



**Seattle  
Public  
Utilities**



**King County**

# Ship Canal Water Quality Project

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Project Manager**

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**3<sup>rd</sup> Ave W Water Main  
Project Manager**



**January 3, 2018**



# Agenda

## Projects overview

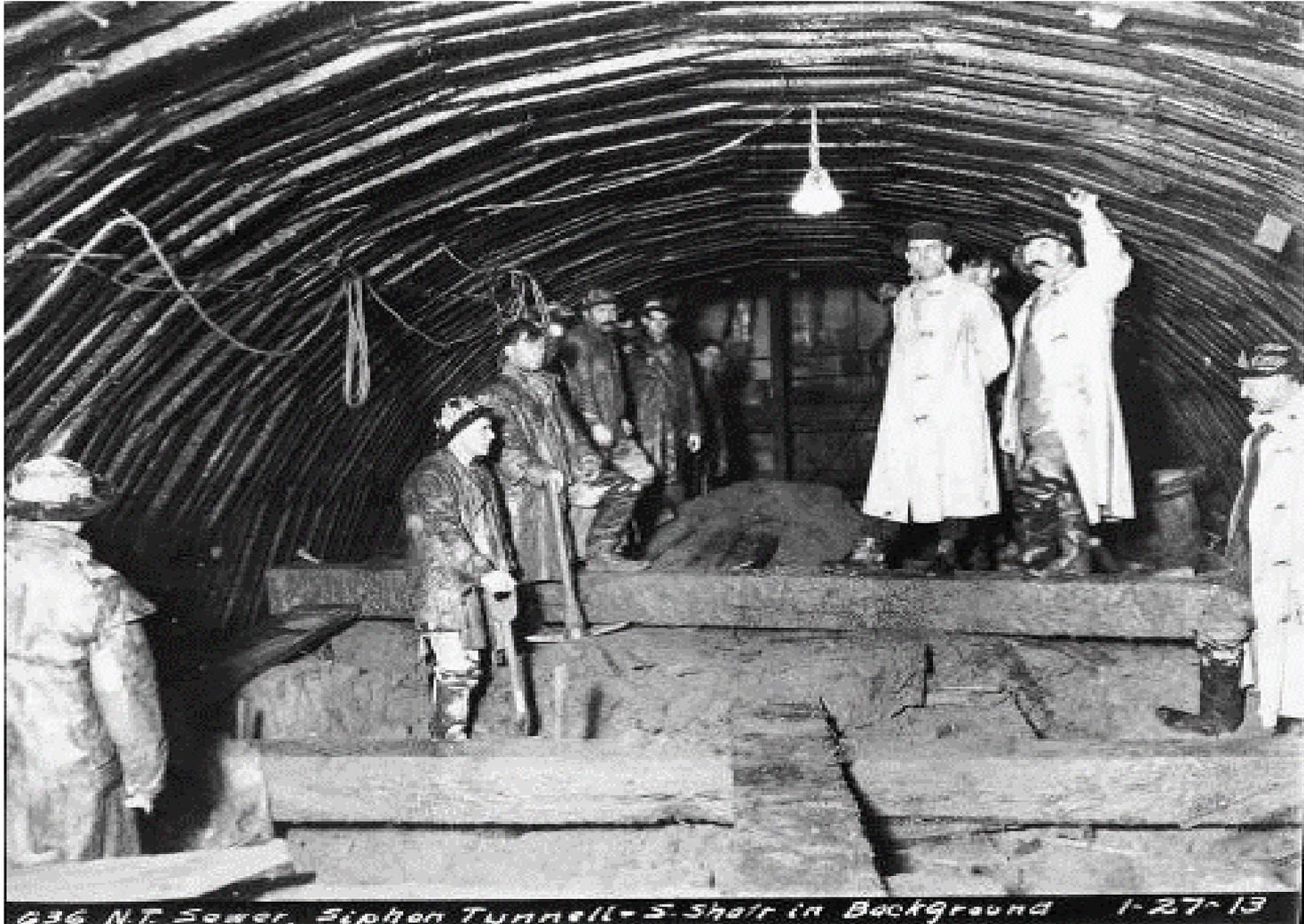
- 3<sup>rd</sup> Avenue W Water Main Replacement
- Ship Canal Water Quality Project

