

# Joint Operations & System Optimization Plan (Joint Plan)

## MWPAAC Engineering and Planning Subcommittee Briefing

May 5, 2016



Protecting Seattle's Waterways



**King County**

Department of Natural Resources and Parks  
**Wastewater Treatment Division**



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# Overview

- Why a Joint Operations and System Optimization Plan?
- Requirements in the Consent Decree
- Plan Commitments
- Benefits to WTD and SPU
- Questions/Comments



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# Background

- Two independently operated wastewater collection systems
- Hydraulically connected and interdependent
- Majority of flows go to West Point



*West Point Wastewater Treatment Plant  
Average day – 90 MGD  
Rainy day – 440 MGD*



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# Joint Operations & System Optimization Plan (JOSOP)

- Consent Decree Requirement
  - Operations focused
  - To ensure optimal level of coordination and information sharing
  - Optimize system operations

## Appendix D Joint Operations and System Optimization Plan Between The City of Seattle and King County

1. While the City and King County own and operate discrete wastewater collection and conveyance systems, parts of King County's system are interconnected with the City's where the operation of one impacts the operation of the other. All of the separate and combined wastewater collected in the City's Wastewater Collection System is discharged to King County owned interceptor for transport to one of King County's wastewater treatment plants. In addition, the City owns CSO Outfalls which are located upstream and in close proximity to King County owned CSO Outfalls. The City will work with King County in jointly preparing a Joint Operations and System Optimization Plan ("Joint Plan") for the City's Wastewater Collection System and those interdependent portions of King County's regional wastewater conveyance and treatment system that are hydraulically connected to the City's system. The result of this effort is development of a Joint Plan that is consistent with both entities' operational objectives, ensures the optimal level of coordination and information sharing is maintained, and optimizes system and joint operations between both entities. The Joint Plan shall describe a procedure for operating their existing systems and will include a process for incorporating the Joint Plan into the design of new capital projects for the combined systems.
2. The Joint Plan shall include, but not be limited to, the following items:
  - a. Overview of those interdependent portions of King County's regional wastewater, conveyance, and treatment system and the City's Wastewater Collection System;
  - b. Methods to accommodate each agency's operational objectives while complying with their contractual obligations;
  - c. Shared operational objectives for the City and King County's combined sewer systems;
  - d. Organizational structure;
  - e. Modes of operation (dry, wet, transition) for identified CSO facilities;
  - f. Each agency's operational decision hierarchy;
  - g. Identified CSO facilities, if any, that may be beneficial to jointly operate and/or monitor;
  - h. Real-time communication plans/protocols;
  - i. Emergency and special operations protocols;
  - j. A process for incorporating the Joint Plan into the design of new capital projects for the combined system, including the City and King County CSO Long-Term Control Plans; and
  - k. A process for updating the Joint Plan every three years.



# Example of Interconnected Systems

## Henderson Basin



### Upstream

- 7 SPU CSO Outfalls
- 3 SPU existing CSO projects
- 5 SPU new CSO projects

### Downstream

- WTD's Henderson Pump Station
- WTD's Henderson MLK Treatment Tunnel
- 2 WTD CSO outfalls



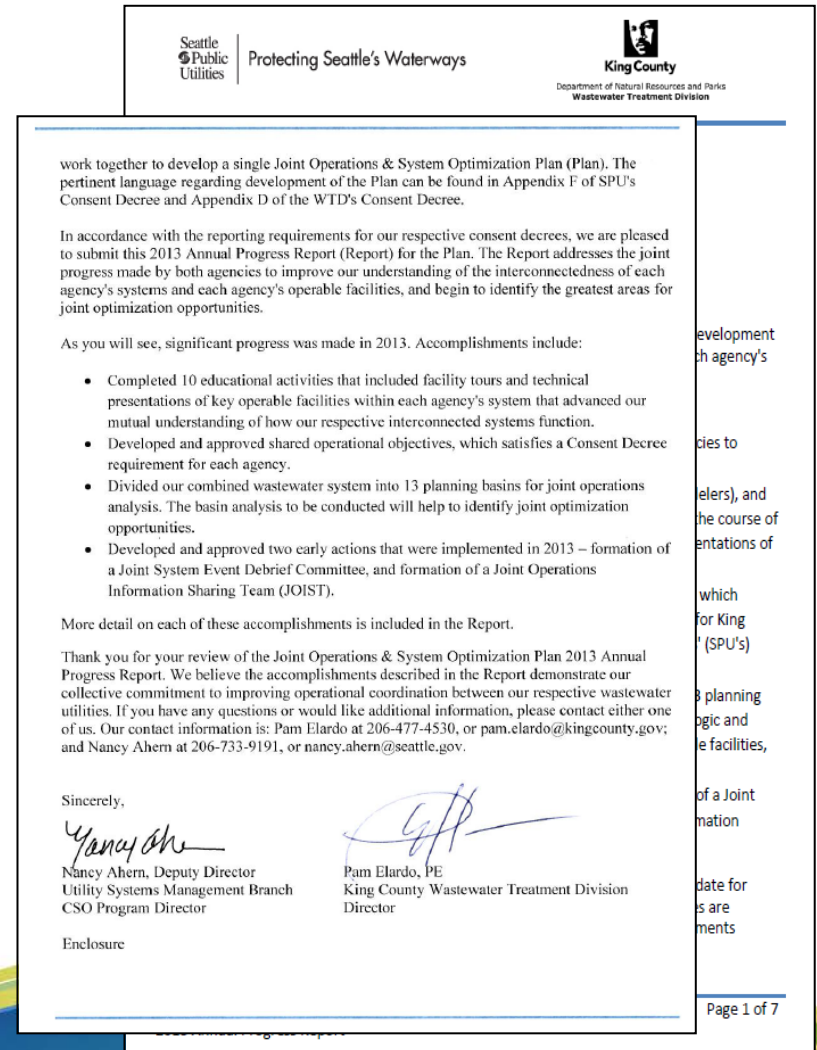
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# Deliverables

