NYC Environmental Protection
Michael R. Bloomberg, Mayor
Carter Strickland, Commissioner

WEEKLY PIPELINE

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Wards Island Marks 75 Years of Wastewater Treatment

Courtesy of the Municipal Archives

Nearly 1,000 people gathered for the dedication of the Wards Island Sewage Treatment Plant on the morning of October 23, 1937. "Of the many projects commenced during my administration, none has seemed to me more important, and in many respects more difficult, than to make an effective start toward sewage disposal," said Mayor Fiorello H. La Guardia.

The event marked a major turning point in both the modernization of New York City's sewage disposal system and the eradication of pollution from its rivers and harbor. With the capacity to treat 190 million gallons of sewage per day, the plant reduced by 20 percent the amount of raw sewage flowing into the city's waterways. It received and treated sewage from upper Manhattan and the southern Bronx, a drainage area of 10,592 acres with a population of 1,325,000.

Prior to 1935, only a fraction of New York City's sewage received treatment. The reality was that most of the city's raw sewage was spilling into its waters, along with disease carrying microorganisms. People who bathed at beaches like Coney Island or ate local fish and oysters were exposed to diseases like typhoid, cholera and dysentery. In describing the unsanitary condition of the Hudson River and its unsuitability for public floating baths, Dr. Simon Baruch, President of the American Association for Hygiene and Public Baths, put it bluntly "Manhattan Island is a body of land entirely surrounded by sewage."

Unlike the water supply, which was built and operated as an in-

(Continued on reverse side)

At DEP, everyone is responsible for safety. If you or anyone on your team is concerned about your working conditions, it's okay to ask your supervisor or your bureau's EHS liaison how they can help. If you've still got questions, you can call the EHS Employee Concerns Hotline. It's DEP's responsibility to acknowledge and fix unsafe situations, procedures, and practices. With your help, we'll not only get the job done, we'll make it safer for ourselves, our coworkers, our families, and our city.

CALL (800) 897-9677 OR SEND A MESSAGE THROUGH PIPELINE. HELP IS ON THE WAY.

Commissioner's Corner

When **Mayor Bloomberg** launched PlaNYC in 2007, one of the goals he outlined was the expansion and enhancement of recycling in New York City. Recycling was first introduced to the public in 1895 through attempts to salvage marketable materials from household garbage, but PlaNYC recognized that neither businesses nor households recycle as much as they could—this despite 23 years of mandatory recycling programs. Last year the Mayor announced the goal of doubling the amount of waste kept out of landfills, from 15% to 30%. We can do more to turn waste into resources, and should apply innovative thinking to minimize our solid waste footprint. One of the best ways for us to achieve this ambitious goal is to incentivize recycling and make it easier and more accessible.

In accordance with Local Law 41, agencies are required to maintain clearly labeled recycling containers and to submit recycling plans and implementation reports to the Department of Sanitation. This week, DEP took a major step toward improving access to recycling for Lefrak City staff. On Monday, we initiated a pilot program on the fifth floor of the low rise, where 17 disposal centers were spread across the BEDC workspace. There, waste baskets have been removed from individual desks and the disposal centers separate materials into three types of bins: green bins for collection of metal, glass, and plastic; blue bins for all types of paper and cardboard; and beige bins for non-recyclable trash (which includes plastic bags along with paper products such as paper towels, tissues, and wrappers). All recycling and trash will be tracked as part of this pilot program, so it is important that the proper bins are used so that we can evaluate its effectiveness as accurately as possible.

This pilot program is a learning process, and we are all in this together. As the first floor of the agency to pilot the new recycling system, this is an exciting opportunity for BEDC. As the pilot moves along, the system will be continually improved in the same result-oriented, adaptive management approach that has made DEP such a model agency for New York City. The patience and flexibility of DEP staff is sincerely appreciated as we undertake this effort; as with all of our initiatives, our success will be determined and achieved as a team.

Spotlight on Safety

It's Flu Season Again!

Influenza (flu) is a highly contagious respiratory illness caused by the influenza virus. Influenza usually spreads from October to May with most cases occurring in January or February. Classic flu symptoms include an abrupt onset of fever, chills, muscle aches, headache, fatigue, and sore throat.

Unlike the common cold, the flu is a major illness that can be life threatening for people of certain ages, or with specific high-risk conditions. Higher risk populations include young children, persons 50 years and older, pregnant women, and individuals with chronic conditions including asthma, diabetes, liver disease, HIV, and obesity.

Help minimize the spread of the flu:

- Cover your mouth and nose when you cough or sneeze. Use a tissue, and not your hands.
- Wash hands often with soap and water, especially after you cough or sneeze, or use an alcohol based hand sanitizer.
- Don't get too close to people who are sick. If you get sick, avoid close contact with others.

Focus on the Field

Julia Bourdier began her career at DEP in 1989 as an administrative assistant in the Bureau of Public Affairs, which is now called the Bureau of Communications and Intergovernmental Affairs, and has spent the last twenty years supporting the attorneys in the Bureau of Legal Affairs. Bourdier spends her time assisting the 24 attorneys in Legal Affairs—tasks ranging from coordinating the attorneys' schedules to training them on the new phones and copy machines.

