PFAS Information

For questions please contact the PFAS Hotline at 781-784-1525 ext. 2309.
Last updated 11/1/2021

PFAS UPDATE

What are PFAS and why the concern?

Per- and polyfluoroalkyl substances (**PFAS**) are a group of more than 5,000 man-made chemicals that includes PFOA, PFOS and GenX, (See EPA website.). PFAS have been manufactured and used in a variety of industries globally and in the U.S. since the 1940s. They are used for their stain-resistant, water-resistant, grease-resistant and non-stick properties. PFAS chemicals are very persistent, meaning they don't break down, thus they can accumulate over time in the environment and in the human body.

New PFAS Regulations in Drinking Water

The EPA used drinking water intake and body weight parameters for lactating women in the calculation of their lifetime health advisory due to the potential increased susceptibility during this time window. EPA assumed a drinking water ingestion rate of 0.054 L/kg day (nearly 4 liters per day for an average weight of 160 pounds), which represented the 90th percentile water ingestion estimate for a lactating woman, based on direct and indirect water intake of community water supply consumers every day for an 80-year lifetime and in 2016 established the advisory level of 0.000070 mg/L or 70 nanograms per liter (ng/L; which is equivalent to parts per trillion or ppt) for the sum of PFOA and PFOS. On October 2, 2020 the MA DEP amended Massachusetts Drinking Water Regulations, and established a Maximum Contaminant Level (MCL) of 20 ng/L for the sum of six PFAS compounds (PFOS, PFOA, PFHxS, PFNA, PFHpA and PFDA), known as PFAS6. The regulations established sampling requirements and corrective actions that a Public Water System must take when the MCL is exceeded. This includes notice of exceedances and public education.

For a Quick Reference Guide on PFAS Drinking Water Regulations, click here.

PFAS Test Results/Where we stand now

Results from the initial round of testing in April led to Wells #2 and #4 being taken off-line in mid-April. After receiving permitting approval for temporary treatment at Well #4 in mid-June, that well was put back on-line, albeit at reduced capacity of 50% or 500,000 gallons per day. Well #2 remains off line. As a result of these actions, drinking water put into the system has been

well below the MCL for PFAS6 and safe for consumption since mid-April. Laboratory results of the PFAS testing at all Town production wells, including Well #2 which remains off-line and from the treated and untreated water produced by Well #4 to date are shown as follows:

PFAS6 Concentration (ng/L)

	Well #2	Well #3	Well #4 Raw	Well #4 Treated	Well #5	Well #6	Well #7	Blended System Concentration
4/6/2021	19.5	6.2	88.8		0.0	2.2	8.6	
5/4/2021	19.8	5.9	78.6			9.2	4.3	
6/7/2021	34.0		125.7					
6/21/2021				ND				
6/23/2021			78.7	ND				
7/14/2021	23.0	13.1	73.1	ND		10.0	5.7	5.2
8/12/2021	38.4	10.2	75.3	ND	0.0	9.1	5.4	4.5
9/16/2021	34.8	13.1	100.7	ND	0.0	15.1	7.1	6.2
10/13/2021	38.9	13.9	83.8	ND		17.2	6.8	

Both Well #2 and Well #4 were taken off-line in April following sample results. Well #2 remains off-line. Well #4 was returned to service in June with treatment following sample results of treated water.

Blended system PFAS6 concentration of water being pumped into the system in July, August and September from wells currently in use was well below the Massachusetts Maximum Contaminant Level (MCL) of 20 ng/L. The average concentration of water in the system was approximately 5.2 ng/L from data collected in July, 4.5 ng/L from data collected in August and 6.2 ng/L from data collected in September.

