

# Regional Wastewater Services Plan (RWSP) Update

---

Presented to the Engineering & Planning Subcommittee of the  
Metropolitan Water Pollution Abatement Advisory Committee (MWPAAC)

September 4, 2025

# RWSP Road Map - *Tentative*

---

- **Module #1:** Draft “Sets of Actions” for 8 categories of capital investments for 3 Conceptual Approaches Q2 2025 – Q1 2026
- **Module #2:** Evaluation Framework and Affordability Metrics to compare Approaches and evaluate tradeoffs to inform selection of Final Proposal Q2 2026 – Q3 2026
- **Module #3:** Planning level cost estimation for the 24 sets of detailed actions Q2 2026 – Q1 2027
- **Module #4:** Phase 1 Financial Policies Q1 2026 – Q4 2026
- **Module #5:** Draft RWSP with 3 Conceptual Approaches with associated cost estimates (and DEIS, if needed) 2027
- **Module #6:** Apply Evaluation Framework from Module #2 to determine *which* sets of Actions 2027/28
- **Module #7:** Final Proposed Plan (may be a hybrid set of actions from the 3 Approaches) with RWSP Policies and Phase 2 Financial Policies (and FEIS, if needed) 2028/29

# Draft Plan Conceptual Approaches

- **Stay the Course** – Implement operations and capital program that focus on compliance for all applicable current and future regulations. Use industry-accepted standard operating procedures and proven and reliable technologies.
- **Strategic Enhancement** – Provide strategic enhancements to the operations and capital program beyond the Stay the Course approach. Focus on continual improvement and optimizing services.
- **Transformative** – Transform from where we are today to a more innovative, future-focused utility. Employ practices that focus on managing wastewater as a valuable commodity. Foster and invest in a culture of innovation, collaborative development, and active engagement with employees.

# Module #1 Working Group Meeting Timeline – *updated Aug. 2025*

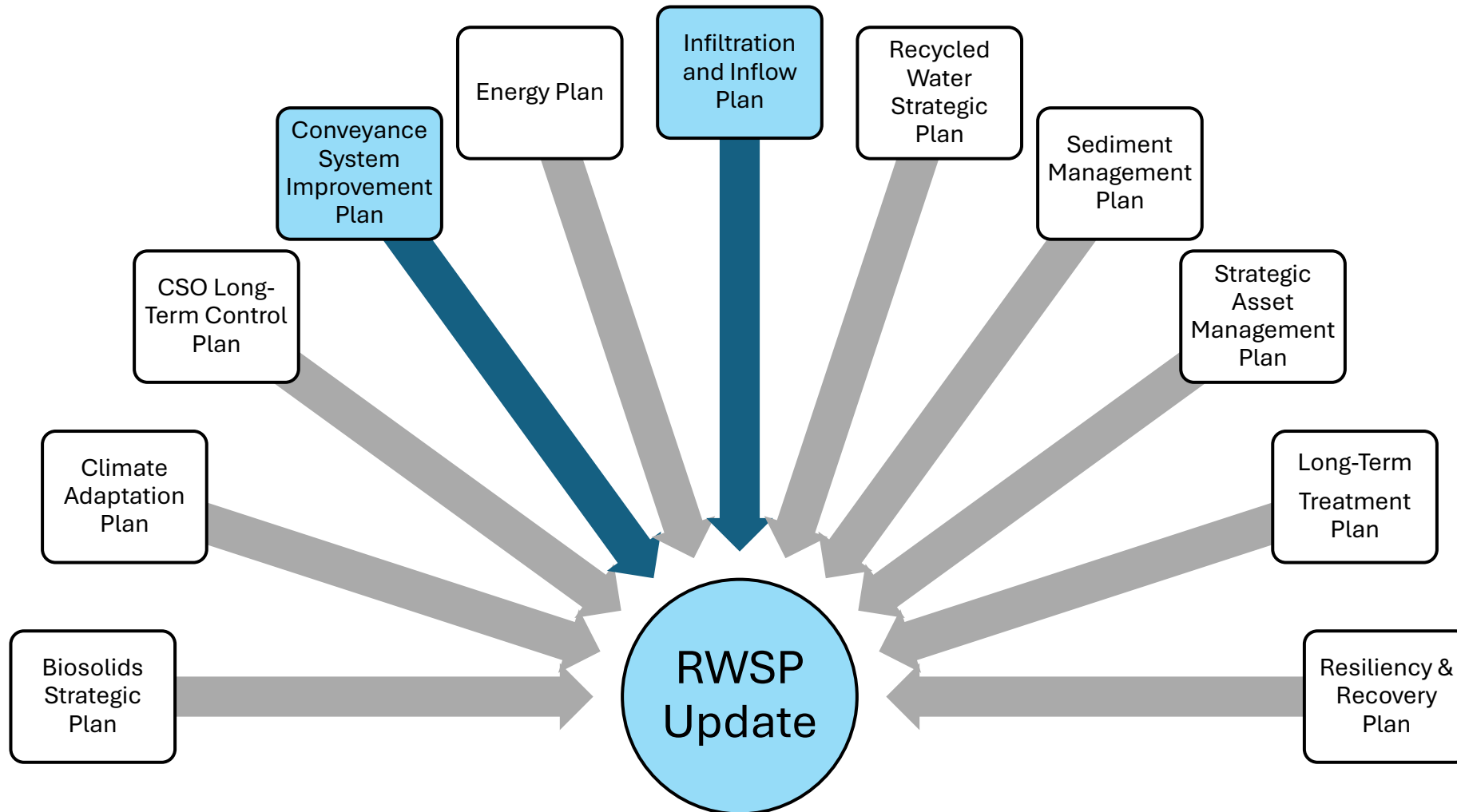
## for Understanding Current Conditions and Brainstorming Potential Actions

