

Seattle Public Utilities

Water Quality Investigation

Seattle City Council

April 25, 2016



Lead Investigation Update

- Tacoma Water found high lead levels in galvanized service lines
- Issue not identified as part of EPA's Lead and Copper Rule
- Actions SPU has been taking:
 - Asked residents to run their water for two minutes if the water has not been run for more than six hours
 - Tested to see if Seattle could have a similar problem

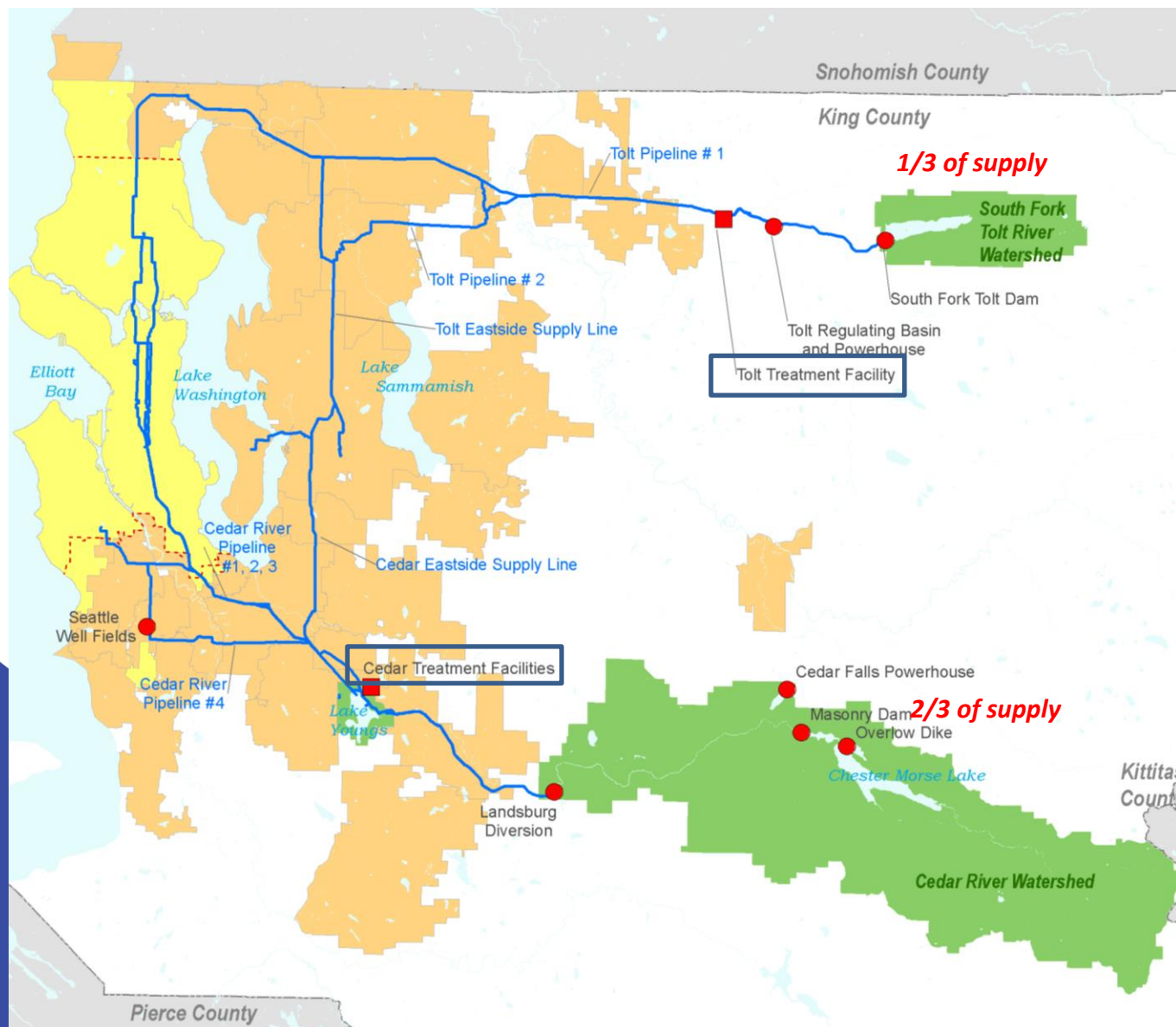
Drinking Water System

Seattle Retail
Service Area

Wholesale
Customers

Watersheds