Present Operations

After initially shutting down both Wells #2 and #4, we were able to meet demand following implementation of an outright ban on irrigation system use, which allowed time to procure and install a temporary treatment system. After implementing temporary treatment, Well #4 was brought back on-line, albeit at reduced capacity of 50% or 500,000 gallons per day. Well #2 remains off line. As a result of these actions, drinking water put into the system has been well below the Massachusetts maximum contaminant level for PFAS6 of 20 ng/L with an average concentration of water in the system less than 5 ng/L based on data collected this past summer. Discolored water however, has been more prevalent this summer due to having to run our other supply wells that have higher amounts of iron/manganese at permitted capacities to keep up with the Town's water usage demands. In addition, we were only able to complete 1/3 of our typical hydrant flushing program last spring due to the capacity issues caused by taking Wells #2 and #4 off line.

As summer transitioned into fall, system demand dropped which allowed the Water Department to implement a flushing program this fall to address the increased number of discolored water

concerns throughout the town. Our current plan is to complete our flushing program this fall by mid-November. At the same time, we are taking measures to bring Well #4, using the temporary treatment system, back up to full capacity by spring 2022 which will allow us to complete our normal spring flushing program next year and to prepare a design and cost estimate for a permanent PFAS and iron/manganese treatment system to address both water quality issues with construction to start as soon as next fall.

PFAS6 levels that exceeded the Massachusetts MCL were found in Well #4 and in Well #2 during the initial round of required sampling in April 2021. The specific PFAS found were PFOA, PFOS and PFHxS.

- PFOA (a precursor for non-stick Teflon and Goretex) and PFOS (Scotchguard) are "legacy" PFAS, i.e. the first synthesized, extensively produced, and most studied. PFOA and PFOS are no longer manufactured in the United States as a result of phase outs including the PFOA Stewardship Program in which major chemical manufacturers agreed to eliminate the use of PFOA and PFOA-related chemicals in their products and as emissions from their facilities. Although PFOA and PFOS are no longer manufactured in the United States, they are still produced internationally and can be imported into the U.S. in many types of consumer goods. Because they are break down very slowly, they remain in the environment and are showing up in drinking water across the country.
- PFHxS was an early replacement for PFOA and PFOS.

Sharon Water Department's Immediate Response

As soon as the Sharon Water Department received notice of the elevated PFAS6 levels at Wells #2 and #4, pumping from both wells was immediately stopped. Well #2 remains off-line. A resin filter was installed to treat water from Well #4. The filter was documented to reduce the level of all 6 PFAS to undetectable, and Well #4 was brought back on line in June after treatment was validated. The new blended levels of PFAS6 in our drinking water is now approximately 5 ng/L, four times lower than the new 20 ng/L MCL.

Sources of PFAS contamination

Historically, evidence of major PFAS contamination can include the following:

- Fire-fighting foams used at airports and military bases where firefighting training occurs.
- Packaging, where they have also been found to leach from packaging into pesticides that the state has used to combat mosquito-borne illnesses.
- Chemical plants, manufacturing facilities and industries that make and use PFAS (e.g., chrome plating, electronics manufacturing or oil recovery).
- Drinking water, previously thought to be typically localized and associated with a specific facility (e.g., manufacturer, landfill, wastewater treatment plant, firefighter training facility).

Sources of PFAS in the home from everyday consumer products.

Recently, PFAS have been found in a number of drinking water systems that is not related to the major sources noted above. However, it is important to know that drinking water is not the only source of PFAS exposure, as seen by the extensive list of consumer products below.

- Stain-resistant carpets and upholstery (ie. Scotchguard, Stainmaster etc.).
- Water-resistant and water-repellent clothing (ie. Goretex, Polartec pre-2021..
- Microwave popcorn.
- Some brands of dental floss.
- Polishes and waxes (car wax, ski wax etc.)
- Cleaning products
- Paints, varnishes, sealants
- Non-stick cookware.
- Food packaged in PFAS-containing wrappers or cardboard, or processed with equipment that used PFAS.
- Fish from water PFAS-contaminated water.
- Food grown in PFAS-contaminated soil or water.
- Personal care products including shampoo, cosmetics, nail polish, eye-makeup
- Concrete Sealers.

For more information on PFAS exposure click here.

