

PFAS Community Meeting

Lynnfield Center Water District
Learning and Working Together with Our Customers



December 16, 2021



**CDM
Smith**[®]

Introductions



John Scenna, LCWD
Superintendent



Anne Malenfant, CDM Smith
Project Manager



Alan LeBlanc, CDM Smith
Water Discipline Leader

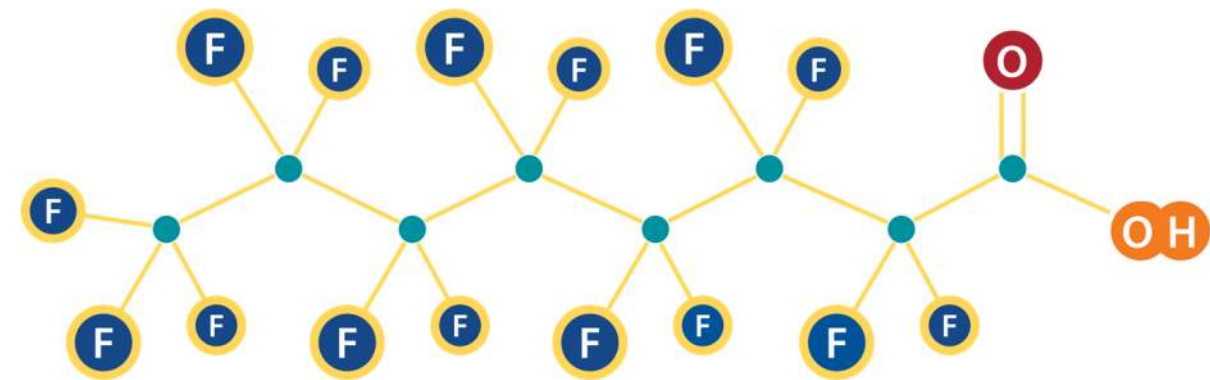
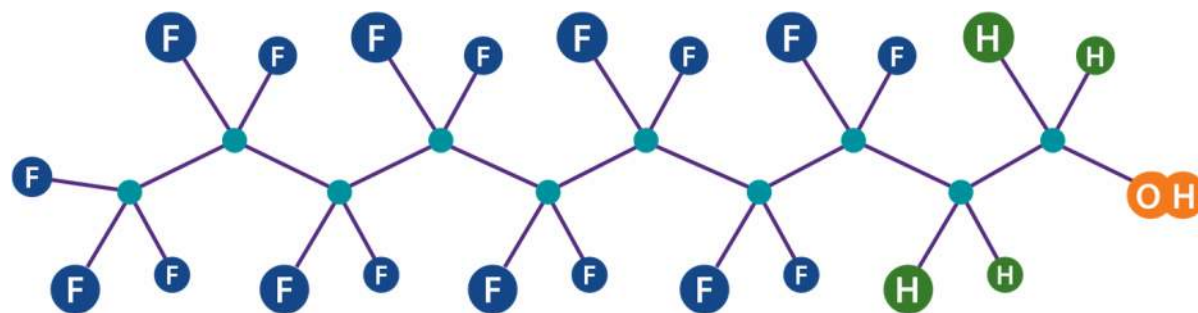


Mike Nelson, CDM Smith
Client Service Leader

- What are PFAS?
- Why are PFAS detected now?
- PFAS Maximum Contaminant Level (MCL)
- What health risks are associated with PFAS?
- LCWD PFAS sampling results
- What is LCWD doing about PFAS?
- PFAS communication methods

What are PFAS?

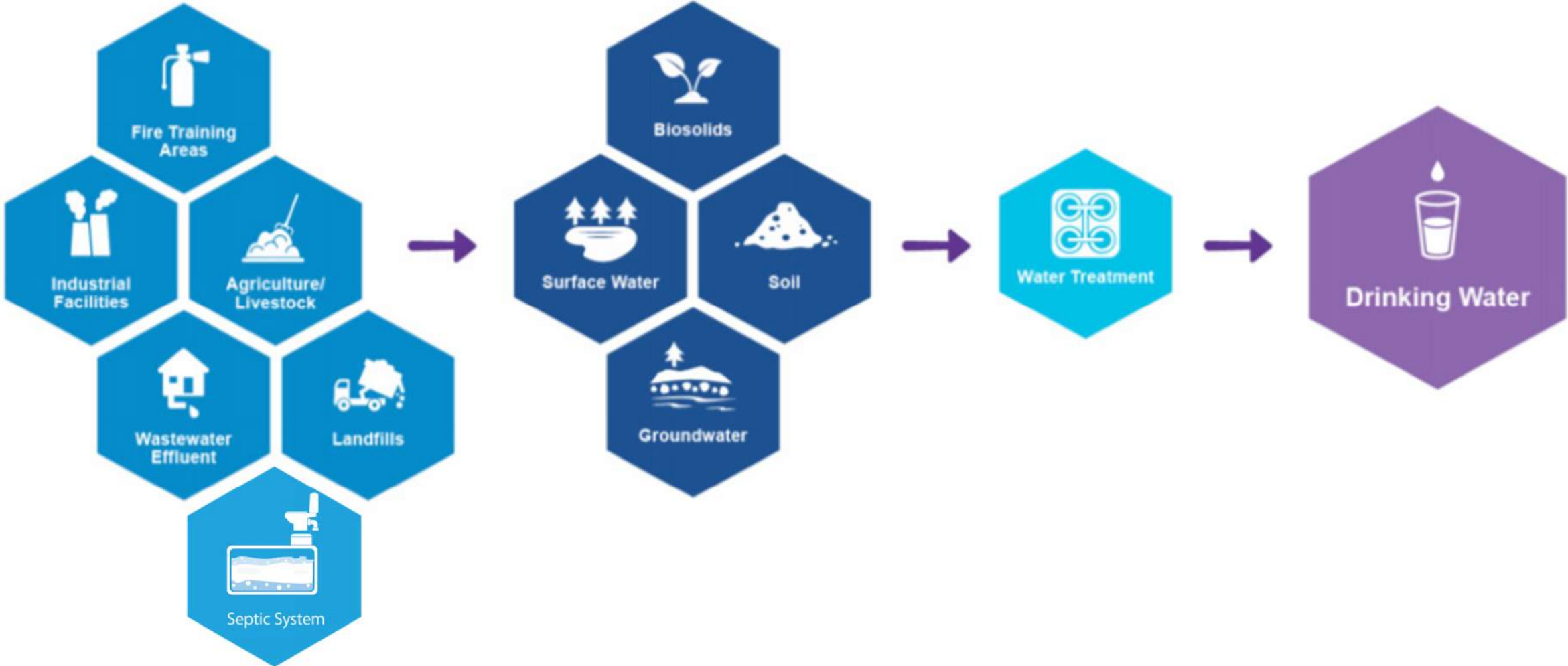
- **Per- and polyfluoroalkyl substances (PFAS)** = group of human-made substances that...
 - Do not break down easily
 - Stay in the environment for a long time
 - Manufactured & used broadly since the 1950s
 - Are widely detected in soil, water, and food
 - Are newly linked to human and environmental health risks



