

OLYMPIC

WATER AND SEWER INC.

# 2025 Ice Pigging Townhall Meeting

April 17<sup>th</sup> & 23<sup>rd</sup>, 2025

# How Did We Get Here?

- 2021 began chlorinating the water system.
  - Change in water chemistry led to sloughing of historical deposits.
- 2022-2024
  - Complaints: 83 for color and 4 for taste & odor.
  - Increased Flushing Cycles
    - OWSI operators performing unilateral directional flushing 6 months per year!
- There has to be a faster and more efficient way...

# To The Engineers We Go

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*Principal Professional Associate*

*Water Treatment Business Class Technical Director*

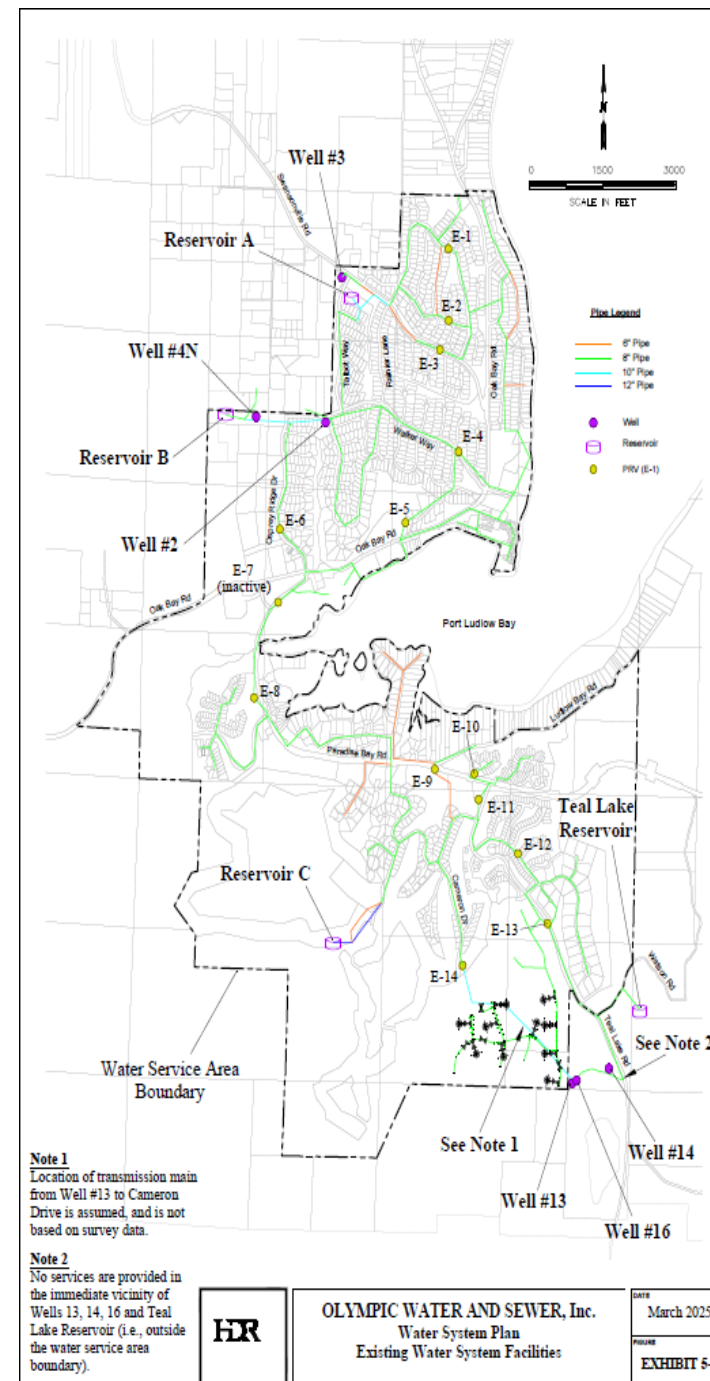
**HDR**

600 University Street, Suite 500

Seattle, WA 98101

- Replace your water mains.
  - The cost to replace an 8-inch municipal water main line per mile can vary widely, but generally falls within a range of \$1 million to \$2 million.
- ‘Pig’ your water mains.
  - A pig is a cylindrical or spherical device made of materials like foam, rubber, or even steel designed to travel through a pipeline. (Sometimes they get stuck and you have to dig up the main anyway!)
  - Have you heard of ‘Ice Pigging’? It’s about \$5/ft.

