

Status Briefing: CSI Program Update

February 22, 2017



King County

Department of Natural Resources and Parks
Wastewater Treatment Division

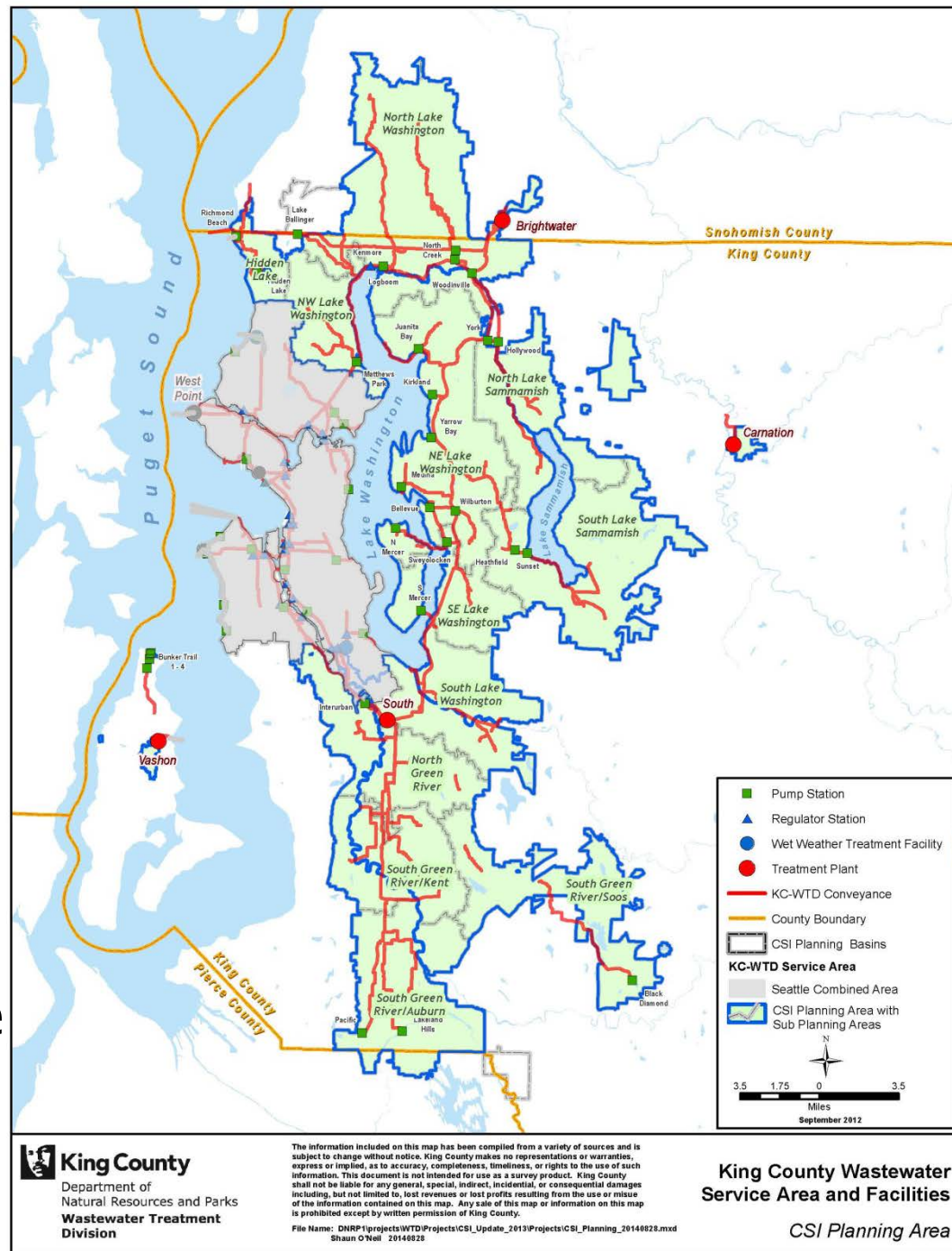


Presentation Topics

- ▶ Overview of CSI Program
- ▶ Overview of Program Update Process
 - Regional Needs Assessment Results
 - Conceptual Projects Results
 - Conceptual Projects Prioritization
 - 2017 Final Report