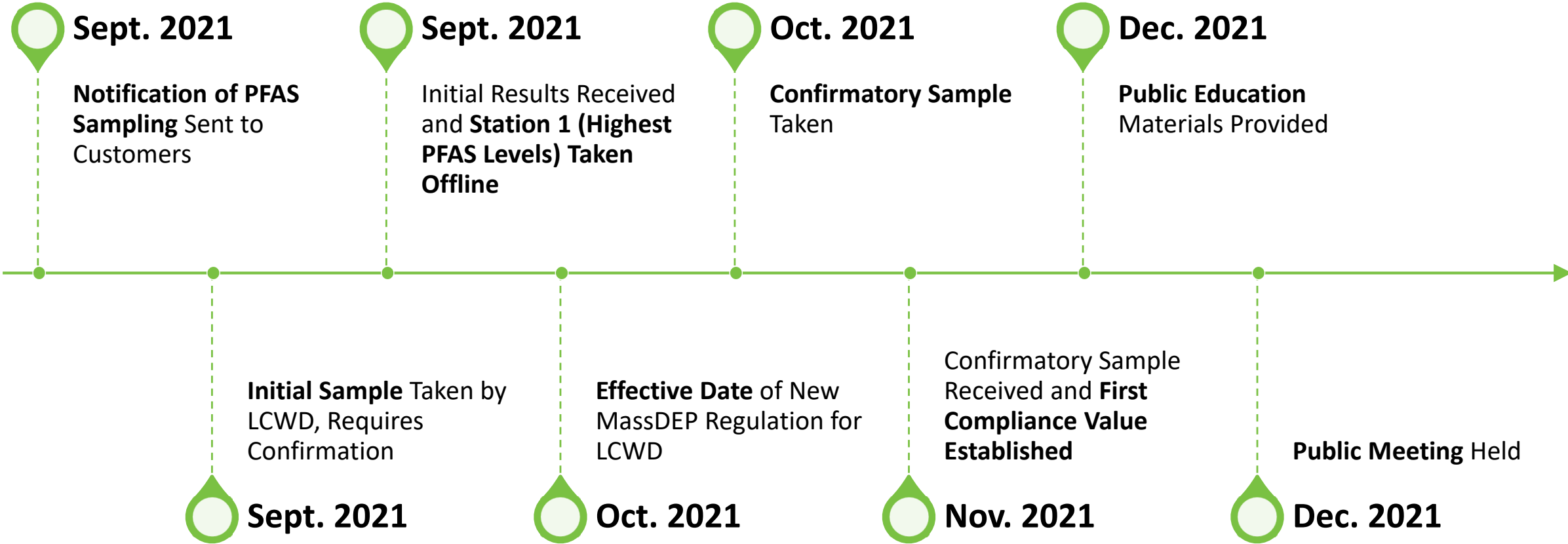
Sources of PFAS



PFAS Environmental Pathway



PFAS Discovery, Analysis and Response



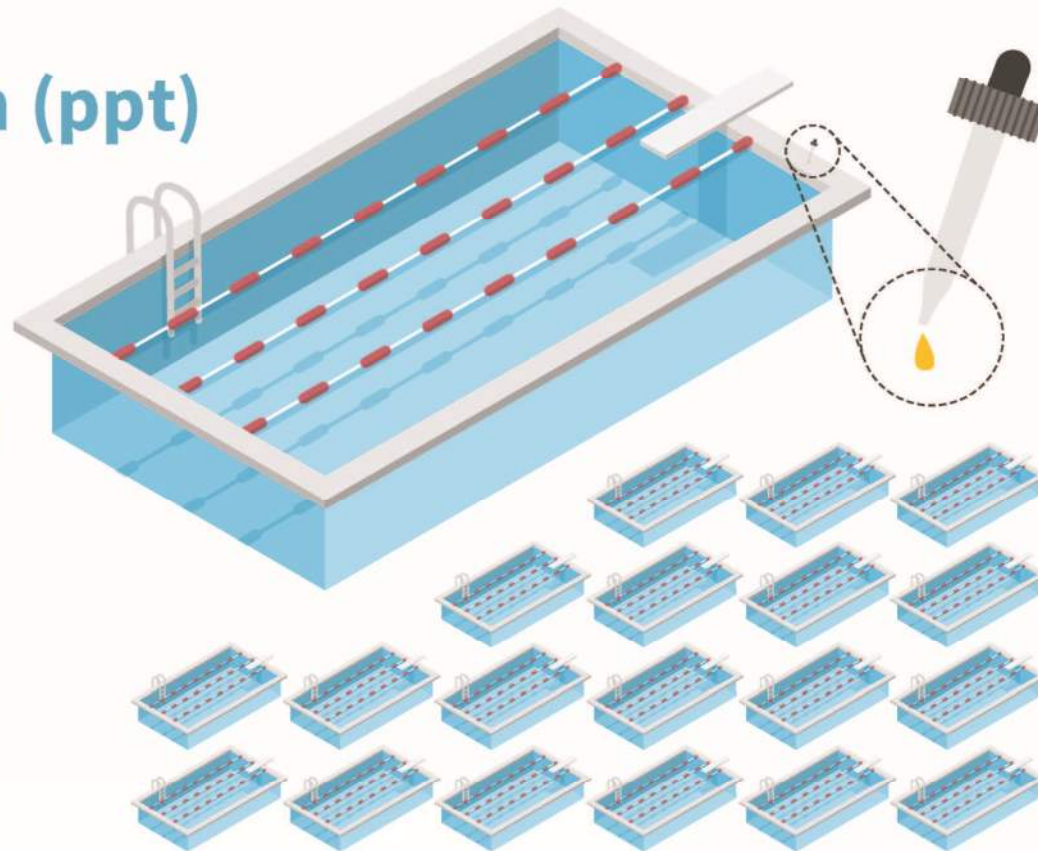
Why are PFAS detected now?

