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DEP Installs Two Inflatable Dams in Brooklyn to Help Improve New York Harbor Water Quality

*Dams Can Retain More Than Four Million Gallons of Combined Sewer Overflow for
Treatment at Wastewater Treatment Plants Each Time It Rains*

Environmental Protection Commissioner Carter Strickland today announced the completion of a \$15.7 million project to reduce pollution by installing two inflatable dams within existing large sewer lines that will temporarily store a mix of stormwater and wastewater that might otherwise be discharged as combined sewer overflow, or CSO, into New York Harbor. The two inflatable dams are attached to the base of the sewers and have a controlled mechanism with automated sensors that cause the dam to inflate during rain events. Once the storm subsides, the rubber dams have the ability to deflate quickly and allow the stored flow to reach one of two wastewater treatment plants for treatment. The dams are monitored remotely by the Newtown Creek and Red Hook wastewater treatment plants where the retained CSO is conveyed. The inflatable dams are part of the strategy to improve the New York City sewer system to better manage flows, a component of the NYC Green Infrastructure Plan, which calls for investing \$2.4 billion over the next 20 years to help reduce combined sewer overflows. Each dam can retain more than two million gallons of wastewater per rain event and will help avoid up to 100 million gallons of combined sewer overflows into the harbor every year. This is the first time this technology is being used in New York City to help upgrade the water quality in the city's waterbodies.

"We are using all available technology to keep New York City Harbor the cleanest it has ever been in the last 100 years," said Commissioner Strickland. "Investments like this show the city's and Mayor Bloomberg's commitment to bring innovative ways to upgrade critical infrastructure. The inflatable dams will give us the opportunity to retain and treat more combined sewer overflow before it reaches the harbor, opening up waterfront development and recreational opportunities to the benefit of all New Yorkers."

The inflatable dams are located entirely underground at two different locations in Brooklyn. One facility is located at Kent Avenue and South 5th Street, in the Williamsburg section of Brooklyn. This dam is controlled by Newtown Creek Wastewater Treatment Plant. The second dam is at Gold and Plymouth Streets in Red Hook. This dam is controlled by Red Hook Wastewater Treatment Plant. Inflatable dams are long, cylindrical flexible rubber structures anchored to a concrete base. The rubber dams require relatively little maintenance, do not corrode or require painting and are durable under extreme temperature or harsh conditions.

The inflatable dams are part of the city's efforts to optimize the sewer system—a key element of the NYC Green Infrastructure Plan. In addition to system optimization and traditional

grey infrastructure investments, the plan proposes a total investment of \$2.4 billion over the next 20 years in green infrastructure to improve harbor water quality by capturing and retaining stormwater runoff to help reduce CSOs into the harbor. Of the \$2.4 billion, \$900 million is expected to be funded through regulations on new developments that were adopted on January 4, 2012. DEP's most recent 10-year capital plan dedicates \$735 million to building green infrastructure. Most green infrastructure includes vegetated features such as bioswales and green roofs, or structural aspects such as porous pavement, and sewer reconfigurations, which can absorb and retain stormwater. These projects effectively increase stormwater retention times and allow more efficient treatment of CSOs at wastewater treatment plants.

Two-thirds of New York City has a combined sewer system that collects wastewater and stormwater runoff together in the same pipe from properties and streets. Upgrades to DEP's plants and sewers have allowed DEP to capture a greater amount of overall flow, from about 30% in the 1980s to over 72% today, and overflows are more dilute, with the percentage of sanitary waste decreasing from 30% to about 12% today. In addition to green infrastructure investments, DEP is planning \$1.7 billion in additional traditional or grey infrastructure investments from 2012 through 2021 to improve water quality. These investments will build on the progress made by the approximately \$1.6 billion in Combined Sewer Overflow and other related projects that were funded since 2002, including the Flushing Bay, Spring Creek, Paerdegat and Alley Creek Combined Sewer Overflow Retention Facilities now in operation.

Clean harbor water and CSO control plans are outlined in *Strategy 2011-2014*, a far-reaching strategic plan that lays out 100 distinct initiatives to make DEP the safest, most efficient, cost-effective, and transparent water utility in the nation. The new plan, the product of nearly one year of analysis and outreach, builds on *PlaNYC*, Mayor Bloomberg's sustainability blueprint for New York City. The plan is available on DEP's website.

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. Approximately 7,000 miles of water mains, tunnels and aqueducts bring water to homes and businesses throughout the five boroughs, and 7,400 miles of sewer lines and 95 pump stations take wastewater to 14 in-city treatment plants. DEP employs nearly 6,000 employees. DEP has a robust capital program with a planned \$13.2 billion in investments over the next 10 years that creates up to 3,000 construction-related jobs per year. For more information, like us on Facebook at www.facebook.com/nycwater, or follow us on Twitter at www.twitter.com/nycwater.

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Inflatable Dam



Sensors

