

Ship Canal Water Quality Project

Project Cost Update

Metropolitan Water Pollution Abatement Advisory Committee

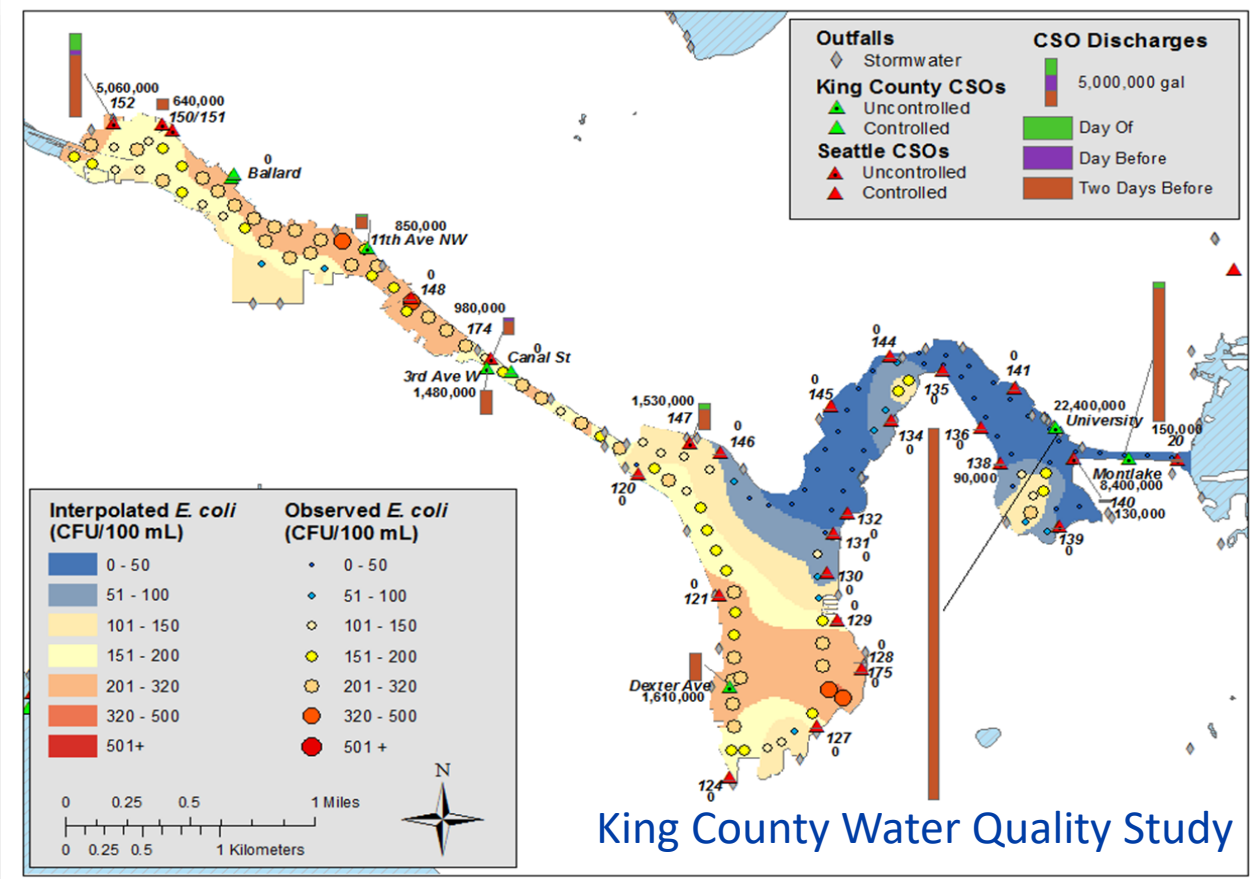
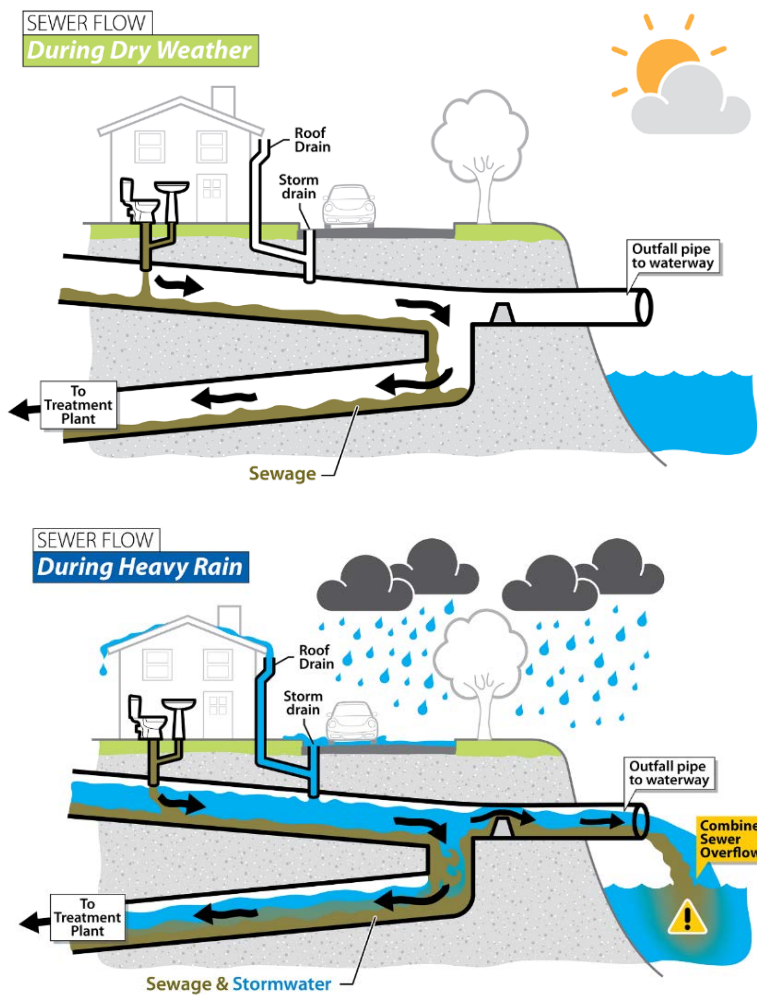
June 27, 2018

