

Utilities

Lake Washington Lake Line Management Plan Project

Overview Presentation to ESC

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Agenda

1. In the beginning... A Lake Line History
2. Lake Washington Lake Line Challenges
3. Lake Washington Lake Line Management Plan



In the Beginning...

- Many species lived in Lake Washington.
- In the 1900s wastewater was being directly discharged into the lake... and development increased



- In 1940s – 50s, the nutrients in the lake caused unpleasant blooms of noxious blue-green algae



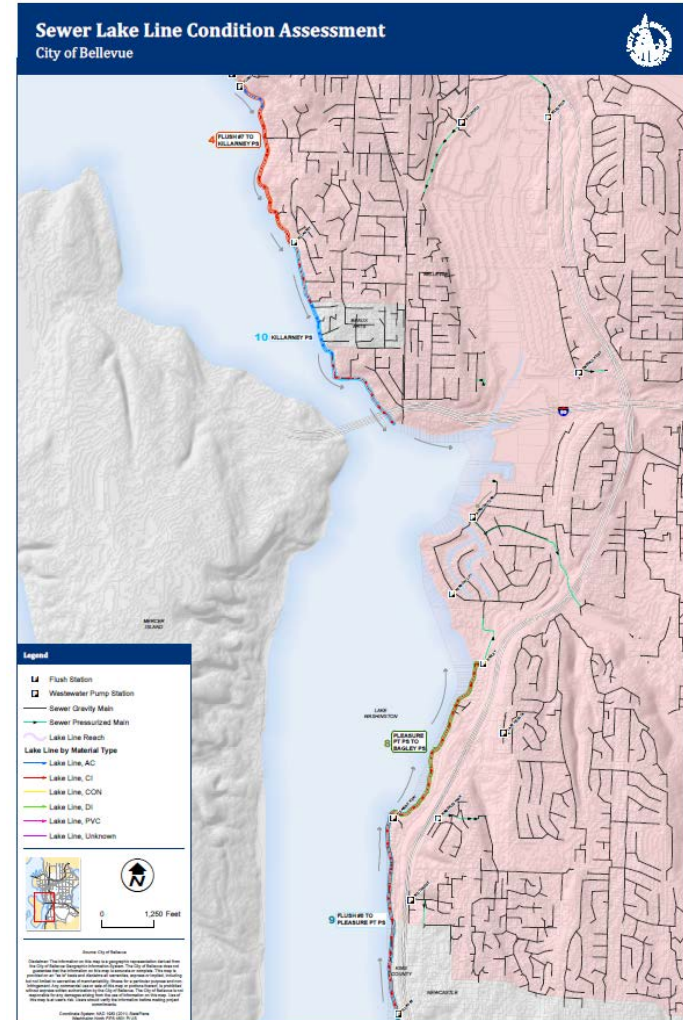
**If you stop discharging
sewer into Lake
Washington, the water
quality will improve
within 10 years**



...and cleanup begins

- 1950's: King County Metro begins clean-up of Nutrient-rich water
- 1950's- 1960's: King County Metro installs Lake Line Sewer Mains
- By 1975 Lake regained clarity.
- Present day, the Lake is twice as clear as 1950s.





Lake Washington Lake Lines in City of Bellevue Service Area

Jurisdiction	Approx. Length (Miles)	% of total Lk Wa Lake Lines
Yarrow Point	1.5	10%
Hunts Point	2.0	14%
Medina	4.5	31%
Bellevue	5.7	39%
Beaux Arts	0.3	2%
Unincorporated King County	0.6	4%
<i>TOTAL</i>	<i>14.6</i>	<i>100%</i>

Existing System Knowledge

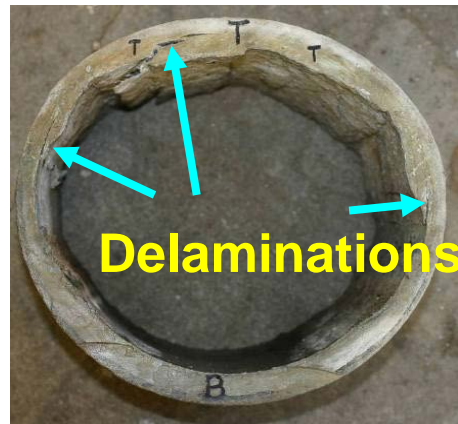
- Approximately 65 years old
- Poor asbuilt records
- Sags in the system
- Weekly flushing done by O&M
- Risk of Failure: Need more Condition Assessment.
- Condition of Pipes: 2016 Condition Assessment