Date	Categories of Capital Investment
July 2025	Combined System Management
August 2025	Asset Renewal and Replacement
September 2025	Separated System Conveyance (including Infiltration and Inflow)
October 2025	Finalize action brainstorming from first three categories
November 2025	Pollution (Source Control and Legacy)
Dec. 2025	<i>Prepare for the next categories of capital investment</i>
Jan. 2026	Climate Impact Preparedness and Natural Disaster Resiliency
Feb. 2026	Treatment
March 2026	Resource Recovery (Biosolids, Energy, Recycled Water)

\* Odor Control will be done later

# Functional Planning & the RWSP

---



# Separated Conveyance Planning & RWSP Coordination

---

- The Inflow / Infiltration (I/I) and the Conveyance System Improvement (CSI) programs were created by the RWSP in 1999
- RWSP provides policies and guidance to direct the work of both programs
- The Separated System Conveyance RWSP actions will be informed by the work being done to update I/I and CSI Plans
- Updated I/I and CSI Plans will be completed after the RWSP, conforming with the updated policies and guidance in the final plan

# Separated System Conveyance 101 and Current Conditions

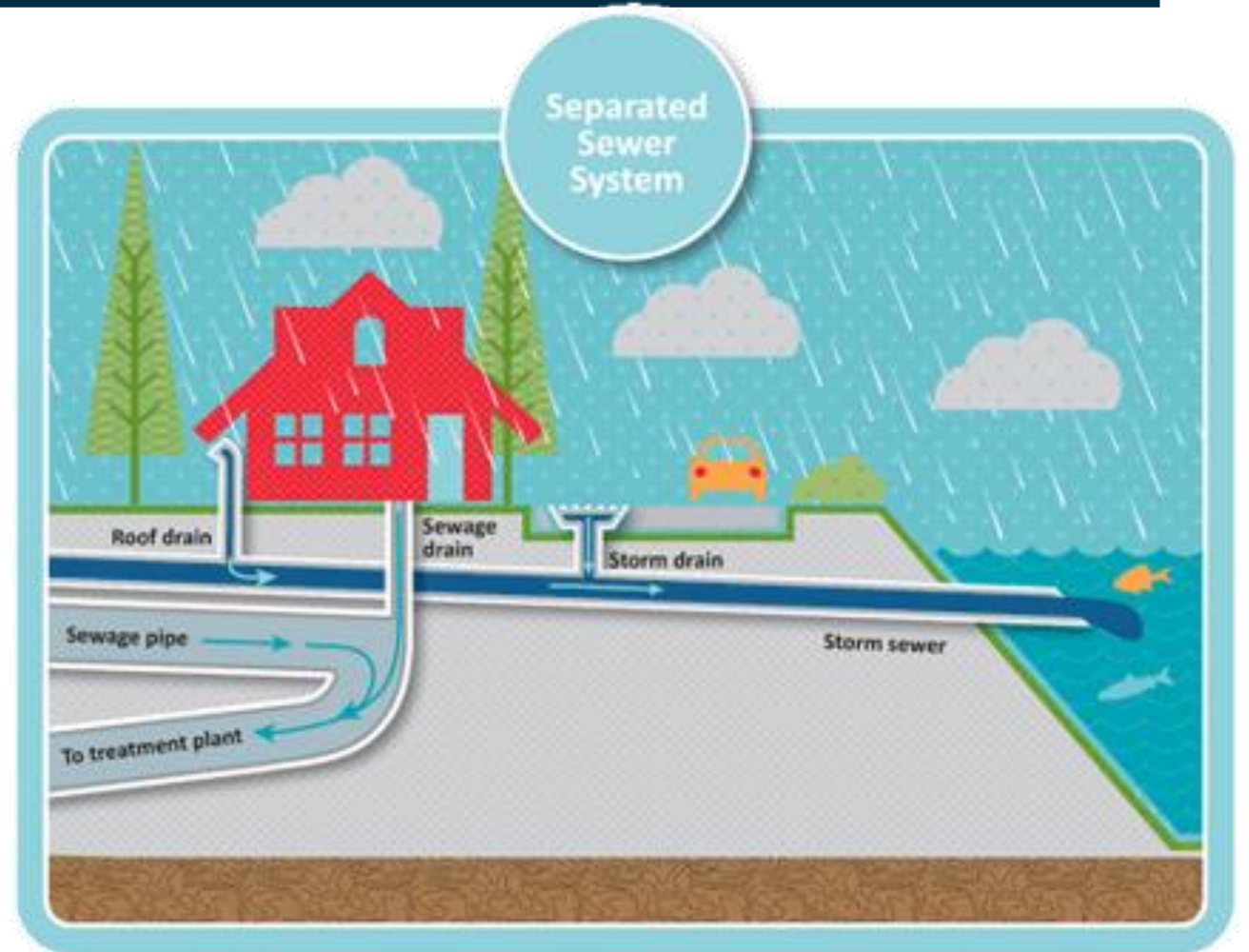
**RWSP Update** Module #1

MWPAAC E&P Subcommittee

September 4, 2025

# What is a Wastewater Conveyance System?

An interconnected system of pipes, pumps, and other infrastructure that conveys wastewater from homes and businesses to local wastewater collection systems and then to regional wastewater treatment facilities