104,051 ft /  
19.7mi  
of Water  
Mainlines



# Why Ice Pigging?

Ice pigging, a sustainable cleaning method for potable water distribution mains and wastewater force mains. Developed in the United Kingdom and introduced to the United States in 2012. The method involves pumping a slurry of ice into a main through a hydrant or other existing fittings and using system pressure to push the ice pig downstream to an exit point through a similar fitting. The ice slurry, filling 20 to 30 percent of a pipes volume, cleans with a shear force between 100 and 1,000 times greater than water alone and provides more effective cleaning and uses significantly less water than traditional flushing methods.



**Figure 1.** A typical set up for inserting ice into a water main pipeline using a hydrant and two-and-a-half-inch fire hose.



**Figure 2.** showcases how the ice slurry is formed into a solid know as an "ice-pig" once pumped into the pipeline.

# 17 Times More Removal w/ Half the Water

Although Ice Pigging may initially appear to be more costly, a recent study carried out in Australia found that while Ice Pigging is more expensive on a '\$ per foot' basis, when using the indicator of '\$ per lb. of sediment removed', Ice Pigging is approximately 6 times cheaper. The study also found that Ice Pigging removed up to 17 times more sediment from the mains compared to flushing, while using half the amount of water.

# American Pipeline Solutions



## **PREMIER PIPELINE PIGGING COMPANY**

American Pipeline Solutions (APS) is a specialist pigging company headquartered in New Milford, PA, and offers a variety of pipeline services across several industries. From oil and gas pipeline pre-commissioning services to Ice Pigging™, plus integrity testing of water and force mains, APS can handle your project on time and affordably.

APS has a number of exclusive global partnerships, which allow us to offer the latest in technology to every client. You can rest assured that you are in good hands. Our pipeline pigging services are top-of-the-line and

# Case Studies

- Park City, UT
- Gordonville, TX
- Brewster, WA
  - Lee Webster (Public Works Director) said...
  - “8281 is a photo of samples taken periodically throughout the pigging, left to right are before, during, and after.”
  - “In some of the videos you can hear chunks of manganese bouncing around in the diffuser.”
  - “This run was particularly awesome because we started at 440 gpm out of the hydrant and ended up with 660 gpm post flush/pig! Post flush we had 0.0 for turbidity.”
  - “Pretty cool project, and quite reasonably priced. We’ve had **zero black water complaints** since we pigged. In the past we fielded several calls every week.”







## Re: Ice Pigging – Port Ludlow Water Distribution System

Our Ref: APS-IP-194

Thank you for the opportunity to provide you with pricing for performing ice pigging to clean the North & South sections of the water distribution system at Port Ludlow, WA.

Pricing is based upon the information that you (Owner) provided to American Pipeline Solutions, Inc. (APS), it is inclusive of a one-day (500 mile) mobilization and assumes the project will take place in 2025. The prevailing wage category that applies to this project is **to be determined and may affect this price.**

The water network is approximately, **104,000 LF of 6, 8, 10 & 12-inch AC pipe.**

The primary goal of this project is to remove the sedimentation that has been deposited within the pipeline.

Based on the data provided, APS estimates this project will take approximately **twenty full loads** (10-ton capacity) of ice to complete the cleaning of this network. **(To be confirmed following closer inspection of the water network data and maps).**

APS's estimate total price for the above referenced project is; **\$315,107** \*pre sales tax

**Additional loads = \$14,000 per load.**

This is the estimate.

The price could be increased if additional ice loads are needed.