Testing methods can now find very low PFAS levels.

1 part per trillion (ppt)

**IS EQUIVALENT TO A
SINGLE DROP OF
WATER IN**

**20 olympic-sized
swimming pools**



Source: Michigan.gov
https://www.michigan.gov/documents/pfasresponse/1ppt_is_equal_to_1_drop_of_water_in_20_olympic_swimming_pools_664966_7.pdf

PFAS Maximum Contaminant Level (MCL)

- Massachusetts Department of Environmental Protection (MassDEP) drinking water standard = Maximum Contaminant Level (MCL)

PFOS+PFOA+PFHxS+PFNA+PFHpA+PFDA =

PFAS6

Its maximum contaminant level (MCL) is **MCL=20 ppt**



- Pregnant Women
- Nursing Women
- Infants
- Compromised Immune System

- MassDEP recommends individuals from sensitive populations avoid consuming water with PFAS6 above the MCL
- LCWD has not had a PFAS6 MCL exceedance

PFAS Maximum Contaminant Level (MCL)

- MCL is based on the quarterly average of monthly samples

Monitoring Interval Based on Average of These Two Results



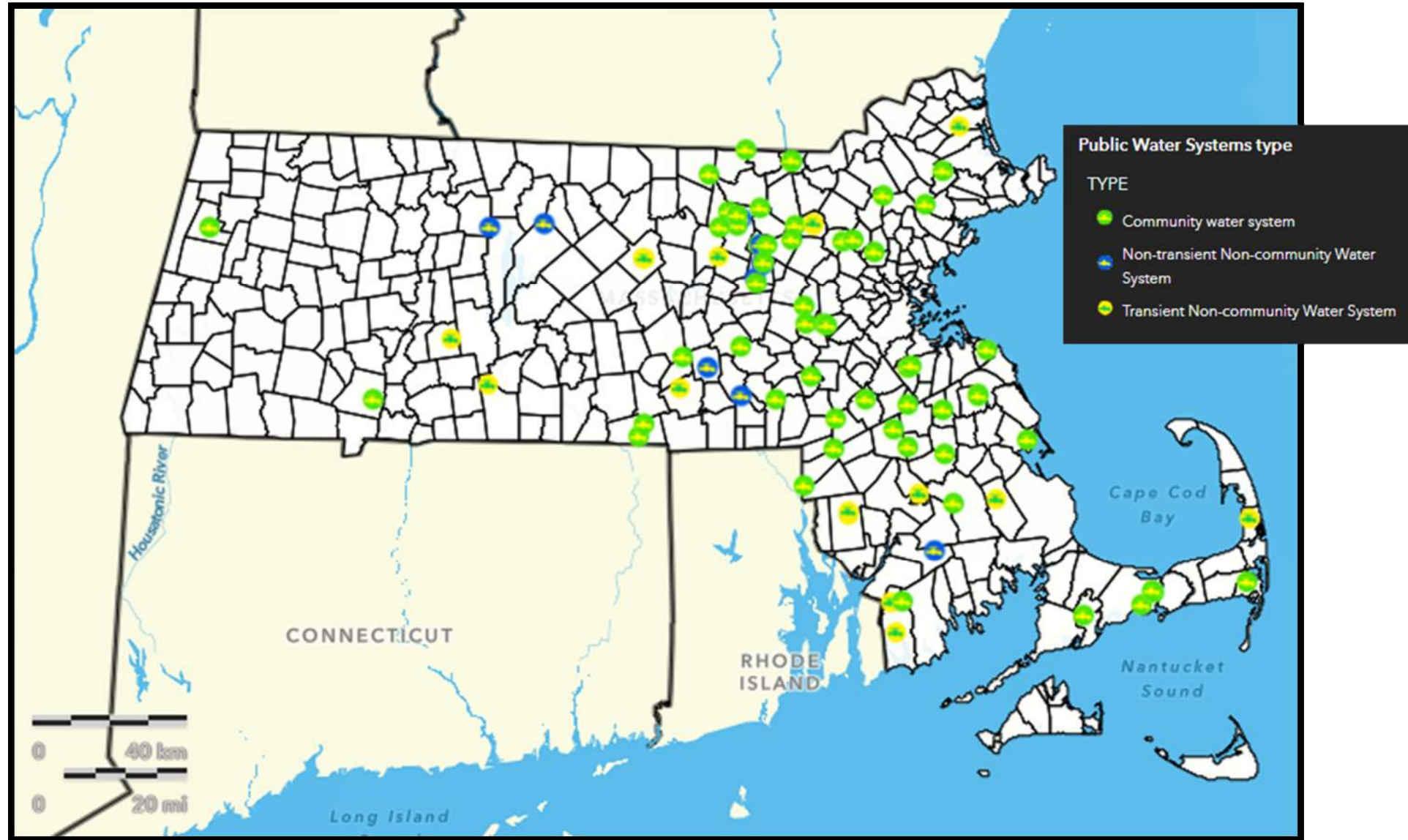
Q4 MCL Calculation = Average of These Three Results

- LCWD has results from two samples – Initial (September) and Confirmatory (October)
- Average of Initial and Confirmatory > 20 ppt is NOT an MCL exceedance, monitoring interval
- First MCL calculation will be after receiving December 2021 results

Massachusetts PFAS Exceedances

PFAS6 levels above 20 ppt have been detected in nearly 100 public water systems, over 25% of systems

...and that number is increasing



Public Water Systems that detected PFAS6 over the MCL.