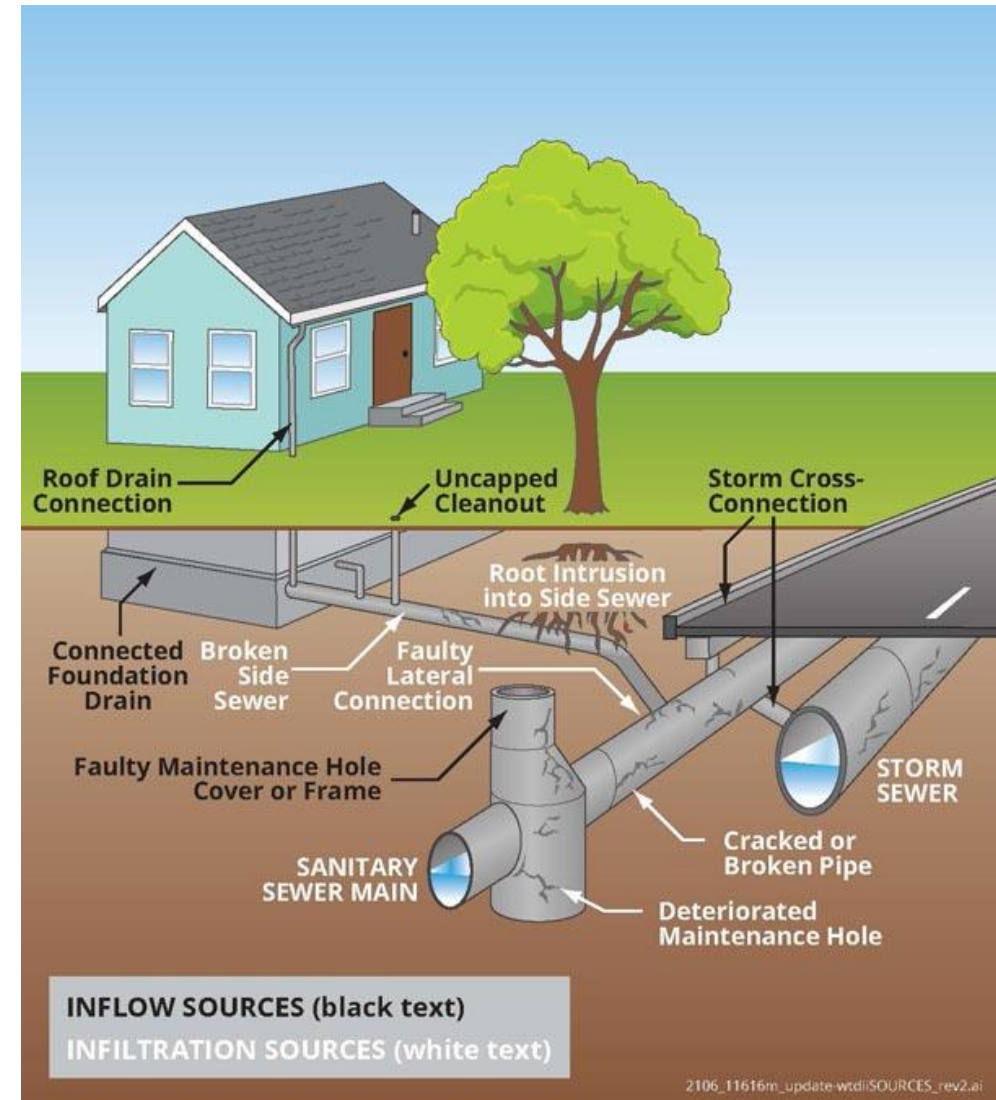
# Components of Separated Sewer Flows

- **Sanitary flows**

- Household, commercial, industrial flows
- Toilets
- Sinks/showers
- Laundry
- etc.