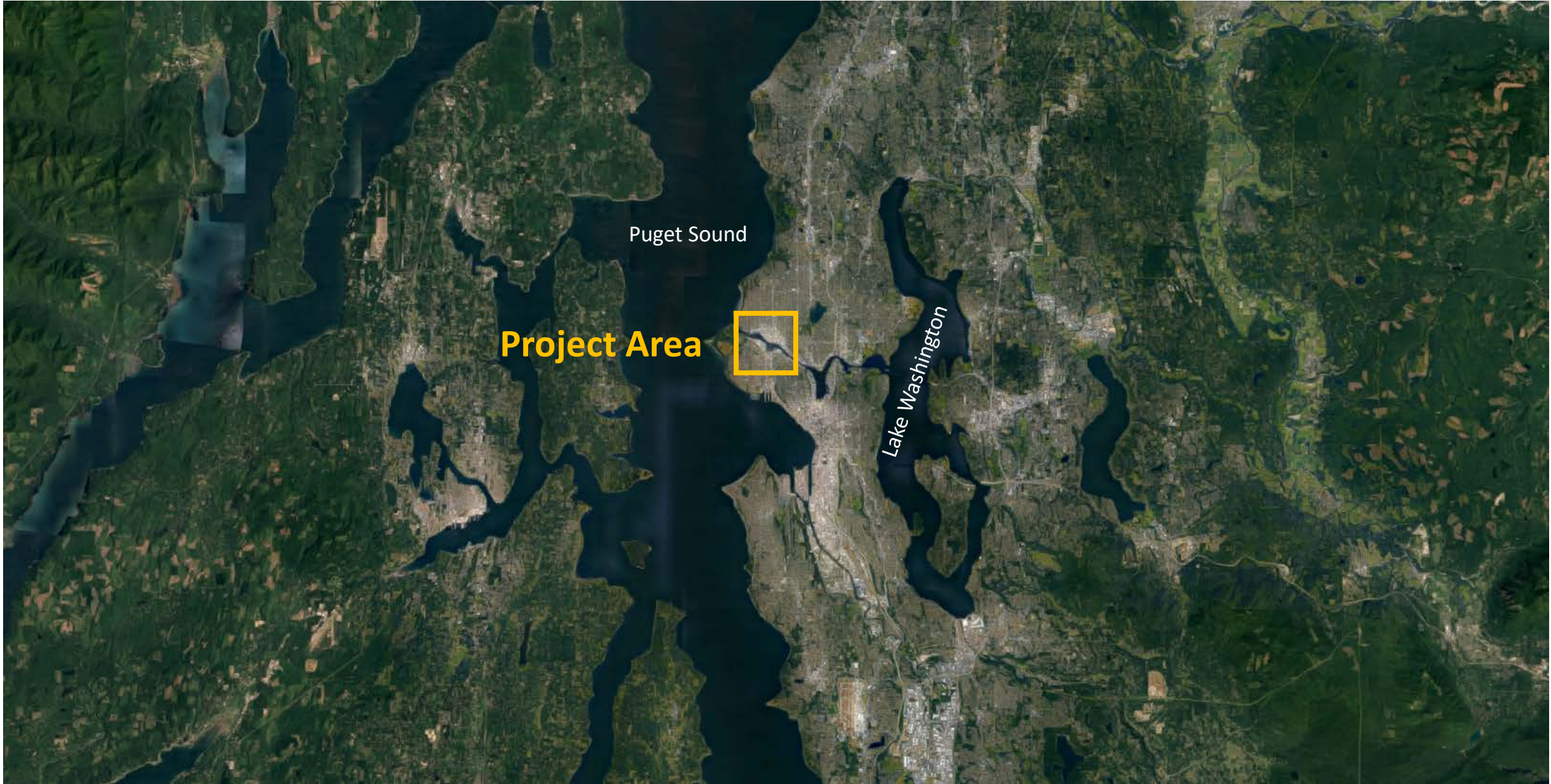


Ship Canal Water Quality Project

- Project overview
- Cost reconciliation and review process
- Potential scope adjustments
- Cost estimate

Combined Sewer Overflows





Puget Sound

Project Area

Lake Washington

Ship Canal Water Quality Project

Consent decree

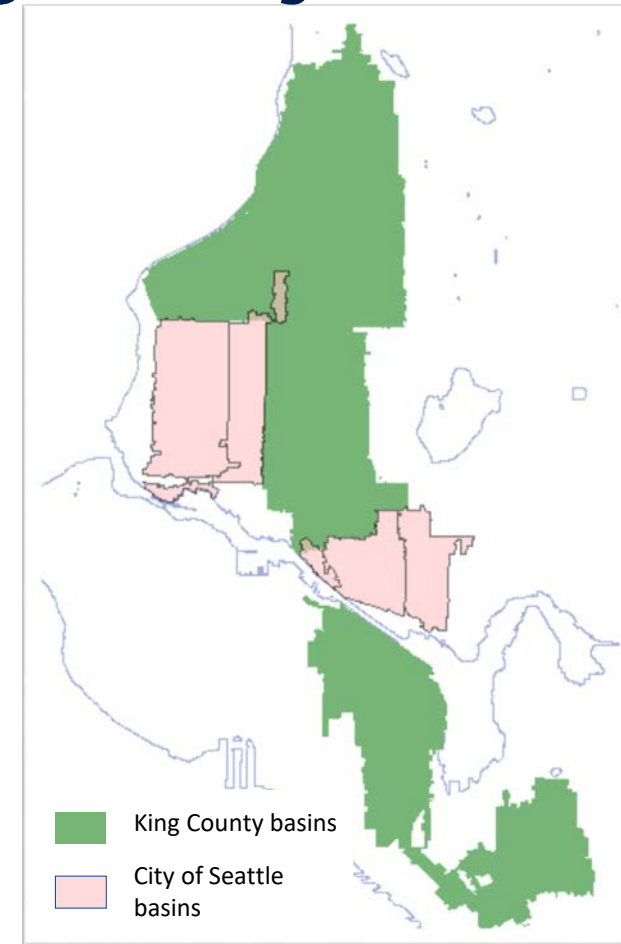
- With US Department of Justice, US Environmental Protection Agency, and WA Department of Ecology
- Less than 1 combined sewer overflow per outfall per year on a 20-year moving average

Joint Project

- Outfalls: 2 King County, 5 Seattle
- Four projects reduced to one
- Reduced community impacts
- Improved operational flexibility

Joint Project Agreement

- 12/8/2015: City of Seattle – 65% of shared costs
- 6/21/2016: King County – 35% of shared costs