What Does MA DEP Recommend if the Town of Sharon is not able to continue to provide drinking water that meets the new 20 ng/L MCL?

Consumers in a sensitive subgroup, which includes pregnant or nursing women, infants and people diagnosed by their health care provider to have a compromised immune system should observe the following recommendations

- Consumers in a sensitive subgroup should not consume, drink, or cook with water when the level of PFAS6 is above 20 ng/L.
- Consumers should use bottled water for drinking and cooking of foods that absorb water (like pasta), only after verifying that you are using a brand of bottled water that has been tested and found to have low PFAS levels.*
- Consumers should use bottled water for infant formula that has been tested and found to have low levels of PFAS.* Alternatively, use formula that does not require adding water.

Recommendations for all other consumers not in a sensitive subgroup include:

- You may continue to consume the water because the 20 ng/L MCL is applicable to a lifetime consuming the water and shorter duration exposures present less risk.
- If you have specific health concerns regarding your past exposure, you should see the Centers for Disease Control and Prevention's link and consult a health professional, such as your doctor.
- Use of bottled water may reduce your exposure, if you verify that the bottled water is low in PFAS. *

- Use of home water treatment systems may reduce your exposure, but you should purchase a filter from a company that provides data obtained from an independent laboratory documenting the % removal of many different PFAS chemicals. (Please note that there are currently no EPA or government certifications for water filters that reduce PFAS6 levels below 20 ng/L.)

  * Consumer Reports has measured and reported PFAS levels in bottled water.

  WARNING: Boiling the water will not destroy PFAS6 and will somewhat increase its level due to evaporation of some of the water.

WHAT IS THE SHARON WATER DEPARTMENT DOING IN RESPONSE TO THESE NEW REGULATIONS?

The Sharon Water Department has taken the following proactive measures:

IMMEDIATE RESPONSE:

As soon as the Sharon Water Department received notice of the elevated results at Wells 2 and 4, pumping from both wells was immediately stopped. Well 4 was brought back on line in June after treatment was installed. Well 2 remains off-line

MEDIUM TERM RESPONSE (ONGOING):

PFAS monitoring and the study of PFAS treatment options are ongoing.

Our public water system will continue monthly sampling of all sources/wells entering our distribution system. We will keep you informed by providing quarterly notices of all monitoring and our short and long-term plans and efforts to meet the PFAS6 MCL and reduce PFAS exposure.

LONG TERM RESPONSE:

The Water Department is currently exploring several possible long term treatment options:

- Individual treatment systems at Well #4.

Outside of PFAS, Well #4 has the best overall water quality of our wells. As a result, treatment is required for PFAS removal alone. Consequently, construction of a treatment facility will be the lowest of permanent options.

