

Aquarion's Dover Water Systems

Status Report – February 9, 2022

Aquarion provides water to customers in three separate water systems in Dover:

- Dover-Main System, which is served by three wellfields: Francis, Draper, and Knollwood wellfields.
- Chickering System, which is served by the Chickering wellfield.
- Springdale System, which is served by the Springdale wellfield.

Aquarion acquired these water systems on December 1, 2021. The following is an update of the work that Aquarion is performing to improve water quality and system reliability.

Cleaning/Flushing Water Mains

Naturally occurring iron and manganese in some of the well waters are the cause of the discolored water some customers are experiencing. Trace levels of these minerals in particulate form can accumulate over time and settle in our water mains. When flow through water mains increases or changes direction, these accumulated minerals can be stirred up and discolor the water that flows out of your faucets. Water utilities remove accumulated minerals from water mains by opening hydrants to allow a high flow of water to pass through the mains, carrying the particulate material out of the mains. This process is called cleaning or flushing.

Our ability to achieve high hydrant flows to clean the water mains is limited in our Dover-Main system due to the lack of water storage in the system. However, in January, we opened “bleeders” at five hydrants to allow low volumes of water to pass through the water mains. This allowed us to see that the water was clear in those sections of our distribution system.

In March, weather permitting, we plan to setup temporary water storage tanks and pumping that will allow us to clean water mains with a high flow of water throughout the Dover-Main system. We are currently evaluating sites on which the large temporary storage tanks can be placed.

Knollwood Wellfield - Increasing production capacity and improving water treatment

The Knollwood wellfield (2 wells) and its treatment facility provide water to downtown Dover and the surrounding neighborhoods. The water from the Knollwood wells is better quality than the water from the Francis and Draper wells with respect to both iron and manganese concentrations, which cause discoloration of the water. The Knollwood wellfield also has more capacity than is currently being used.

Aquarion has begun a project that will allow for increased use of water from the Knollwood wellfield, and thus allow for decreased use of water from Francis and Draper wellfields. A report describing the project was submitted to MassDEP on February 9, 2022. **This project will be completed in July 2022.**

Francis Wellfield - Adding treatment for removal of iron and manganese

Francis wellfield (3 wells) is the largest producing wellfield in the Dover-Main system. The water from these wells contains relatively high levels of manganese and iron, which cause discoloration of the water. Aquarion has begun a project that will include filters to remove the iron and manganese from the water.

For this project, the Company has evaluated alternative treatment scenarios, evaluated site limitations (e.g. wetlands, zoning, and grading), determined permitting requirements, estimated cost, developed a schedule, and evaluated various locations for siting a new building to house the new treatment facility.

Before proceeding further with this project, the Company plans to evaluate the alternative of using the Chickering wellfield to supply water to the Dover-Main system (described below). If this alternative project is implemented, the scope of the Francis wellfield treatment project will likely be reduced because less water will be needed from the Francis wellfield.

Chickering Wellfield - Increasing production capacity and interconnecting with the Dover-Main system

The Chickering wellfield (2 wells) and treatment facility provide water to 15 customers in northern Dover. Similar to the Knollwood wells, the water from the Chickering wells is better quality than the water from the Francis and Draper wells with respect to manganese and iron concentrations. The Chickering Wellfield also has more capacity than is currently being used. However, the water from the Chickering wells cannot currently be provided to customers in the Dover-Main system because the Chickering system and Dover-Main system are not interconnected.

The Company is evaluating interconnecting the two systems and upgrading the Chickering facilities so that water from the Chickering wellfield can be provided to the Dover-Main system. **The Company expects to have the initial evaluation completed in March 2022.**

Water Storage – Evaluating the construction of a water storage tank

There is no water storage tank in the Dover-Main system other than small, pressurized tanks at each wellfield. The lack of storage can make it difficult to satisfy peak hour demands during summer months. The lack of storage also limits the ability to properly clean/flush the water mains to remove fine sediments of iron and manganese that can accumulate in the water mains and cause discoloration. Aquarion is evaluating the construction of a permanent water storage tank in the system.

The Company is evaluating two sites for the water storage tank (the Francis Wellfield and the Picardy Lane facility site) and plans to complete an evaluation of the Picardy Lane site in March 2022.

Pursuing interconnections with neighboring communities

The distribution piping for the Dover-Main system is in close proximity to the distribution system piping for the water systems in both Walpole and Medfield. Aquarion sent letters in December 2021 to public officials in both Walpole and Medfield requesting an exploration of temporary interconnections with their water systems. An interconnection would allow Aquarion to purchase water on a temporary basis, until the projects described above can be implemented. In January 2022, Walpole's Board of Sewer and Water

Commissioners indicated that they are not interested in pursuing a temporary interconnection. Aquarion has not heard from officials in the Town of Medfield. We are following up on our request with Medfield officials.

Enhancing monitoring and control systems

Aquarion continues to improve the Supervisory Control and Data Acquisition (SCADA) systems at the five wellfields, including replacing some of the water quality instrumentation, adding communications hardware, and revising control programs to improve the consistency of water treatment and improve remote monitoring of system conditions.