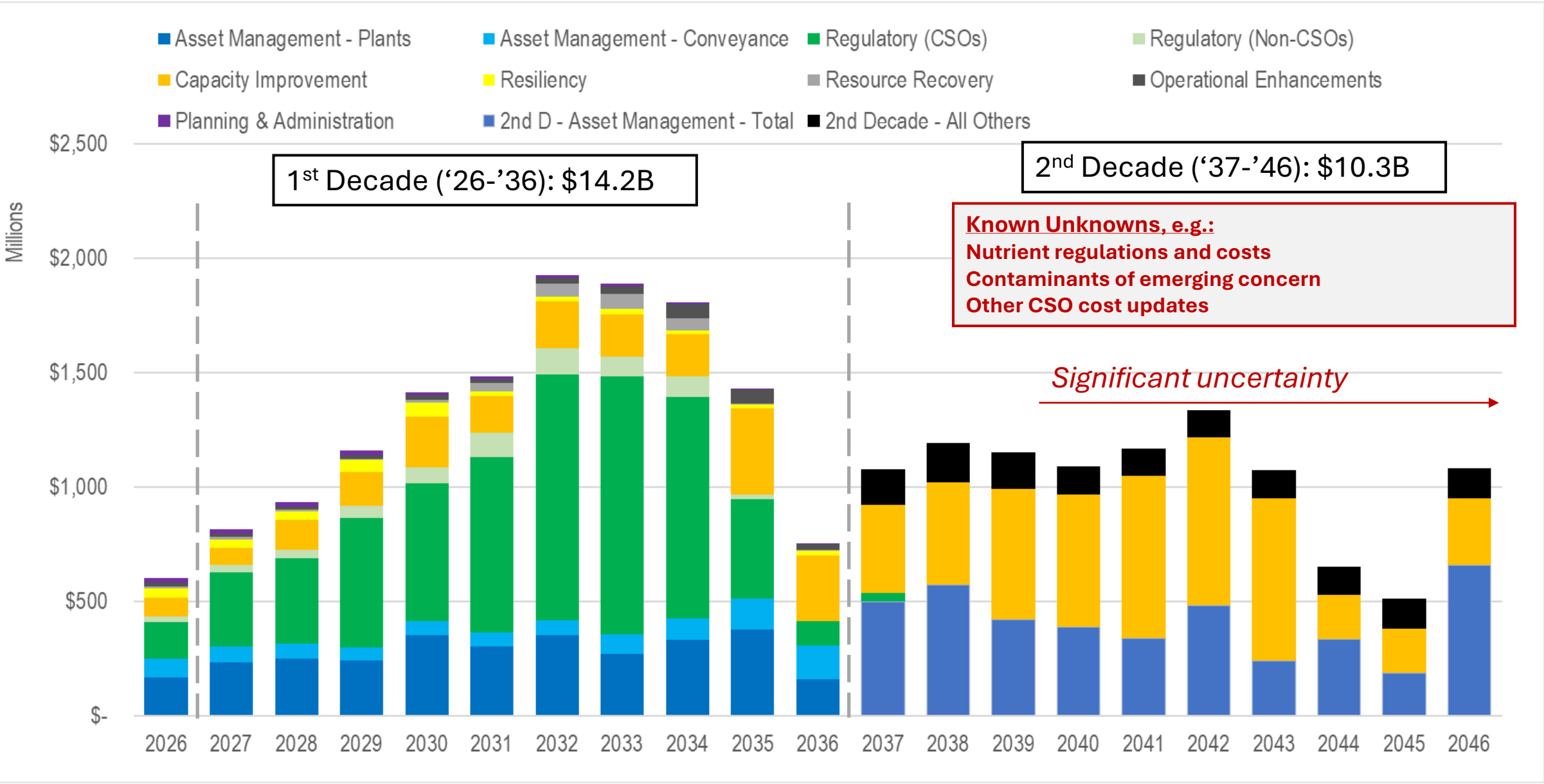


Regulatory (44%)
- Mouth of the Duwamish CSO ($200M) – *Pre-Design/Land Acquisition*
- West Duwamish Wet Weather Storage ($40M) – *Construction Awarded*
- Joint Ship Canal Water Quality Program ($25M) – *Nearing Completion*
- Elliott West Wet Weather Treatment Station ($20M) – *Final Design*

Asset Management – Plants & Conveyance (38%)
- West Point Electrical Improvements ($90M) – *Preliminary/Final Design*
- Interbay Force Main & Odor Control ($20M) – *Mid-Construction*

Capacity Improvement (9%)
- Coal Creek Siphon & Trunk Parallel ($30M) – *Mid-Construction*
- Sammamish Plateau Diversion ($20M) – *Preliminary Design*

20-Year Rate Capital Forecast by Portfolio Category



CSO: relationship to other RWSP topics

1. **Separated system –** Portions of the separated system flow into the combined system and to the West Point Treatment Plant. Addressing infiltration/inflow (I/I) in the separated system may support CSO control in the combined system by reducing wet weather flows upstream, depending on volumes and location.

2. **Pollution (Source Control and Legacy)** – Source control activities are required in the combined sewer system through the West Point National Pollutant Discharge Elimination System (NPDES) permit.

3. **Climate adaptation** – CSO projects use climate-informed design standards. This continually improves the system's capability to handle intense storms and sea-level rise, adapting the system as time progresses.

CSO: relationship to other RWSP topics

4. **Treatment planning** – CSO and treatment planning are connected since effective treatment planning must account for strategies that minimize overflows during wet weather events, as well as potential options to "redirect flows" away from the West Point Treatment plant. Wet weather treatment stations provide primary treatment when flows cannot reach full secondary treatment at West Point.