# Washington Utilities and Transportation Commission Approved Ice Pigging Surcharge

- 70/30 split between customers and OWSI

|                     |                  |  | Year one      |  |               | Year Two      |
|---------------------|------------------|--|---------------|--|---------------|---------------|
| Estimate of Project | \$343,781.74     |  | \$ 120,323.61 |  |               | \$ 120,323.61 |
|                     | 70% \$240,647.22 |  |               |  | interest 9.5% | \$ 131,754.35 |
| Number of users     | 1770             |  |               |  |               |               |
| One time Payment    |                  |  | \$ 135.81     |  |               |               |
| Monthly Amount      |                  |  | \$ 5.66       |  |               | \$ 6.20       |
| Bi-Monthly Amount   |                  |  | \$ 1,132.00   |  |               | \$ 12.39      |

# Tariff Schedule No. 7

## 2025 Ice Pigging Treatment Project Cost Recovery

This surcharge is designed to recover 70% of the project's estimated cost of \$343,781.74 over a two-year period. End users have the option to make a one-time payment or pay through their bi-monthly billing. An interest rate of prime +2%, currently estimated at 9.5%, will apply in year two. The payment schedule for year one will expire on February 17, 2026, while the payment schedule for year two will expire on February 17, 2027.

One-time payment of \$135.81

OR

\$5.66 monthly effective February 18, 2025 - February 17, 2026

\$6.20 monthly effective February 18, 2026 - February 17, 2027

The payment is calculated using estimated project costs. Upon completion of the project the surcharge could be adjusted up or down to reflect the final cost of the water treatment project.

# What Can Port Ludlow Expect?

# Example of Ice Pigging Samples



# Results Following Flushing

Ice samples taken at discharge point following unidirectional flushing the previous day



6-inch PVC Water Distribution Pipe  
Confluence Engineering (Consultants) –  
Idaho Municipality - November 2021



# American Pipeline Solutions Staging Area



# Work Begins May 5<sup>th</sup> 2025

- North side will start on Monday May 5<sup>th</sup>
  - APS & OWSI crews will work everyday in the month of May until the project comes to completion.
    - This means Saturdays and Sundays too.
- Mobilize from staging area around 8:30am and start pigging around 9am
- Estimated at 20 loads of ice.
  - Only one push per day.
    - The next load of ice is generated overnight.
  - Goal to Finish by Memorial Day.
    - American Pipeline Solutions has a job with Boeing over the Memorial Day weekend, if they are not finished in Port Ludlow they will come back before moving on to South Dakota.