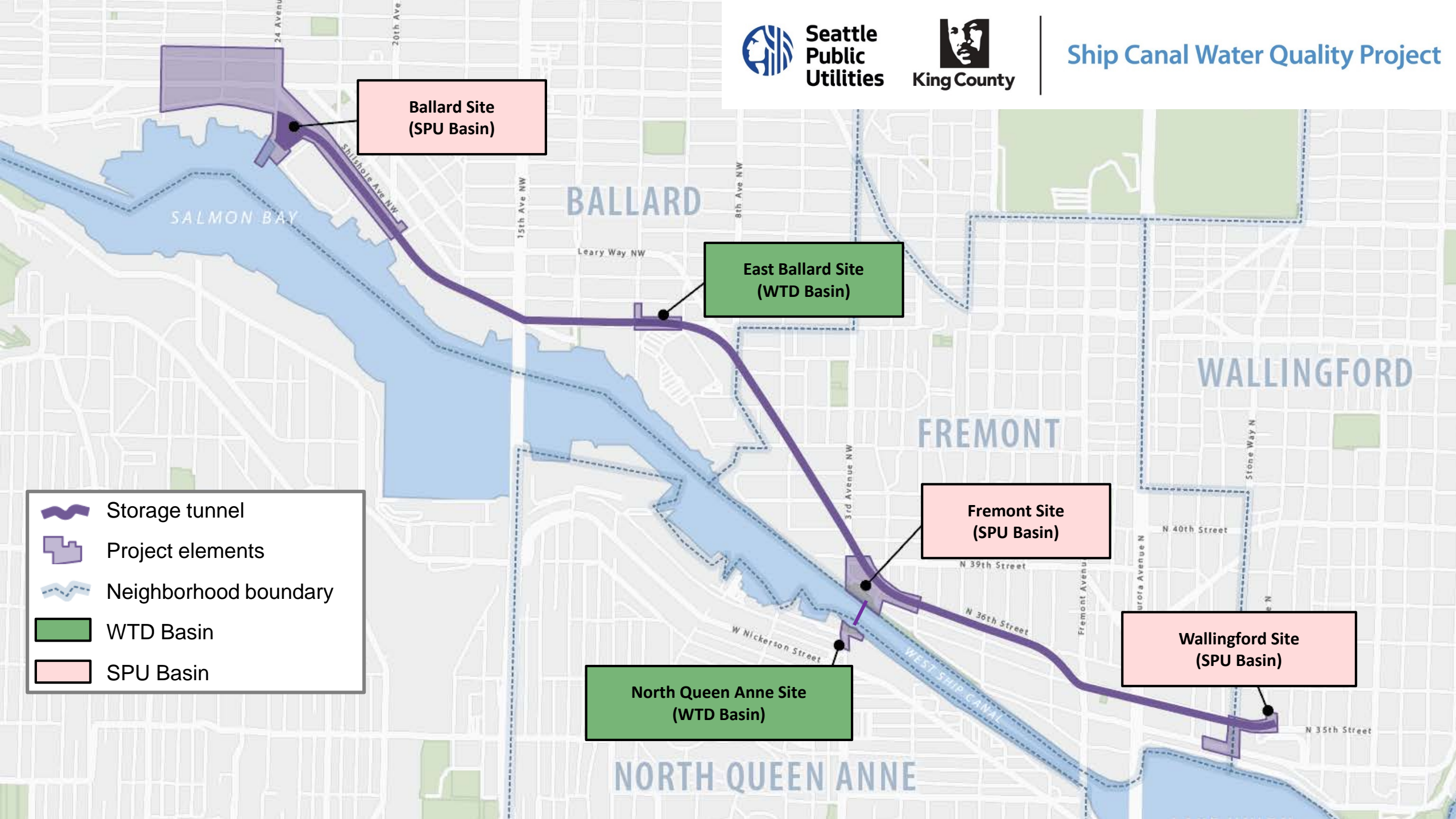


Seattle
Public
Utilities