Condition Assessment

➤ 2016 Condition Assessment

- In-water survey & mapping
- Ultrasonic testing & chemical analysis on 29 coupons
- Found varying degrees of deterioration for all pipe types (AC, DI, CI)



Problem Statement



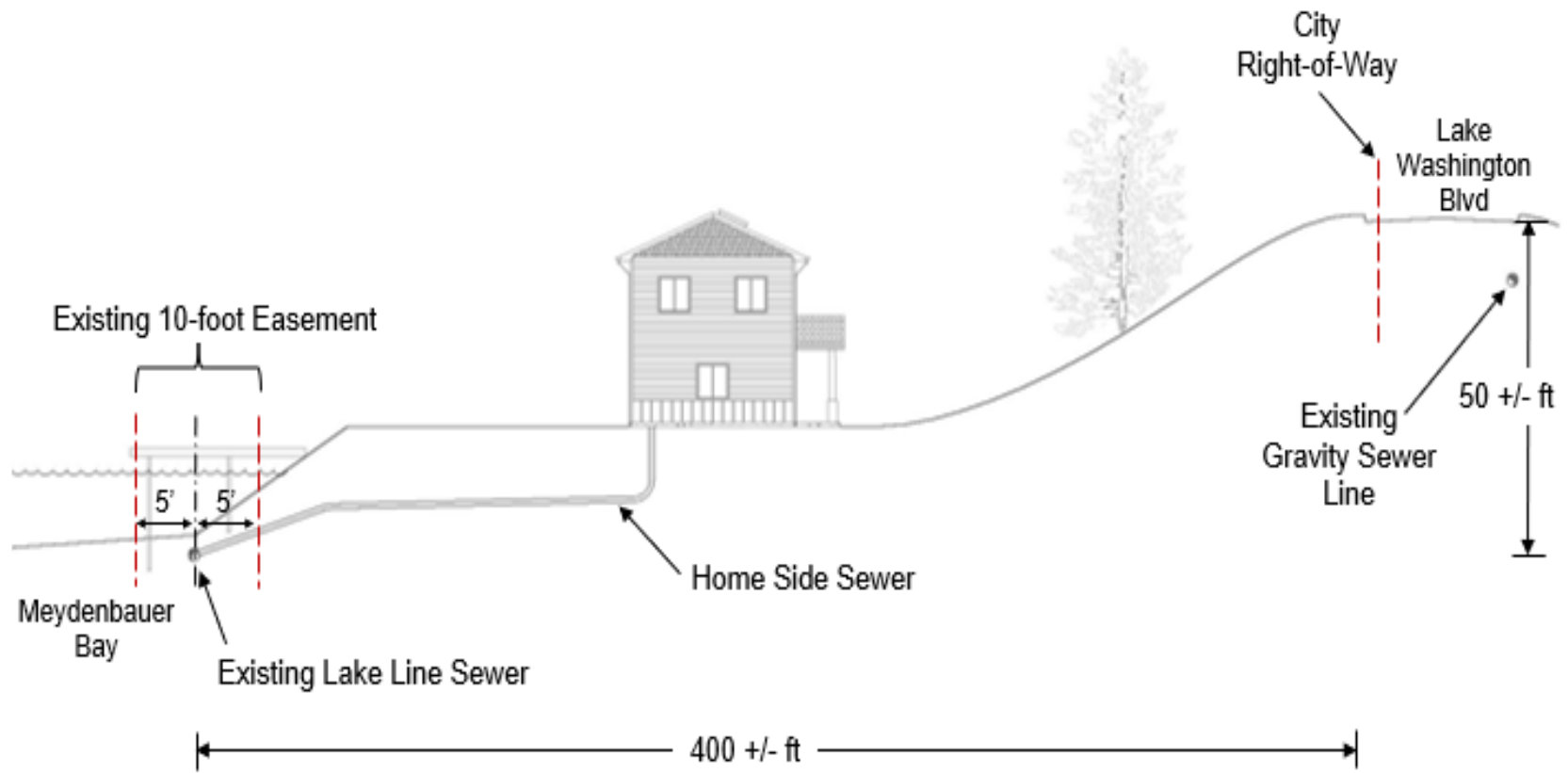
Our Lake Line infrastructure is dated, decaying, and fragile and presents potential service level, financial, and environmental risks.



