

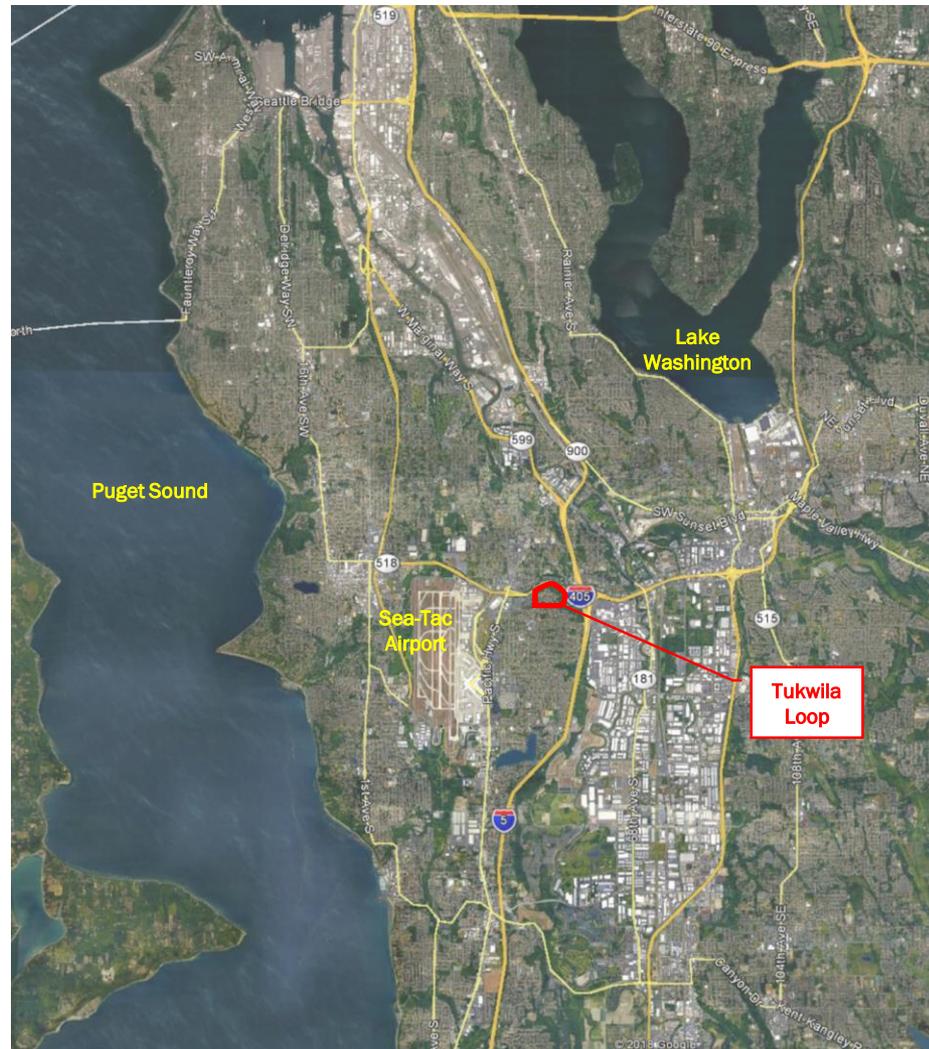
April 4th, 2019



BRINGING SEWERS TO UN-SEWERED URBAN AREAS: A SUCCESS STORY

Presented by John Hendron and Zach Schrempp

TUKWILA LOOP NEIGHBORHOOD BACKGROUND

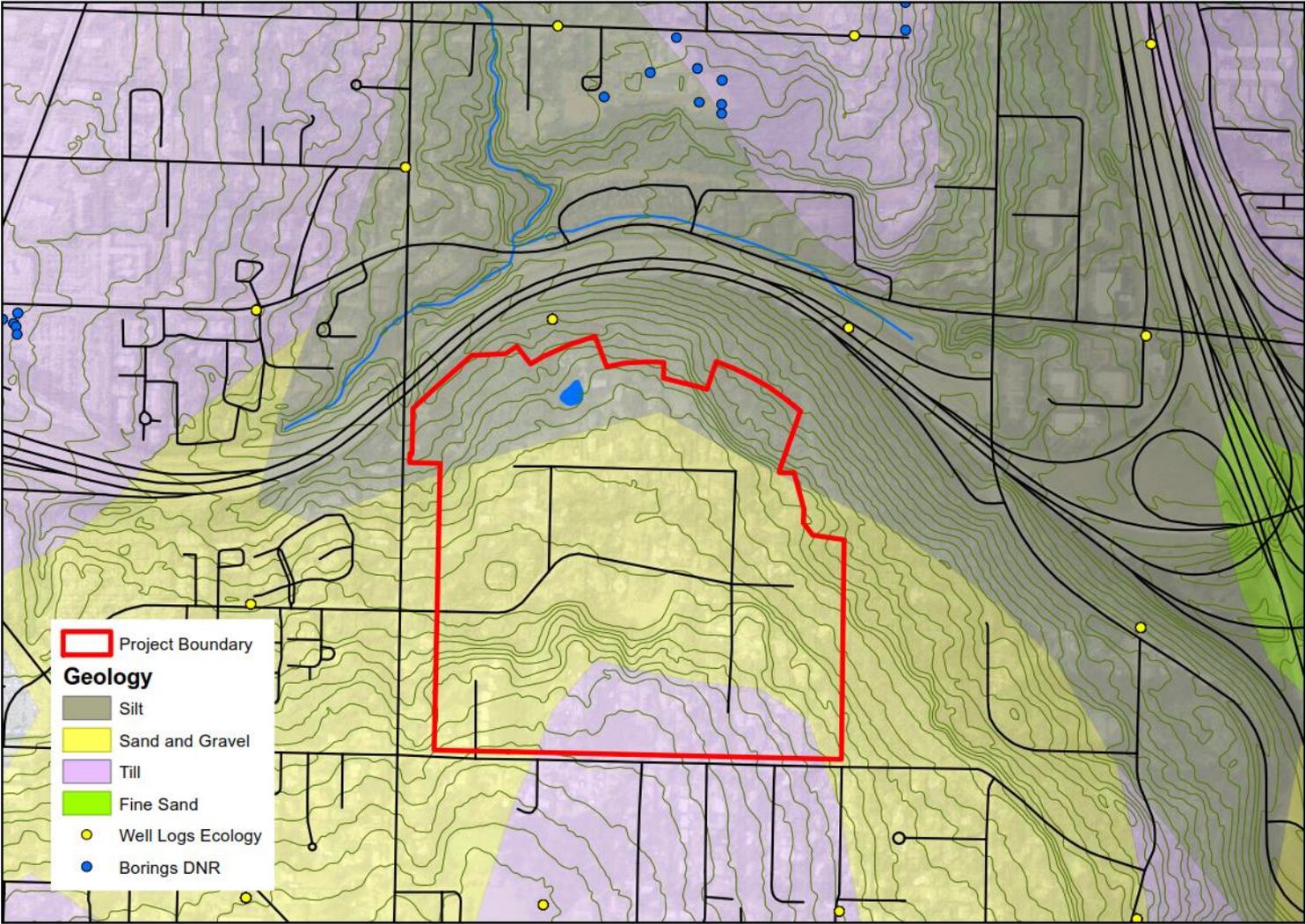


TUKWILA LOOP NEIGHBORHOOD BACKGROUND

- Approximately 70 acres, 140 existing homes
- One of the last unsewered urban areas in Valley View Sewer District's service area
- Many failed septic systems



SOILS AND FAILED SEPTIC SYSTEMS



ORIGINAL PROJECT CONCEPT

- Opportunity seen to construct gravity sewers through the neighborhood as one large project