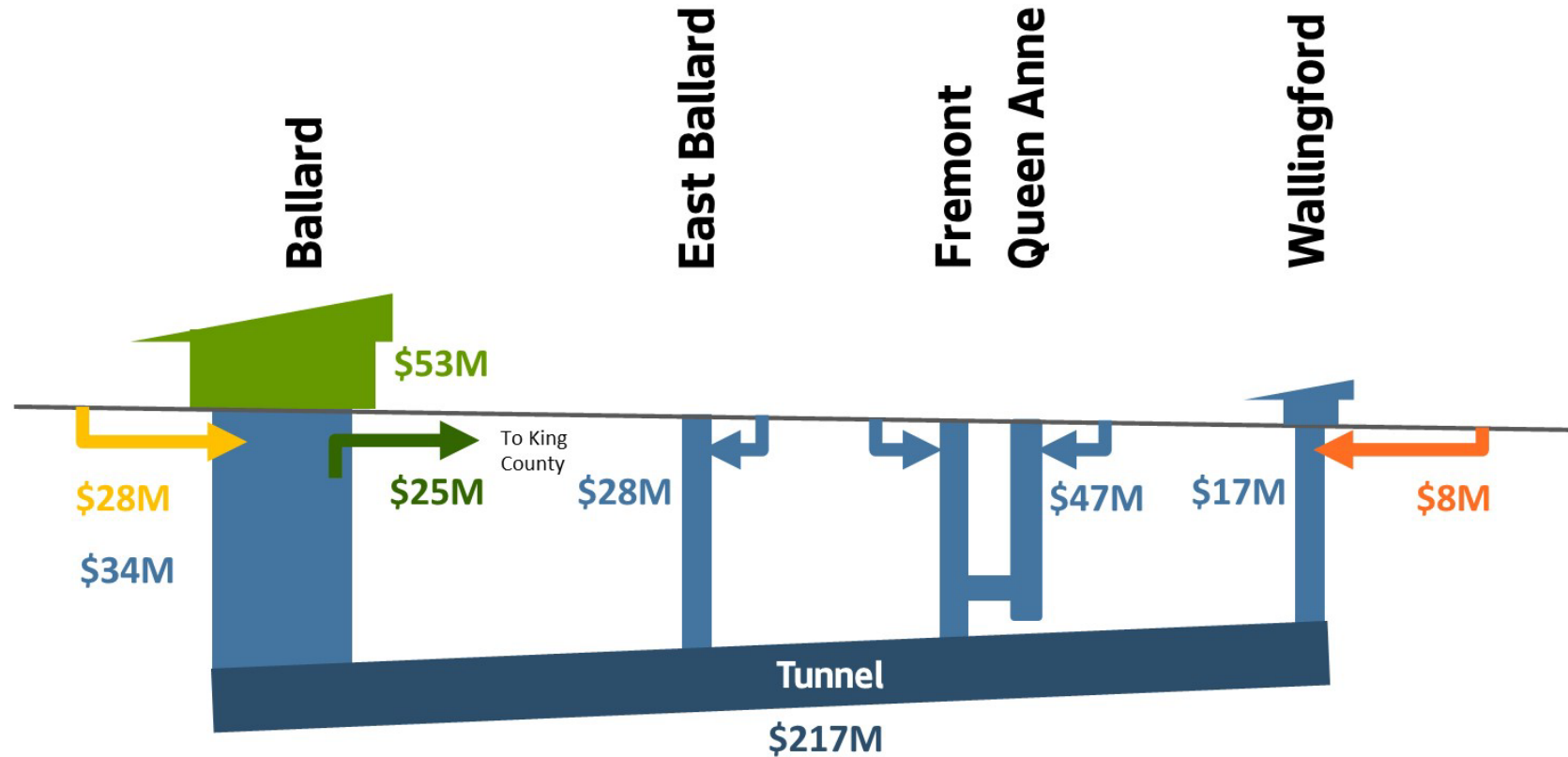
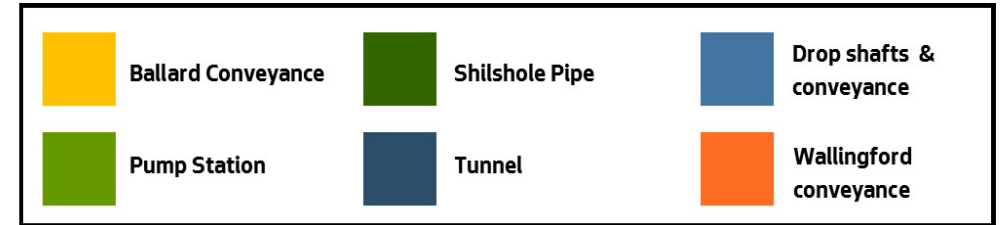