Significant Challenges



Real Property Challenges



Technical Challenges



Environmentally Sensitive



Aerial view of shoreline restoration

Specialized Equipment

- The unique nature of this project requires use of specialized equipment.

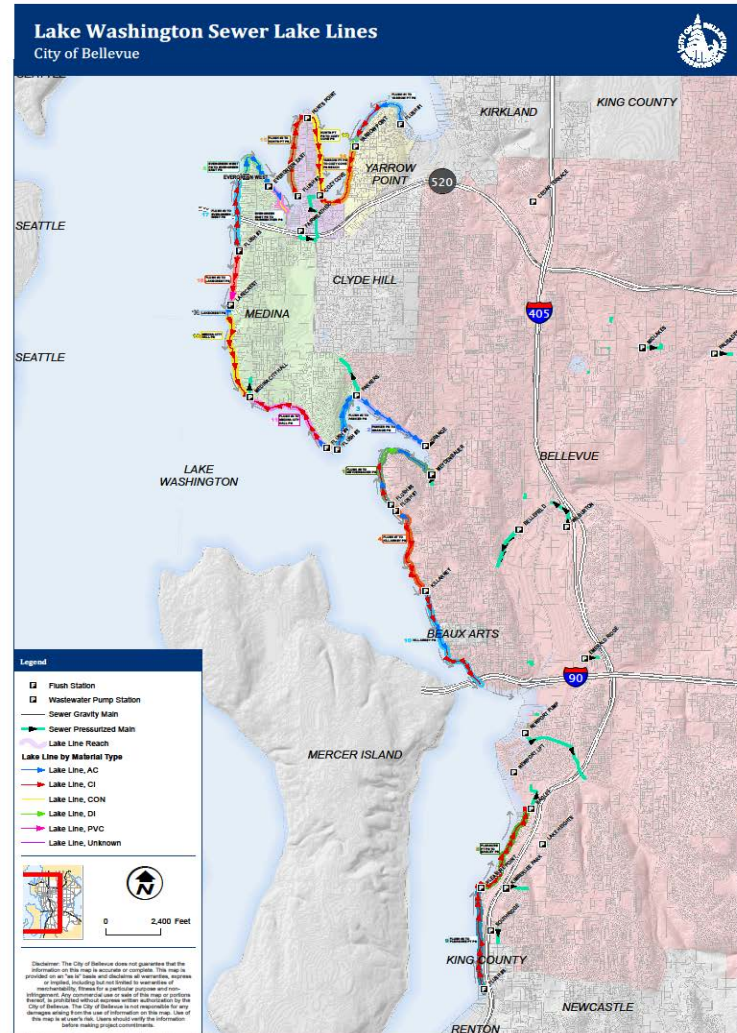


Specialized Equipment



Communities and Public Outreach

Yarrow Point
Hunts point
Medina
Bellevue
Beaux Arts
Unincorporated King
County



Significant Challenges

- **Technically challenging**
- **Environmentally sensitive**
- **Relatively expensive**
- **No single “fix-all” solution**
- **Public Outreach: Affects multiple communities in multiple jurisdictions**

Multi-Agency Workshop

- Approximately 40 people attended
 - Bellevue, Redmond, Renton, Bremerton, Skyway, Sammamish, Shoreline, Seattle, Mercer Island, Edmonds, Everett, King County
- Discussion on:
 - Cleaning/Maintenance
 - Types of equipment used
 - Access
 - Policies
 - Public Outreach
 - Current issues
 - Future plans



Lake Washington Lake Line Management Plan

- This plan will include elements of:
 - Information gathering and technical analysis
 - Alternative analysis using financial, environmental, and social risks and benefits
 - Community involvement informed Consent
 - Implementation Phasing
 - Long Range Financial Strategy



Lake Washington Lake Line Management Plan

- Utilities will use this management plan to refine short and long term financial strategies.
- The findings of the study will drive both operational strategies and capital improvement projects.
- Project Schedule: Approximately 1.5 years to complete the Lake Line Management plan.



PHOTO: DAVID JOHANSEN VASQUEZ

Questions?

