

Need for New Water Treatment Facility

1. Why is a new water treatment plant needed?

The Old Oaken Bucket (OOB) water treatment plant is unable to consistently produce water of the quality and quantity that is needed by the Town and is currently under an Administrative Consent Order for exceeding the maximum contaminant level for disinfection byproducts. Further the OOB water treatment plant is beyond its useful life, and its systems lack redundancy, so the failure of any part of the plant results in a complete shutdown of the plant and emergency water bans.

An engineering study ([Water System Master Plan](#)) was completed in 2019 to evaluate whether the OOB water treatment plant could be rehabilitated or if a new water treatment plant was needed. This study looked at constructability, costs, and improvements in water treatment technology and determined that rehabilitating the OOB water treatment plant was not feasible and a new water treatment plant is needed. A history of the project will be provided prior to the July 13th public meeting with further detail on the decision to construct a new water treatment plant.

2. Will replacing the OOB water treatment plant solve the brown water problem in Town?

Replacing the OOB water treatment plant is an important component in the Town's strategy to eliminate brown water. There are two factors contributing to the brown water problem in Town.

- *The OOB water treatment plant cannot effectively remove iron and manganese.*
- *Iron and manganese deposits have built up within the water pipes throughout Town.*

To solve the brown water issue it is critical to ensure that water from the sources, including the wells and the surface water plant is clean and clear. Implementation of the [Water System Master Plan's](#) recommendations for a new surface water treatment plant and for treatment at the wells will reduce the quantity of iron and manganese being added to the distribution system. With clean water going to the pipes the distribution system must be flushed and the unlined cast iron pipe must be replaced. The Town began a comprehensive flushing program in 2019 which resulted in a significant decrease in water quality complaints. In addition, the Town has physically cleaned and/or replaced a large percentage of the system's unlined cast iron pipe, which has also helped to reduce brown water. Following construction of the new water treatment plant, the Town will continue to invest in its pipeline infrastructure to ensure that clean water produced at the new plant and well supplies does not degrade as it travels through the pipes to the customer taps.

3. Will replacing the water pipes solve the brown water problem and eliminate the need for a new water treatment plant?

No, replacing the water pipes in Town will not eliminate the need for a new water treatment plant. The OOB water treatment plant is unable to remove the manganese from the water down to a level that does not cause aesthetic concerns. While it is in operation, manganese will continue to accumulate in the water pipes, causing brown water issues at customer taps.

4. Should the Town finish the pipe replacement project first to see if that solves the brown water issues before building the new plant?

The Town has already replaced the bulk of the unlined cast iron pipe in the Town. The Town pipe replacement program is currently focused on elimination of the asbestos cement pipes as they have reached the end of their useful life. The Town constructed a treatment facility at well 17A to remove iron and manganese at the source. Even with all that effort the OOB water treatment plant will continue to put manganese into the water pipes, as it is not able to effectively remove manganese from the water. All the work to date has reduced but not resolved the brown water issue. To solve the brown water issues both the water treatment plant and the water pipes must be replaced or rehabilitated.

5. Does Scituate have an issue with water quantity?

The OOB water treatment plant is not used to its full permitted capacity due to plant limitations and a desire to minimize brown water issues. Scituate is permitted by the State to withdraw up to 3 million gallons on any single day from Old Oaken Bucket Pond. The OOB water treatment plant's condition limits water production to less than 1.5 million gallons per day (MGD), causing significant issues during periods of peak water usage. As a result, the groundwater wells in Town must operate all year long.

The new water treatment plant would be able to produce water at the full permitted capacity, allowing time to rest the wells and recharge the groundwater aquifer for summer use. The Town has no plan to increase the permitted withdrawal capacity as a part of this project. Instead, there will be increased flexibility in how the existing allowable withdrawal rates can be utilized to protect the water resources in the Town and provide improved resiliency.