SUMMARY OF SUCCESSFUL PROJECT



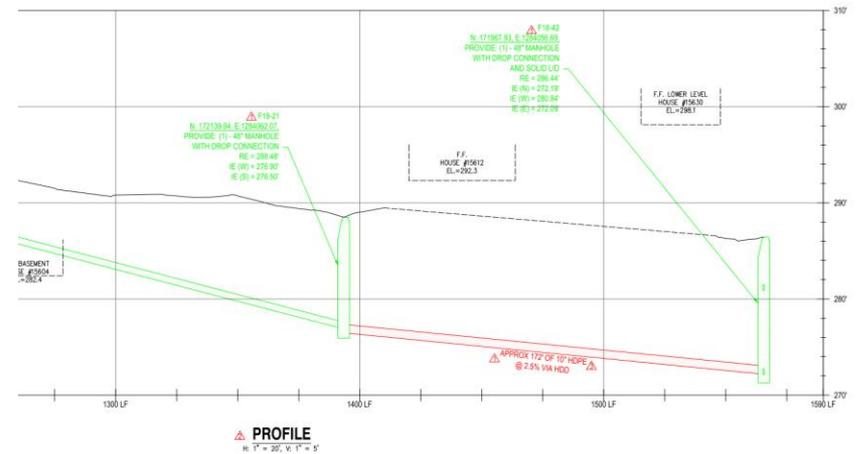
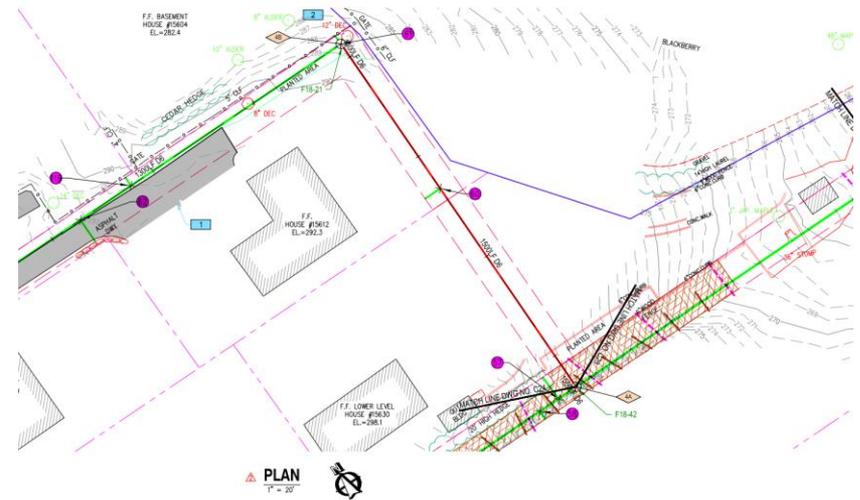
- Grant and loan funding for sewers was obtained from DOE and King County (CDBG)
- Project was constructed as District extension in 2018-2019
- As of early 2019, 84 percent of property owners had connected to the system

IMPORTANT POINTS FOR PROJECT SUCCESS

1. Components of a Successful Grant Application
2. Public Outreach
3. Easement Negotiation
4. Innovative Construction and Bidding
5. Progressive Connection Charge
6. Tukwila Connection Ordinance

FUNDING FOR \$6.8 MILLION PROJECT COST

- The majority of this project was grant-funded
 - Project was ranked 3rd out of 160 statewide applications
 - \$4.5 million in DOE grant funding
 - \$300,000 in CDBG Grant for low income
- Remainder in forgivable interest loan from DOE