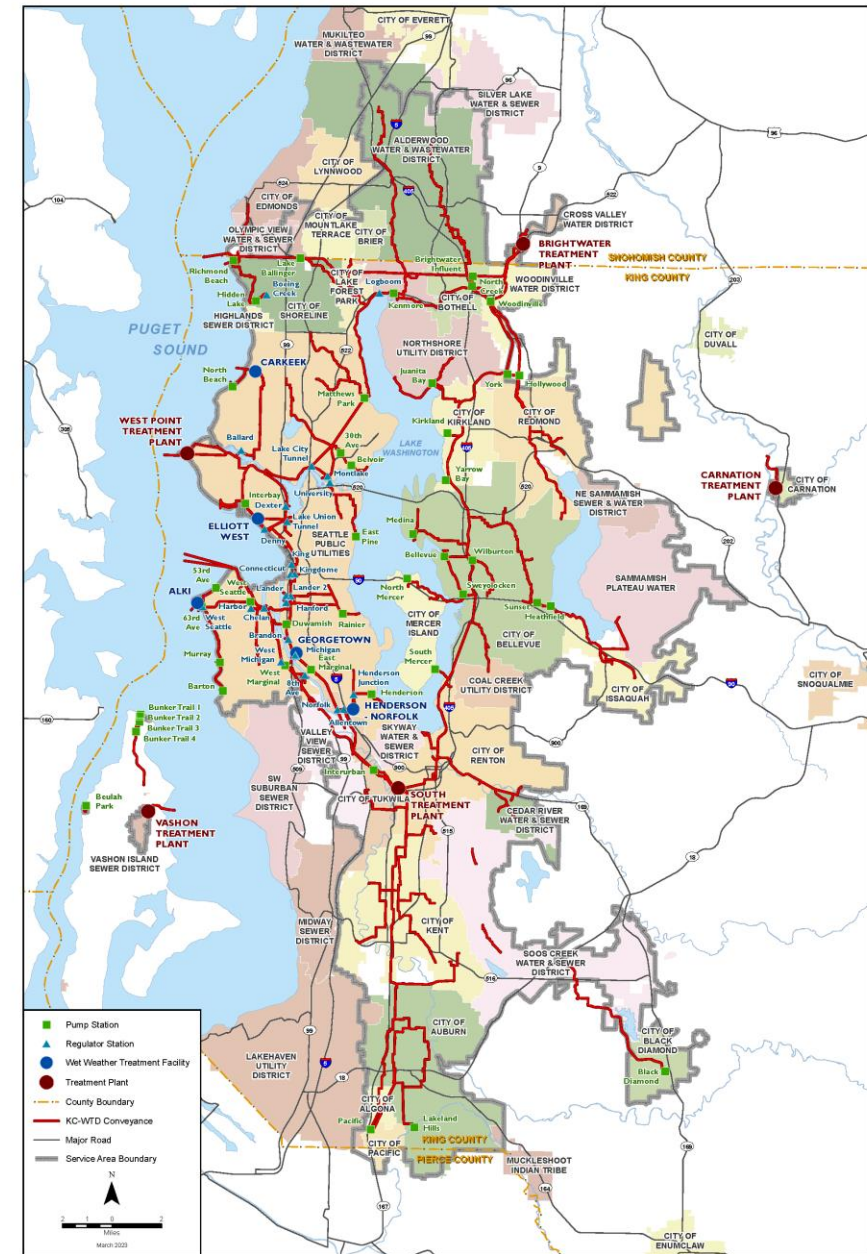
- **Infiltration and Inflow (I/I)**

- Groundwater and rainwater entering the sanitary system
- Increased flow during wet weather
- Can be several times larger than the sanitary flow



# Conveyance System Components

	Side Sewers	Local Agency Sewers	Regional Conveyance
<b>Ownership</b>	Private	City/Sewer District	King County
<b>Diameter</b>	4-6 inches	8-20 inches	>20 inches
<b>System Length</b>	No estimate (1,000's of miles assumed)	5,900 miles	390 miles