CSI Program Overview

- ▶ Guides major improvements to the separated portion of the conveyance system
- Identifies near term projects for implementation
- Determines long range investments required to ensure capacity



CSI Program Accomplishments

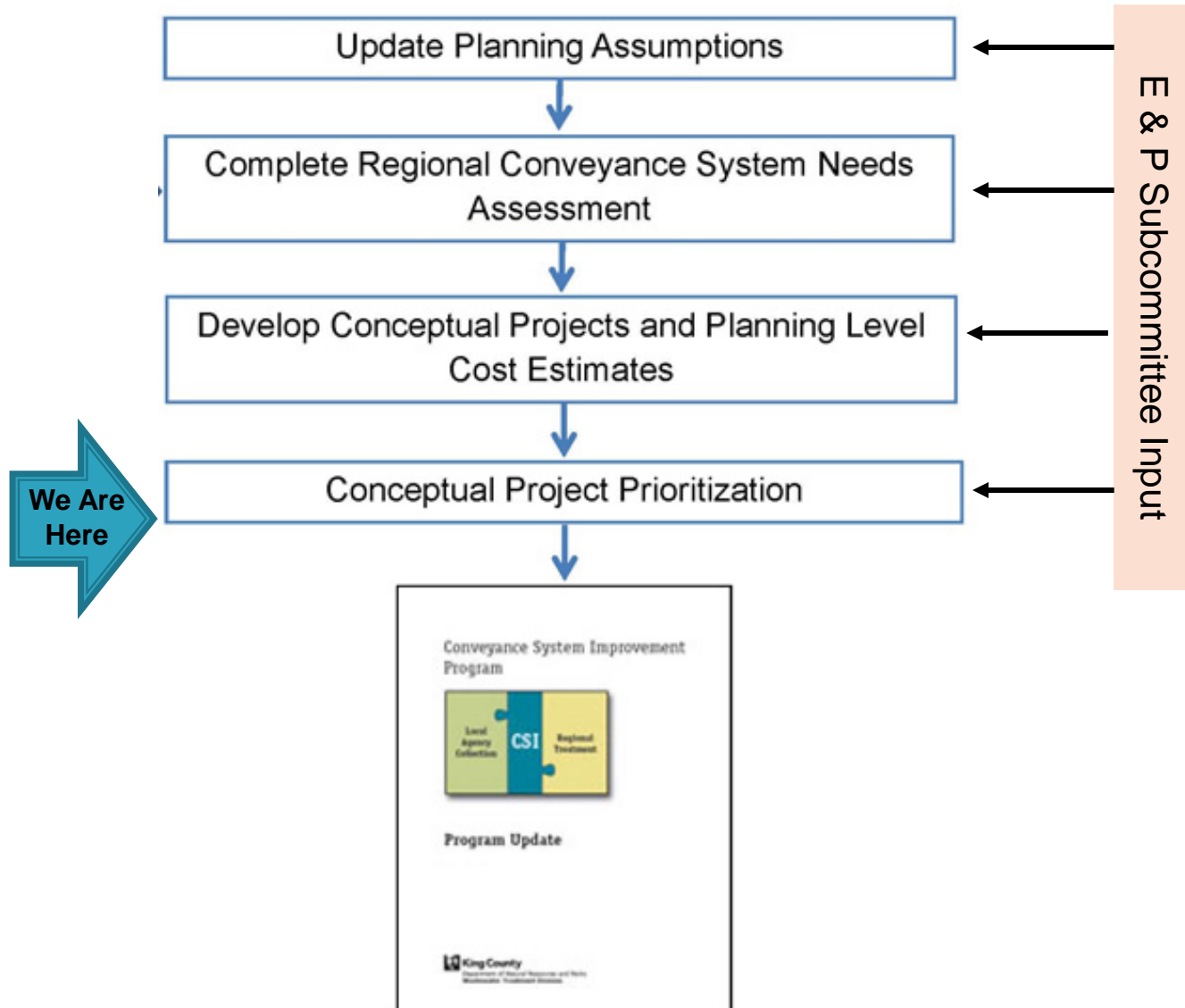
CSI Projects Completed Since Approval of RWSP in 1999

