

# Per- and Polyfluoroalkyl Substances (PFAS)

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## **CURRENT DATA AND UPDATES**

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The Acton Water District proactively began sampling in early 2020 for per-and polyfluoroalkyl substances (PFAS) based on the presence of two Superfund Sites in Acton and the push towards further regulation of PFAS at the State and Federal level. At this time, the Superfund sites do not appear to be the source of the PFAS in our community although additional monitoring was performed in 2021 associated with these sites.

Monthly monitoring of our treated water was initiated at the start of the 2021 calendar year. This will help determine our compliance with the drinking water maximum contaminant level (MCL) of 20 parts per trillion (ppt), for water systems in Massachusetts. It should be noted that compliance is based on a quarterly average and an individual sample above the MCL does not necessarily mean we are not in compliance. Previous monitoring in 2020 has improved our knowledge of how PFAS is impacting our water system and we continue to work with State regulators, consultants, and others to address PFAS in Acton's drinking water.

Based on our January 2021 sampling results, and the trends observed in the second half of 2020, the North Acton Water Treatment Plant (NAWTP) was returned to service on February 18, 2021. Ongoing sampling will be done to assess the continued use of this facility. A pilot test was completed at the NAWTP between September 2020 and January 2021. The engineering study has been completed and the Massachusetts Department of Environmental Protection (MassDEP) has provided feedback for the District and our engineer to consider. At the Annual District meeting on April 13, 2022, voters appropriated \$1,000,000 to implement a PFAS treatment system to realize full use of this facility going forward. Our plan is to utilize an emergency loan approved on April 8, 2022, from the Massachusetts Drinking Water State Revolving Fund (SRF). Additionally, money was appropriated that will allow the District to access American Rescue Plan Act (ARPA) funds committed from the Town of Acton's Federal ARPA allocation, to cover the engineering costs of this treatment system. We anticipate this work being complete in the first half of 2023. Since our latest change in operations at the NAWTP in May 2021, it has gone from supplying 20% of our water to an average of 10% through the past several months.

The new Central Acton Water Treatment Plant (CAWTP) was placed into service on February 18, 2022. This consolidated the Conant 1 and Conant 2 wells into a single treatment plant. Sampling results since operations began have indicated varying levels of PFAS. As more samples are collected and the operating parameters are changed, we will gain a better understanding of the ongoing PFAS impacts at the wells and treatment plant. Two new sources of supply are also being

pursued in this area. A long duration pumping test was conducted on these wells during the spring of 2021 to support permitting by MassDEP. These wells have exhibited minimal concentrations of PFAS and, if permitted, could help maintain low PFAS concentrations at the CAWTP. The review and approval process is underway for these additional wells. At the Annual District meeting on April 13, 2022, voters appropriated \$200,000 to conduct a pilot test to determine treatment feasibility and estimated costs at this facility. We anticipate this work to take place following the design work at the NAWTP and the pilot test at the South Acton Water Treatment Plant (SAWTP).

Wells serving the SAWTP have been operating at a reduced capacity to help maintain PFAS levels at or below the MCL. To help restore the volume of water at this location, the Assabet 2 well was reactivated in October 2020. At our Annual District meeting on May 5, 2021, voters authorized funding to connect the previously permitted Assabet 3 well to the SAWTP. The field work for this project began in June 2022 and we anticipate activation in November. When completed this will help to restore some of the capacity at this facility. These are two short term solutions to help us manage PFAS and maintain flexibility in our system to meet demands for water. At the Annual District meeting on April 13, 2022, voters appropriated \$200,000 to conduct a pilot test to determine treatment feasibility and estimated costs at this facility. The pilot test proposals have been approved by MassDEP and contractors began the pilot test in September.

The Clapp/Whitcomb Water Treatment Plant (CWWTP) utilizes granular activated carbon (GAC) filters as part of its treatment process. GAC has been identified as an effective treatment technology at reducing PFAS concentrations in drinking water and sampling results from CWWTP in 2020-2021 support this as an effective treatment technology. Unfortunately, the CWWTP has not been operating in 2022 due to iron concentrations that are not being effectively reduced by the GAC filters.

At the September 14, 2020 Board of Water Commissioners' meeting, the Board voted to sign on to PFAS litigation against manufacturers of these chemicals. The law firm of Napoli Shkolnick, PLLC with offices in New York and soon in Massachusetts, was selected to represent the District as an affected party.