## Tree overview

- Regulations
- Mitigation
- Neighborhood impacts

## Questions

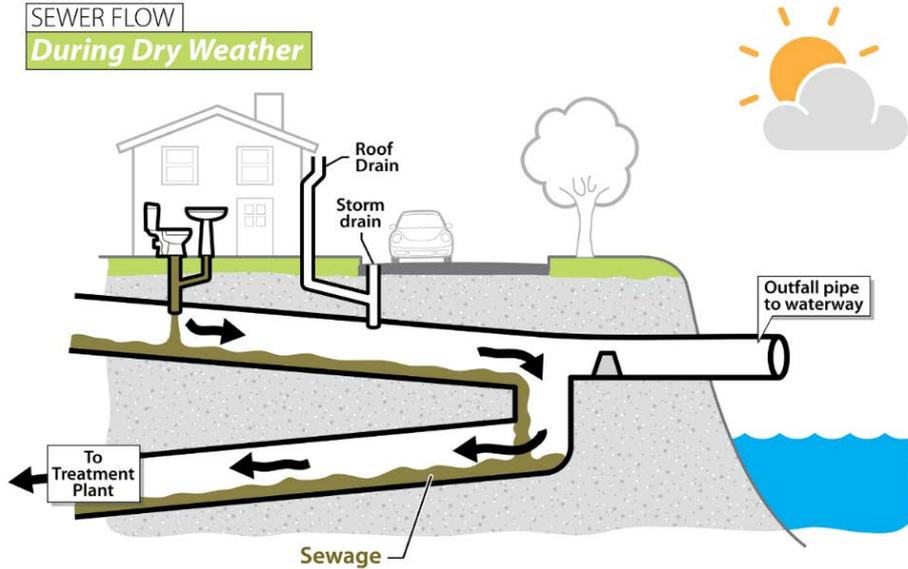
# 3rd Avenue West Water Main Replacement



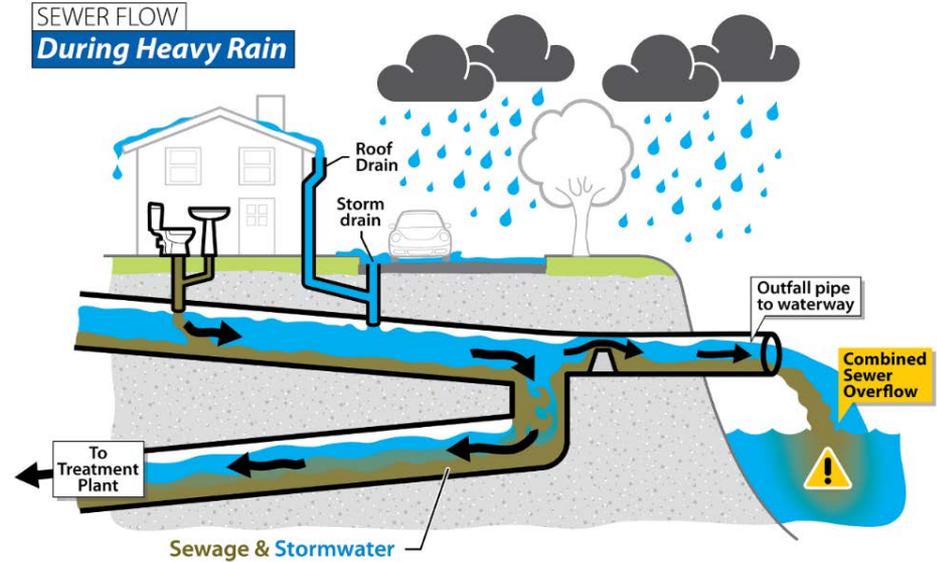


# Combined Sewer Overflows

SEWER FLOW  
During Dry Weather



SEWER FLOW  
During Heavy Rain





# Ship Canal Water Quality Project





# Tree Overview

SPU is committed to protecting and preserving trees wherever possible.