King County

Ship Canal Water Quality Project

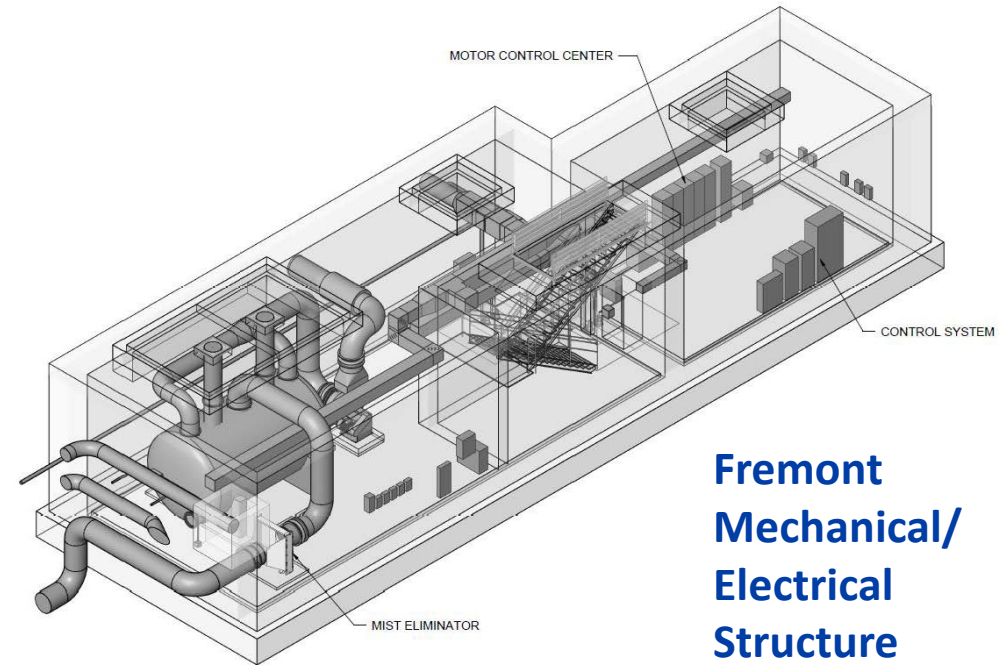
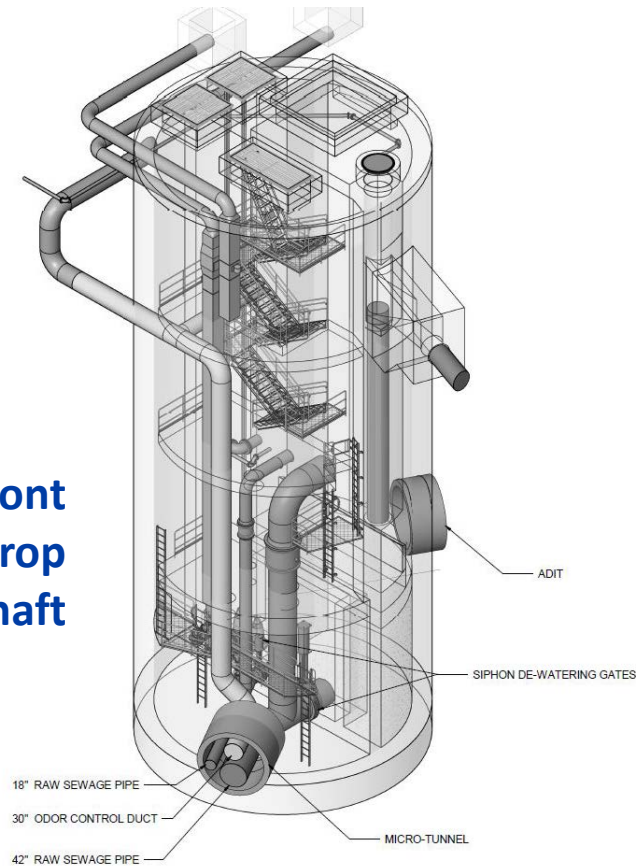


