



Gadsden Water Starts Pilot Study for Reverse Osmosis Treatment Plant Project

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Gadsden, Alabama, March 1, 2022: In December 2022, the Gadsden Water Works Board took several steps toward the construction of a reverse osmosis water treatment plant, including the approval of two studies to review potential reverse osmosis treatment options. Gadsden Water is proud to announce that its pilot study of reverse osmosis treatment options will begin later this month at the C.B. Collier, Jr. Water Treatment Plant.

The Alabama Department of Environmental Management (ADEM) requires pilot testing of all surface water treatment plants utilizing anything other than conventional treatment processes. Reverse osmosis is an advanced process that has been found to be particularly effective in treating water for PFAS.

This pilot study will involve two different types of reverse osmosis treatment systems: conventional cross flow reverse osmosis and closed-circuit reverse osmosis. Both systems achieve essentially the same water quality results, however, they operate in different fashions at different water pressures and have varying water recovery rates.

The pilot study has two main purposes. In addition to evaluating PFAS removal success, it will evaluate the two technologies' operational efficiencies and differences. Gadsden Water will monitor several key parameters during the pilot study, including power consumption, chemical usage rates, and water recovery rates. This will enable Gadsden Water to accurately estimate the annual operational costs, which will then be correlated with the upfront capital costs to determine the total life cycle cost of each technology.

Finally, Gadsden Water will couple the life cycle cost with the operational experience of our staff during the pilot study to determine what, if any, additional assistance will be needed to successfully operate the reverse osmosis plant. This evaluation of all these factors throughout the pilot study will provide the information required to determine the most economical way to produce the highest quality PFAS-free water for our customers.

The pilot study for the conventional cross flow reverse osmosis pilot study will be conducted by Wigen Water, while the pilot study for the closed-circuit reverse osmosis option will be conducted by DesaliTec. The testing period will last a minimum of 90 days.

“The start of pilot testing is so exciting because of what it means, that the construction of the reverse osmosis plant is on the horizon,” said Gadsden Water General Manager Chad Hare. “This study is critical to get off to the right start so that we can immediately move toward the best treatment approach that protects public safety and our customers’ money.”

“Pilot studies are essential to the successful construction and long-term operation of advanced water treatment plants,” said Bryan Pate, Insite Engineering CEO. “We look forward to taking in the data to help inform the design and construction-related decisions for the new plant.”