We balance this commitment with core sewer and drainage service delivery and the need to maintain critical underground infrastructure.

Our obligations:

- SMC 25.11 – tree protection
- SMC 15.43 – tree and vegetation management in public places
- SMC 23.60A – shoreline master program
- Executive Order 03-05 – 2-to-1 tree replacement



# Tree Inventory & Assessment

- 99 trees removed
  - 26 deemed exceptional
    - 13,183 sq ft canopy cover in Ballard and Fremont
  - 6 dead or dying
- Reasons for removal:
  - Excavation for site remediation
  - Mechanical and odor control vaults
  - Drop shafts
  - Diversion structures
  - Above ground structures

# Tree Mitigation



**South Operations Center**





# Tree Mitigation

Project Site	Where we are replacing trees	# of Trees needed to meet 2:1 requirement*	# of Trees to be replaced on site	# of Trees to be replaced at SOC
Ballard	Ballard, SOC	74	26	48
East Ballard	East Ballard	10	25	0
Fremont	Fremont, SOC, East Ballard	22	16	4
Queen Anne	Queen Anne, SOC, East Ballard, Wallingford	66	13	17
Wallingford	Wallingford	8	31	0
<b>Total</b>		<b>180</b>	<b>111</b>	<b>69</b>

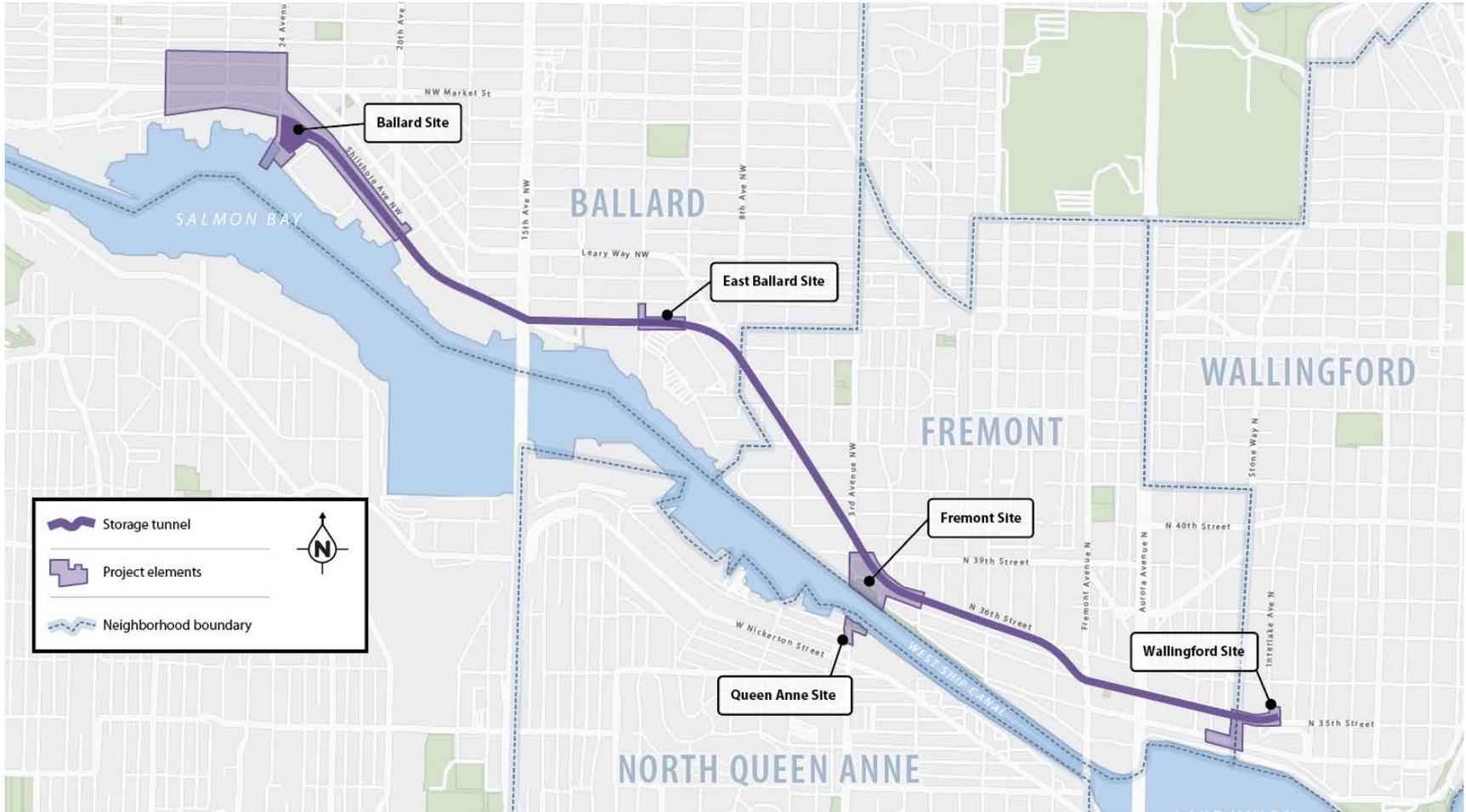


Sites where we are removing more trees than we are putting back

Sites where we are putting back more trees than we are removing



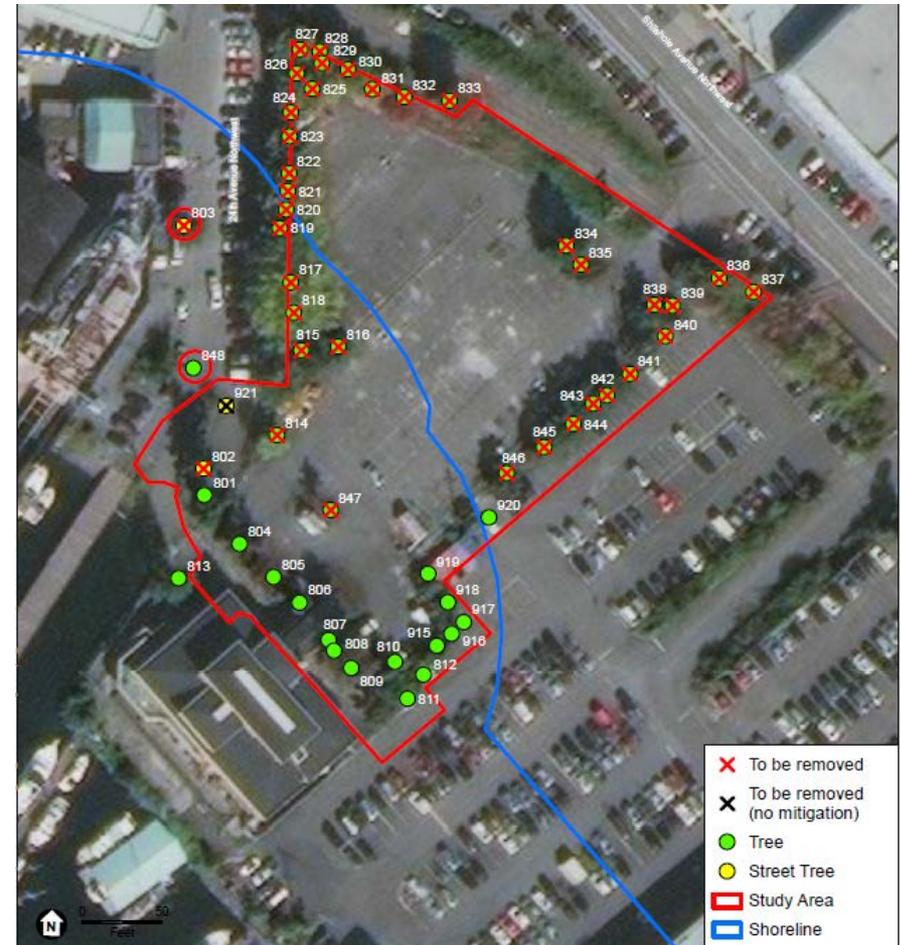
# Neighborhood Impacts





# Ballard

- Site remediation requires excavation of property's north end
- 38 trees removed (24 exceptional)
- 74\* replacement trees (26 on-site, 48 off-site)



