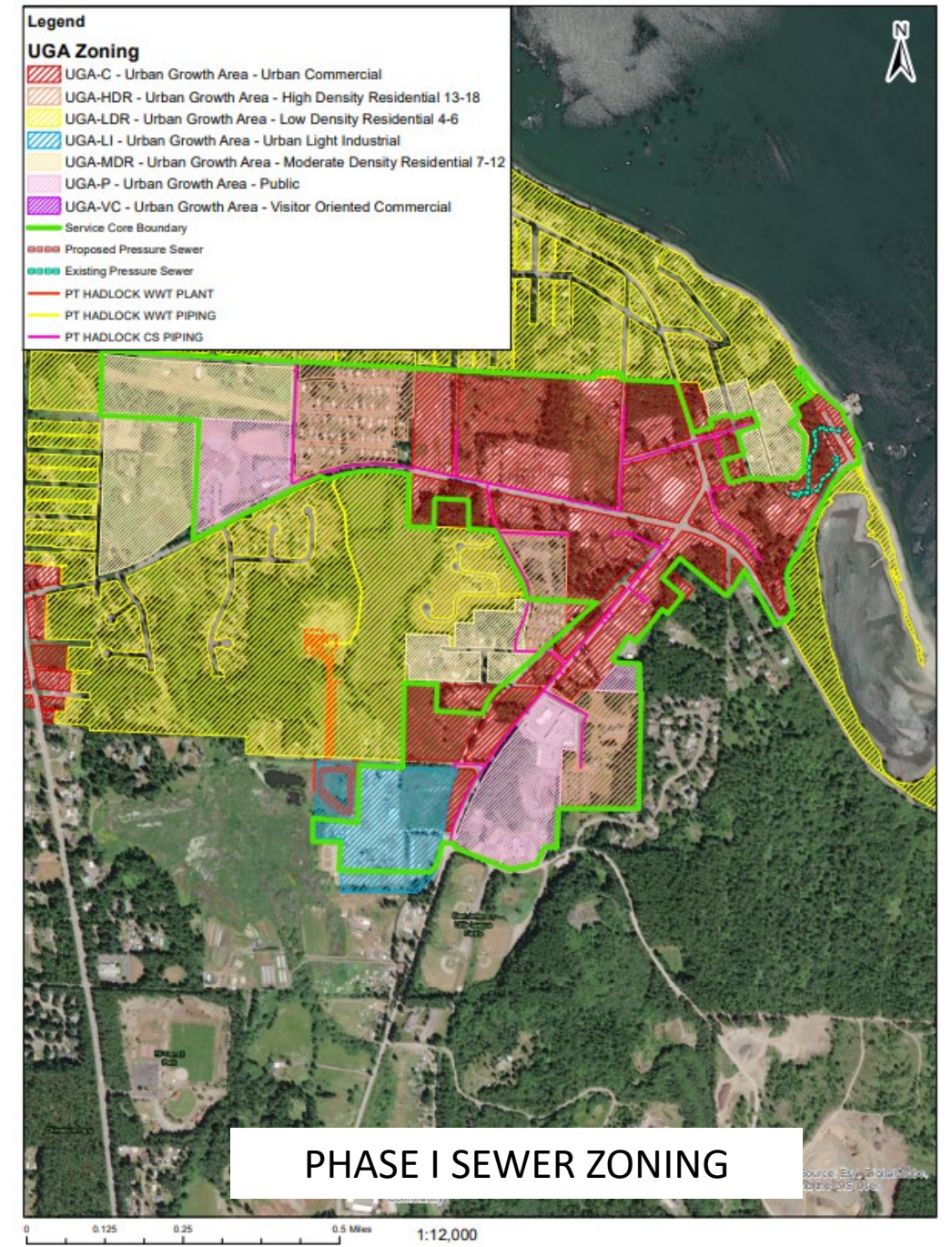




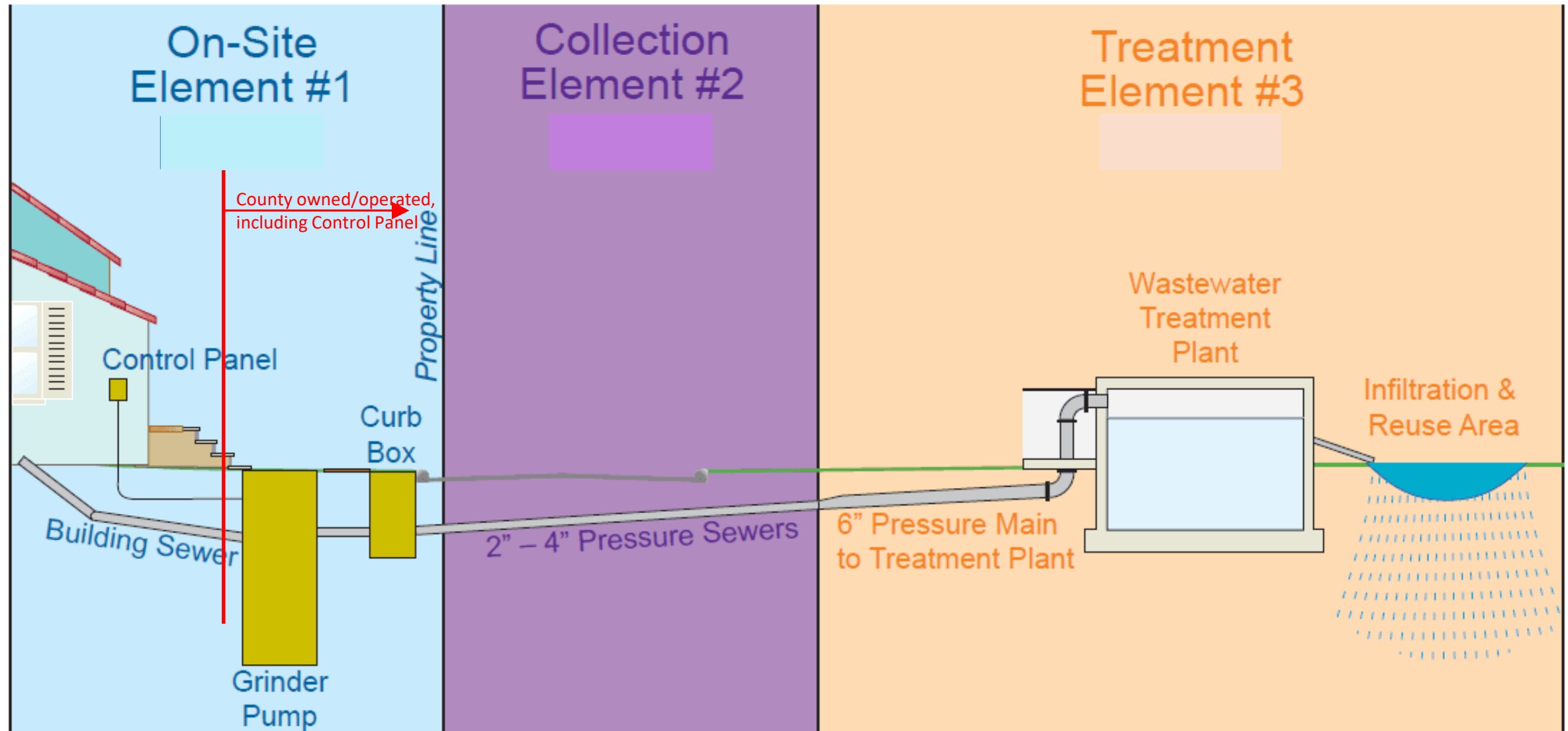
Department of Public Works

Port Hadlock Wastewater System

**Board of County Commissioners
Public Works Update
Port Hadlock Wastewater System
July 19, 2023
6:00 p.m.**



Wastewater System Elements



microBLOX™

OVIVO® mbr



microBLOX™ Membrane Bioreactor (MBR) systems are fully functional solutions to wastewater treatment problems and are ideally suited to a wide range of applications. microBLOX™ technology was designed and engineered to be extremely simple to operate and optimize. The process uses one set of blowers to provide mixing, air scouring and process oxygen. For higher strength waste, concentrated oxygen can be efficiently added to the process on an as needed basis. Each system can be guaranteed to meet the most stringent nutrient limits and online monitoring is available for ammonia, nitrates and phosphorus in the effluent.