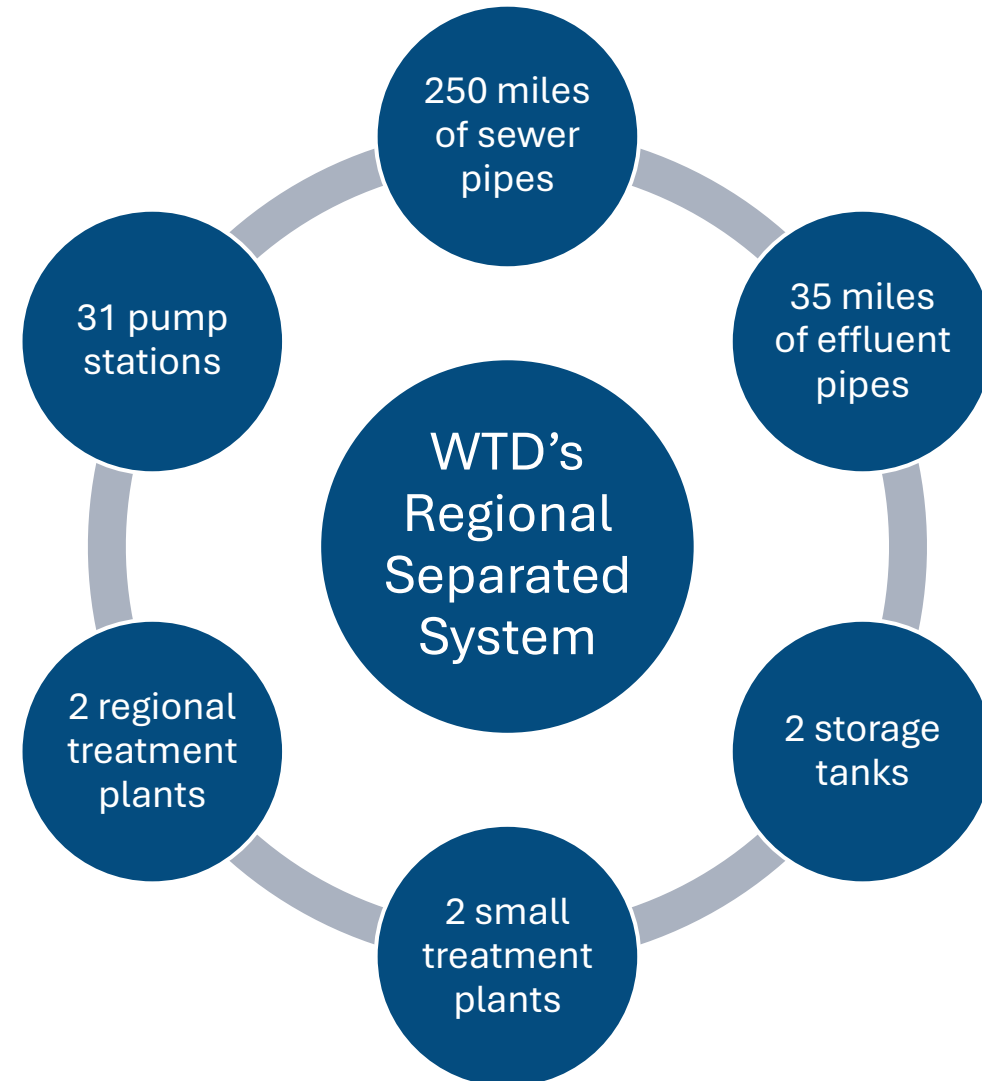


<https://kingcounty.maps.arcgis.com/sharing/rest/content/items/8813ae2275af4e059b9bc99780314467/data>

# WTD's Regional Separated Conveyance System

---

- Designed to convey sanitary sewage as well as infiltration and inflow
- Works in concert with stormwater collect systems
- Utilizes level of service goals to protect public health and water quality



# King County Separated System Policies

---

King County Code (K.C.C. 28.86) guides the County's work in the separated conveyance system. Policies are broken down into two categories:

## **Conveyance Policies:**

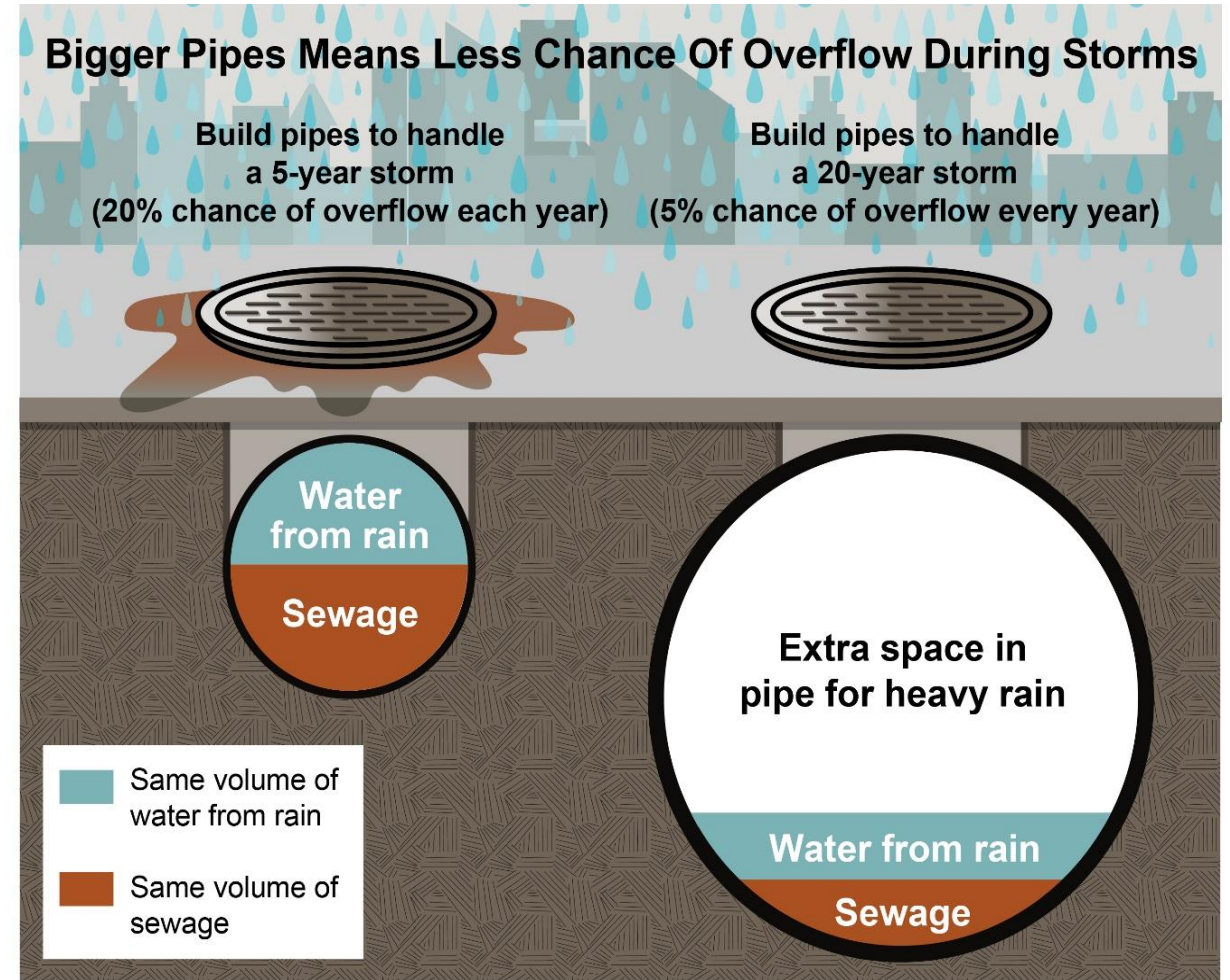
- Guidance on separated conveyance project design
- Commitment to construction of the necessary wastewater conveyance facilities to convey wastewater from component agencies to treatment plants for treatment
- Periodic updates of the Conveyance Improvement Plan and planning assumptions
- Decennial Flow Monitoring to coincide with the U.S. Census
- Integration of water reuse planning and I/I study results when planning for wastewater conveyance
- Evaluation of other demand management alternatives to meet identified conveyance needs

