

An Update on the Safety of Collegeville’s Drinking Water

In March, 2023, DEP tested Collegeville’s wells for PFOA (Perfluorooctanoic Acid) and PFOS (Perfluoro octane Sulfonate). These are part of a larger group of synthetic chemicals developed in the 1940s to repel water and oil. They are called “forever chemicals” because they don’t break down completely and stay in our bodies and in the environment.

Collegeville and Trappe’s water comes from groundwater, which is the source of about half the world’s drinking water. We have 10 wells throughout the two boroughs. Although all our PFOS numbers were below the PA DEP limit of 18 parts per trillion per liter, two of our wells were over the PA DEP PFOA limit of 14. One well was found to have a maximum contaminant level (MCL) of 223; that source was immediately taken off-line.

Out of the remaining nine wells in active service, one other well was found to be barely over the EPA limit of 14 parts per trillion per liter by 0.5. “Parts per trillion” is an exceedingly small form of measurement. It is described as “equivalent to about thirty seconds out of every million years.” Although just slightly over the limit, that well was also unable to be removed from service due to its location.

In summary, out of Collegeville and Trappe’s nine active drinking water wells, only one is currently over the EPA limit by 0.5. Residents do not need to boil their water or use an alternative water supply, such as bottled water. However, if individuals have specific health concerns, they should always consult their doctors.

Putting the Problem Into Perspective

Our municipality is not alone. It is thought that about half the tap water in the US is contaminated with PFAS. And a 2019 survey by the US Geological Survey of streams across Pennsylvania found that 76% of them contained the presence of at least one compound from the per- and polyfluoroalkyl substances (PFAS) family.

In addition to drinking water, PFAS are found in both the air and the soil. PFAS have been used to make cookware, carpets, clothing, fabrics for furniture, paper packaging for food, including literally all fast food, and other materials that are resistant to water, grease, or stains. PFAS are even found in dental floss. They are also used in firefighting foams and in a number of industrial and agricultural processes.

Until this year, no municipalities in PA were required to test for minute levels of PFAS. That is because tests sensitive enough to detect these small amounts did not become available until about three years ago. In 2023, PA DEP required municipalities to test for them for the first time. Prior to that, their presence in our water—and in the tap water of families across the US—has been unknown.

What We’ve Done Since We Learned of the Issue

As soon as our Public Works Director, Joe Hastings, and Collegeville-Trappe Joint Public Works, made up of six Council members from Collegeville and Trappe Boroughs, learned about the PFAS, they:

- Began testing the Collegeville and Trappe wells on a regular basis. To date all the PFOS and PFOA numbers have remained consistent;
- Have been actively researching the best long-term remedies to reduce these contaminants.

However, before they decide on the best solutions (and all solutions are costly) they are mindful that the EPA has not yet set the final limits on PFOAs. The limit is currently set at 14 parts per trillion for municipalities, but that number may be reduced to only 4 parts per trillion. If this happens, it will require a more comprehensive and costly remediation. Although the EPA has said that they would announce the final limits in 2023, all US municipalities are still awaiting the information.

To identify the best solutions for Collegeville and Trappe, Public Works commissioned research and recommendations from Entech Engineering, who specialize in water treatment and environmental compliance.

Their recommendations:

- Install PFAS treatment systems at the affected wells. There are four types of PFAS Treatment systems:
 - Granular Activated Carbon (GAC), which uses a filtering system that involves heating of a carbon source to provide a surface area for contaminants to absorb onto;
 - Fluoro-sorb (FS), which uses adsorbent platelets to adsorb the PFAS. The platelets expand, which allows for greater sorption kinetics and capacity;
 - Reverse Osmosis (FR-RO), which uses high-pressure membranes to remove PFAS substances from an incoming stream of water; or
 - Ionic Exchange (IX). This system uses a filtering system with tiny beads that can remove PFAS substances from the raw water using anion resins. Ionic Exchange is recommended to be the best system for Collegeville to replace the two wells over the PFOA limits. It has the ability to remove 77 to 99% of the PFOA/PFAS from the water depending on flow rate and concentration.
- Install an interconnect with North Penn Water Authority (NPWA) to supplement Collegeville's water by installing a new 12-inch water main on Gravel Pike, or
- Install an interconnect with NPWA by installing a new 12-inch water main on 9th Ave.

The North Penn Water Authority operates the Forest Park state-of-the-art Water Treatment Plant located in Chalfont, PA. They provide drinking water to a number of municipalities, including Skippack. Public Works could run a pipe under the Perkiomen Creek at Gravel Pike near Rt. 29 to connect with their system. This solution would provide alternative, safe water in place of wells that don't meet the new EPA limits. But just as important, a tap into NPWA would also create a secure water back up system, should Collegeville and Trappe need additional water due to a drought or other disasters. All living things need water, and having a backup system for our boroughs would give us additional peace of mind.

Additionally, Public Works has three wells that are not yet permitted. If one or more of these wells is found to be low in PFOAs, they could undergo the permitting process and then be put on line.

No matter which solutions Public Works adopts, all will take many years to put into place due to the engineering required and numerous permitting requirements. There is no quick fix for any municipality. Water purification technology is also evolving quickly. In a few years, there likely will be even more solutions available to us that are not available today.

Once Public Works decides on the best solutions for Collegeville and Trappe, they will seek funding. They have been researching grants and low interest loans from PENNVEST for the upgrades that we will need. And no matter what solution is decided, unfortunately our residents will need to be prepared for a rate increase for our water service.

We will continue to keep you updated as we learn more.

If you have questions, contact Public Works at 610 489 2831.

For more information about PFAS:

- www.epa.gov/pfas
- <https://files.dep.state.pa.us/RegionalResources/SERO/SEROPortalFiles/Community%20Info/EastonRoadPFC/PA%20Department%20of%20Health%20Fact%20Sheet-%20PFOS%20and%20PFOA.pdf>
- https://www.dep.pa.gov/Citizens/My-Water/drinking_water/PFAS/Pages/default.aspx

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