Focus Markets/Applications:

1. Max Day Flows 5,000 GPD to 200,000 GPD, Greenfield,
2. Retrofit, Varying Flows and Loads, Remote Locations

Key Features:

1. Complete and Ready-to-Operate, High Loading Capability,
2. High Solids Operation, >5X Less Waste, Quality Effluent

Main Advantages:

1. Deployable, Small Footprint, Lease and Rental Available,
2. Low Install Cost, 12 Weeks Delivery (2 weeks submittals)



Wastewater Treatment Plant

- Manufactured by Ovivo, USA
- Membrane Bioreactor (MBR)
 - Same treatment type as Port Gamble
- 24,000 gallons per day (startup)
- 72,000 gpd capacity and expandable
- Produces Class A reclaimed water
- Rapid infiltration south of Lopeman Road
- Biosolids to Port Townsend



Reclaimed water is not wastewater. The process of reclaiming water uses advanced technologies to filter and remove pathogens and contaminants.



Cl. A Reclaimed Water Infiltration Site

- 1.5 acre “pond”
- Rapid rate infiltration
- 24,000 gpd spread over 1.5 acres = $\frac{1}{2}$ inch deep





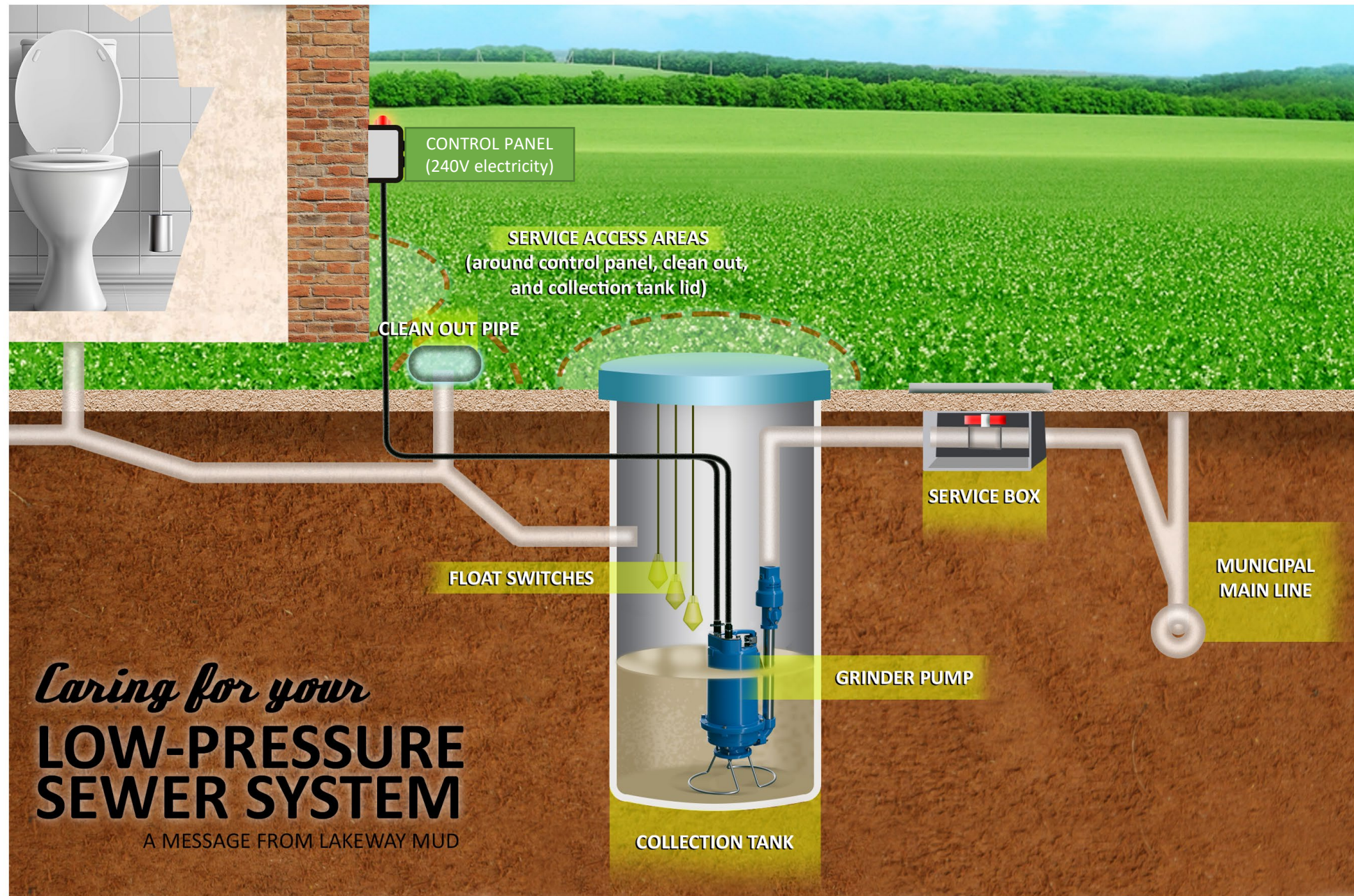
Low Pressure Sewer & Grinder Pumps

Video #1

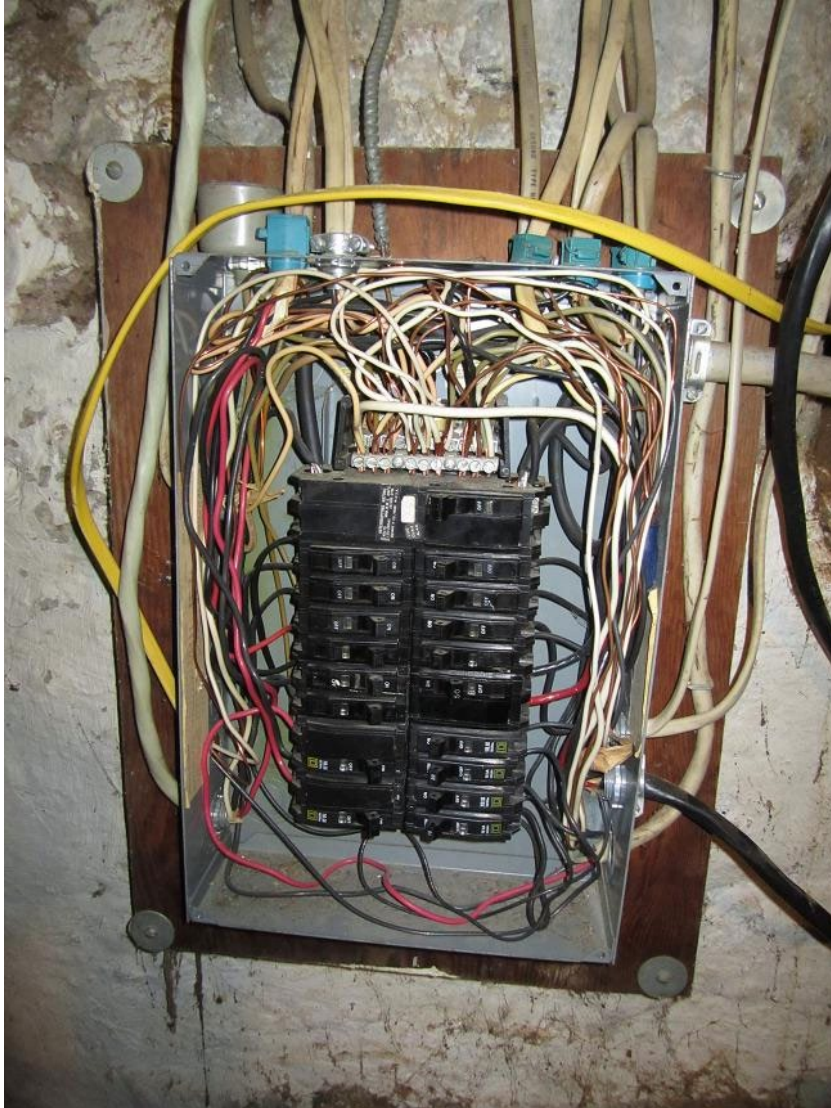
https://eone.com/sewer-systems/municipalities?keyword_session_id=vt~adwords%7Ckt~residential%20sewer%20grinder%20pump%7Cmt~b%7Cta~656837677102&vsrefdom=wordstream&gclid=EAlaIQobChMIIsLOq16SWgAMV-SWtBh1DXQfYEAAYAiAAEgLB-D BwE

Video #2

<https://youtu.be/0FEtmfchCxc>



Grinder Pump Electrical Connections



Electrical Panels

- Grinder pumps need dedicated circuit
- 240V
- 30A (for residential)
- Some are going to require work
- This will be a property owner responsibility
- Property owner responsible for electricity cost. Estimated at only a few \$dollars/month