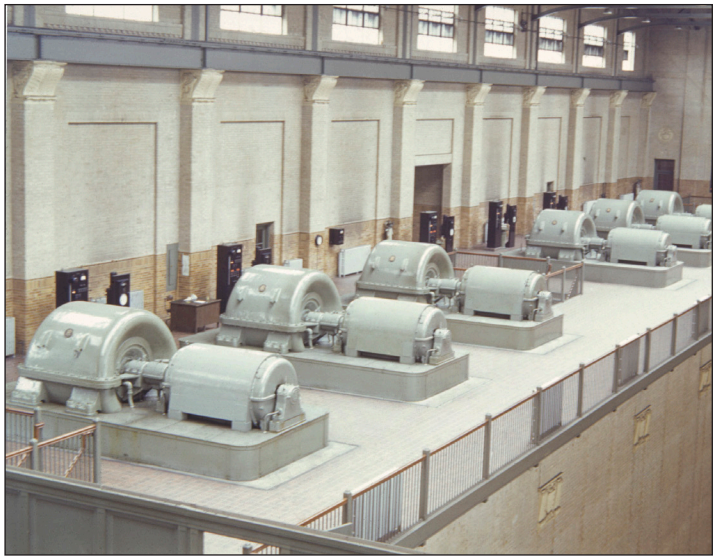
The most significant change over the years in Bourdier's opinion? "Technology has dramatically changed both the office and my role in it," she said. "In a lot of ways, it has made what we do easier and faster. When I started, I would spend a good amount of time typing briefs and memos on a typewriter using carbon paper. It's amazing how much things have changed."

But one thing that hasn't changed is Bourdier's enthusiasm about her work. "Every day is challenging for me, which keeps things interesting," she said. "Administrative assistants are jacks-of-all trades—we wear many hats so that the people who rely on us can do their jobs as effectively as possible."

"Julia is a force of nature," General Counsel **John Rousakis** said. "I have yet to figure out how she does it, but she almost singlehandedly keeps our 30-person bureau running smoothly day after day without breaking a sweat, and always with a smile. We are very lucky to have her."

When not at work, Julia enjoys working out at the gym and spending time with her family.

Did You Know



Courtesy of the Municipal Archives

…Wards Island Process Air Blowers installed when the plant first came into operation in 1937 are still running? These 2,000 horsepower, two-stage air compressor blowers manufactured in NYC by Ingersoll Rand Turbo have a capacity of 42,500 cubic feet per minute.

(Wards Island Marks 75 Years of Wastewater Treatment… continued)

tegrated system, the city's sewers were constructed piecemeal over many years, without standard specifications, by different people and under the authority of the various cities that now comprise New York City. Even after the city was consolidated in 1898, the building and operation of sewers was delegated to each Borough President. The function was only centralized after the Department of Sanitation was created in 1930. Any plan aimed at cleaning up the city's collective waterways would have to contend with the morass of existing sewer infrastructure.

In 1928, Mayor James J. Walker assembled a committee to investigate and report on the sewage treatment methods of big cities and by 1931 the Wards Island plant was under construction. With the plant only partially completed, the project was halted in 1933 due to a lack of funds as the country struggled through the Great Depression. The project was resurrected in 1934 by Mayor La Guardia with the help of a grant for $11,360,250 (45 percent of the project cost) from the Public Works Administration. In addition to completing the five-building sewage treatment plant on Wards Island, the project included two grit chambers, two gravity tunnels to deliver the sewage from Manhattan and the Bronx, intercepting sewers and a fleet of three sludge vessels. The intercepting sewers were built along the shoreline, roughly perpendicular to the local street sewers, where they "intercepted" the sewage that previously emptied into the river. The Manhattan interceptor extended 6 ¾-miles capturing sewage from 52 sewer outlets. The Bronx interceptor extended 5 ¾-miles capturing sewage from eight sewer outlets.

The one-mile Bronx tunnel through solid rock was straightforward. The 2/3-mile Manhattan tunnel beneath the East River presented complications. Exploratory borings indicated the existence of a geologic fault or crushed rock zone of uncertain depth. As a precaution a 2-inch pilot bore was maintained 30-feet ahead of the excavation at 300 feet. As predicted, the excavation made contact with the fault causing ten carloads of water and powdered rock to gush into the tunnel before the hole could be plugged. Using new borings the depth of the excavation was adjusted to a depth of 520-feet in order to bypass the fault.

Wards Island was completed under budget in 25 months and started operations on October 18, 1937. The entire cost of the project was approximately $30 million. While Wards Island was under construction the city was already building the Tallman Island Sewage Treatment Plant and preparing designs for a plant to serve Jamaica Bay.

Over the next five decades, the city continued to build new treatment plants, and with the completion of the Red Hook plant in 1987 the city was capable of treating all of the sewage produced during dry weather. Today, the city operates 14 treatment plants – now known as wastewater treatment plants. And efforts have switched from building new plants to optimizing the plants we have and investing in green infrastructure, which captures rainfall before it enters sewers. The Wards Island plant was expanded in 1972 and 1997 to increase its treatment capacity from 190 to 275 million gallons per day. In 1992 a solids processing building was added to dewater the sludge for compost or landfill.

The treatment process has been upgraded to the Step Aeration Activated Sludge Process, which results in even cleaner water. The most significant upgrade has been the implementation of the SHARON Process (Single Reactor System for High Ammonia Removal Over Nitrate), which reduces the plant's nitrogen output. Nitrogen can degrade the ecology of waterways by increasing algae growth and reducing the oxygen that fish and plants need to thrive. Wards Island is the largest such system in the Western Hemisphere.

We welcome your feedback! To submit an announcement or suggestion, please email us at: newsletter@dep.nyc.gov.