| | |
|--|--------------------------------|
| 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 project (Phase A) | Bellevue Influent Trunk |

CSI Projects Under Way

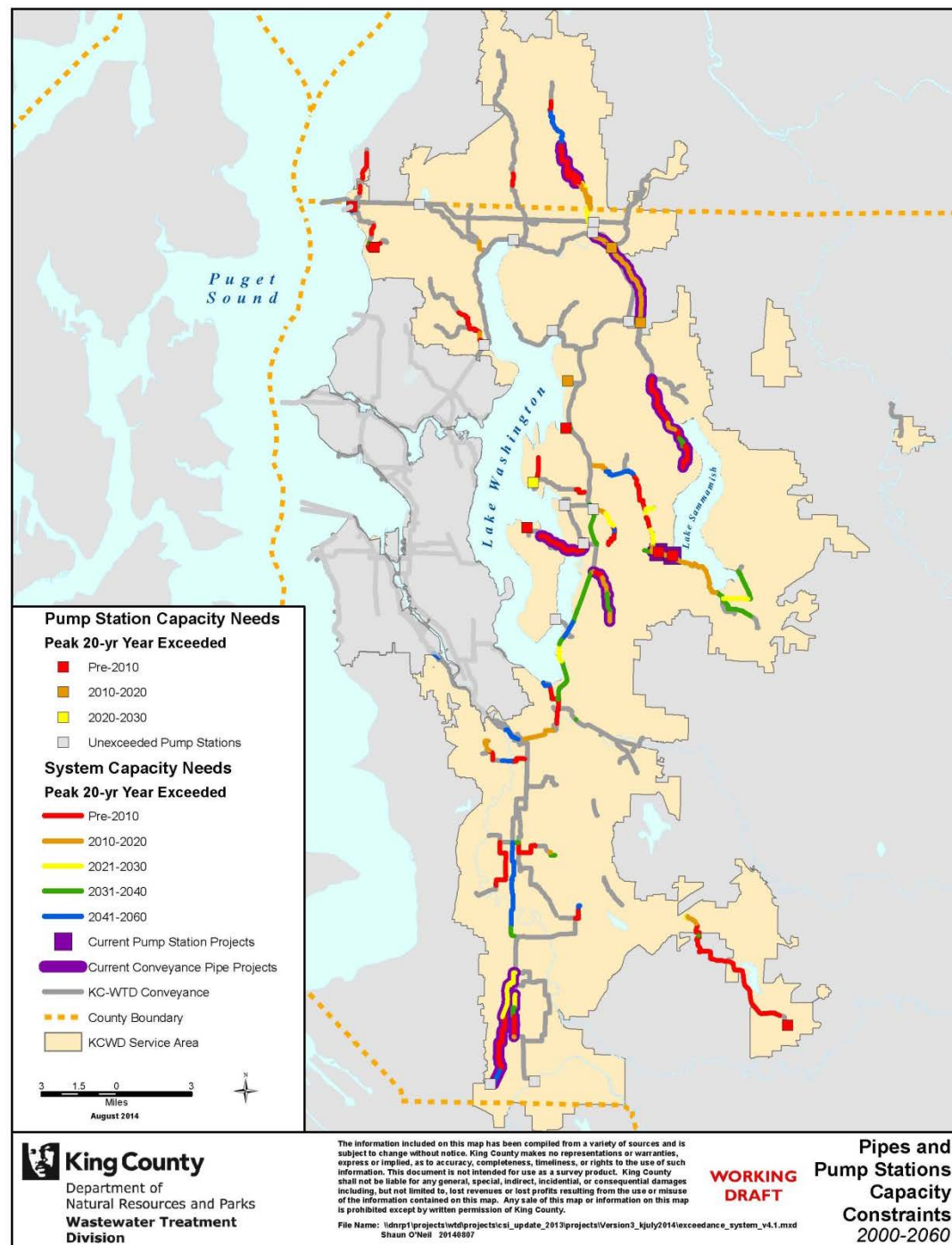
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|--|
| Sunset and Heathfield Pump Stations and Force Main Upgrade |
| North Creek Interceptor |
| North Lake Sammamish Flow Diversion |
| Lake Hills and Northwest Lake Sammamish Interceptor Upgrade |
| North Mercer Island and Enatai Interceptors Upgrade |
| Kent–Auburn Conveyance System Improvements project (Phase B) |
| Coal Creek Siphon and Trunk Parallel |

