
To the Editor:

Recently, Wareham Week published an article entitled "Wareham water treatment plant estimate skyrockets," dated September 13, 2016. The article generated discussion, largely focused on whether this is a "good" or "bad" project. Those discussions included some misunderstandings about the reasons for the project and the benefits to the community. This is a large project. In fact, it is the largest project tackled by Wareham Water since the Fire District's inception in 1907. As such, it's not uncommon for there to be many questions and some misunderstandings. This is why Wareham Water is working with Wareham Week and WCTV to clear up misunderstandings and provide further education about the project.

This project is needed because of three conditions affecting our water supply:

1. Elevated concentrations of iron and manganese – Most of our wells contain iron and manganese ranging from 0.1 mg/L to up to 1.0 mg/L. These elements can contribute to staining of fixtures, dishes, and clothing. Typically the stains are brown or black. Although neither is a health concern at low levels, the MassDEP has provided a health advisory level of 0.3 mg/L for manganese. More information on that health advisory can be found at this link: <http://www.mass.gov/eea/docs/dep/water/drinking/alpha/i-thru-z/mangfactsheet.pdf>.
 - a. **Action Step:** Wareham Water plans to address iron and manganese by means of filtration at the new purification plant. The current budgetary cost for the filtration plant is \$9.9M.
 - b. **Reason for Cost Increase:** Water quality has changed over time in the wells. Scope has gone from treating one well (Well No. 9) to treating most of the wells for iron and manganese (Wells Nos. 1-6 and 9).
2. Coliform bacteria – Periodically, samples from the Maple Springs Wellfield contain coliform bacteria. This is an indication that these wells could be susceptible to pathogen intrusion and is one of the main reasons Wareham Water currently uses chlorine. However, addition of chlorine represents an operational cost and contributes to other "side effects" such as taste and odor.
 - a. **Action Step:** To reduce the dependency on chlorine disinfection, Wareham Water is exploring the use of ultraviolet disinfection, which does not add chemicals but instead exposes water to ultraviolet light bulbs, a technology that imitates the natural process of sunlight. This cost is included in the \$9.9M budget estimate for the proposed purification plant.
 - b. **Reason for the Cost Increase:** To reduce chlorine use.
3. Agricultural chemicals – Wareham Water has detected several chemicals in select production wells that are associated with agricultural uses upgradient of our wells.
 - a. **Action Step:** We are considering adding granular activated carbon absorbers to the treatment process to remove these residual compounds. The budgetary cost for this system is \$5.2M
 - b. **Reason for the Cost Increase:** To remove residual levels of chemicals associated with farming.

The costs of the plant construction are related to these three drivers, and the costs include the facilities associated with the specific processes themselves, plus the associated building space, electrical systems, instrumentation, heating and ventilating, and architectural features that include compliance with the latest codes, such as accessibility requirements.

Other phases of the project Wareham Water is considering is a solar field or wind power to reduce the operation costs associated with the proposed purification plant and subsequently reduce the overall life cycle cost of the facility and run the facility in a green manner. The current budgetary cost for this system is \$1.8M. The remaining budgetary costs for the proposed purification plant are services required by the State of Massachusetts for projects of this size (e.g. construction services, inspectional services, etc.). These costs are estimated at just over \$2M.

If all these options are exercised, and Wareham Water is still in the early stages of determine which phases of the project stay and which are removed, then the total cost of the project is \$18.9M. It should be noted here that Wareham Water has applied for a low interest loan through the State Revolving Fund (SRF) to fund the project. The SRF would likely provide a portion of the loan as a grant which Wareham Water would not have to pay back. In addition, Wareham Water is exploring alternatives for funding select phases of the project beyond the SRF route.

So what are the project benefits?

1. Improved water quality – The water Wareham Water delivers to you is safe and meets the regulatory requirements, but we are not totally satisfied simply being in regulatory compliance, and many of you have told us verbally you are not satisfied with the quality of the water you receive. We want to provide a better product and consider the necessary investment to do better to be well worthwhile. With the new plant, you will seldom if ever see problems associated with color (staining) or taste or odor. You will also have additional barriers to bacterial contamination and removal of any trace chemicals from agricultural uses.
2. An investment in the town's future – The proposed new purification plant will provide confidence to the town that the water delivered to each consumer will not only meet current regulations and standards of excellence, but will also effectively anticipate potential changes to the quality of the water supply and future regulations.
3. Improved communications – This project has helped us focus on the need to better communicate with those who live and do business in Wareham. A major example working with agricultural growers to monitor and reduce chemical addition where possible, minimizing the need to provide treatment at the plant. In addition, we look forward to continuing our dialogue with you, improving our understanding of your concerns and priorities while better informing you of why specific treatment features are necessary and why those features are now being realized.

4. Improved property values and promotion of economic development – Water quality is a fundamental consideration for those looking to move to Wareham to live and establish businesses. This means improving the business climate and enhancing property values, looking towards future generations.

Our door is open, and we welcome you to come in and meet with us informally or as part of one of our scheduled Commissioners' meetings.

Andrew Reid, Water Superintendent on behalf of the Board of Water Commissioners