## **Infiltration and Inflow Policies:**

- Complete I/I reduction when cost effective
- Work cooperatively with component agencies to reduce I/I in local conveyance systems
- Consideration of an I/I surcharge no later than June 30, 2006

# Conveyance Capacity Planning

- County uses a 20-year peak wastewater flow design standard when sizing pipes for separated system conveyance facilities
- This standard provides a high level of service to the community

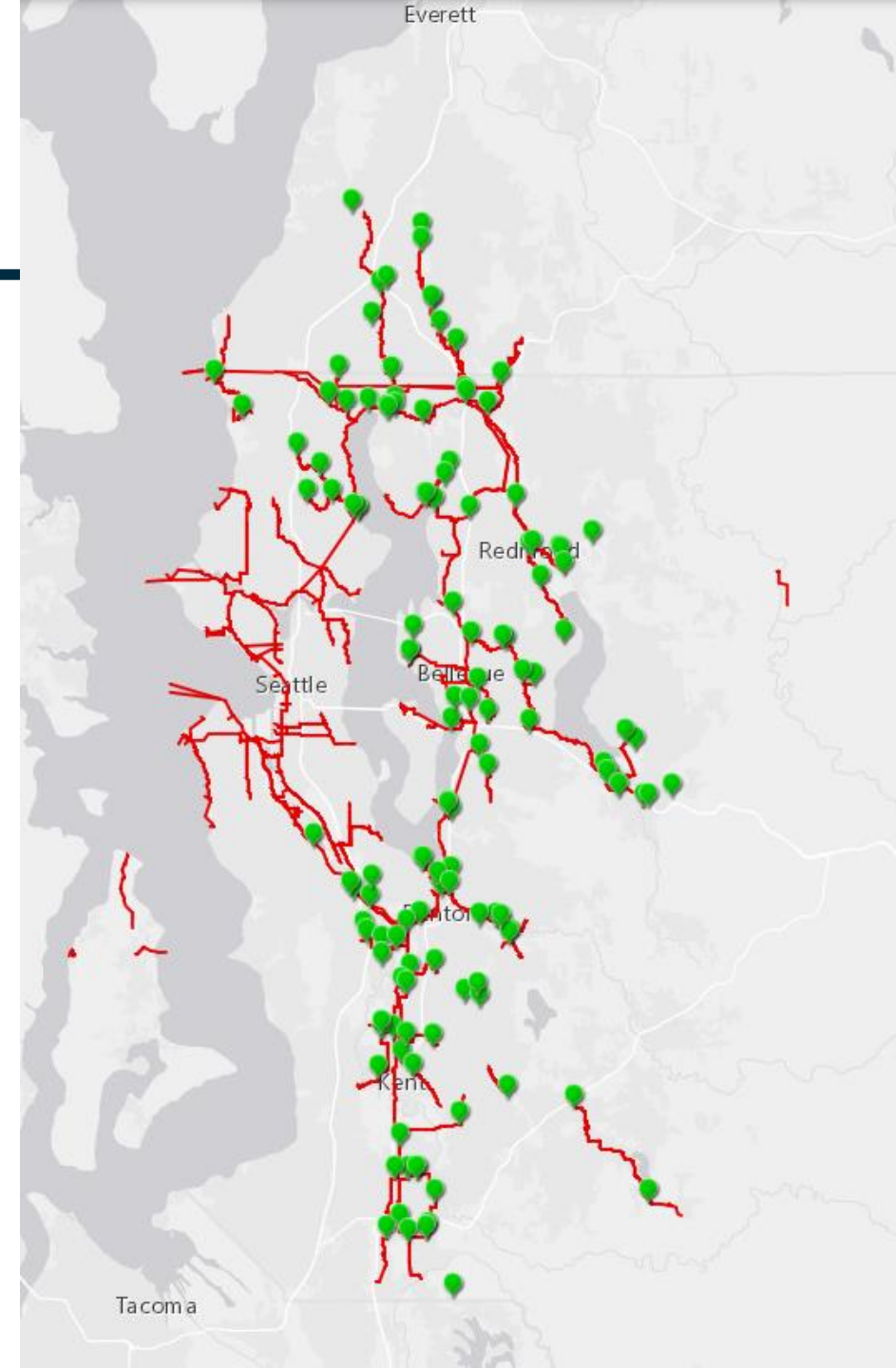


2104\_10283m\_CWP\_H-graphic-02.ai

# Decennial Flow Monitoring (DFM)

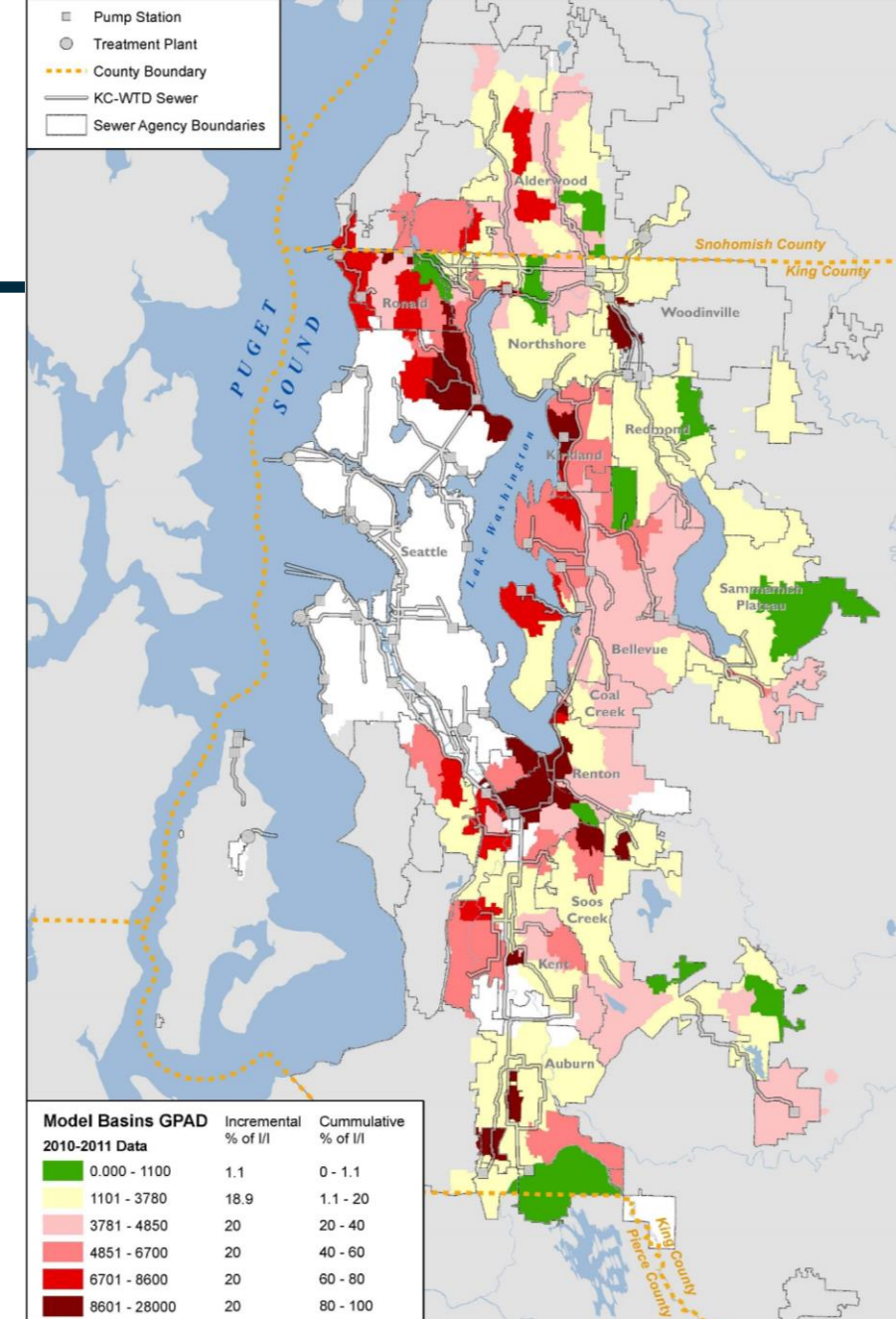
---

- Measures flow in WTD's conveyance [system](#) to:
  - Update hydraulic models
  - Update planning assumptions for future flow forecasting
  - Identify capacity limitation and needs
- 2020 Decennial Flow Monitoring
  - 139 flow meters
  - Three wet seasons



