

Treatment Process/Design

1. How did the treatment process get selected?

Per Massachusetts Department of Environmental Protection (MassDEP) requirements, the treatment process will be selected via a pilot test. A small-scale treatment plant was constructed incorporating all of the new technology proposed to be included in the new water treatment plant. Different iterations of treatment processes were tested to determine the best treatment for Scituate's water. This pilot treatment plant was operated for 18-weeks to confirm the proposed treatment processes would effectively and efficiently treat the Town's water in a cost-effective manner.

2. What are residuals lagoons?

During the water treatment process solids are removed from the water in different stages of the process to produce clean, clear water. These solids are often referred to as process residuals. The current facility sends these process residuals to the wastewater treatment plant.

An alternate solution is for residuals to be stored onsite and allowed to dry in preparation for periodic disposal. The lagoons are separated from groundwater and are designed to have a filter and underdrain system for separation of clean water from these solids. Recycling of clean water back to the water treatment plant eliminates the need to send residuals to the wastewater treatment plant and will provide much needed relief to Scituate's sewer system. Additional information on the function of residuals lagoons will be provided prior to the July 13th public meeting.

3. Why is Scituate considering the addition of residuals lagoons in lieu of sending solids to the wastewater treatment plant?

Transitioning the new water treatment plant to utilize residuals lagoons will reduce the cost of water treatment handling, by not requiring them to be treated as sanitary waste. Currently, the cost of disposal for those residuals occurs at the wastewater treatment plant, as they add to the solids loading at that facility which is already capacity limited.

4. Can the water treatment plant be multi-story instead of taking up as large of a footprint?

Several factors drive the configuration of a water treatment plant. This includes treatment process hydraulics, process tankage, ease of maintenance, and site constraints. Additional configurations will be evaluated during detailed design. Additional information on conceptual cost and operational implications of alternate layouts will be provided in August.

5. What is the purpose of the Distribution & Administration building?

The Distribution & Administration building is intended to include the administrative and water billing staff as well as the distribution staff who maintain the water distribution pipes throughout the Town. The design team is working on an alternate site layout that combines the functions of the Water Treatment Plant and the Distribution & Administration Building which may result in a smaller overall footprint. Alternate site layouts will be provided prior to the July 13th public meeting.

6. Can the water treatment plant and Distribution & Administration functions be split between the new site and the existing site to reduce the footprint at the new site?

Locating all functions of the water division in a central location is key to efficiency and communications for all staff functions. Separating the water treatment plant and distribution & administration functions of the water department will make it more difficult for the Town to operate the water system, as supervisory, administrative, and operations functions need to be coordinated between these groups, and new facilities are needed for all functions.

Additionally, separating these two facilities will result in a significant cost and schedule increase, as the new water treatment plant must be constructed prior to any work being done at the existing site. Construction of a new distribution and administration building at the existing site could not proceed until after the OOB water treatment plant is demolished. Additional information on conceptual cost and operational implications of alternate layouts will be provided in August.