Project Components



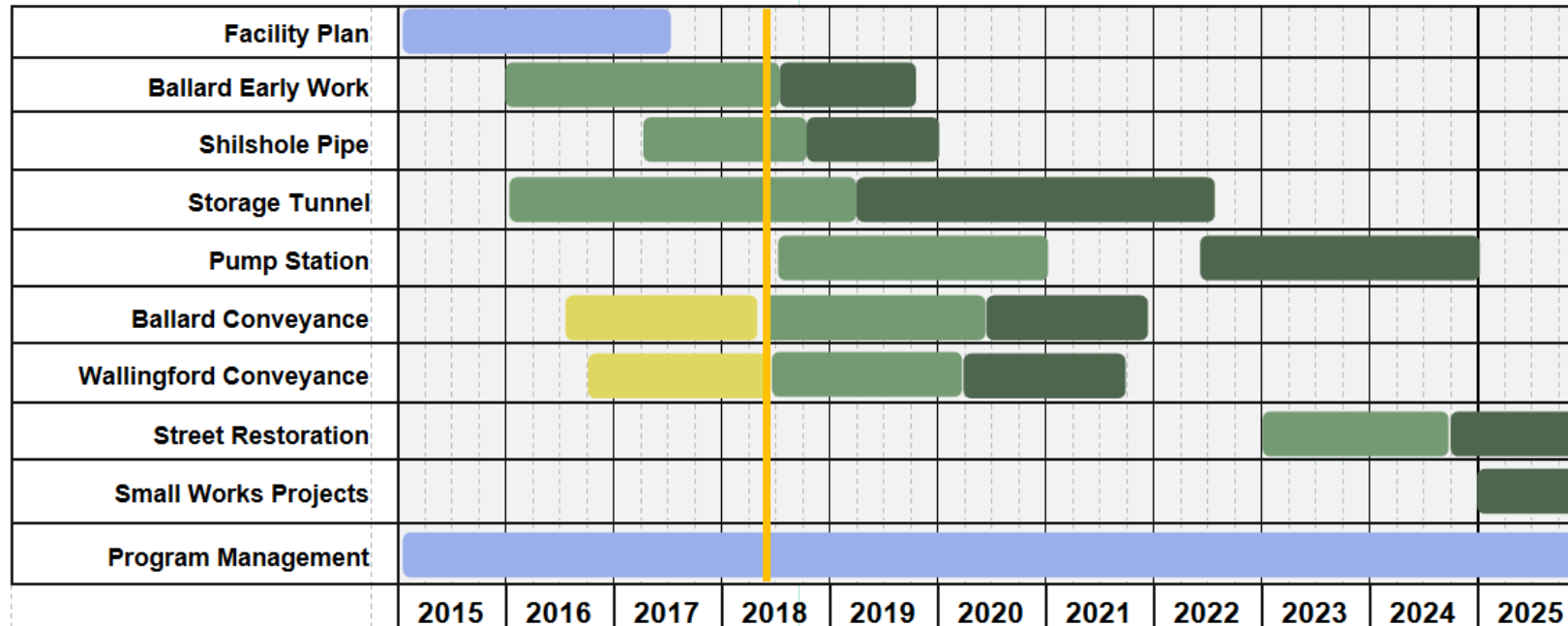
Project Components - examples

**Fremont
Drop
Shaft**



**Fremont
Mechanical/
Electrical
Structure**

Project Schedule



Planning and Management



Options Analysis



Design



Construction



Cost Estimate – Key Steps

Year	Milestone	Level of design definition	Cost estimate or change
2014	Facility Plan	2 to 5% Design	\$423M (\$338M to \$550M range)
2015-2017	Scope and cost reductions	2 to 60% Design	(-\$35M reduction)
2017	Anticipated tunnel volume & escalation increases	5 to 90% Design	(+ \$45M to \$80M increase)
2017	Strategic Business Plan & approved budget	5 to 90% Design	\$540M
2017-2018	Cost estimate review and reconciliation process	10 to 95% Design	\$570M with a 65% confidence (\$533M to \$598M range)

Cost Estimate Review and Reconciliation Process



Cost Estimate – Key Factors



escalation

uncertainty

risks

Potential Scope Adjustments & Risks

Potential cost reductions identified in the past two months

Scope element		Estimated Cost *	
A	Previous cost reductions	-\$34.8M	
B	Tax exemption	-\$22M	
Scope element		Estimated Cost *	Risks
1	Tunnel bid alternative	-\$8M	Complies with regulatory requirement but reduces operational flexibility
2	Use of selective refurbished Tunnel Boring Machine	-\$2.5M	Possibly reduced tunnel boring machine performance
3	Pump Station Value Engineering Recommendations	-\$4M	May not fully be able to realize the potential cost savings
4	No odor control at 3rd, Fremont, and 11 th Sites	-\$1.5M	Need to phase in equipment if there are future odor complaints
5	Construction of Wallingford and Ballard Conveyance projects earlier	-\$1M	Defers other projects and may be offset due to escalation on other projects
6	SDOT Street Use Permit Credit	-\$3M	None
7	Construction staging cost reduction	-\$0.8M	May be reflected in slightly higher bid costs
Total		-\$20.8M	

