Draft Actions: Separated System Conveyance

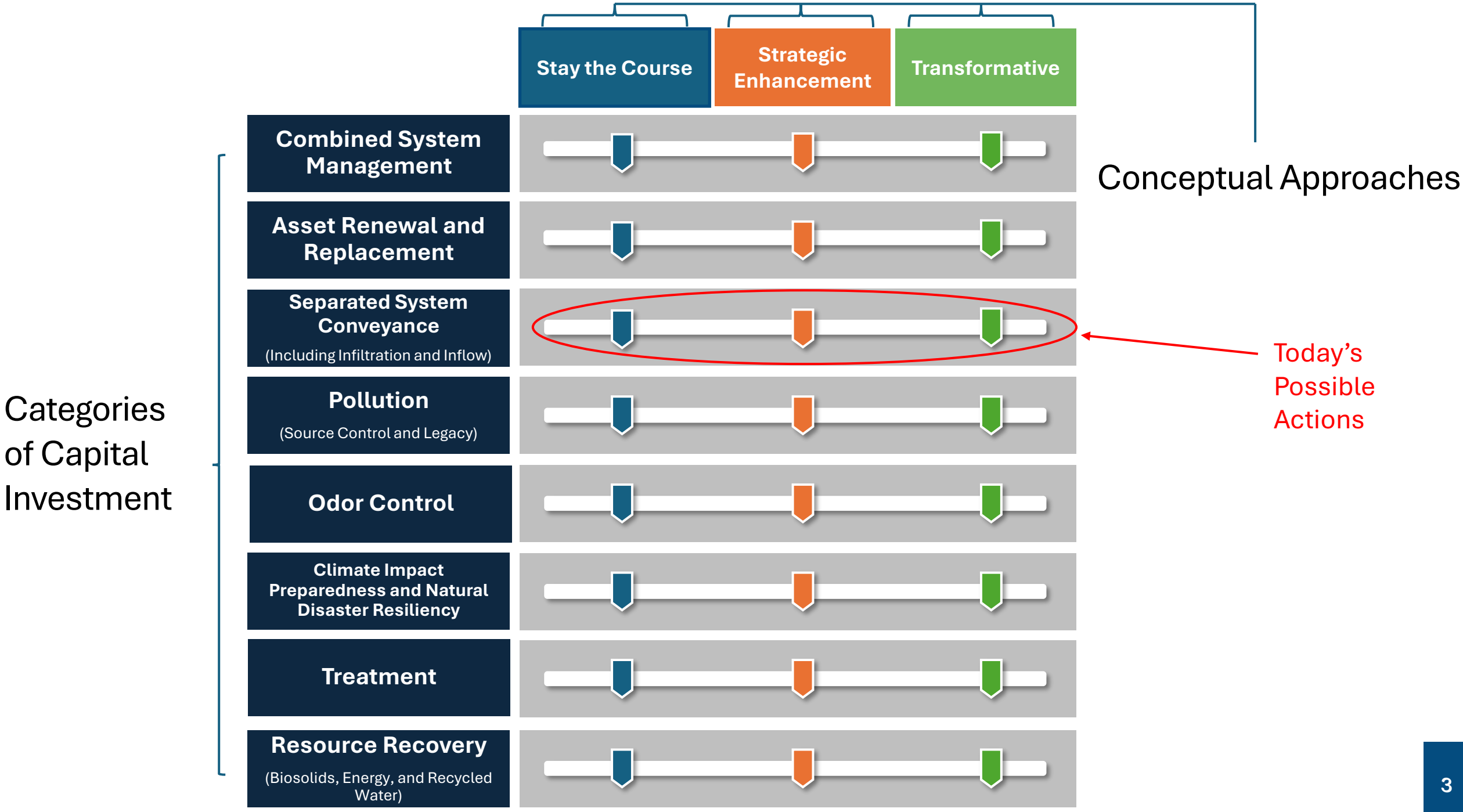
RWSP Update Module #1 Topic 3

MWPAAC General Meeting

September 24, 2025

RWSP Update Roadmap – *Tentative*

• **Module #1:** Draft "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 of the Actions for each of the 8 categories from Module #1	Q2 2026 – Q1 2027
• **Module #4:** Phase 1 Financial Policies	Q3 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