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## **REVISED HEALTH ADVISORIES**

On June 15, 2022 the United States Environmental Protection Agency (US EPA), issued new health advisories (HAs) for four of the PFAS chemicals. Information on this announcement is available at: <https://www.epa.gov/sdwa/questions-and-answers-drinking-water-health-advisories-pfoa-pfos-genx-chemicals-and-pfbs>. Two of the HAs are considered final and two are considered interim. The HAs for PFOA and PFOS are significantly lower than previous US EPA HAs, lower than current analytical methods can detect, and lower than the enforceable Massachusetts PFAS MCL. While the District awaits further guidance and definitive actions from both the US EPA and MassDEP, we continue to make progress on reducing PFAS exposure through drinking water and meeting the enforceable standards promulgated by MassDEP. The actions we are taking support US EPA's goals of informing the public and reducing overall exposure. At this time no additional actions will be taken in response to this announcement.

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## **WHAT DID THE PUBLIC NOTICE SAY?**

### **January 12, 2022 Public Notice**

The Public Notice (PN) provided to all billed customers of the Acton Water District on January 12, 2022 is a required notice by MassDEP. Additional recipients included managers of multi-unit housing (apartments and condominiums), who were asked to communicate the message to residents of those communities, and individuals signing up for our PFAS email updates. All recipients are asked to share this information with anyone else who drinks this water. Please note that this PN is for a past exceedance of the Massachusetts PFAS standard and sampling results

since August of 2021 have been lower, all results may be viewed above on this website under Current Data and Updates.

If you have not read the public notice document, reviewed our webpage, or visited the informative links below, we highly encourage you to do so. This may seem like a large request, however, PFAS is a complicated matter with multiple aspects to understand.

The Acton Water District has been conducting monthly sampling of its operating sources for PFAS since the beginning of 2021. Our compliance with the Massachusetts drinking water standard, which was adopted in October 2020 (the MassDEP Press release can be found here: <https://www.mass.gov/news/baker-polito-administration-establishes-strict-standards-for-pfas-in-drinking-water-to-protect>.) is calculated for each treatment plant on a quarterly average basis. Since February 2021, we have been intermittently utilizing the NAWTP to facilitate resting other sources while continuing to meet the community's demand for water. When our sampling results for July, August, and September of 2021 were reviewed and calculated for compliance by MassDEP, this triggered an exceedance of the MCL for the third quarter at this facility. Our other three operating facilities were in compliance with the MCL, representing a majority of water supplied to our customers. We have been working with MassDEP to communicate this violation and provide the required public notice to our customers.

The current notice is similar to the three previous notices sent in June 2020, May 2021, and October 2021. The continued focus is to make the community aware that PFAS is in Acton and to remind members of the sensitive sub-population of the potential risks in consuming the water. We also noted that compliance for October, November, and December were in compliance at all operating facilities, including the NAWTP. We have heard from many customers that being an older adult or senior makes them at risk and want to clarify that older adults would only be at higher risk if they have a medically diagnosed compromised immune system. Older adults should consult with a medical provider if they have questions.

Actions to address PFAS in the public water system are ongoing. Of note, we have altered how we operate our wells and treatment plants, reactivated idle wells, and performed testing to identify potentially appropriate treatment technologies. This work is ongoing, and we continue to review the latest water quality data and adjust our course as needed. Based on the past several months of data, these actions are having a positive impact on reducing PFAS below the MCL. An internal working group is meeting to further address the community wide impact of PFAS. This will include discussions on both short- and long-term measures to address PFAS, associated costs, ways to lessen the financial burden and recover costs incurred, and possible source identification and reduction measures. Two warrant articles were approved at the Annual District meeting to facilitate further actions to address PFAS.

At this time, the District is not the only impacted water system in Acton and all direct neighboring communities have identified PFAS in varying concentrations. This includes both public and private wells in these communities.

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### **BOTTLED WATER REBATE PROGRAM**

In recognition of ongoing presence of PFAS in certain sources of water utilized by the Acton Water District, the Board of Water Commissioners voted on August 2, 2021 to offer rebates to residential water customers in the sensitive subgroup, as defined by the Massachusetts Department of Environmental Protection, to assist with the purchase of bottled water. Details of the program and an application are available at <https://www.actonwater.com/customer-service/bottled-water-rebate-program-for-sensitive-subgroups>.

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### **HOW DOES PFAS GET INTO MY DRINKING WATER?**

According to the US EPA, PFAS are a group of man-made chemicals that includes PFOA, PFOS, GenX, and many other chemicals. PFAS have been manufactured and used in a variety of industries around the globe, including in the United States since the 1940s. PFOA and PFOS have been the most extensively produced and studied of these chemicals. Both chemicals are very persistent in the environment and in the human body – meaning they don't break down and they can accumulate over time. There is evidence that exposure to PFAS can lead to adverse human health effects.