5. **Finance and rate setting** – CSO costs are a large capital cost driver. Later this year, we'll discuss and evaluate various srate structure options that explore "who pays" for these costs.

Problem Statement

- Combined sewer/stormwater systems face multiple capacity and peak flow management challenges.
- CSO control costs are increasing and comprise a significant portion of WTD's capital program over next few years.
- King County is subject to a consent decree with EPA, Ecology, and the Department of Justice to complete defined CSO control projects by the end of 2037.

Range of Policy Options – Combined System

Policy Question: *How should WTD best upgrade the combined system to address regulatory requirements, regional water quality, and West Point operations?*

	Policy Option #1	Policy Option #2	Policy Option #3
	Continue working toward completing all consent decree and permit requirements on schedule, using GSI when cost effective.	Proactive systemwide investments in peak flow management in the combined system to reduce or prevent untreated CSO discharges during wet weather and reduce strain on West Point Treatment Plant.	Eliminate untreated CSO discharges through extensive separation of storm flows within the County's conveyance system and added storage to manage peak flows from combined component agency local systems.
Goals/ Outcomes:	**Meet legal obligations to achieve water quality and system performance benefits of CSO control.**	**Reduce burden of peak wet weather flows on combined system and West Point, as well as Option #1 outcomes.**	**No untreated discharges of combined sewer/stormwater flows from King County CSO outfalls.**

Policy Options – Combined System Management

	Description	Goal/Outcomes	Tradeoffs
#1	Continue working toward completing all consent decree and permit requirements on schedule, using GSI when cost effective.	Meet legal obligations to achieve water quality and system performance benefits of CSO control.	Stacking of capital investments difficult to deliver on regulatory schedule but meets legal obligations and improves water quality. Qualitative Costs: consistent with current rate projections

Policy Options – Combined System Management

	Description	Goal/Outcomes	Tradeoffs
#2	Proactive systemwide investments in peak flow management in the combined system to reduce or prevent untreated CSO discharges during wet weather and reduce strain on West Point Treatment Plant.	Reduce burden of peak wet weather flows on combined system and West Point, as well as Option #1 outcomes.	Uncertainty around how much programmatic peak flow management would be needed to directly offset future CSO control requirements as system flows and climate impacts could push additional outfalls out of control. Qualitative Costs: higher than projected costs for long-term reduction in costs associated with wet weather management and flows

Policy Options – Combined System Management

	Description	Goal/Outcomes	Tradeoffs
#3	Eliminate untreated CSO discharges through extensive separation of storm flows within the County's conveyance system and added storage to manage peak flows from combined component agency local systems.	No untreated discharges of combined sewer/stormwater flows from King County CSO outfalls.	Exceeds regulatory requirements by managing even the largest storms (at high cost), improves water quality by eliminating untreated discharges of combined sewer/stormwater flows. Qualitative Costs: substantially higher costs to disconnect storm flows and add infrastructure to store and treat all peak wet weather flows, including largest storms

Policy Options – Combined System Management
(Financial / Rate Structure Policies)

Policy Question:

How can combined system costs be fairly apportioned?

Policy Options – Combined System Management
(Financial / Rate Structure Policies)

Policy Question: ***How can combined system costs be fairly apportioned?***

- Currently combined system costs are shared by all local sewer agencies through the uniform sewer rate.
- In November 2026 we will identify various alternative rate structure options that will include a CSO surcharge for the combined system.
- A CSO surcharge may be appropriate when paired with an infiltration/inflow (I/I) surcharge.
- A volume-based rate could also have an impact on the apportionment of the combined system's financial impact.

Policy Options – Combined System Management
(Financial / Rate Structure Policies)

Policy Question: ***How can combined system costs be fairly apportioned?***

Alternative Rate Structure Options to be analyzed for November RWQC

Rate Structure	Who Pays More?
Uniform Rate	Everyone pays the same rate (status quo)
CSO Surcharge	Combined system customers (Seattle)
Volume/Flow – Based Rate	Higher flow jurisdictions (more analysis needed)
I/I Surcharge	High I&I jurisdictions (Renton, Tukwila, etc.)

Brief History of WTD's Uniform Sewer Rate (1 of 2)

History before Robinswood – Seattle to "Metro" (1880 – 1958)

- First pipes in the Seattle area installed in the 1880's before the creation of "Metro" (now King County WTD), and many are still in service.

- When Metro was formed in 1958 a regional approach was taken where combined system in Seattle was part of the design. Metro took ownership of sewers serving areas larger than 1,000 acres.

- At that time, Grand Bargain negotiations created the **"Basic Agreement"** and was signed between Metro and component agencies. The trade:
  - Seattle to subsidize expansion of sewer system into the suburban cities
  - Metro to not charge Seattle for stormwater from existing combined system
  - Uniform rates per Residential Customer Equivalent (initially 900 cf/month for non-single family flows) to be paid by all component agencies

Brief History of WTD's Uniform Sewer Rate (2 of 2)

- **Robinswood Agreement (1999 RWSP to Present Day)**
  - "All for one, and one for all"
    - All in the region contribute equally to the costs of I&I impacts
    - All in the region contribute equally to the costs of reducing CSOs
    - All growth in the region contributes equally to costs of building 3rd Treatment Plant (Brightwater)

- **Capacity Charge**
  - "Growth Pays for Growth"
    - Applies uniformly throughout the service area
    - Recovers cost to the system to serve growth
    - Charge on new / upgrade connections to the system, paid over 15 years

- **Residential Customer Equivalent (RCE)**
  - Each single-family home is defined as one RCE
  - One RCE = 750 cubic feet (based on an analysis of residential water consumption in 1982). Actual monthly flow from single-family homes today is lower.
  - Non-single-family residences are billed based on flow, and converted to RCEs based on 750 cubic feet per month of water consumption

Q & A

King County | Wastewater Treatment