



DEP Completes Microfiltration Expansion Project in Upstate Wastewater Treatment Plant in Margaretville

Upgrade Will Help Protect Water Quality for Nine Million New Yorkers

Environmental Protection Commissioner Carter Strickland today announced the completion of a \$7.4 million project to upgrade a City-owned wastewater treatment plant at Margaretville in Delaware County. Upgrade work began in 2009 and will help protect water quality in the Delaware watershed, which supplies more than half of the city's daily drinking water needs. With the construction of the expanded state-of-the-art microfiltration system, peak flow treatment capacity has increased to 1.2 million gallons a day from 860,000 gallons a day. The expansion will also enable a previously planned extension of the sewer collection system to serve certain residents now served by individual septic systems. These individual systems are considered at risk of contaminating source waters and are subject to enforcement costly to both residents and regulatory agencies, in case the systems fail. Microfiltration is an advanced treatment process in which treated wastewater, or effluent, passes through a membrane filter that removes pathogens and contaminants prior to final disinfection. The Margaretville Wastewater Treatment Plant serves about 1,300 residents and businesses. It was built by DEP in the 1950s and upgraded in 1998 at a cost of \$30 million and provides sewerage disposal free of any cost to local citizens, local businesses, or local governments in the area.

“Protecting the drinking water of nine million New Yorkers requires continuous investments ranging from land acquisition to local wastewater treatment plant upgrades,” said Commissioner Strickland. “Upgrading the Margaretville Wastewater Treatment Plant to help maintain our high water quality helps to ensure that New York City remains one of only five large cities to have an unfiltered water supply.”

Wastewater treatment includes physical, chemical, and biological processes that remove pollutants and disease-causing pathogens from wastewater. Each step of wastewater treatment removes pollutants and impurities. The first step of the process at the Margaretville Wastewater Treatment Plant is preliminary treatment, where a series of grates called bar screens remove solid objects—such as rags and household debris found in wastewater. Pumps then raise the wastewater to a series of settling tanks for primary treatment, another physical process in which the flow is reduced from a speed of two feet per second to roughly one foot per minute to allow heavy waste to settle to the bottom and lighter waste to rise to the top. Slow-moving bars skim the waste from the top

and bottom. Suspended material, which neither sinks nor floats, moves to another series of tanks for secondary treatment, also known as the suspended growth process. Much like bacteria breaks down food during digestion in a human body, in this process good bacteria consume the suspended material in an oxygen-rich environment. The bacteria are mixed with chemical coagulants so small fine particles and phosphorus that can damage the reservoirs form sticky heavy particles, and, as they become heavier, settle to the bottom of another battery of tanks where they are then removed. The remaining flow first goes through fine mixed media filtration, and then through microfiltration. Microfiltration is an advanced treatment process required on all wastewater treatment plants in the watershed in which treated wastewater passes through a membrane filter that removes remaining pathogens and contaminants. The remaining flow is further disinfected with ultraviolet light before release into the East Branch of the Delaware River, which flows into the Pepacton Reservoir. The project was required by the State Department of Environmental Conservation to address inflow and infiltration issues caused during local storm events and snow melts.

In February, safety improvements were made at the Margaretville Wastewater Treatment Plant and included installation of propane shut-off systems and fire and gas detection alarm systems, which help better protect workers at the plant and assist local fire and rescue responders.

Watershed protection is considered the best way of maintaining drinking water quality over the long term. New York City's program, one of the most comprehensive in the world, has been so successful at protecting the integrity of its water supply that the Environmental Protection Agency awarded the City a 10-year Filtration Avoidance Determination in 2007. Since 1997, the City has invested more than \$1.5 billion in watershed protection programs, including nearly \$125 million to construct new wastewater infrastructure in communities with concentrated areas of substandard septic systems. Upgrading wastewater treatment facilities in the watershed to include microfiltration, among other technologies, has also been a key component in this continued effort to reduce or eliminate the levels of contaminants and pathogens discharged in the watershed. The success of these and other programs is a main reason why New York City remains one of only five large cities in the country that is not required to filter the majority of its drinking water.

DEP manages the city's water supply, providing more than one billion gallons of water each day to more than nine million residents, including eight million in New York City. The water is delivered from a watershed that extends more than 125 miles from the city, comprising 19 reservoirs and three controlled lakes. DEP employs nearly 6,000 employees, including approximately 750 in the upstate watershed with a payroll of \$49 million. DEP has a robust capital program, with a planned \$13.2 billion in investments over the next 10 years, creating approximately 3,000 jobs each year. For more information, like us on Facebook at www.facebook.com/nycwater, or follow us on Twitter at www.twitter.com/nycwater.