

## It's a High-Pressure Job but 200 Years Later City Hydrants Still Keeping City Safe

New York City's 109,000 fire hydrants have recently gotten a lot of attention due to this summer's scorching heat. Although their main purpose is to provide a readily available water supply to fight fires, New Yorkers have sometimes been using them to cool off, and often in ways that endanger public safety. Where do these ingenious devices come from?



The first "hydrants" were simply large containers filled with water, placed in strategic locations within a city to be used for fire suppression. As cities grew, so too did their need to obtain a constant and reliable source of water to combat fires. It started out by tapping in to the New York City's earliest water mains, which consist-

ed of wooden logs fashioned into pipes buried beneath the city's streets. When a fire broke out, volunteer firefighters would unearth these mains and drill a hole in them, allowing the water to flow out. Water was then pumped out of the system to combat the fire. When the fire was finally extinguished, they would seal the hole with a "fire plug," a term that to this day is sometimes used to refer to fire hydrants. The locations of these fire plugs were marked in case of future need.

Although there's not a lot of historical documentation on hydrant development, by the 1700s firefighters began carrying standpipes (Continued on reverse side)

## Spotlight on Safety

### Management of Change

Management of Change is a new health and safety policy developed by a designated Policy Working Group. The purpose is to establish a requirement for a structured assessment of environmental, health and safety (EHS) risks associated with new or modified equipment, structures, tasks, or processes, and unusual or non-routine tasks. The intent of this policy is to support equipment and process innovations that improve DEP operations, while preventing uncontrolled changes, installations or modifications that may pose a hazard to people or the environment.

What is important to note is that this new policy does not replace established procedures related to the controlled assessment, man-

agement and review of modified equipment or processes. Examples include:

- BWS & BWSO – Process Safety Management/Risk Management Program for Chlorine Gas storage.
- BEDC - Engineering design and review procedures.
- Bureau issued Management of Change or Modified Equipment SOPs.

Please click here [🔗](#) for the full article, including some typical "changes" covered by this policy.

For more information on this policy, please check out the following link [🔗](#) or contact your Bureau EHS or OEHSC.

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

One of the greatest challenges DEP faces when it comes to meeting water quality standards is stormwater management. Our sewer system is robust, but when it rains, parts of the network can be overwhelmed, causing combined sewer overflows that degrade water quality. The amount of stormwater we capture and treat has increased dramatically over the past two decades—from 18% in the late 1980s to 72% today—and we are investing billions of dollars to build tanks and expand our treatment capacity to do even better. When our planned and ongoing investments are complete, we will capture or treat 82% of the stormwater that falls in New York City every year. But we have to do more.

The question is how. Deputy Commissioner for Sustainability **Carter Strickland** and his team in the Bureau of Environmental Planning and Analysis (BEPA) are working on a plan that will combine the tanks and tunnels—that until now have been the go-to solution to this problem—with green infrastructure that captures stormwater where it falls and uses it to support vegetation, or to slow it down before it flows into the sewer. Pipeline introduced DEP's green infrastructure work in the July 20 issue [🔗](#). To test this approach, BEPA has 20 green infrastructure pilot projects underway throughout the City. I've visited several in Brooklyn and Queens, including porous pavement at the new Paerdegat Basin CSO facility, enhanced tree pits in East New York, Brooklyn, and a bioswale like the one pictured above in Jamaica, Queens. All of the sites looked great—and the good news is that they all performed well during the intense thunderstorms we had last weekend.

Congratulations to the following BEPA staff: Deputy Commissioner



**Angela Licata**, Assistant Commissioner **Esther Siskind**, Director of the Office of Ecological Services **John McLaughlin**, Director - Office of Stormwater Management Planning **Julie Stein** and Project Manager - Office of Stormwater Management Planning **Margot Walker** for great hands-on work getting these projects in the ground, and for the encouraging results so far. Green infrastructure does much more than manage stormwater: it provides open green space for New Yorkers to enjoy, improves air quality by absorbing carbon dioxide, and reduces energy demand by cooling the City. These sustainability benefits are key goals of **Mayor Bloomberg's** PlaNYC and, with green infrastructure, they can be spread throughout the five boroughs. Watch for more on this initiative as BEPA continues to document the benefits of going green.

This week is Director of Marketing & Partnerships **Connie Fitzgerald's** last at DEP, as she leaves on Friday after nearly 3 years of hard work and dedication. Connie has helped DEP form groundbreaking partnerships, made Art & Poetry stronger than ever as it goes into its 25th year, launched Weekly Pipeline and most recently, created the Water-On-the-Go initiative that put NYC Water in the hands of thousands of New Yorkers almost every day this summer. Join me in thanking Connie and wishing her the best of luck as she moves on to new challenges.

## Event Calendar:

**DEP's NYC Water-On-the-Go fountains** will be out Tuesday through Sunday every week through Labor Day. For specific information, click here [🔗](#)

**DEP Softball Team** – Final Game of the Season – Monday, August 30 – 5:30 pm – Field 13 at Flushing Meadows Park. Click here [🔗](#) for the team roster. Good luck everyone!

## Focus on the Field



Maintaining DEP's historic infrastructure can be a real challenge. City Water Tunnels Nos. 1 and 2 have been in constant operation since they were first put into service in 1917 and 1936, respectively.