Port Hadlock Wastewater System - Schedule

Multiple projects overlapping in the Phase I Sewer Area

1. Procure Membrane Bioreactor equipment – Ovivo, USA (complete)
2. Site preparation and earthwork/utilities/pond – underway now
3. Wastewater Treatment Plant construction – bid late this year; construct 2024/25
4. Low pressure sewer collection system in streets – bid late this year; construct 2024/25
5. On-site sewer connections for high water users – bid early next year; construct 2024/25
6. Plant start up – mid/late 2025
7. Additional on-site sewer connections in Phase I area – bid 2025; construct 2025/26/27

Port Hadlock Wastewater System - Funding

Project Cost and Funding (numbers rounded) – Our existing project cost estimate for construction totals \$34 million. The Table below summarizes Phase I funding for construction and currently indicates that funding is adequate to complete the Phase I project:

Amount	Status	Source	Purpose
\$3.4 Million	Secured	County – American Rescue Plan Act	Administrative, County management staffing, matching funds for certain grants
\$20 Million	Secured	State – Rep. Tharinger and Legislative Appropriation	Construction – Wastewater treatment plant, inlet line, percolation pond, and some portion of pressure sewer system
\$2.5 Million	Secured	Federal – Senator Murray Appropriation	Construction – Pressure Sewer and Grinder Pumps
\$3.0 Million	Secured	Federal – Rep. Kilmer and Senator Cantwell	Construction - Pressure Sewer and Grinder Pumps
\$6.7 Million	ECY Recommended, requires WA State Legislature final approval	State Dept. of Ecology Grant	Construction – Pressure Sewer and Grinder Pumps
\$35.6 Million	Total Funding Package for Phase I Wastewater System Construction		

Frequently Asked Questions

1. Who is required to connect to the sewer?

- Sewer ordinance still under development.
- Commercial (non-residential) over 4,000 gallons per month.
- Multi-family housing (apartments)
- All new development/expansions after sewer is available.
- When a septic system fails
- No new or expanded septic systems will be allowed in the sewer service area.
- Optional – single family and duplex residential. After priority water users hooked up for plant startup and depending on how far available grant funding goes.



Frequently Asked Questions

2. How much will it cost to connect to the sewer?

- Initial connections will be made using State/Federal grants that the County has obtained
- The property owner will only be responsible for providing 240V electric service. County is investigating whether there could be a reimbursement program to help with this.
- Since the wastewater plant needs a certain flow at startup (around 24,000 gpd), priority will be mandatory connections that generate the most flow. Probably about 25 to 30 properties.
- Grant funding that has been secured should be adequate to cover all mandatory connections and some non-mandatory connections.
- Non-mandatory connections will be prioritized according to flow, how accessible the connection is, etc. Still too early in the project to make promises.
- In the future (new construction), cost to connect to the sewer will be at property owner expense. Costs will vary with complexity – just like septic systems.
 - New residential construction estimate: \$20,000 to \$25,000 for a grinder pump purchase and installation, similar to a new septic system. (Grinder pump purchase price is \$8,000).