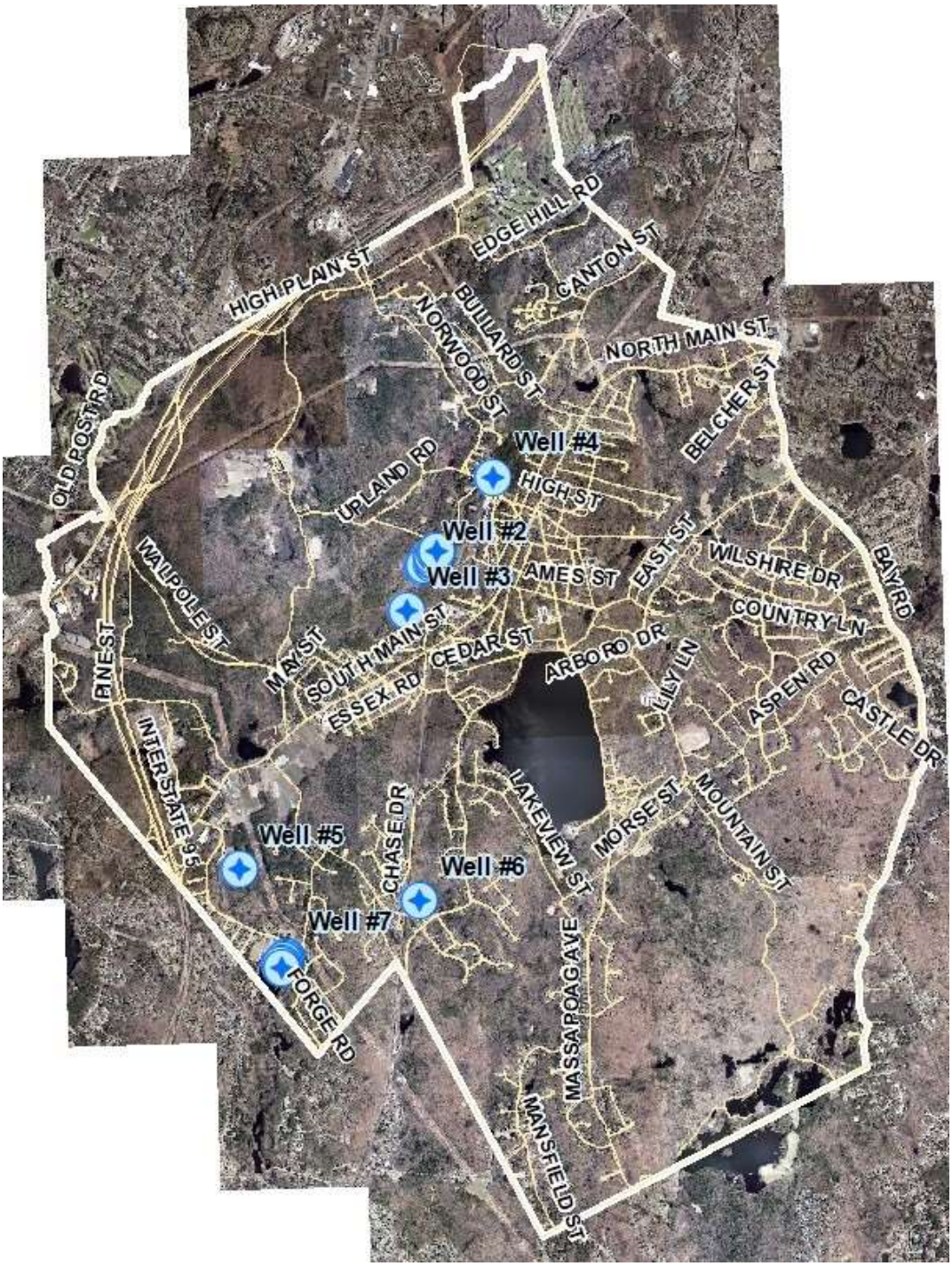
- Combined treatment system to include Wells #2 and #4 and possibly Well #3.

If either Wells #2 or #3 are included, pretreatment for iron and manganese will be required. Both Wells #2 and #3 sites are significantly larger than the site at Well #4 and are isolated from close by residential neighborhoods. New water mains will be required to join the three wells. However, the combined capacity will meet most summertime peak demands. Treating the combined capacity of the three wells may also solve our discolored water problem town-wide.

FAQ

Q: *What well or wells supply my area?*

A: All of our wells combine and mix in our distribution system, the water mains and water storage tanks. However, a larger percentage of water will come from the well closest to you. Here are the 6 wells that supply drinking water for Sharon:



ADDITIONAL PFAS RESOURCES:

- Mass DEP Fact Sheet - Per- and Polyfluoroalkyl Substances (PFAS) in Drinking Water: Questions and Answers for Consumers
- MassDEP Fact Sheet - Home Water Treatment Devices - Point of Entry and Point of Use Drinking Water Treatment
- Massachusetts Department of Public Health- Per- and Polyfluoroalkyl Substances (PFAS) in Drinking Water
- NSF Certified Water Filters
- Mass DEP information about PFAS
- US EPA information about PFAS
- CDC ATSDR information about PFAS
- Association of State Drinking Water Administrators