\*Excludes sick/dead trees recommended for removal by the arborist



# East Ballard

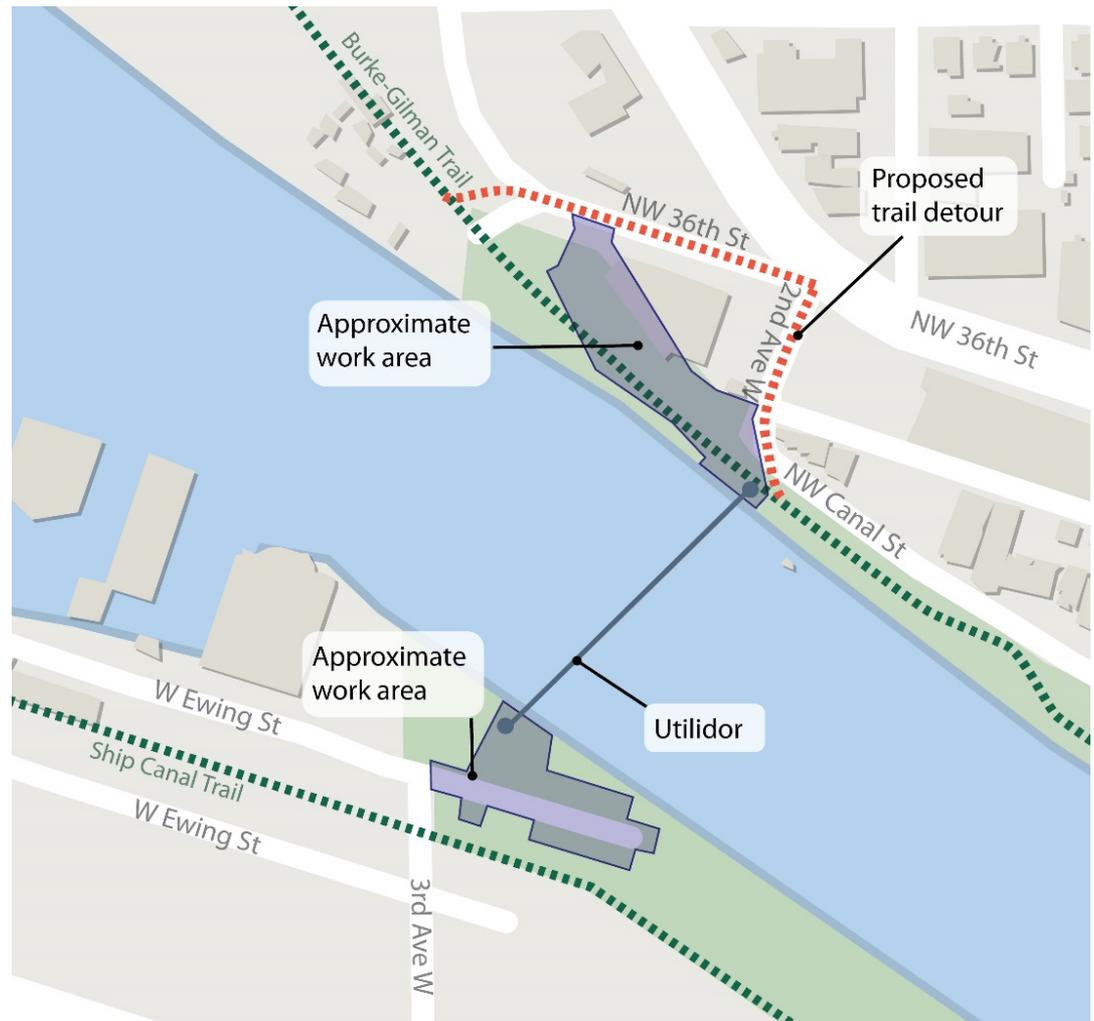
- Large underground mechanical and odor control vaults
- 5 trees removed (0 exceptional)
- 10\* replacement trees (25 on-site)