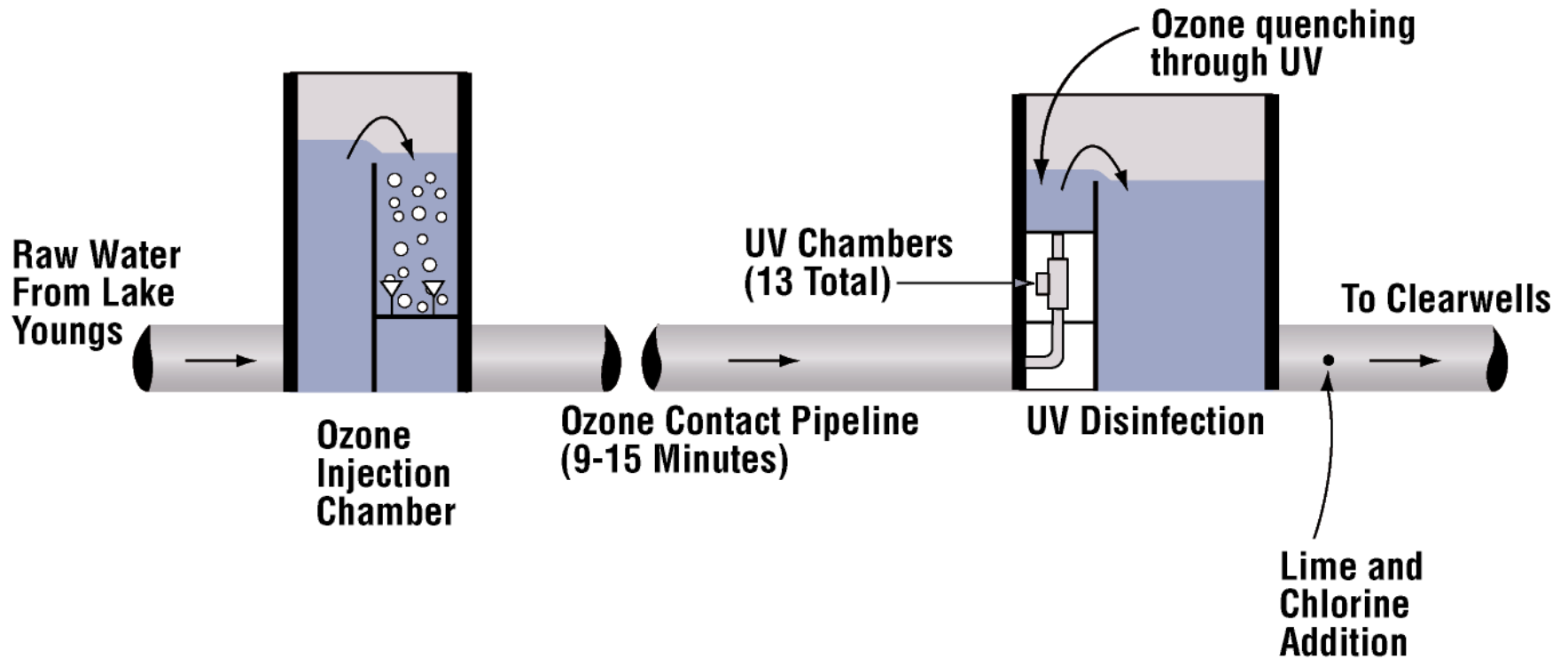
Seattle
Public
Utilities



Cedar Water Treatment Facility



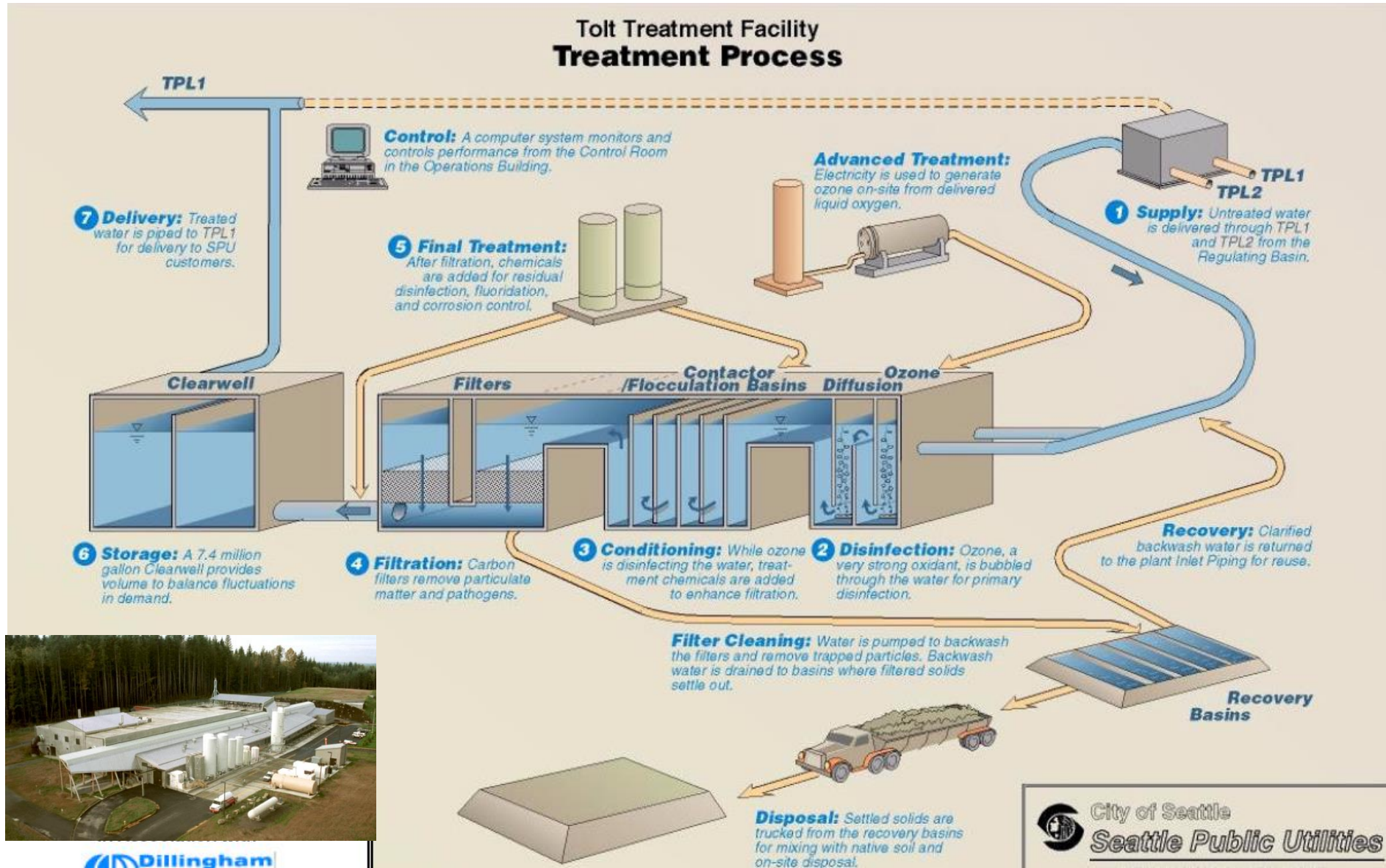
Cedar Treatment Process



Tolt Water Treatment Facility

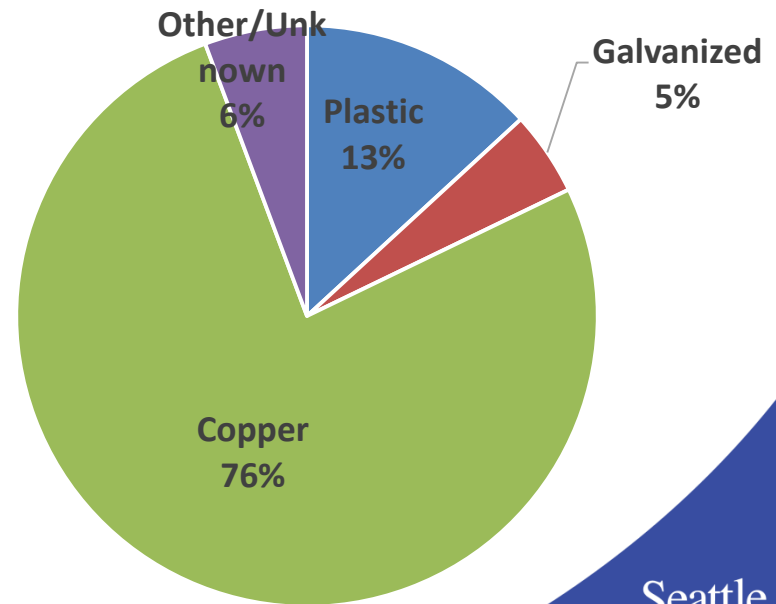


Tolt Treatment Process



SPU's Service Lines

- Approximately 195,000 water services
- About 9,000 of these are galvanized
- 8,000 of these are 1" or smaller
- These may have lead "gooseneck" fittings



Corrosion Control

- Seattle's untreated source water is considered "soft"
 - Snowmelt and rainwater have low mineral content
 - Can be aggressive or corrosive to plumbing materials
- Optimizes water chemistry to reduce corrosion and amount of lead and copper in drinking water
- SPU's program has been in place for decades
- Lime or lime + carbon dioxide is used



Lead and Copper Rule Update

- USEPA's Lead and Copper Rule sets limits on the amount of lead and copper in drinking water
- Seattle has met all requirements of the rule since 2003
- Most recent round of samples showed no results above action levels

Where We Sample

- Residential customer taps, volunteer participants
- With “High Risk” homes, defined as....

Tier 1 – includes single family structures that;

- ☐ Contain copper pipes with lead solder installed after 1982 or;
- ☐ Contain lead pipes or;
- ☐ Is served by a lead service line

Tier 2 – includes multi-family structures and buildings that;

- ☐ Contain copper pipes with lead solder installed after 1982 or;
- ☐ Contain lead pipes or;
- ☐ Is served by a lead service line

Tier 3 - includes single family structures that contain copper pipes with lead solder which were installed prior to 1983*

*Seattle banned use of tin-lead solder in 1980, followed by King County in 1985

What is a “Lead Gooseneck”?

