

Subject: DEP Press Release, Subject: DEP Announces Completion of 2,400 Square Foot Green Roof and Garden, and Installs State-of-the-art Odor Control and Air Monitoring Systems at North River Wastewater Treatment Plant



**Environmental
Protection**

Department of Environmental Protection and Lenox Hill Neighborhood House Announce Completion of 2,400 Square Foot Green Roof and Garden

Project was Completed with \$40,000 Award from DEP's Green Infrastructure Grant Program;

Green Roof and Garden Will Improve the Health of the East River and Help Clean the Air

New York City Department of Environmental Protection (DEP) Commissioner Carter Strickland today joined Lenox Hill Neighborhood House Chief Planning Officer Laura Lazarus to announce the completion of a 2,400 square foot green roof and garden funded, in part, by DEP's Green Infrastructure Grant Program. The multi-purpose space located on the roof of the Lenox Hill Neighborhood House on East 70th Street in Manhattan will be used to provide hands on educational, recreational, and therapeutic programming for the non-profit's clients. In addition, the specially designed gardens and landscaping will absorb and store more than 4,500 gallons of stormwater each time it rains, keeping it out of the combined sewer system and helping to make the East River and New York Harbor healthier. The new green roof will also help clean the air and reduce the building's heating and cooling costs. The \$110,000 project was funded with a \$40,000 award from DEP's Green Infrastructure Grant Program and \$70,000 in matching funds provided by the Lenox Hill Neighborhood House.

"Projects like these do not only provide an enjoyable amenity for our Green Infrastructure Grant Program partners, they help improve the health of our waterways – which benefits all New Yorkers," said Commissioner Strickland. "Rooftop gardens like the one here at Lenox Hill Neighborhood House combined with the thousands of bioswales and stormwater green streets we have started installing are a cost effective way to tackle one of our toughest environmental challenges and beautify our communities in the process."

"Our new Green Roof and Garden will allow us to offer innovative programming to clients of all ages throughout our programs while also making a positive impact on the environment," said Lenox Hill Neighborhood House Chief Planning Officer Laura Lazarus. "The space will be used by children in our Early Childhood Center to grow their own vegetables and learn about the plant life-cycle; by members of our Innovative Senior Center, the Center at Lenox Hill Neighborhood House, for horticultural therapy sessions; by the mentally ill homeless women from our Women's Mental Health Shelter in the Park Avenue Armory and the older adults with dementia in our CARE Program for recreation and respite and much

more. We are committed to providing our clients with the highest possible quality of supportive services and are thrilled to offer this tremendous resource to our clients.”

Like many older cities in the United States, New York City is largely serviced by a combined sewer system where stormwater, and wastewater from homes and businesses are carried through a single sewer pipe to treatment plants. During heavy rainfall, stormwater that falls on pavement, rooftops, and other impervious surfaces can exceed the capacity of the sewer system and a combination of stormwater and wastewater – called a combined sewer overflow (CSO) – can be discharged into local waterways. Since 2002, DEP has invested more than \$10 billion in upgrades to wastewater treatment plants and related efforts to reduce CSOs and today New York Harbor is cleaner and healthier than it has been in a century. However, CSOs remain the city’s major harbor water quality challenge.

In 2010, the City launched the NYC Green Infrastructure Plan, an alternative approach to reducing CSOs and improving water quality that combines traditional infrastructure upgrades with cost effective green infrastructure installations that capture and retain stormwater runoff before it ever enters the sewer system. Over the next 20 years, DEP is planning for \$2.4 billion in public and private funding for targeted green infrastructure installations, as well as \$2.9 billion in cost-effective grey infrastructure upgrades, to significantly reduce CSOs. The Green Infrastructure Grant Program is one part of the Green Infrastructure Plan.

The Lenox Hill Neighborhood House is one of 29 different partners DEP has awarded funding to since the Green Infrastructure Grant Program launched in 2011. In total, DEP has awarded over \$11 million to its Grant Program partners who, in turn, have contributed \$5.3 million in matching funds. Notable projects that have completed construction include a 43,400 square foot rooftop farm at the Brooklyn Navy Yard and permeable pavers and rain gardens at Queens College. The winning projects were selected by an interagency Review Committee made up of representatives from the New York City Departments of Buildings, Design and Construction, DEP, Parks and Recreation, and the NYS Department of Environmental Conservation. Preference for grants was given to proposals that would provide cost-effective stormwater controls, matching funds or other contributions, and other benefits such as increased shade, decreased energy use for cooling buildings, increased awareness about stormwater management, and increased community stewardship.

In addition to funding green infrastructure projects through the Grant Program, DEP has begun an aggressive campaign to install bioswales and stormwater green streets - curbside gardens specially engineered to collect and absorb stormwater – in neighborhoods around the city. The installations resemble standard street tree pits but they are significantly larger, have curb cuts that allow stormwater to enter and exit, and are designed in a way that will allow each one to manage approximately 2,244 gallons of water during a storm. During construction they are excavated to a depth of five feet and are backfilled with layers of broken stone and engineered soil. These layers contain void spaces which store stormwater and promote infiltration. The addition of hardy plants encourages infiltration through root growth and increases the capacity of the bioswales through evapotranspiration. Thus far, DEP has installed 119 bioswales city-wide, hundreds more will be completed by the end of the year, and thousands will be added over the next five years. To view a video of a bioswale absorbing stormwater go [here](#).