\*Excludes sick/dead trees recommended for removal by the arborist

# 3rd Avenue W Water Main Replacement

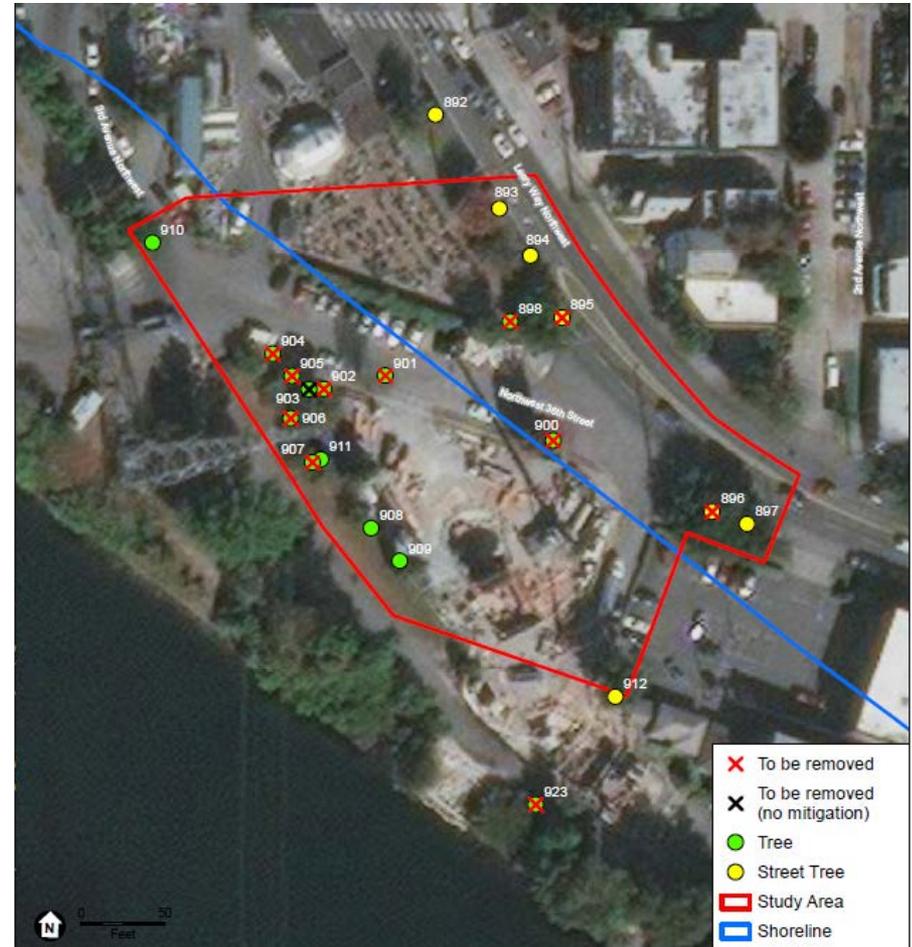
- New water 24" main beneath Ship Canal
- New 12" water main on north side of Ship Canal
- Shared tree removal and mitigation approach with Ship Canal Project





# Fremont

- Underground shaft and diversion structure locations conflict with trees
- 11 trees removed (2 exceptional)
- 22\* replacement trees (16 on-site, 4 off-site)



\*Excludes sick/dead trees recommended for removal by the arborist



# North Queen Anne

- Drop shaft and structure conflict with trees
- 33 trees removed (0 exceptional)
- 66\* replacement trees (13 on-site, 17 off-site)