Source: MassDEP <https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas>

What are the health risks related to PFAS?

- Consuming water with PFAS above the recommended limits **does not mean that adverse effects will occur**
 - Risk depends on
 - How much PFAS is in the water
 - Which PFAS are in the water
 - How long you are exposed to the water
 - Drinking water standards are purposefully conservative and to protect sensitive subgroups (worst-case scenario)
 - PFAS exposure also occurs through other environmental and consumer sources

For more information on PFAS Blood Testing and Talking to Your Doctor check out ASTDR's website:

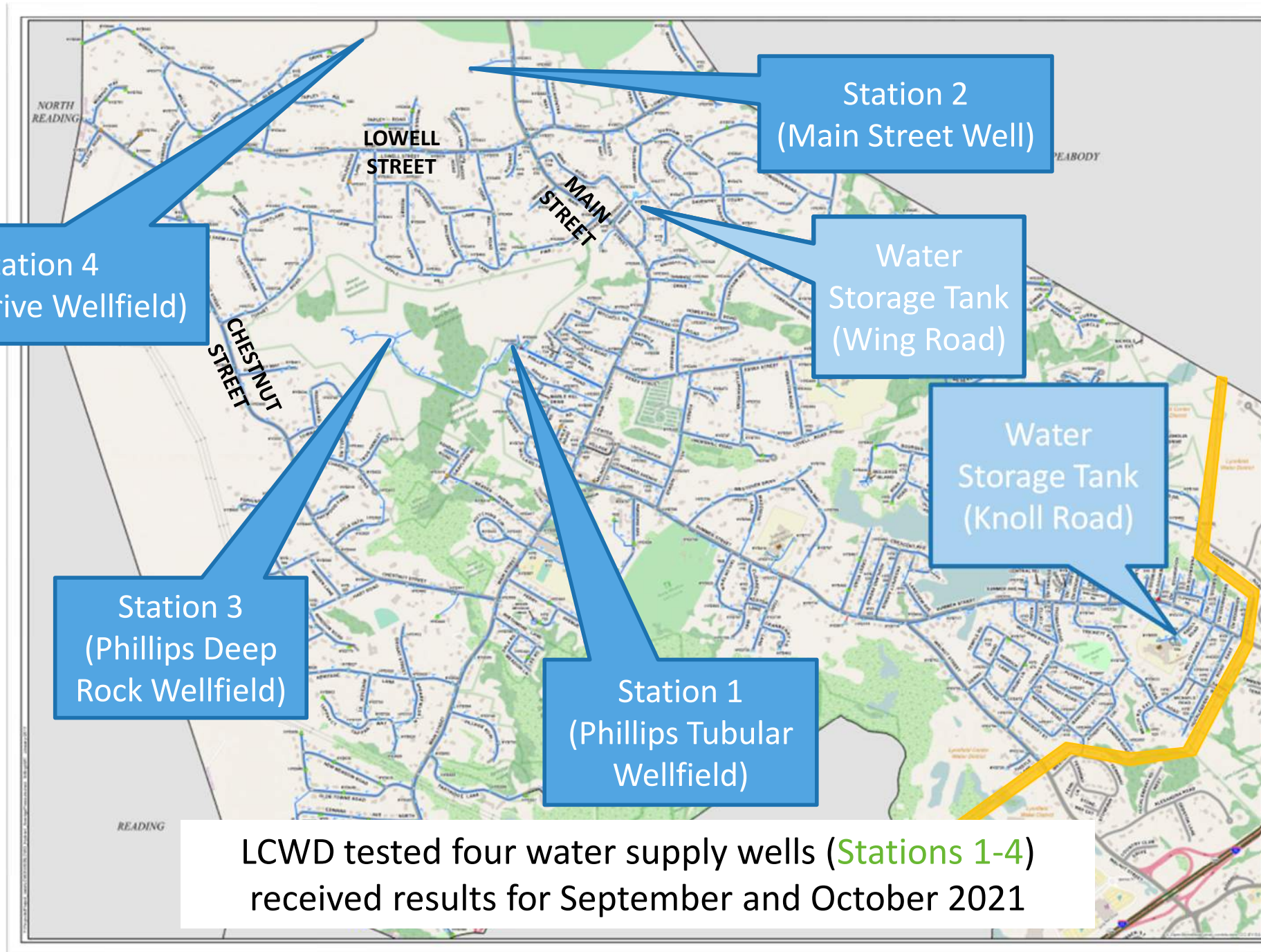
<https://www.atsdr.cdc.gov/pfas/health-effects/blood-testing.html>

What are the health risks related to PFAS? *(continued)*

- Potential links between high levels of PFAS exposure and negative health effects:
 - Increased cholesterol
 - Changes in liver enzymes
 - Small decreases in birth weights or vaccine response in children
 - High blood pressure or pre-eclampsia in pregnant women
 - Increased risk of certain cancers



The study of potential health risks related to PFAS is ongoing. Emerging research may change the understanding of the links between certain PFAS compounds and human health.