Steps to Complete CSI Program Update



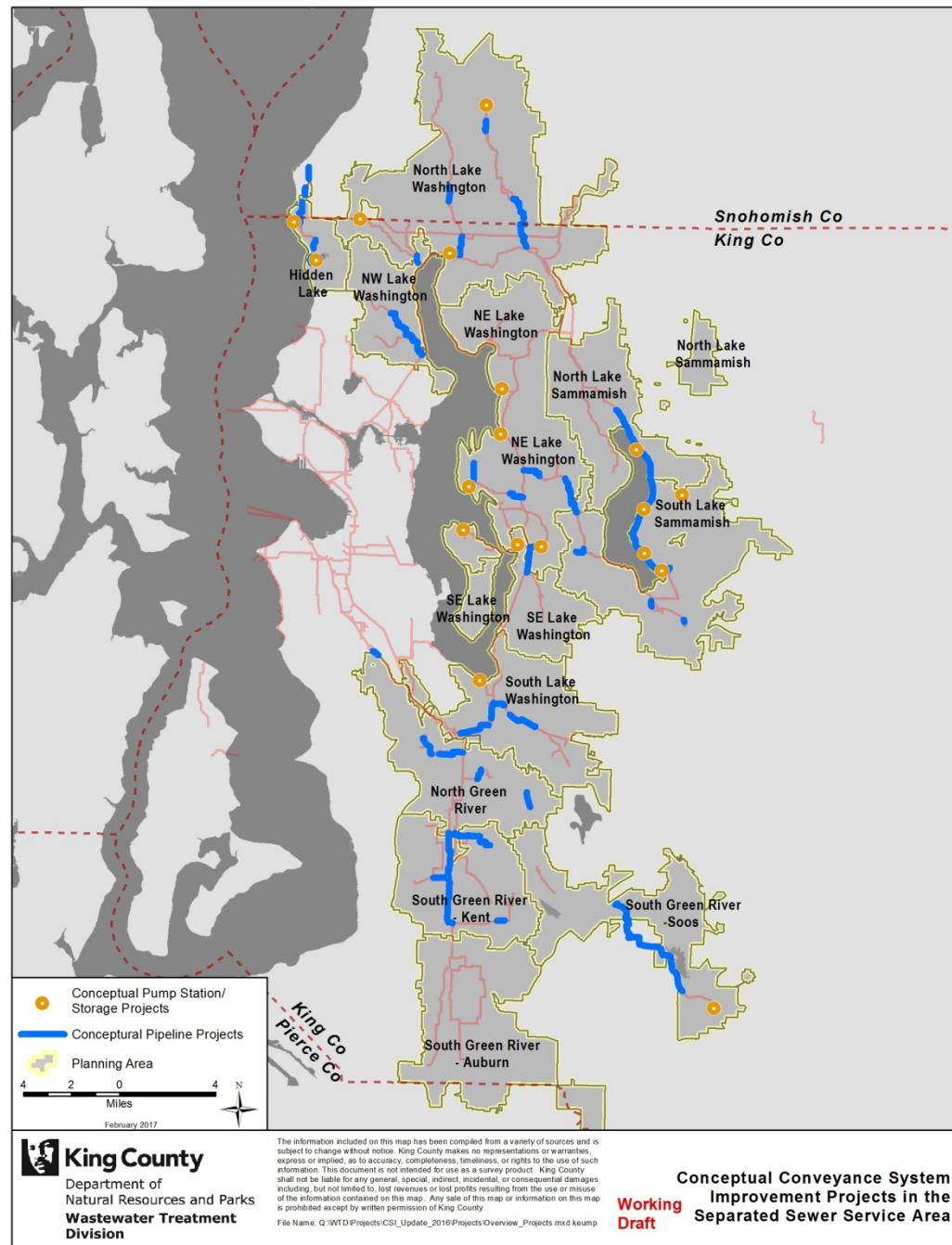
Regional Needs Assessment:

- ▶ 73 total needs identified through 2060
- ▶ 27 near term needs
 - ▶ 12 addressed by current projects
- ▶ 46 long term needs



Conceptual Projects to Address Identified Needs:

- ▶ 41 projects through 2060
- ▶ 18 storage/pump station projects
- ▶ 23 pipe replacement/parallel projects



Initial Project Prioritization

| Project Name | In 2007 CSI Program Update | Estimated Total Project Cost (M 2016\$) | Sewered Area Growth (2010 to 2030) | Sewered Population Growth (2010 to 2030) | Pk 20-yr Flow 2010 mgd | Pk 20-yr Flow 2030 mgd | Pk 20-yr Flow Increase (2010 to 2030) | Level of Service 2010 | Level of Service 2030 | O&M Issues |
|--|-------------------------------------|---|---|---|---------------------------|---------------------------------|--|-----------------------------|-----------------------------|------------------|
| North Lake Washington Planning Area | | | | | | | | | | |
| North Creek Trunk Storage and Replacement (2 Phases) | Yes | P1=25.6/P2=51.7 | 30.8% | 24.0% | 23.6 | 29.4 | 24.9% | 6-10 years | 2-5 years | Y |
| Swamp Creek Trunk Extension Replacement | Yes | 15.3 | 38.5% | 39.6% | 15.3 | 20.3 | 32.8% | 11-20 years | 2-5 years | N |
| Lake Ballinger Storage | No | 74.9 | 1.4% | 35.5% | 16.9 | 19.4 | 14.7% | 11-20 years | 2-5 years | N/A ¹ |
| McAleer Creek Trunk Replacement | No | 3.85 | 2.4% | 35.0% | 18.0 | 21.8 | 21.3% | 11-20 years | 6-10 years | N |
| Hidden Lake Planning Area | | | | | | | | | | |
| Richmond Beach Pump Station Upgrade | Yes | 29.8 | 2.7% | 32.6% | 15.9 | 18.2 | 14.1% | <2 years | <2 years | Y |
| Richmond Beach Force Main Parallel | Yes | 11.1 | 2.7% | 32.6% | 15.9 | 18.2 | 14.1% | 6-10 years | 2-5 years | UNK ³ |
| Richmond Beach – Edmonds Interceptor Parallel | Yes | 12.4 | 4.5% | 33.0% | 16.9 | 19.4 | 14.8% | <2 years | <2 years | N |
| Boeing Creek Trunk Replacement and Parallel | Yes | 8.35 | 2.7% | 32.6% | 8.0 | 9.3 | 15.3% | 2-5 years | <2 years | N |
| Hidden Lake Pump Station Upgrade | No | 8.96 | 1.5% | 42.6% | 8.4 | 9.5 | 13.8% | 6-10 years | 2-5 years | N |
| Hidden Lake Force Main Replacement | No | 5.61 | 1.5% | 42.6% | 8.4 | 9.5 | 13.8% | 6-10 years | 2-5 years | UNK ³ |
| Northwest Lake Washington Planning Area | | | | | | | | | | |
| Thornton Creek Trunk Replacement and Diversion | Yes | 33.9 | 0.5% | 17.2% | 60.1 | 68.2 | 13.4% | <2 years | <2 years | N |
| North Lake City Trunk Replacement, Realignment, and Rehabilitation | No | 44.1 | 0.3% | 18.6% | 42.1 | 47.8 | 13.5% | 11-20 years | 6-10 years | Y |
| Northeast Lake Washington Planning Area | | | | | | | | | | |
| Medina Trunk Replacement | Yes | 12.2 | 1.9% | 16.6% | 6.4 | 7.3 | 14.1% | 6-10 years | 2-5 years | N |
| Medina Siphon Replacement | Yes | 11.8 | 1.9% | 16.6% | 6.7 | 8.0 | 19.2% | 6-10 years | 2-5 years | UNK ³ |
| Factoria Trunk Diversion | Yes | 15.4 | 10.9% | 10.8% | 5.7 | 6.6 | 15.6% | 6-10 years | 2-5 years | N |
| Lake Hills Interceptor Replacement | No | 62.1 | 23.7% | 31.9% | 39.3 | 50.2 | 27.7% | 11-20 years | 2-5 years | Y |