Stay the Course
Strategic Enhancement
Transformative
Conceptual Approaches
Combined System Management
Asset Renewal and Replacement
Separated System Conveyance
(Including Infiltration and Inflow)
Pollution
(Source Control and Legacy)
Odor Control
Climate Impact Preparedness and Natural Disaster Resiliency
Treatment
Resource Recovery
(Biosolids, Energy, and Recycled Water)
Today's Possible Actions
Categories of Capital Investment

Separated System Conveyance
Conceptual Approaches

- **Stay the Course** – Regional system accepts all flows from local agencies, including I/I, and conservatively constructs larger conveyance infrastructure when needed to manage all flows.

- **Strategic Enhancement** – Target areas of high I/I for reduction and construct larger conveyance infrastructure before it's needed. Strategically address public health needs.

- **Transformative** – Region wide I/I reduction. Aggressively address public health needs.

Separated System Conveyance
Current King County 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 System 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

RWSP Scoping Document (2024) : "Major Policy Questions" related to Separated System Conveyance

1. Given the uncertainties in future growth rates reported by Washington State and the Puget Sound Regional Council, **how aggressively beyond legal requirements should WTD expand capacity** to account for future population growth?

2. How should I/I be managed and how can costs be fairly apportioned? **Should system capacity be expanded to account for increases in I/I**? Should I/I policies change to support reducing the capacity needed for I/I?

3. How should the **conversion of on-site septic systems to sewers** in the service area be managed and should WTD implement programs to encourage conversion within the service area?

Separated System Conveyance
Policy Questions *(Refined & Proposed)*

1. **Capacity Management:** How should the region and WTD manage I/I moving forward?

2. **Flow Monitoring:** To what degree should WTD work to enhance flow monitoring in the separated system to assist with tracking I/I throughout the system?

3. **Conveyance Capital Project Timing:** How much risk of sanitary sewer overflows (SSOs) should WTD tolerate before implementing a conveyance capacity expansion project?

4. **Sewered Area Growth:** To what degree should WTD partner with the local agencies to encourage sewer connections in the service area?

Definitions

SSO – Sanitary Sewer Overflow

5-year peak flow – Flow that is expected to occur once every 5 years

Level of Service (LOS) – the return interval of peak flow that can be conveyed through the facility without significant surcharging

5-year LOS – flow that is expected to cause surcharging once every five years or a 20% chance of surcharging in any given year

2-year LOS – flow that is expected to cause surcharging once every other year or a 50% chance of surcharging in any given year

OSS – Onsite Septic System

Overview of Draft Action Menu

	Stay the Course (SC)	Strategic Enhancement (SE)	Transformative (T)
Capacity Management	**SC.1** WTD conducts I/I reduction when cost effective; Component agencies conduct I/I reduction according to internal policies and procedures	**SE.1** Targeted regional I/I reduction strategies addressing areas of high I/I to eliminate the need for capacity upgrades	**T.1** Service area wide required I/I reduction to eliminate need for capacity upgrades and reduce costs to convey and treat flows
Flow Monitoring	**SC.2** Conduct extensive regional flow monitoring every decade to correspond with the U.S Census to supplement permanent flow monitoring	**SE.2** Expanded permanent regional flow monitoring throughout the separated system to quantify levels of I/I in each local agency systems	**T.2** Expanded permanent regional and temporary local flow monitoring to identify sources and quantify levels of I/I
Project Timing	**SC.3** Prioritize building conveyance capacity projects when conveyance facilities are at or below a 2-year level of service	**SE.3** Prioritize building conveyance capacity projects when conveyance facilities reach a 5-year level of service	**T.3**

Overview of Draft Action Menu – Cont.

	Stay the Course (SC)	Strategic Enhancement (SE)	Transformative (T)
Sewered Area Growth	**SC.5** Rely on Public Health and local jurisdictions to facilitate conversions due to OSS failures and/or redevelopment	**SE.5** Partner with local sewer agencies in the service area to construct local sewer lines that could serve all developed and developable parcels by 2060	**T.5** Partner with and/or require all developed parcels in the service area to connect to the sewer system by 2060

Capacity Management - How should the region and WTD manage I/I moving forward?