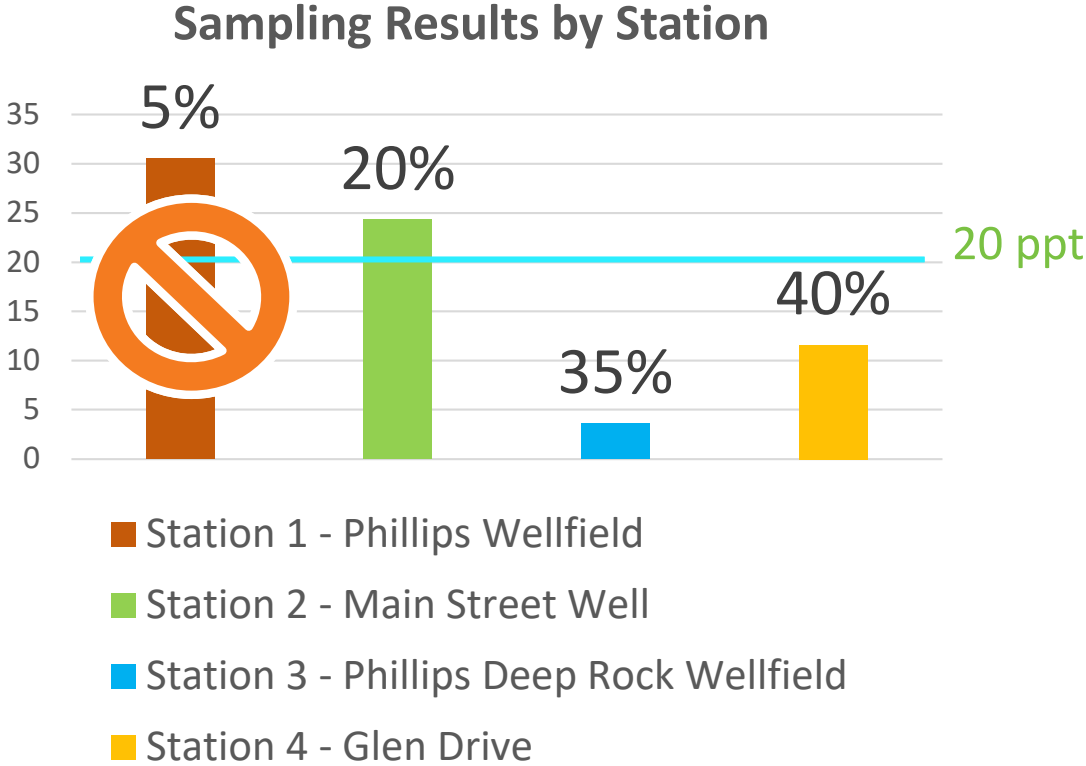




LCWD PFAS Testing Results

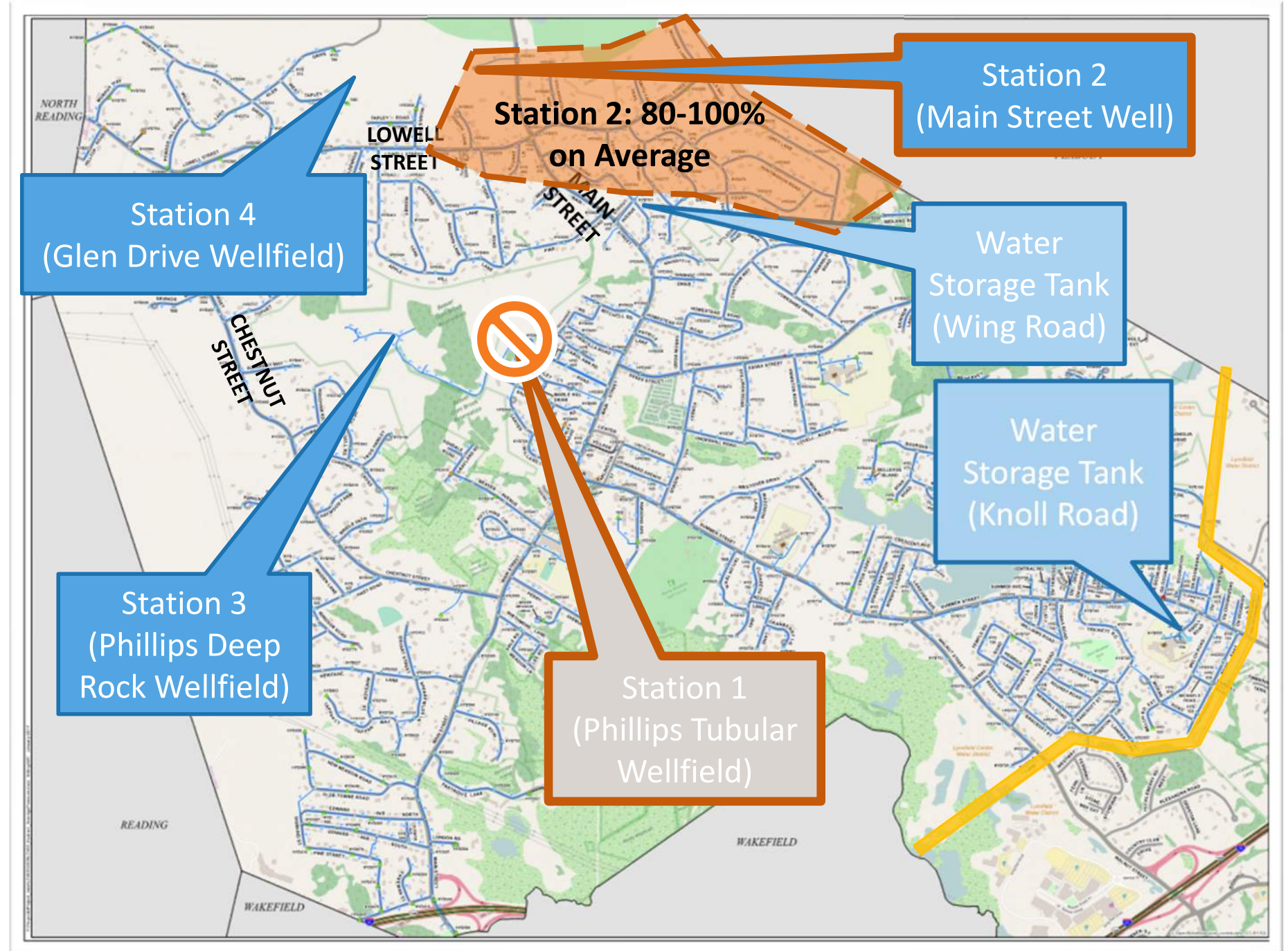
- PFAS6 levels below 20 ppt at Stations 3 and 4 (75% of total production).
- PFAS6 found at levels above 20 ppt at Stations 1 and 2 (25% of total production).
- Small percentage of LCWD’s total water supply comes from impacted sources