To better understand the effectiveness of green infrastructure in managing storm water DEP has constructed three Neighborhood Demonstration Projects – clusters of bioswales in neighborhoods that drain into Newtown Creek, the

Hutchinson River, and Jamaica Bay. The Neighborhood Demonstration Areas were developed in order to collect and analyze data on CSO volume reductions from green infrastructure projects, and the other associated benefits of the installations on a multi-block scale. The data collected from each of the three Demonstration Areas will then be extrapolated for calculating and modeling green infrastructure water quality and cost-benefit data on a waterbody and citywide basis. DEP also continues to collect data on a project-level basis to quantify the stormwater reduction from individual green roofs, blue roofs, bioswales, and other decentralized stormwater controls. Taken together, the Demonstration areas are expected to collect more than 7 million gallons of stormwater a year and keep it out of the combined sewer system.

Lenox Hill Neighborhood House, widely recognized as one of New York's premier nonprofit organizations, is a 119-year-old settlement house that provides an extensive array of effective and integrated human services—social, educational, legal, health, housing, mental health, nutritional and fitness—which significantly improve the lives of 20,000 people in need each year, ages 3 to 103, on the East Side of Manhattan.

DEP manages New York 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 7,500 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 and the city's Watershed Protection Program, which protects sensitive lands upstate near the city's reservoirs in order to maintain their high water quality. For more information, visit nyc.gov/dep, like us on Facebook at facebook.com/nycwater, or follow us on Twitter at twitter.com/nycwater.



Department of Environmental Protection Installs State-of-the-art Odor Control and Air Monitoring Systems at North River Wastewater Treatment Plant in Manhattan

The New York City Department of Environmental Protection (DEP) today announced the completion of a \$106 million project that has improved the odor control and air monitoring systems at the North River Wastewater Treatment Plant,

located on the Hudson River between 137th and 145th Streets in Manhattan. The Plant treats up to 340 million gallons of wastewater a day, sits just a few hundred feet from where tens of thousands of West Harlem residents live, and its roof is home to the 28-acre Riverbank State Park. The upgrades to the control system will help ensure that the air within the Plant and odor associated with the wastewater treatment process is captured and treated before it is released. In addition, the Plant's air monitoring system, with stations in the Plant, on Riverbank State Park, and in the West Harlem community, was upgraded with advanced technology that will allow for remote, real-time collection of data and will aid in the rapid detection of excess odor and necessary operational adjustments. The upgrades also include work to the Plant's electrical substation and other critical systems that will ensure it remains in a state of good repair for decades to come.

"Collecting and treating wastewater is essential to public health and the cleanliness of our local waterways," said Commissioner Strickland. "This investment will ensure that the North River Plant is equipped with the most effective technology to perform this vital environmental function while remaining a good neighbor to the tens of thousands of residents in West Harlem and the 3 million annual visitors to Riverbank State Park."

"Riverbank State Park is a much-needed oasis in New York City for healthy recreation, spirited competition, and the arts. I'm grateful for the efforts of Commissioner Strickland and the Department of Environmental Protection to enhance and improve the experience of community residents who enjoy and rely on this park," said New York State Office of Parks, Recreation and Historic Preservation Commissioner Rose Harvey.

"The kids and parents of FC Harlem enjoy playing soccer on a beautiful field near the North River Wastewater Treatment Plant," said Irv Smalls, Executive Director of FC Harlem Soccer. "The installation of the new odor monitoring equipment will not only make using the field more enjoyable but it shows DEP's continued commitment to assist in making Riverbank State and Riverside Park a destination for recreation for the West Harlem community."

During the wastewater treatment process, air is captured from within the Plant and is directed into a large vessel and scrubbed clean with a mixture of chemicals. The air then passes through activated carbon filters that absorb odors and chemicals and remove the remaining odor-producing particles. The treated air is then discharged through 100-foot ventilation stacks on the plant roof. The upgrades to the odor control system included the installation of a cover over the final settling tanks, an improved air capture system in an overflow area, a new exhaust duct system, and new scrubbers, absorbers, and fans within the two central air treatment areas.

The network of air monitors includes seven units, four within the Plant, one on Riverbank State Park, and two in the neighboring community. The monitors constantly measure air samples and send the data to a central computer network which notifies Plant staff if elevated levels are detected.

The North River wastewater treatment plant is built on a 28-acre reinforced concrete platform over the Hudson River and went into operation in 1986. It rests on 2,300 caissons pinned into bedrock up to 230 feet beneath the river. The roof of the building is the home of Riverbank State Park, a popular recreational facility with three swimming pools, an amphitheater, an athletic center, a skating rink, a restaurant, and sports fields. The plant provides wastewater treatment for the hundreds of thousands of people who live and work in, or visit, the west side of Manhattan, from Bank Street in Greenwich Village to Inwood Hill at the island's northern tip.

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Learn more at the [NYC Environmental Protection](http://nyc.gov/dep) website.

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