	SC.1	SE.1	T.1
Description	WTD conducts I/I reduction when cost effective; Component agencies conduct I/I reduction according to internal policies and procedures	Targeted regional I/I reduction strategies addressing areas of high I/I to eliminate the need for capacity upgrades	Service area wide required I/I reduction to eliminate need for capacity upgrades and reduce peak flows conveyed and treated
Justification	Policy requires completion of I/I work only when it costs less than the downstream conveyance capacity project	Regional conveyance needs are currently driven by I/I. Targeted reduction could eliminate specific project needs.	Provides reduction of flows at the treatment plants as well as throughout the conveyance system
Considerations (Short- and Long-Term)	• WTD Required to accept all wastewater flows sent by local agencies • Requires Updated cost benefit ratio to cost to convey and flow; current ratio results in larger conveyance	• Reduced need for conveyance capital projects to address conveyance capacity needs • Reduction in flows conveyed and treated	• Reduced need for conveyance capital projects to address conveyance capacity needs • Larger reduction in flows conveyed and treated

Flow Monitoring - To what degree should WTD work to enhance flow monitoring in the separated system to assist with tracking I/I throughout the system?

	SC.2	SE.2	T.2
Description	Conduct extensive regional flow monitoring every decade to correspond with the U.S Census to supplement permanent flow monitoring	Expanded permanent regional flow monitoring throughout the separated system to quantify levels of I/I in local agencies systems	Expanded permanent regional and temporary local flow monitoring to identify sources and quantify levels of I/I
Justification	Ensures facilities are sized according to changes in flows from increased population and infiltration and inflow	Provides ability to quantify the amount of I/I being contributed by each component agency	Temporary meters could be deployed in areas of high I/I to identify sources of I/I.
Considerations (Short- and Long-Term)	• Ensures facilities are appropriately sized to convey future flows • Prevents overbuilding	• Potential for increased understanding of local agency flow contributions • Real-time identification of issues • Replaces need for Decennial flow monitoring	• Better understanding of regional and local systems • Supports removal of I/I sources • Provides component agencies flow monitoring data

Conveyance Capital Project Timing - How much risk of SSOs should WTD tolerate before implementing a conveyance capacity expansion project?

	SC.3	SE.3	T.4
Description	Prioritize building conveyance capacity projects when conveyance facilities are at or below a 2-year level of service	Prioritize building conveyance capacity projects when conveyance facilities reach a 5-year level of service	
Justification	Allows flexibility in capital improvement planning and ensures projects are needed	Faster implementation to reduce risk of SSO	
Considerations (Short- and Long-Term)	• Higher risk of SSOs as conveyance segment approaches design capacity • Prioritization includes other ancillary benefits	• Backlog of projects required to implement prior to being caught up • Lower risk of SSOs	

Sewered Area Growth - To what degree should WTD partner with the local agencies to encourage sewer connections in the service area?

	SC.4	SE.4	T.4	
Description	Rely on Public Health and local jurisdictions to facilitate conversions due to OSS failures and/or redevelopment	Partner with local sewer agencies to convert on-site septic near water bodies within WTD service area	A: Partner with and/or require all on-site septic systems in the service area are connected to the sewer system by 2060	B: Partner with local sewer agencies in the service area to construct local sewer lines that could serve all developable parcels by 2060
Justification	Maintains existing roles of local jurisdictions and Public Health in managing OSS	Reduces water quality impacts when OSS fails	Prioritizes connecting to the sewer system to ensure sewage is conveyed and treated	
Considerations (Short- and Long-Term)	• OSS conversion to sewer happens at a slow rate over the rest of the century • Doesn't require additional resources	• Focuses on addressing critical areas that could impact water quality	• Provides the greatest reduction in public health risk by eliminating OSS in the service area • Could eliminates the need for future OSS construction	

Q & A

King County | Wastewater Treatment