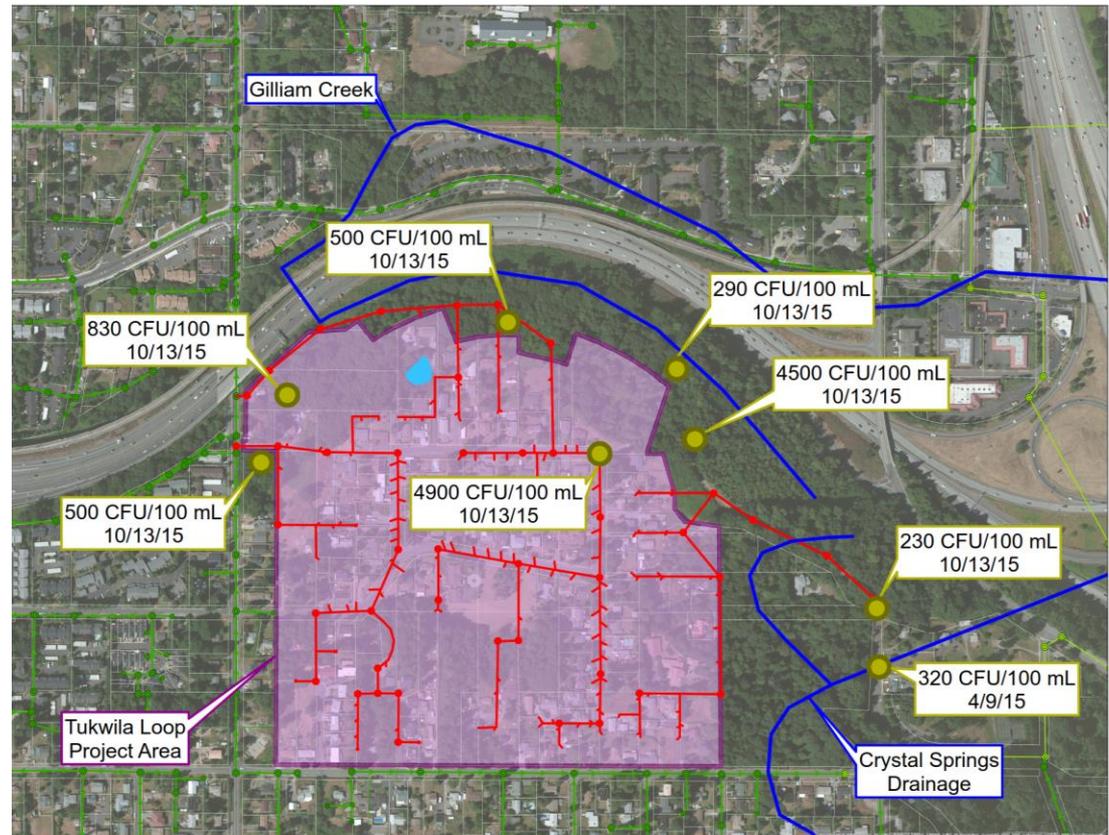
DEPARTMENT OF ECOLOGY GRANT FUNDING



- Components of the successful grant application:
 - Letters of support from Muckleshoot Tribes and Tukwila
 - Working closely with DOE staff to determine ways to strengthen application
 - There was strong evidence that septic systems impacted surface water quality, and that this project would address that problem

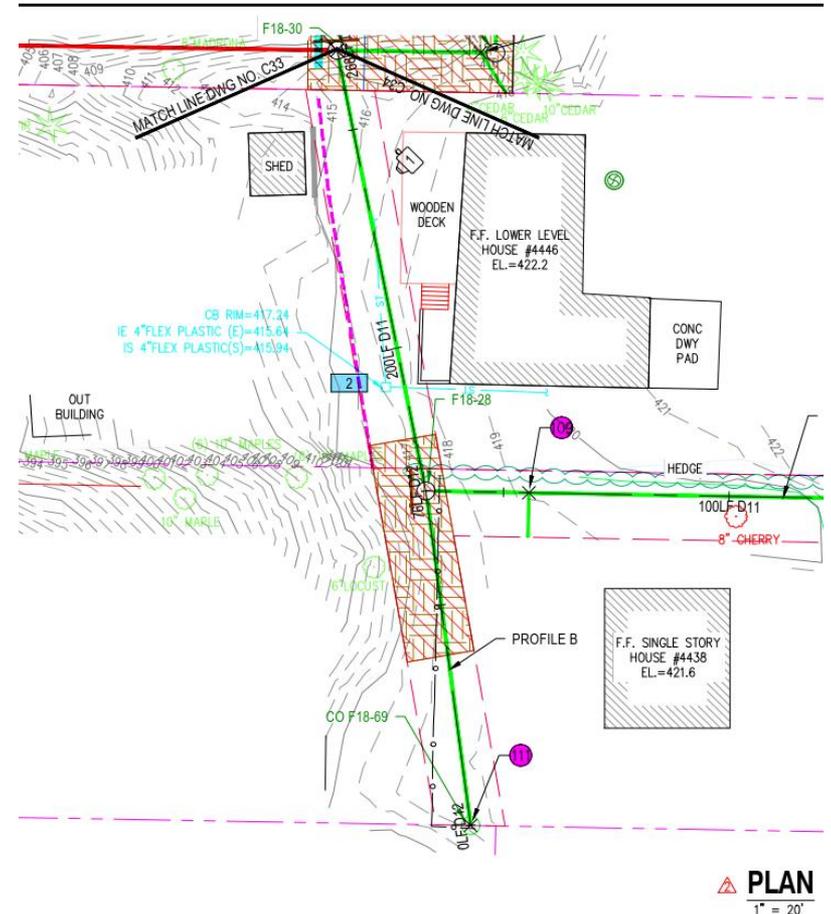
SURFACE WATER QUALITY TESTING

- Current and historic coliform testing of surface waters showed elevated levels downstream of the Loop
 - Immediately downstream, Tukwila 42nd Ave S project to improve fish passage in Gilliam Creek