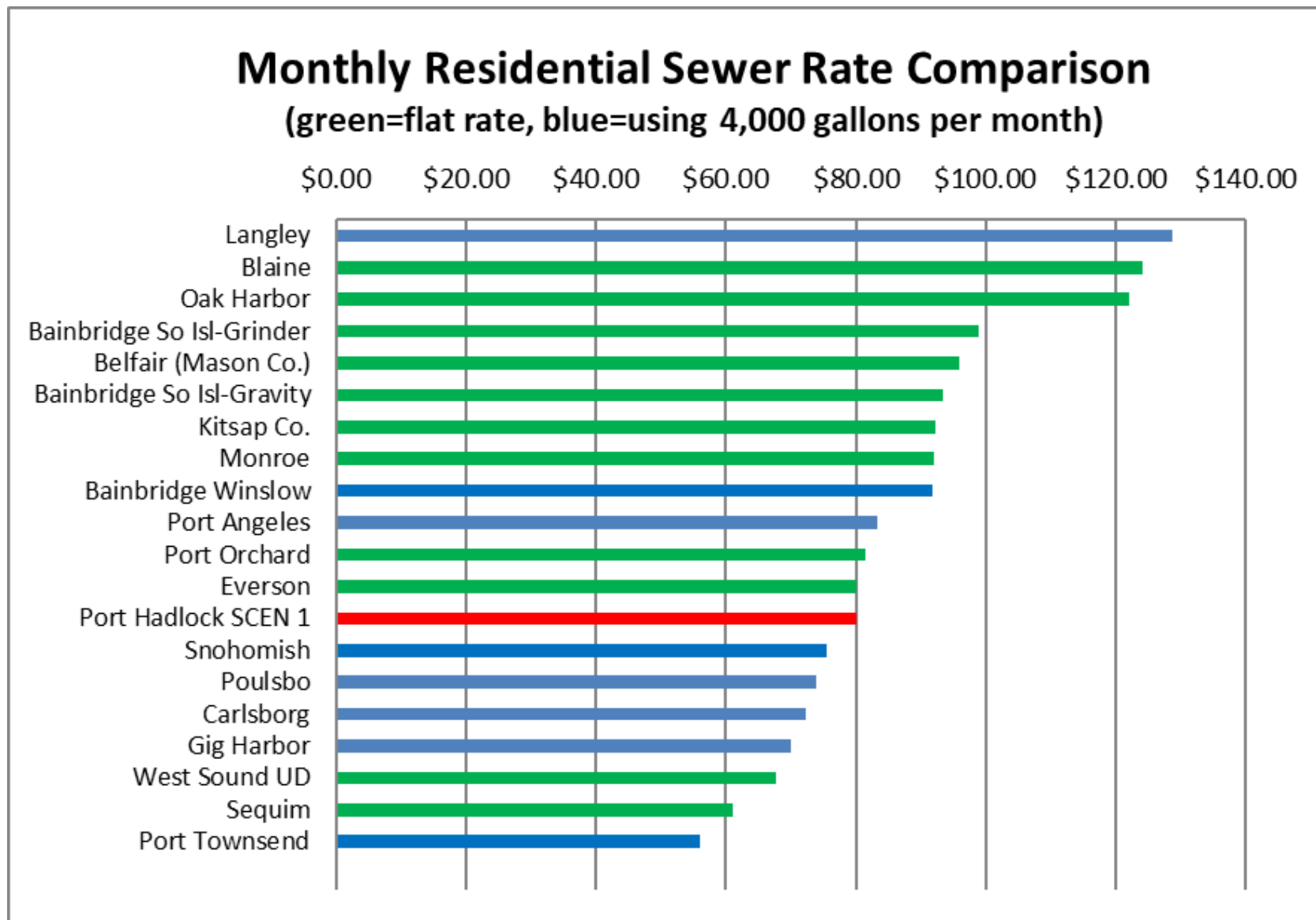


Frequently Asked Questions

3. How much will sewer service cost per month?

- Sewer ordinance still under development
- \$80 per month base fee (flat fee for residential)
- Commercial will also pay 2.5 cents per gallon for water use above 4,000 gallons/month
- Discounts for low income
- Like most sewers, sewer bill is based on your water use bill (for commercial/multi-family). Sewer is not metered.
- Electricity – a few \$dollars/month (typical residential)
- County is subsidizing to keep rates low since initially there will not be enough customers to pay for all of the Operations/Maintenance costs.

Frequently Asked Questions



Frequently Asked Questions

4. Who takes care of the grinder pumps?

- The County, or likely the PUD (by agreement)
- Normal wear and tear covered
- Abuse by property owner will be charged (rags, rocks, etc.)

Frequently Asked Questions

5. What does sewer allow me to do with my property?

- At the least, you can use the area occupied by your drain field and reserve area
- Zoning changes
 - Low density residential becomes 4 to 6 per dwelling units per acre
 - High density residential becomes 13 to 18 dwelling units per acre
 - Advantages for commercial property use also

Frequently Asked Questions

6. How can I get more information?

- County staff has already met one-on-one with many of the property owners in the Phase I service area boundary
- If you are in the Phase I boundary, you may contact staff at Public Works to set up a meeting.

Jefferson County Department of Public Works

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Samantha Harper, Wastewater Project Manager

<https://www.co.jefferson.wa.us/1544/Newsletters-and-Notifications>