* = Estimates need to be verified by engineering and modeling

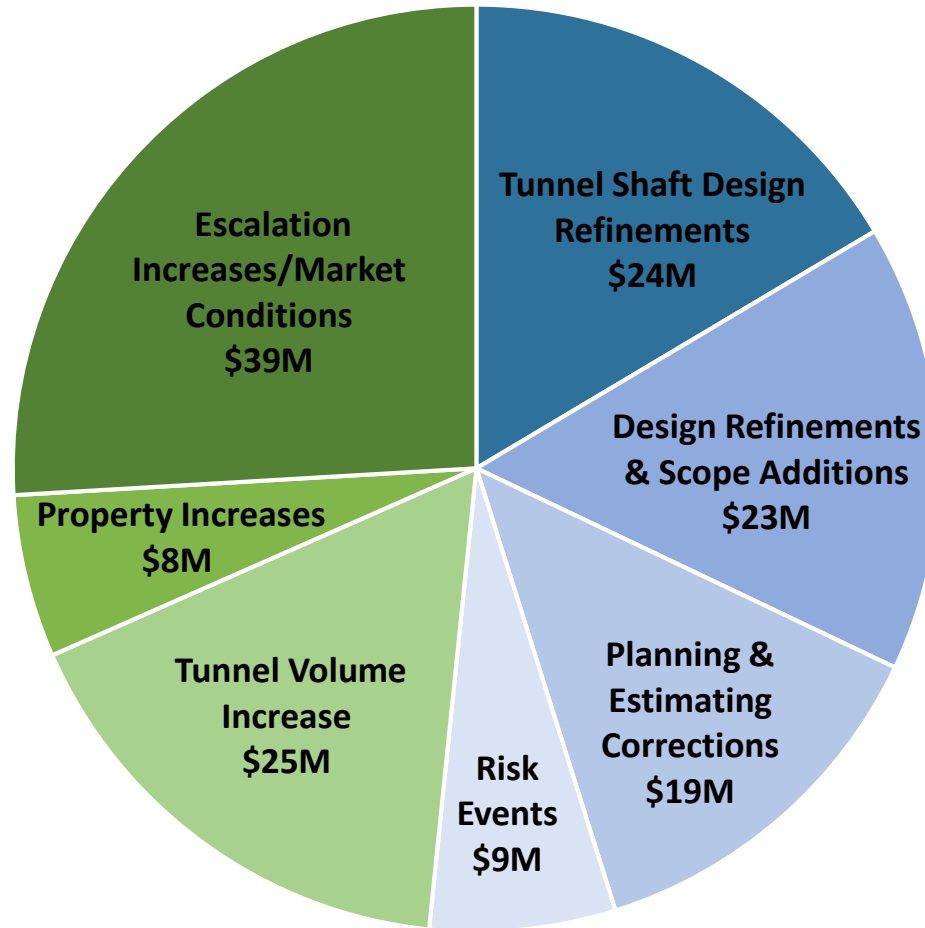
Shared Project Cost Estimate: \$570M with 65% confidence*

City of Seattle's share is approximately \$393M
King County's share is approximately \$176M to 179M

Cost Categories	New Budget Estimate with Reductions (\$M)	
Base Costs (Hard + Soft + Property) & Change Orders	\$467	
Escalation	\$60	
Cost Reductions due to Scope Changes	-\$21	
Cost Uncertainty	\$16	
Risk Costs	\$34	
Schedule Risk Impact Costs	\$14	
Schedule Risk Impact Escalation	\$0	
Subtotal Cost Projection/% Confidence	\$570*	65%

*If all potential scope reductions are achieved, there is a 65% chance costs will be at or below the estimated cost and a 35% chance the estimated cost will be exceeded. A cost range of \$533M to \$598M is recommended around the \$570M budget.

2014 to 2018 Variance: \$423M to \$570M or \$147M*



*\$570M with a 65% confidence and a cost range of \$533M to \$598M with potential scope reductions realized.

Questions?

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**Seattle
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King County

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