Station	Average PFAS6 Detected (ppt)	Approx. % of Daily Flow
Station 1 – Phillips Tubular Wellfield		
Station 2 – Main Street Well	24.3	20%
Station 3 – Phillips Deep Rock Wellfield	3.6	35%
Station 4 – Glen Drive Wellfield	11.6	40%



Is your water safe to drink?

- Majority of system blends with other sources below MCL
- Limited area within LCWD is supplied directly by Station 2

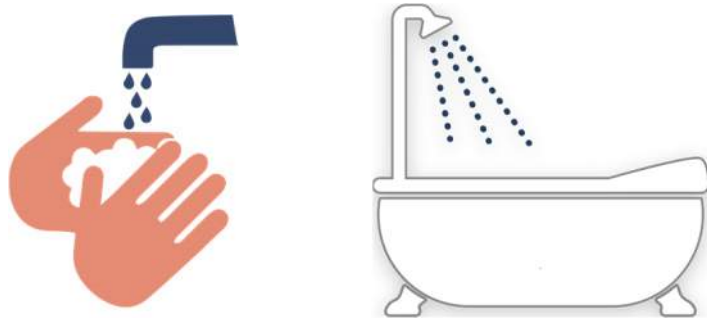


Is your water safe to drink? *(continued)*



- MassDEP: sensitive populations should not consume, drink, or cook with water above 20 ppt
 - **Bottled water:** Check that bottlers comply with MassDEP's PFAS MCL
 - **Water filters:** Check that manufacturer has independently verifiable PFAS6 results < 20 ppt
- Consumers not in a sensitive subgroup may continue to consume the water
- Safe for washing foods, brushing teeth, bathing, showering
- Boiling the water will not destroy PFAS

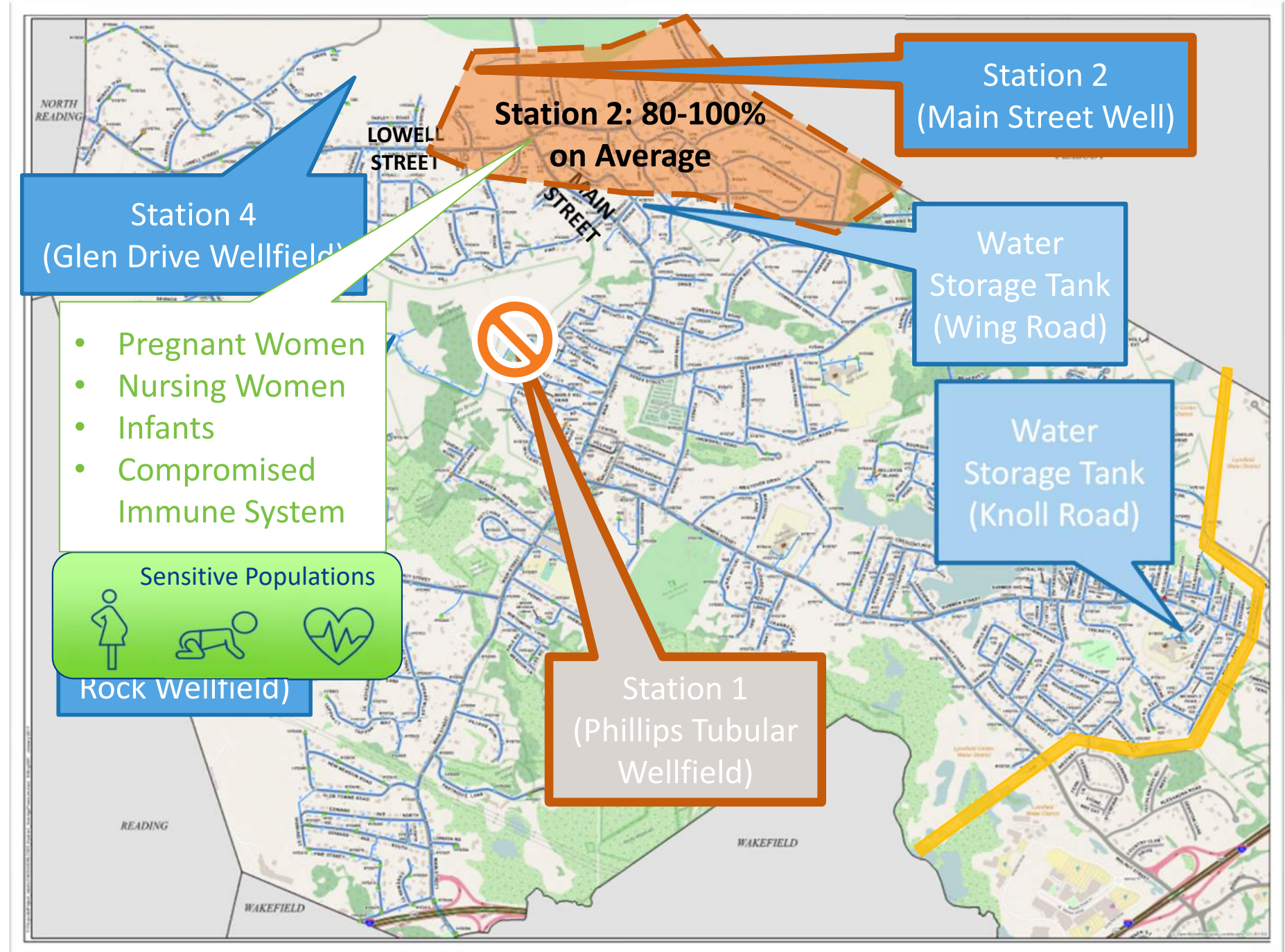
- Pregnant Women
- Nursing Women
- Infants
- Compromised Immune System