PUBLIC OUTREACH AND CDBG

- Open house
 - Breakout sessions for participants to ask questions 1-on-1
- Community Development Block Grant
 - Pays for installation of sewer for low-income households
 - Gains project support from those who want sewers, but do not want their low-income neighbors to be forced into the project



EASEMENT NEGOTIATION AND ACQUISITION

- 80 easements were acquired, but more were prepared
 - Iterative process
- District manager relentlessly pursued agreements
 - Having a staff member working as an advocate for the job is critical to acquire all necessary easements
 - Begin with “softer” techniques, then slowly escalate
 - Modest offer -> Professional appraisal -> Condemnation process if necessary
 - The presence of a staff member in the field frequently interfacing with property owners spreads knowledge of the benefits of sewers

EASEMENT NEGOTIATION AND ACQUISITION



CONSTRUCTION PHASE 1: SEWER MAINS

- Primarily traditional open-cut construction
- Directional drilling, curved sewers used on challenging alignments
- Approximately \$450,000 was saved on Phase I by re-using native backfill instead of using imported backfill



CONSTRUCTION PHASE 2: SIDE SEWERS

DESCRIPTION	BID AMOUNTS
Schedule A – Individual Pump Stations – North Central	\$
Schedule B – Plumbing Relocations – Dispersed	\$
Schedule C – Northwest	\$
Schedule D – West	\$
Schedule E – Southwest	\$
Schedule F – North Central	\$
Schedule G – Central	\$
Schedule H – South Central	\$
Schedule I – Northeast	\$
Schedule J – East	\$
Schedule K – Southeast	\$

Item No.	Item Description	Project Lot ID No.	Qty	Unit	Unit Price	Total
A1	Mobilization/Demobilization (8% Maximum)		1	LS	\$	\$
A2	Shoring & Trench Safety Systems (Minimum \$1/LF)		240	LF	\$	\$
A3	Individual Pump Station and Force Main for 4420 S 156 th Street, Tukwila 98188	4	1	LS	\$	\$
A4	Individual Pump Station and Force Main for 4422 S 156 th Street, Tukwila 98188	5	1	LS	\$	\$
A5	Individual Pump Station and Force Main for 4432 S 156 th Street, Tukwila 98188	6	1	LS	\$	\$
A6	Individual Pump Station and Force Main for 15518 44 th Place S, Tukwila 98188	7	1	LS	\$	\$
A7	Common Force Main, 1.5-inch and 2-inch Diameter		750	LF	\$	\$
A8	Excavate and Haul Unsuitable Material and Replace with Select Backfill		10	TN	\$	\$
A9	3-inch Thick Concrete Patio Restoration with Welded Wire Fabric		12	SY	\$	\$
A10	E-One Unit Decorative Rock		2	EA	\$	\$
TOTAL BID SCHEDULE A \$						\$

- Side sewers are built for property owners who chose to connect at time of project construction
- Individual pump stations implemented in a few locations where gravity sewer not possible
- 11 separate construction contracts for side sewers to allow small contractors

PROGRESSIVE CONNECTION CHARGE

- Discounted connection charge for those connecting at time of construction
 - Side sewer included at time of construction but not for later connections
- Future connections/future development charges higher

<u>Charge Type</u>	<u>2018 Connection</u>	<u>2019 Connection</u>
SFR	\$4,250	\$9,000 + 3% per yr
New Lot	N/A	\$15,000 + 3% per yr

TUKWILA SEWER CONNECTION ORDINANCE

- Tukwila Loop property owners required to connect to sewer:
 - Title change/sale of property
 - Major remodel
 - Septic system failure/repair

CONCLUSIONS

- 84 percent of property owners have connected to the system
 - The speculation risk incurred by the District in constructing this project paid off
- The project achieved all of its goals, and can serve as a model of the steps necessary to successfully conduct public outreach, design, fund, and construct a collection system in a large un-sewered urban area