PFAS can be found in:

- **Food** packaged in PFAS-containing materials, processed with equipment that used PFAS, or grown in PFAS-contaminated soil or water.
- **Commercial household products**, including stain- and water-repellent fabrics, nonstick products (e.g., Teflon), polishes, waxes, paints, cleaning products, and fire-fighting foams (a major source of groundwater contamination at airports and military bases where firefighting training occurs).
- **Workplace**, including production facilities or industries (e.g., chrome plating, electronics manufacturing or oil recovery) that use PFAS.
- **Drinking water**, typically localized and associated with a specific facility (e.g., manufacturer, landfill, wastewater treatment plant, firefighter training facility).
- **Living organisms**, including fish, animals and humans, where PFAS have the ability to build up and persist over time.

Certain PFAS chemicals are no longer manufactured in the United States as a result of phase outs including the [PFOA Stewardship Program](#) in which eight 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 United States in consumer goods such as carpet, leather and apparel, textiles, paper and packaging, coatings, rubber and plastics.

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## **PART PER TRILLION**

In order to understand what a chemical measurement means, one needs to have a basic understanding of the type of measuring units used, and what they mean. Prior to PFAS being regulated, most of our contaminants were measured using concentration units such as parts per million (ppm) and parts per billion (ppb). But what is a ppm, ppb, or ppt for that matter, in plain English?

As an example, let's use an example of liquid chlorine added to our water in the treatment process at 1.0 ppm. This value refers to one part of chemical (in this case liquid chlorine) found in one million parts of our water. To realize how small a value this actually is, read the analogies listed below:

### **One part per million (ppm) equals:**

- 1 inch in 16 miles

### **One part per billion (ppb) equals:**

- 1 inch in 16,000 miles

### **One part per trillion (ppt) equals:**

- 1 inch in 16 million miles (600+ times around the earth)

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## **HOW CAN I STAY INFORMED?**

If you do not typically receive a water bill from the Acton Water District and wish to receive future updates regarding PFAS, please visit this website periodically or send an email to [wq@actonwater.com](mailto:wq@actonwater.com) with "Updates" in the subject line. Please include your name, address, and email to be informed of new information and future developments related to PFAS.

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## **WHAT TREATMENT PLANT SERVES MY HOME?**

Many people have asked which source the water serving them is from. Our water system is a dynamic system that includes four treatment plants, four treated water storage tanks, and over 130 miles of water pipes. Because the water all pumps into the system, and system hydraulics (how the water moves around in the pipes) can change based on time of day, season, water demand, and how we are operating the various systems, it is difficult to pinpoint this information. For some customers it is relatively easy to pinpoint but other areas are more challenging, and an answer provided today could be different in a week. Given our current knowledge of PFAS, the numbers reported at our treatment plants should represent a worst-case scenario, as the water blends in the piping distribution system and storage tanks, it is anticipated that PFAS concentrations would be lower.

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## **WHAT IF I AM NOT SUPPLIED WATER BY AWD?**

In consultation with MassDEP, our initial Public Notice regarding PFAS in June 2020, was sent to every Postal Patron in Acton. This included many people who do not receive water from the District but may have an interest in knowing that PFAS is present in the community. If you have questions regarding PFAS in your primary water supply, you may wish to contact one of the following water systems that may serve recipients of our Public Notice. Contact phone numbers listed are from publicly available records and may not be current.

Concord Water Division 978-318-3250

Littleton Water Department 978-540-2222

Pine Hill Condominium 978-264-0166

Acton Indoor Tennis/Nashoba Sportsman's Club 978-263-9059

Planet Gymnastics/All Seasons Tennis 978-263-1900

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## **PRIVATE WELL RESOURCES**

In the spring of 2020, the Acton Board of Health mailed a fact sheet regarding PFAS to owners of private wells that they had contact information for. Additional resources and information are available for private well owners which can be found here: <https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas-in-private-well-drinking-water-supplies-faq>. You may contact the Acton Health Department at 978-929-6632 for additional information on private wells.

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## **ARCHIVE OF STATUS UPDATES**

As new updates are provided, the previous information will be available here organized by date.