# Pigging Plan

Client: Olympic Water & Sewer  
Loads: 20 Loads - Potable Water

Location: Port Ludlow, WA

APS Rep: Paul Treloar  
APS Ref.#: APS-IP-

Revision: 18-Mar-25

## Ice Pigging Schedule



### NORTH BAY COMMUNITY

| Date  | Completed                | Run Ref. Name/#          | Insertion Point       | Discharge Point          | Disposal Method | Length (FT)  | Pipe Dia.(in) | Pipe Material | Ice Quantity (Gals) | Total |
|-------|--------------------------|--------------------------|-----------------------|--------------------------|-----------------|--------------|---------------|---------------|---------------------|-------|
| Day 1 | <input type="checkbox"/> | Ospray Ridge Dr.         | Walker Way Hyd.       | Hyd. 4                   | Ground          | 3,100        | 8             | AC/PVC        | 1,400               | 2,800 |
|       |                          | Mocking Bird Ln.         | Walker Way Hyd.       | Mocking Bird Ln. B/O     | Ground          | 700-500      | 8&4           | AC/PVC        | 450                 |       |
|       |                          | Warbler Ln.              | Hyd. 60               | Warbler Ln. B/O          | Ground          | 50-550       | 8&4           | AC/PVC        | 150                 |       |
|       |                          | Falcon Ln.               | Hyd. 60               | Falcon Ln. B/O           | Ground          | 629-329      | 8&4           | AC/PVC        | 350                 |       |
|       |                          | Goldfinch Ln.            | Hyd. 60               | Goldfinch Ln. B/O        | Ground          | 755-360      | 8&4           | AC/PVC        | 450                 |       |
| Day 2 | <input type="checkbox"/> | Sparrow Ct.              | Hyd. 60               | Sparrow Ct. B/O          | Ground          | 1150-500     | 8&4           | AC/PVC        | 600                 | 2,800 |
|       |                          | Wren Ct.                 | Hyd. 60               | Wren Ct. B/O             | Ground          | 1550-400     | 8&4           | AC/PVC        | 700                 |       |
|       |                          | Hummingbird Ct.          | Hyd. 60               | Hummingbird Ct. B/O      | Ground          | 2050-200     | 8&4           | AC/PVC        | 900                 |       |
|       |                          | Well 4                   | Walker Way Hyd.       | Well 4                   | Ground          | 1,450        | 8             | AC/PVC        | 600                 |       |
| Day 3 | <input type="checkbox"/> | Talbot Way & Rainier Ln. | Hyd. 1 (Ames Ln.)     | Wells Ridge Ct. B/O      | Ground          | 4,600        | 8             | AC/PVC        | 1,900               | 2,700 |
|       |                          | Sayward Ln.              | Hyd. 1                | Sayward Ln. B/O          | Ground          | 430-400      | 8&4           | AC/PVC        | 300                 |       |
|       |                          | Tyee Ln.                 | Hyd. 1                | Tyee Ln. B/O             | Ground          | 850-400      | 8&4           | AC/PVC        | 500                 |       |
| Day 4 | <input type="checkbox"/> | Evans Lane               | Hyd. 42 (Evans Ln.)   | Evans Ln. B/O            | Ground          | 635          | 4             | AC/PVC        | 100                 | 2,700 |
|       |                          | Rainier Ln. - 1          | Hyd. 87               | Clipper Ln. B/O          | Ground          | 1000-300     | 8&4           | AC/PVC        | 600                 |       |
|       |                          |                          |                       | Barque Ln. B/O           | Ground          | 175          | 8&4           | AC/PVC        |                     |       |
|       |                          |                          |                       | Mainsail Ln. B/O         | Ground          | 200          | 8&4           | AC/PVC        |                     |       |
|       |                          |                          |                       | Topsail Ln. B/O          | Ground          | 150          | 8&4           | AC/PVC        |                     |       |
|       |                          | Rainier Ln. - 2          | Hyd. 24 (Rainier Ln.) | Hyd. 15 (Well Ridge Ct.) | Ground          | 1000-800-200 | 10,8,6        | AC/PVC        | 2,000               |       |



# It is the same as when OWSI is flushing.

- Just like when OWSI is flushing...
  - **Temporary Water Discoloration:**  
Flushing may cause temporary water discoloration (ranging from light brown to dark black in rare cases). To avoid pulling discolored water into household plumbing:
    - Avoid using water when flushing occurs on your street. Flushing affects water quality and may impact appliances such as hot water tanks.
    - Once flushing is completed, run your cold tap water for a few minutes to clear any discoloration.
  - Water main flushing is a routine maintenance practice that helps ensure high-quality water service by removing sediment and maintaining the integrity of the water system. We understand this process may cause temporary inconvenience, and we appreciate your patience.

# Don't Use Water During the Push!!!

- **DO NOT USE WATER DURING THE ICE PIGGING PUSH!**
  - You do not want to draw salty brown water in to your home.

# Temporary Inconvenience...

- Some of the runs are extremely long.
  - OWSI will not be able to turn off every meter prior to the push.
    - Do Not Use Water During the Push
- Push of Ice can be anywhere from 30 to 120 minutes.
  - Expect not to use your water for 2 to 4 hours.
- Some of the runs have the same insertion point.
  - Some customers will be affected on multiple days.

# Jason, How Will We Know?

- OWSI website: <https://ows-inc.com>
  - Pigging plans will be posted on the website.
  - Sign-up for Notifications
    - You may also call or come in to the main office for help.
- AlertMedia
  - Daily email notice to the affected neighborhood.
    - Your neighborhood will be impacted by ice pigging today.
    - Please don't use water for the next few hours.
    - Today's pigging is complete, you may now use your water.
  - AlertMedia is OWSI's only real time communication platform.
    - OWSI does not post on Facebook or Nextdoor.

# QR Code



Register to receive geo-targeted notifications at  
**[ows-inc.com/notifications](https://ows-inc.com/notifications)**

Paper copies are also available.

# Don't Use Water During the Push!!!

- **DO NOT USE WATER DURING THE ICE PIGGING PUSH!**
  - You do not want to draw salty brown water in to your home.
- Don't, but if you accidentally do...
  - **Once pigging is complete** run your cold water for a few minutes until it runs clear.
  - If your water does not clear up, call an OWSI technician to come do a site inspection.
    - 360-437-7898