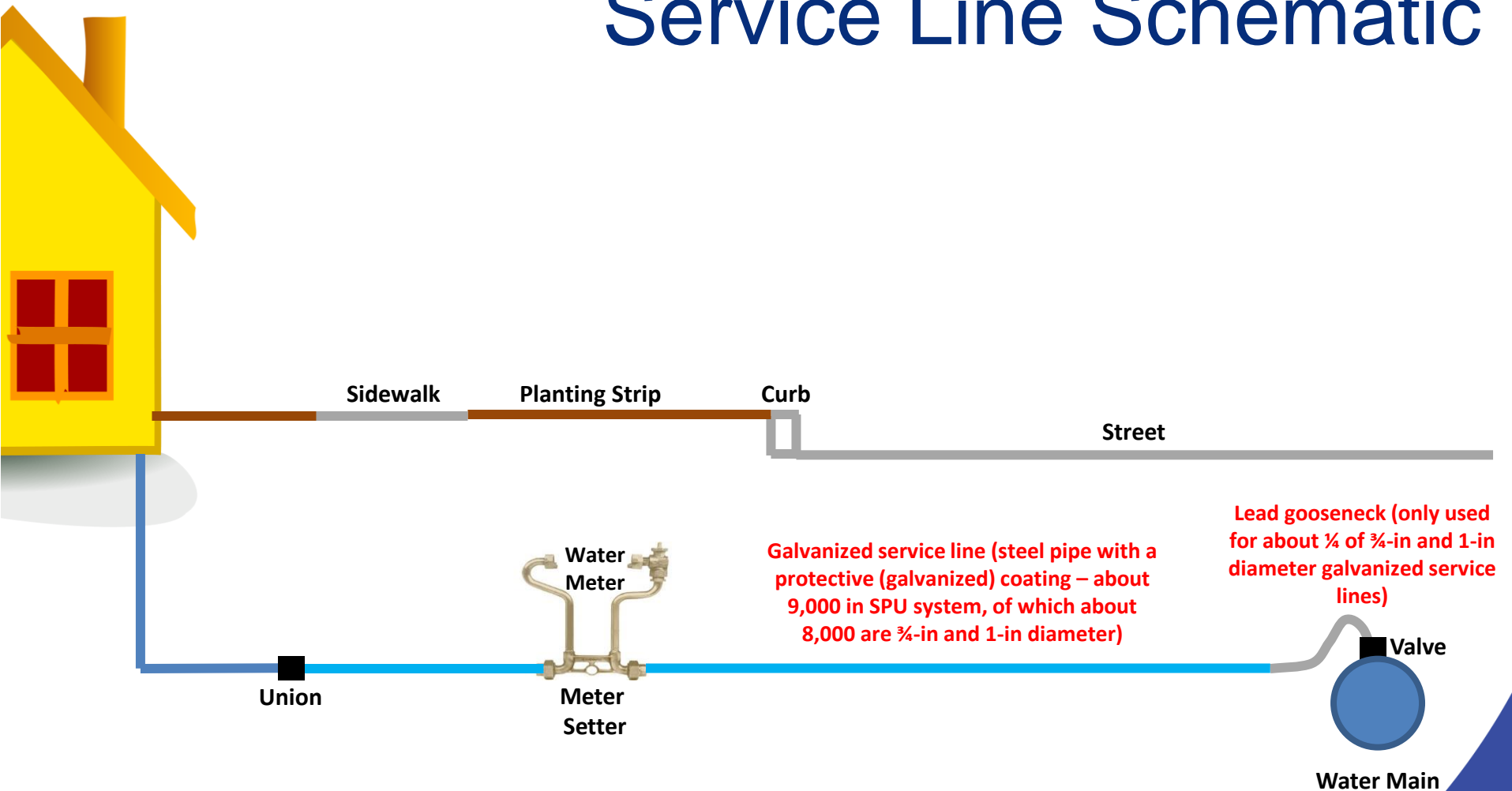


*Photo of a lead gooseneck removed from the system.
Note the protective coating on the inside of the
gooseneck from SPU's corrosion control strategy.*

