Environmental Protection

Department of Environmental Protection Begins Project to Connect Catskill and Delaware Aqueducts

In Preparation for Shutdown and Repairs to the Delaware Aqueduct, Interconnect Tunnel will Provide Operational Flexibility and Another Tool to Address Turbidity

New York City Department of Environmental Protection (DEP) Commissioner Carter Strickland today announced that construction has begun on a $21.2 million project to connect the Catskill and Delaware aqueducts for the first time. The two aqueducts together convey approximately one billion gallons of water each day to the city from six separate reservoirs located in the Catskills. The interconnect project at the Delaware Aqueduct's Shaft 4 in the Town of Gardiner in Ulster County will allow DEP to move as much as 365 million gallons each day from the Delaware Aqueduct into the Catskill Aqueduct, providing additional operational flexibility and another tool to reduce turbidity in the water supply system after large storms.

Connecting the aqueducts will also allow DEP to temporarily shut down the Catskill Aqueduct to perform work to the tunnel lining that will optimize its capacity. This work will be done in preparation for the anticipated shutdown of the Delaware Aqueduct for needed repairs between 2021 and 2022, during which the Catskill Aqueduct will be relied upon more heavily to meet the city's demand for water. Construction of the interconnect over the next three years is expected to create approximately 75 jobs, with the vast majority going to local union workers in the Hudson Valley.

"Ensuring the delivery of more than 1 billion gallons of high-quality water to more than 9 million New Yorkers every day requires long-term planning, and the interconnect at Shaft 4 is an important project for the future of New York City's water supply system," DEP Commissioner Carter Strickland said. "By connecting the Delaware Aqueduct to the Catskill Aqueduct, DEP will have another mechanism to help it deliver the highest quality drinking water from across its supply system."

Engineers envisioned a connection between the two aqueducts when they built the Delaware system in the 1940s. The east wall of the valve chamber at Shaft 4 was constructed with four arched openings, each currently closed by brick walls, that could one day allow pipes to be installed to move water from the Delaware Aqueduct to the Catskill. The two aqueducts were built only a few yards apart as they pass through the area. The interconnect will also enable DEP to move more high-quality water from the Delaware system, as needed, allowing more time for settling of Catskill system water, which tends to be more turbid because its headwaters run through a basin of steep slopes and fine silt left from glacial lakes. Water will not be able to move in the other direction, from the Catskill to the Delaware.

Before the interconnect is built, DEP will install a temporary connection from the Delaware Aqueduct to the Catskill Aqueduct that will be capable of carrying up to 20 million gallons of water a day. This connection will allow for the continued delivery of water to upstate communities, located downstream of the project, that rely on the Catskill Aqueduct for their municipal water. A supply will also be maintained for two communities to the north, New Paltz and High Falls, by installing stop shutters that will temporarily dam water inside the aqueduct. Workers will then excavate the area between the two aqueducts and install the components that are necessary to make the interconnection. The project will also create a tap for the Town of Gardiner at Shaft 4 so that the town can develop its water infrastructure and access the City's water supply if it wants, or needs to, in the future. Construction of the interconnect is expected to be finished by 2016.

The interconnect project is part of DEP's Water for the Future Program that will help to ensure clean, reliable, and safe drinking water for 9 million New Yorkers for decades to come. The central part of the program is repairing a portion of the Delaware Aqueduct, which supplies roughly half of New York City's daily drinking water needs. To allow for these repairs, the tunnel must be temporarily shut down between 2021 and 2022. DEP has prepared for that shutdown through a combination of conservation programs and supplemental water sources that will ensure an uninterrupted supply of water. Late this year, ground will be broken on two 800-foot-deep shafts and a 2.5-mile bypass tunnel around a portion of the Delaware Aqueduct that is leaking in Roseton, in Orange County. The project will also include repair work to fix leaks in Wawarsing, in Ulster County, from the inside of the existing tunnel. The 2.5-mile bypass tunnel will run east from the Town of Newburgh in Orange County, under the Hudson River, to the Town of Wappinger in Dutchess County. The program was initially estimated to cost more than $2 billion, but through advances in engineering and design of the bypass and the water supply projects to support the repair, the estimated cost has been reduced to approximately $1.5 billion.

Connecting the Catskill and Delaware aqueducts was one of the goals outlined in *Strategy 2011-2014*, a comprehensive strategic plan that outlines 100 distinct initiatives to help ensure DEP is the safest, most efficient, cost-effective, and transparent water utility in the nation.

DEP manages New York City's water supply, providing more than 1 billion gallons of water each day to more than 9 million residents, including 8.3 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. Approximately 7,000 miles of water mains, tunnels and aqueducts bring water to homes and businesses throughout the five boroughs, and 7,500 miles of sewer lines and 96 pump stations take wastewater to 14 in-city treatment plants. DEP has nearly 6,000 employees, including almost 1,000 in the upstate watershed. In addition, DEP has a robust capital program, with a planned $14 billion in investments over the next 10 years that will create up to 3,000 construction-related jobs per year. This capital program is responsible for critical projects like City Water Tunnel No. 3; the Staten Island Bluebelt program, an ecologically sound and cost-effective stormwater management system; the city's Watershed Protection Program, which protects sensitive lands upstate near the city's reservoirs in order to maintain their high water quality; and the installation of more than 820,000 Automated Meter Reading devices, which will allow customers to track their daily water use, more easily manage their accounts and be alerted to potential leaks on their properties. For more information, visit nyc.gov/dep, like us on Facebook at facebook.com/nycwater, or follow us on Twitter at twitter.com/nycwater.