- Final plan due to EPA & Ecology March 2016
- Plan submitted and under review
- Update in 2019



# High Level Project Flow Chart

- 2013 – SPU and WTD developed common system understanding
- 2014/15 – Evaluated operational alternatives
- 2016 – Submitted final plan to EPA & Ecology
- 2013-2016 – Launched early actions
- 2019 – Next update due



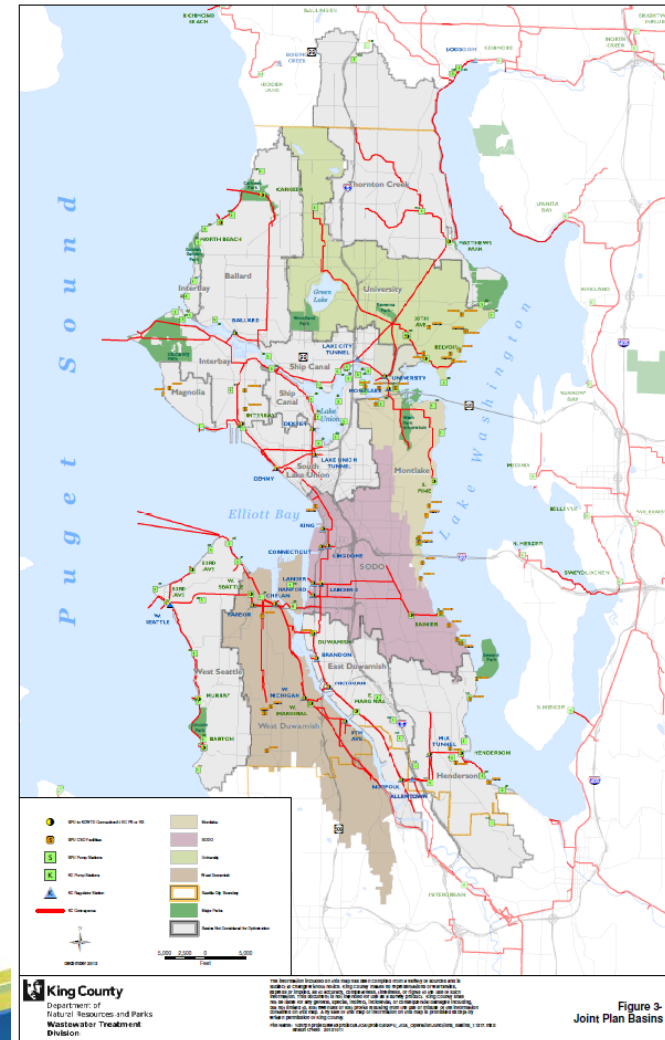
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# Evaluation of Operational Improvements

- Identified facilities with active controls
- Focused on 4 basins with most opportunity for optimization
  - Montlake, University, SODO, Duwamish
  - Examined operational performance under various storm conditions
- Developed basin specific and multi-basin operational improvements





# Early Actions

- Joint Event Debrief Committee
  - To discuss pre- wet season and post storm performance for operational improvements
- Joint Operations Information Sharing team (JOIST)
  - To coordinate activities and share operational information
- SCADA Data Sharing Pilot
  - Real time data sharing pilot in one basin
- Joint Modeling Coordination Committee



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# Joint Commitments in Plan

- Joint System Debrief Committee
- Joint Modeling Coordination Committee
- Data Sharing
  - Joint Operations Information System Team (JOIST)
  - Data Sharing Protocols
  - Real Time Data Sharing Pilot
  - Rainfall Data for Forecasting
- Startup/Commissioning Coordination of CSO Control Facilities
- Real Time CSO Notification
  - Onsite Notification
  - Website Notification
- Reduce Saltwater Intrusion



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# Benefits of Joint Plan Effort

## – Operational Coordination

- More effective use of capacity
- Reduced operational challenges during peak flow
- More shared data allows for better decisions
- Reduced operational costs

## – Better relationships among staff

- Shared expertise
- Stronger communication



# Questions?



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