MassDEP List of bottlers that comply with drinking water standards for PFAS
<https://www.mass.gov/doc/list-of-bottlers-october-7-2021-0/download>

Is your water safe to drink?

Unless you are a **sensitive population** in and around the area with the majority of their water supplied by Station 2, MassDEP indicates you may continue to consume the water.



What is LCWD doing about PFAS?

LCWD is working to reduce PFAS levels for its customers by developing PFAS management and outreach using SMART Goals to guide actions

SMART Goals

- Specific
- Measurable
- Achievable
- Realistic
- Timely



What is LCWD doing about PFAS? *(continued)*

We have already...

- ✓ Taken the well with the highest level of PFAS6 (Phillips Tubular Wellfield at Station 1) out of service, effective September 2021.
- ✓ Increased production of the two stations with PFAS6 levels below the MCL, also effective September 2021.
- ✓ Committed to continued monitoring of PFAS6 in the water supply. Sampling results will be communicated by our website and *WaterSmart*.



What is LCWD doing about PFAS? (Cont.)

We are investigating...

- ✓ Short- and long-term mitigation options to address PFAS6 in the water supplied by Main Street Well at Station 2.
- ✓ Other operational changes and opportunities through capital improvement projects to minimize potential PFAS exposure.
- ✓ A program for providing an alternative water supply to sensitive populations.
- ✓ Aggressively pursuing grants and funding opportunities.