<b><u>2022</u></b>	<b><u>2021</u></b>	<b><u>2020</u></b>
<a href="#">October 27, 2022 Data Table</a>	<a href="#">December 9, 2021</a>	<a href="#">December 16, 2020</a>
<a href="#">September 23, 2022 Data Table</a>	<a href="#">November 8, 2021 Data Table</a>	<a href="#">September 29, 2020</a>
<a href="#">August 15, 2022</a>	<a href="#">October 1, 2021 Data Table</a>	<a href="#">August 10, 2020</a>
<a href="#">July 20, 2022 Data Table</a>	<a href="#">October 1, 2021</a>	<a href="#">July 22, 2020</a>
<a href="#">July 20, 2022</a>	<a href="#">August 23, 2021 Data Table</a>	<a href="#">July 9, 2020</a>
<a href="#">June 15, 2022 Data Table</a>	<a href="#">July 20, 2021</a>	<a href="#">June 25, 2020</a>
<a href="#">May 16, 2022 Data Table</a>	<a href="#">June 17, 2021 Data Table</a>	
<a href="#">April 11, 2022 Data Table</a>	<a href="#">May 19, 2021 Data Table</a>	
<a href="#">March 9, 2022 Data Table</a>	<a href="#">April 1, 2021</a>	

[February 9, 2022 Data Table](#)

[February 18, 2021](#)

[February 10, 2022](#)

[January 12, 2022](#)

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## **WATER FILTERS**

For customers wishing to reduce exposure from PFAS in drinking water by filtration in the home should follow the guidance of MassDEP featured below. The Acton Water District does not make recommendations on filters. If you currently own a filter, it is best to contact the manufacturer directly to determine its effectiveness reducing or removing PFAS. If a current filter is not effective, the manufacturer may be able to advise you on an alternate filter that can be installed using existing equipment.

From MassDEP:

### **Home Water Filters**

There are also home water treatment filters capable of removing PFAS from drinking water for the countertop or under the sink. Treatment systems and devices are not specifically designed to meet Massachusetts' drinking water standard for PFAS6. There are systems that have been designed to meet the USEPA's Health Advisory of 70 ng/L for the sum of PFOS and PFOA. Any treatment device you use should be certified to meet the [National Sanitation Foundation \(NSF\)](#) standard P473 to remove PFOS and PFOA compounds so that the sum of their concentrations is below the USEPA Health Advisory of 70 ng/L. **Please be aware that 70 ng/L is significantly greater than the MassDEP's drinking water standard of 20 ng/L for the PFAS6 compounds.** Many of these treatment devices certified to meet NSF standard P473 will likely be able to reduce PFAS6 levels to well below 70 ng/L, but there are no federal or state testing requirements for these treatment devices. If you choose to install a treatment device, you should check to see if the manufacturer has independently verifiable PFAS6 monitoring results demonstrating that the device can reduce PFAS below 20 ng/L. See more detailed information on treatment systems in the [Private Well Factsheet](#).

### **Discharge of Reverse Osmosis Reject Water**

MassDEP's Title 5 regulations prohibit the discharge of water purification or filtration devices to septic systems. The groundwater discharge regulations provide that such discharges to a dry well or otherwise to the ground would need a permit, unless they are registered with MassDEP through the Underground Injection Control (UIC) program. Here is the link to MassDEP's guidance on UIC wells:

[Standard Design Guidelines for Shallow UIC Class V Injection Wells](#)

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## **RESOURCES/LINKS**

### **USEPA PFAS Resources**

<https://www.epa.gov/pfas>

### **MassDEP PFAS Resources for Public Water Supplies**

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

### **MassDEP PFAS Regulatory Process**

<https://www.mass.gov/lists/development-of-a-pfas-drinking-water-standard-mcl>

### **MassDPH Bottled Water Standards**

<https://www.mass.gov/info-details/water-quality-standards-for-bottled-water-in-massachusetts>

### **MassDEP Certified Labs**

<https://eeonline.eea.state.ma.us/DEP/Labcert/Labcert.aspx>

### **MassDPH**

<https://www.mass.gov/service-details/per-and-polyfluoroalkyl-substances-pfas-in-drinking-water>

### **Green Acton**

<https://greenacton.org/2020/07/06/pfas-101/>

### **Agency for Toxic Substances and Disease Registry (ATSDR) Guide for Clinicians**

<https://www.atsdr.cdc.gov/pfas/docs/clinical-guidance-12-20-2019.pdf>

### **American Water Works Association PFAS Cycle**

<https://www.awwa.org/Portals/0/AWWA/ETS/Resources/HowPFASCycleThroughtheEnvironmentV2.jpg?ver=2019-11-14-104702-713>

### **Safe Water Massachusetts**

<https://www.safewatermass.org/>

### **July 13, 2020 Acton Water District PFAS Meeting**

<https://www.youtube.com/watch?v=5UEzewmQ4mE>

### **October 14, 2020 Green Acton and the League of Women Voters Virtual PFAS Forum**

<https://greenacton.org/2020/10/29/pfas-panel-discussion-follow-up#more-6421>

### **Acton in Focus - State of Acton's Water with the Acton Water District**

<http://actontv.org/on-demand/post-video/acton-in-focus-state-of-actons-water-with-the-acton-water-district>

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