| North Mercer Pump Station Upgrade | Yes | 7.68 | 0.8% | 17.8% | 7.8 | 8.9 | 13.4% | 11-20 years | 6-10 years | N |
| Kirkland Pump Station Upgrade | No | 10.8 | 0.4% | 27.5% | 8.8 | 10.0 | 13.7% | >20 | 11-20 years | N |
| Medina Pump Station Upgrade | No | 10.6 | 1.9% | 16.6% | 9.2 | 10.4 | 14.1% | >20 | >20 | Y |
| Yarrow Bay Pump Station Replacement | No | 16.3 | 0.9% | 32.8% | 5.9 | 6.7 | 14.2% | 2-5 years | 2-5 years | Y |
| Sweyolocken Pump Station Upgrade | No | 9.37 | 1.4% | 43.6% | 17.9 | 20.7 | 15.8% | >20 | >20 | N |
| Eastside Interceptor Section 8 Storage | No | 101 | 13.0% | 34.0% | 147.0 | 176.0 | 19.8% | >20 | >20 | N |
| South Lake Sammamish Planning Area | | | | | | | | | | |
| Sammamish Plateau Diversion Phase 2 | Yes | 194 | 71.8% | 49.6% | 21.1 | 29.6 | 40.1% | >20 | 11-20 years | N/A ⁴ |
| Eastgate Trunk Replacement | Yes | 7.06 | 31.8% | 36.3% | 22.4 | 31.7 | 41.5% | >20 | 6-10 years | Y |
| Issaquah Interceptor Section 2 Replacement | Yes | 3.42 | 34.7% | 47.3% | 4.1 | 5.5 | 32.7% | >20 | >20 | N |
| Issaquah Highlands Storage | Yes | 6.22 | 21.3% | 41.7% | 4.3 | 5.2 | 21.2% | >20 | >20 | N |
| South Lake Washington Planning Area | | | | | | | | | | |
| Eastside Interceptor Section 1 Replacement | No | 195 | 13.9% | 31.8% | 196.1 | 234.2 | 19.4% | 11-20 years | 6-10 years ⁵ | N |
| Bryn Mawr Trunk Storage | Yes | 20.5 | 2.6% | 17.8% | 13.3 | 15.2 | 13.8% | 11-20 years | 11-20 years | N |
| Cedar River Interceptor Section 2 Replacement | No | 7.74 | 29.8% | 31.7% | 26.0 | 31.7 | 21.5% | >20 | 11-20 years | N |
| Cedar River Interceptor Section 1 Replacement | No | 15.9 | 29.4% | 31.8% | 27.3 | 33.2 | 21.6% | >20 | >20 | N |
| North Green River Planning Area | | | | | | | | | | |
| Tukwila Freeway Crossing Replacement | No | 22.8 | 10.1% | 33.1% | 9.4 | 10.8 | 14.4% | 2-5 years | <2 years | N |
| Tukwila Interceptor Replacement | No | 27.2 | 15.6% | 62.1% | 11.7 | 14.3 | 21.6% | >20 | 11-20 years | N |
| South Renton Trunk Replacement | Yes | 8.63 | 12.5% | 19.0% | 5.6 | 6.6 | 17.9% | >20 | >20 | N |
| Rainier Vista Interceptor South Replacement | No | 3.73 | 8.8% | 32.2% | 7.7 | 9.1 | 17.4% | >20 | >20 | N |
| North Soos Creek Trunk Replacement | No | 5.95 | 35.9% | 54.9% | 2.7 | 3.5 | 30.8% | >20 | >20 | N |
| South Green River – Kent | | | | | | | | | | |
| Garrison Creek Interceptor Replacement, Realignment, and Diversion | Yes | 49.2 | 18.7% | 40.0% | 8.2 | 10.0 | 21.6% | 2-5 years | 2-5 years | Y |
| Auburn Interceptor Sections 1, 2, and 3 Replacement | Yes | 255 | 44.8% | 36.1% | 50.7 | 71.4 | 41.0% | >20 | >20 | Y |
| South 277 th Interceptor Replacement | No | 7.43 | #N/A | #N/A | 20.9 | 30.3 | 45.2% | >20 | >20 | N |
| West Hill Trunk Diversion | No | 6.63 | 16.4% | 19.2% | 9.7 | 11.4 | 17.4% | 11-20 years | 6-10 years | N |
| South Green River – Soos Creek | | | | | | | | | | |
| Black Diamond Pump Station Upgrade | Yes | 1.37 | <10% | <10% | 0.4 | 0.9 | 108.0% | >20 | >20 | Y |
| Black Diamond Trunk Storage and Replacement (2 Phases) | Yes | P1=22.2/P2=60.3 ¹ | 214.6% | 156.0% | 1.9 | 3.9 | 108.0% | 11-20 years | <2 years | N |