# I/I in the Regional System

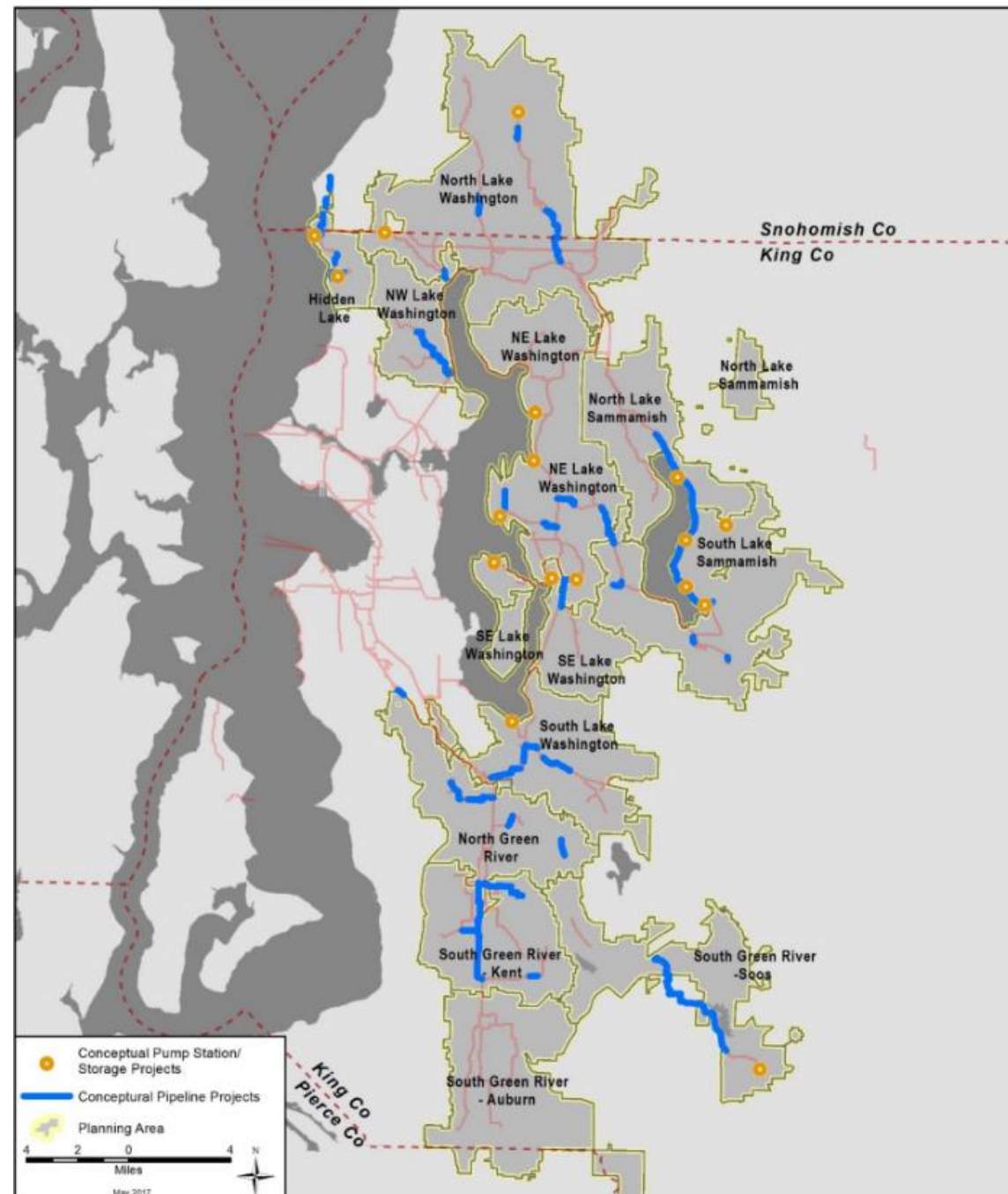
- Infiltration and inflow drives most conveyance capacity needs
- I/I contributes heavily to SSO occurrences during wet weather
- On average during wet weather, as much as 75% of peak flow is I/I
- Approximately 25% of the annual wastewater system flow is infiltration and inflow



# Future Separated Conveyance Capacity Projects

36 conceptual conveyance capacity projects needed to accommodate future flows through 2060:

- **27 pipeline projects** installing approximately 119,000 linear feet of new pipeline
- **4 storage projects** providing a total storage volume of 7 MG
- **5 pump station upgrade projects** adding 20 MGD of additional pumping capacity



# Separated Conveyance Capacity Projects

Capital Projects Completed Since Approval of RWSP in 1999 (Est. \$619M in 2025 \$)	
North Creek Storage Facility	Eastside Interceptor Section 1
Mill Creek Relief Sewer	Pacific Pump Station
Juanita Pump Station	Fairwood Interceptor
Hidden Lake Pump Station	Bellevue Pump Station
Kent-Auburn Conveyance System Improvements projects (Phase A & B)	Bellevue Influent Trunk
North Creek Interceptor	Sunset & Heathfield pump station upgrades
Kirkland Pump Station	Sweyolocken Pump Station

Capital Projects Currently Underway	
Sammamish Plateau Diversion Phase 1	Coal Creek Siphon and Trunk Parallel
Lake Hills and North Lake Sammamish Interceptor Upgrade	North Mercer Island & Enatai Interceptor Upgrades
Black Diamond Trunk Capacity Upgrade	Soos Creek Relief Interceptor No.2 Upgrade

# Separated System Capacity CIP Costs

---

From the 2026 Sewer Rate Forecast:

**The 10-year Separated System conveyance costs total \$736M or 6.5% of WTD's 10-year CIP (2025-2035)**

<b>Project Name</b>	<b>2025-2035 Cost Estimates</b>	
North Mercer Island and Enatai Interceptors Upgrade	\$	38,415,620
Richmond Beach PS Upgrade		28,789,079
Richmond Beach Edmonds Interceptor Parallel		10,513,782
Black Diamond Trunk Capacity Upgrade		164,391,988
Garrison Creek Interceptor Replacement, Realignment, and Diversion		14,173,165
Lake Hills and NW Lake Sammamish Interceptor Upgrade		152,451,573
Boeing Creek Trunk Replacement and Parallel		835,661
Coal Creek Siphon and Trunk Parallel		153,671,044
Medina Pump Station Upgrade		43,618,526
Sammamish Plateau Diversion (Phase 1)		112,165,420
Soos Creek Cascade Relief Interceptor No. 2 Upgrade		16,796,707
	\$	735,822,565

# Q & A



King County | Wastewater Treatment