2-foot section of lead pipe that connects to the water main

Flexible to allow movement between the main and galvanized service line

Service Line Schematic



Galvanized Service Line and Lead Gooseneck

Service Line Schematic

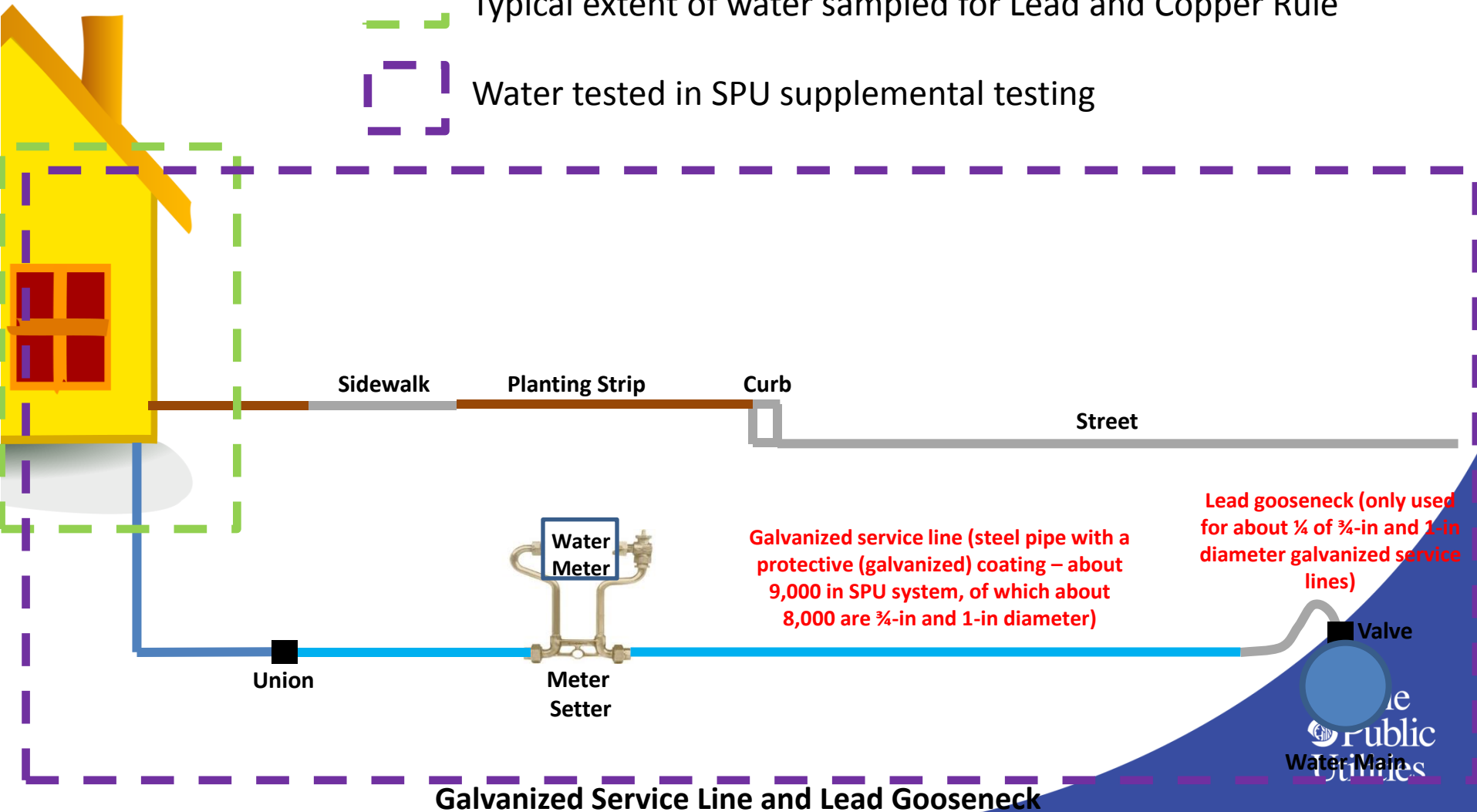
NOT TO SCALE



Typical extent of water sampled for Lead and Copper Rule

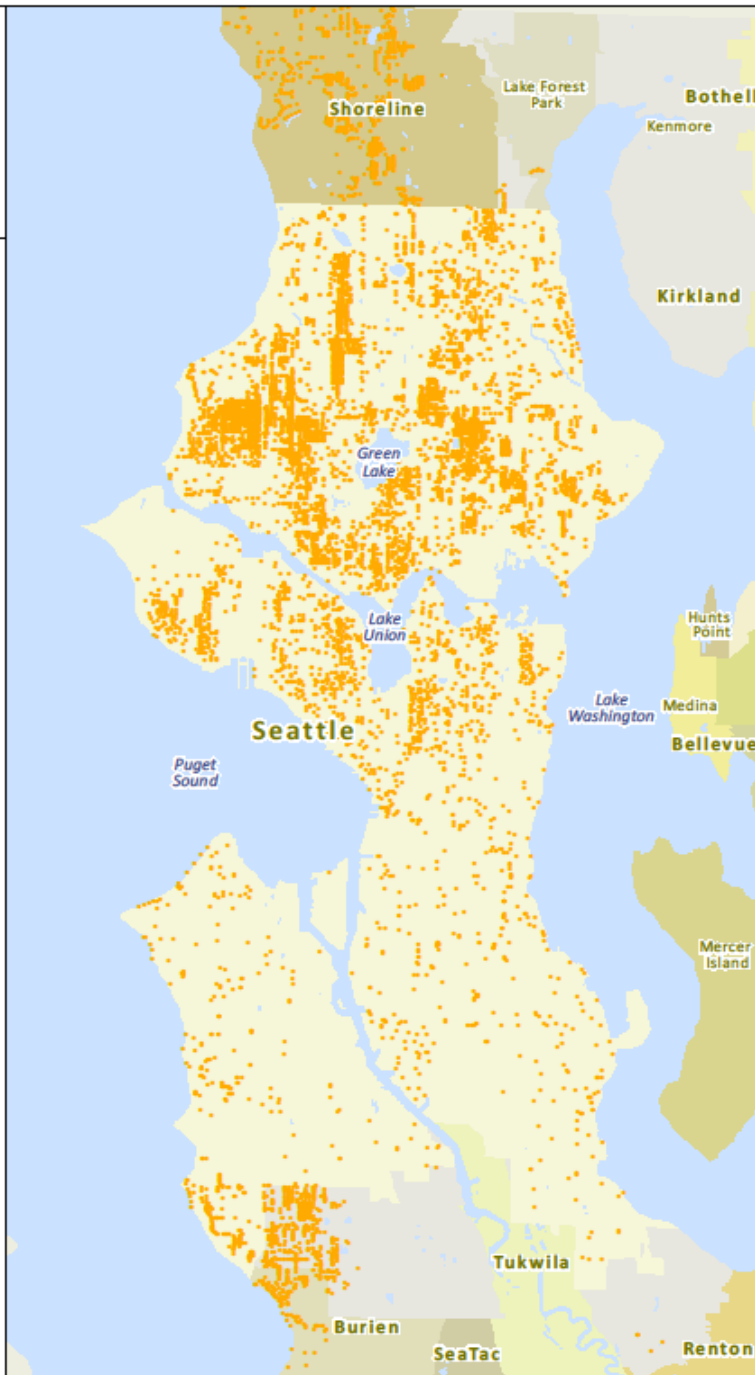


Water tested in SPU supplemental testing



- Map shows areas of homes and businesses that have galvanized service lines
- Orange dots represent approximately 9,000 locations total
- Areas in the Seattle Public Utilities service area without dots do not have galvanized service lines

If you believe your home is in the affected area, please use our map tool to research your water service line. Go to seattle.gov/util/lead.



Map of Galvanized Services

Why Does Flushing Help?

- Water picks up lead from pipe from water main to inside the building.
- Standing water (6+ hours) more likely to absorb lead from pipe.
- Amount of time to flush depends on the length of pipe and how the building's plumbing is arranged.

What We Asked Customers to Do?

As a temporary precaution, SPU asked Seattle residents to:

- Run water for two minutes before using it if the water has not been run for more than six hours.
- Draw drinking and cooking water from cold water tap — lead dissolves more quickly in hot water.



SPU Testing

Sampled water at 5 homes and their service lines in each section of the city (NW, NE, Central, SW, SE).

Samples from faucets, in sections, all the way to the water main, after no water used for 6 hours.

Flushed the pipes, and retested.

Questions?

Customer Call Line: (206) 684-5800