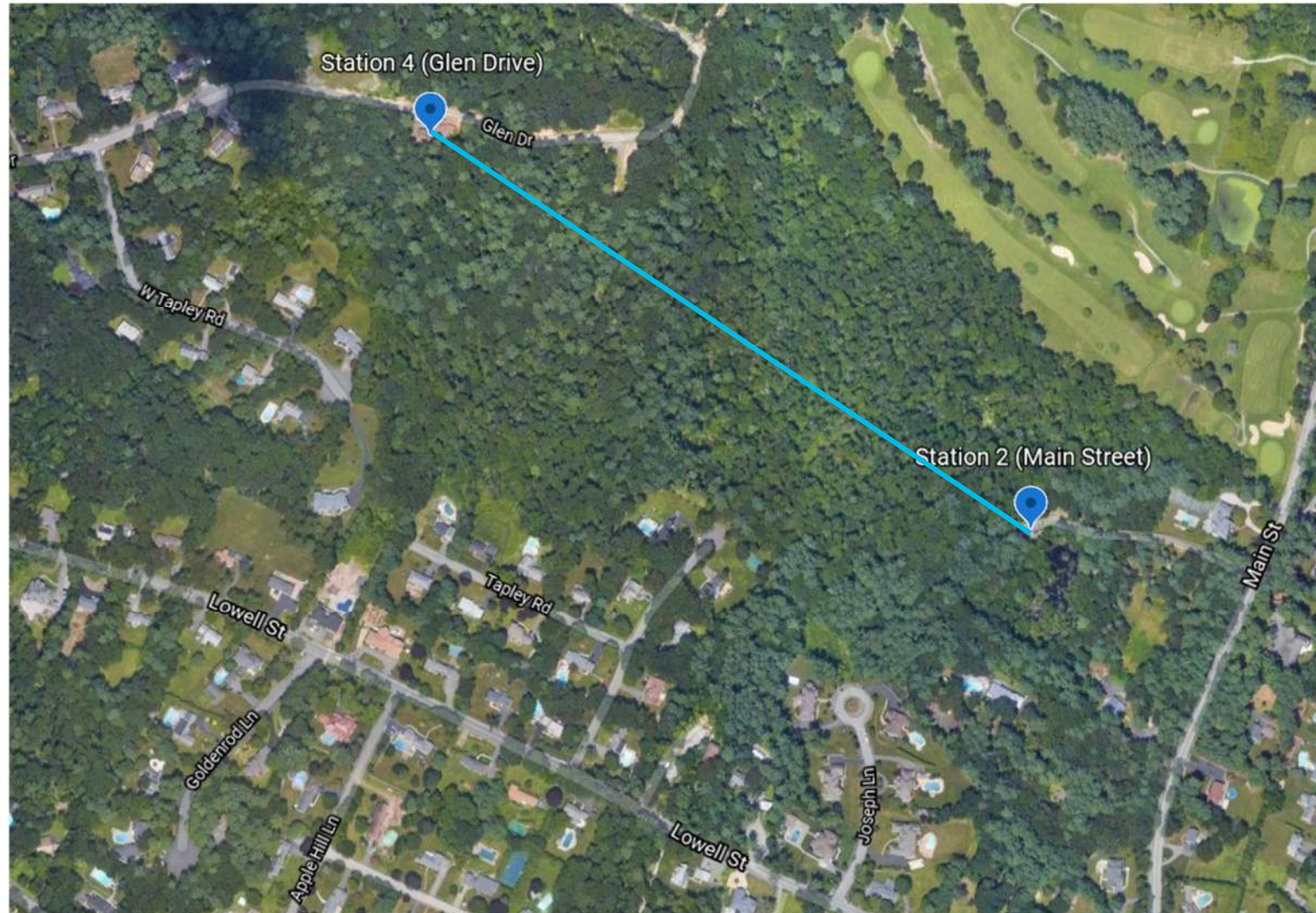


What is LCWD doing about PFAS? *(continued)*

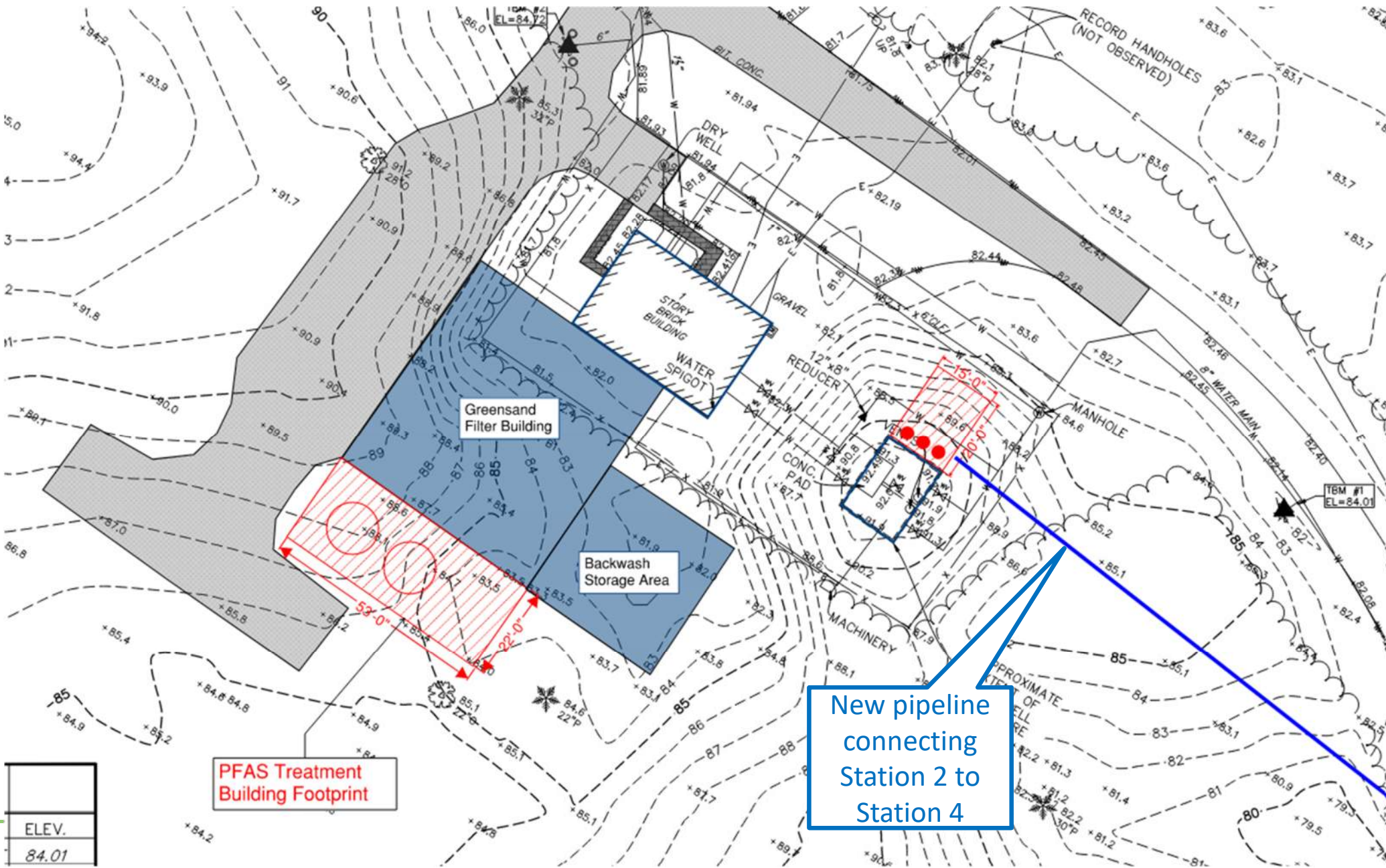
Options for Station 2

- ✓ Short Term: Temporary treatment at Station 2
- ✓ Long Term:
 - Treatment at Station 2
 - Pipe to Station 4 (Glen Drive) and provide iron, manganese and PFAS treatment for both Station 2 and Station 4 wells
 - Increase MWRA water at the Wakefield interconnection, discontinue Station 2 use
 - Additional wells at Station 3 (Phillips Road) and Station 4 (Glen Drive), discontinue Station 2 use

Station 2 (Main Street) Treatment at Station 4 (Glen Drive)



Station 2 (Main Street) Treatment at Station 4 (Glen Drive)



Station 2 (Main Street) Treatment at Station 4 (Glen Drive)

- New pump at Station 2 to pump to Station 4
- Additional clearwell to hold Station 2 water
- Clearwell aeration system
- New pumps to put Station 2 water through future Glen Drive WTP
- PFAS treatment vessels (GAC)
- Finished water transmission main upsizing

Design and Construction
\$6 to 8 million

LCWD PFAS Communication

LCWD Website

- For ongoing PFAS communication
- Will be updated monthly
- Will include:
 - PFAS FAQs
 - PFAS Fact Sheet



Social Media

- **Facebook:** will post updates at @LCWDinfo1
- **Twitter:** will tweet updates on handle @LCWDinfo



WaterSmart

- Sign up and receive email updates



Provide Your Input:

How would you like to receive information from the District?

(Survey provided at end of meeting)

- Attached to your water bill
- Via LCWD's **WaterSmart** Online Portal
- Through the mail
- In Lynnfield Weekly and Villager newspapers
- Bulletins posted in a community center, like the library
- Other?

Sign up for water alerts

LEARN MORE



Questions or concerns?



LCWD



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