Notes:

1. P1 = Total Cost Estimate for Phase 1, P2 = Total Cost Estimate for Phase 2.
2. Storage Project would not result in opportunity to coordinate with O&M needs therefore not applicable.
3. No facility condition available due to lack of access to inspect facility.
4. Proposed project to address need would install pipe in area where not WTD asset currently exists therefore O&M needs are not applicable.
5. After ESI Section 8 Storage is on-line 2030 capacity increases to 11-20 years.

Prioritization Color Coding

Yellow = High
Green = Medium
White = Low

Next Steps

- ▶ Finalize prioritization
- ▶ Prepare CSI Program Update report
 - Summarize regional conveyance needs and conceptual projects to address them
 - Present project prioritization
 - General schedule for implementation

References

- ▶ General CSI Program Information
<http://www.kingcounty.gov/services/environment/wastewater/csi.aspx>
- ▶ Regional Needs Assessment
http://www.kingcounty.gov/~media/services/environment/wastewater/csi/docs/1505_Final_RNA_web.ashx?la=en
- ▶ Conceptual Projects to Address Identified Capacity Needs
http://www.kingcounty.gov/~media/services/environment/wastewater/mwpaac/docs/2016/2016_08_04_EandP_Conceptual-Projects-to-Meet-Identified-Capacity-Needs.ashx?la=en

Contact

Steve Tolzman, CSI Program Manager

206.477.5459

steve.tolzman@kingcounty.gov