\*Excludes sick/dead trees recommended for removal by the arborist



# Wallingford

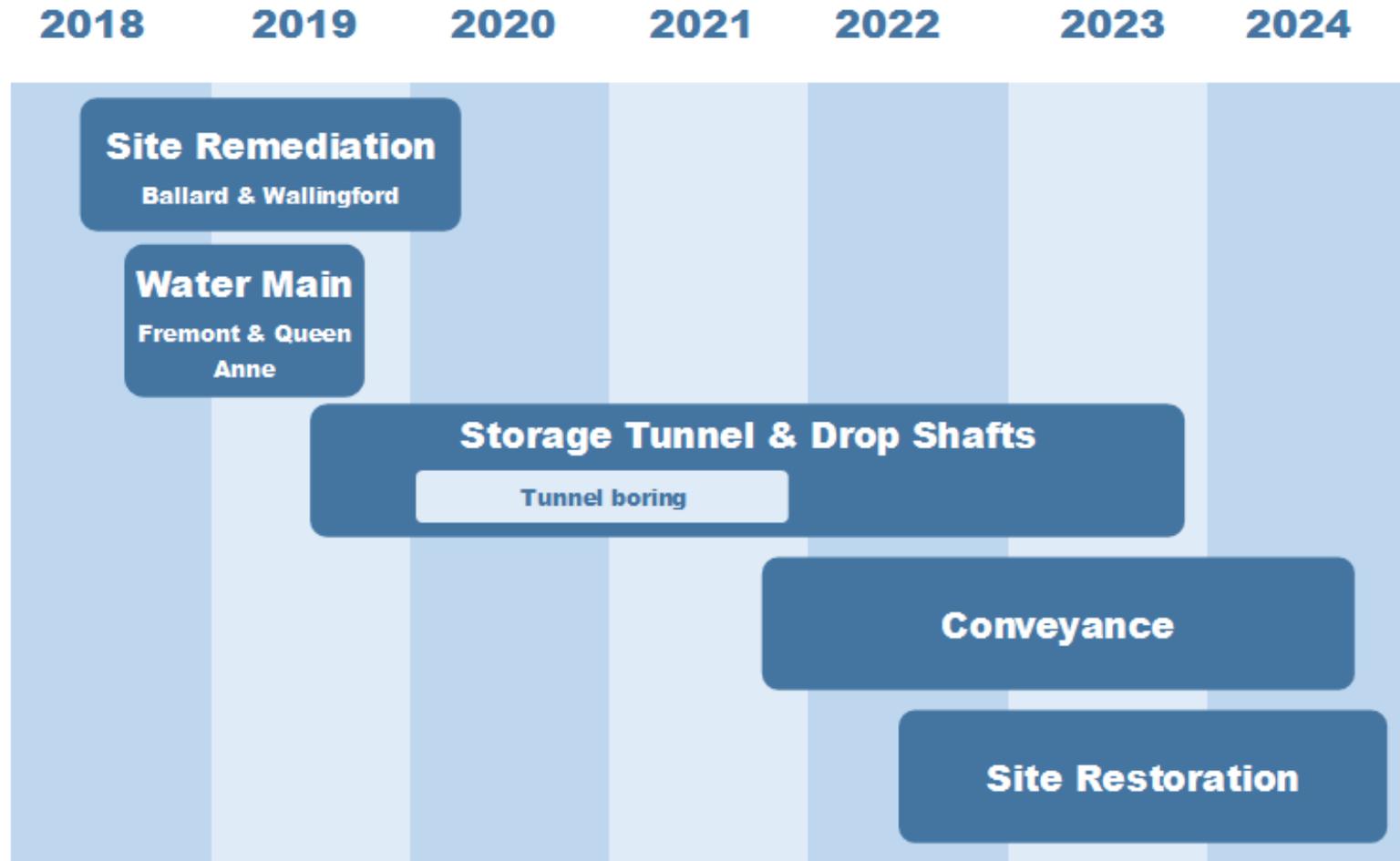
- Storage Tunnel & East Shaft
- Site remediation
- 4 trees removed (0 exceptional)
- 8\* replacement trees (31 on-site)



\*Excludes sick/dead trees recommended for removal by the arborist



# Construction Timeline





# Questions?

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- **Websites:**  
<http://www.seattle.gov/util/EnvironmentConservation/Projects/3rdAveWest/index.htm>  
[www.seattle.gov/util/ShipCanalProject](http://www.seattle.gov/util/ShipCanalProject)
- **Sign up for the project listserv to receive updates:**  
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<http://www.seattle.gov/lists/shipcanalproject.htm>