These engineering marvels have steadily served the people of New York City for nearly a hundred years, and keeping their shaft sites in working order is an important means of preserving our water supply network. That is why **Thakoor (Rich) Rambrich**, Mechanical Engineer, is so important. Reporting to Engineer in Charge **Daniel Craft**, Acting Chief of Shaft Maintenance **Michael Sullivan**, Director of Distribution Operations **Michael Farnan**, and **Jim Roberts**, Deputy Commissioner of the Bureau of Water and Sewer Operations, Thakoor provides engineering support, technical guidance,

problem-solving and direction to operate and maintain various shaft sites throughout City Water Tunnels Nos. 1 and 2, and the operational sections of No. 3.

Whether he is called on to close certain operating valves in the distribution chambers or shafts so that field operations crews can make repairs to distribution mains in the street, or he is performing scheduled maintenance on the equipment in the shafts, Thakoor knows that it's extremely challenging working with historic architecture. "Riser valves are isolated in bedrock, and aren't visible or accessible," says Thakoor. "Operating a riser valve isn't an easy task. It requires sound engineering principles, field experience and good judgment." Thankfully, Thakoor and his team of plumbers, machinists, superintendents, electricians and engineers have exercised those attributes time and time again.

Thakoor is a Professional Engineer and has his Bachelor's Degree in Mechanical Engineering from City College of New York. In his spare time, Thakoor likes to spend his time outdoors, either fishing or gardening. He also likes to travel.

## DEP: Then & Now

**Then:** On December 10, 1901 the New York Times reported on a major water main break on Madison Avenue and 55th Street, causing extensive damage – the word "freshet" found in the headline means flood. Click here to read the whole story. Based on the oldest DEP records, the 48-inch water main was originally installed at least as far back as 1870. It was taken out of service in the 1970s due to numerous joint leaks.

**Now:** Last week, almost 110 years after that water main break, **Commissioner Holloway** activated a 48-inch water main on Madison Avenue from East 40th Street to East 55th Street. Innovative trenchless technology was used as part of the project to line more than 10,000 feet of water main. Trenchless technology is a type of construction where a water main is repaired by slipping a lining through the existing damaged pipe and expanding the lining to fit the shape of the pipe. This innovative technique required minimal excavation, making it much less disruptive to the community than traditional construction methods. The activation completed the underground work on the project along Madison Avenue from East 40th Street to East 78th Street

**FRESHET AND PANIC  
IN MADISON AVENUE**

**Water Main's Break Brings a Veritable Flood.**

**RICH HOMES ARE WRECKED**

Millions of Gallons of Water Pour Through the Streets from 63d to 59th—The Central's Tunnel Becomes a Dam—Cars Caught in the Flood.

**REHABILITATION OF TRUNK WATERMAINS ON MADISON AVENUE USING TRENCHLESS TECHNOLOGY**

• **Shrink holes and internal corrosion**  
• **Right fit for pipe and adjacent structures**  
• **Increases flow capacity**  
• **Eliminates the need for excavation**  
• **Minimal disruption to the community**  
• **Cost-effective**

Labels: Original Pipe, Existing Pipe, New Pipe, Access Point, Manhole, Inspection Point, Excavation Area, Rehabilitation Area, Filled Area.

## Did You Know?

... that NYC fire hydrants are black and silver for a reason? Since the early 20th century residents have been suggesting possible variations for fire hydrants – yellow, white, florescent, and even painting them like revolutionary soldiers in honor of the Bicentennial in 1976. However, the ubiquitous black and silver has been the standard for NYC for over 70 years. The reasons are practical: the black barrels don't soil as easy and are therefore cheaper to maintain while the silver bonnets protect against corrosion and make the hydrant easier to see at night. Hydrants connected to large trunk water mains were an exception; these were painted red in order to distinguish them from other hydrants.

### (It's a High-Pressure Job... - continued)

(outlets) which were inserted into the valves, and valves replaced the wooden plugs in some parts of the world. Unfortunately, some advancements were spurred by disasters: new water mains with predrilled holes and plugs that rose above ground level were installed throughout London when fire destroyed three-quarters of the city in 1666. New York City's first above-ground hydrant was made of wood and installed in 1808 at the corner of William and Liberty Streets. By 1817, the first regular iron hydrants were being installed throughout the city. Fire hydrants have not changed much since New Yorker Birdsill Holly, Jr. patented his "improved fire hydrant" design in 1869.

Even though the materials used to create hydrants have improved and some design refinements have been made, the two types of pressurized fire hydrants – wet-barrel and dry-barrel – have remained relatively unchanged since the mid-1800s. Wet-barrel hydrants are always directly con-

nected to the pressurized water source, and are found in warm climates throughout the world. Dry-barrel hydrants are separated from the pressurized water source by having the main valve located in the lower section of the hydrant underground, and remain dry until the main valve is opened. They are usually found in areas where winter temperatures fall below 32° F (0° C), including those found in New York City. The most common of which is the A. P. Smith's 1902 "O'Brien" hydrant, followed by the Dressler's "Traffic 500" hydrant. Modern hydrants are even designed to break away in case a car hits them!

Until fires become a thing of the past, fire hydrants are here to stay. Fire hydrants have evolved from their humble beginnings as simple fire plugs to a network of strategically placed hydrants that effectively and efficiently keep New York City and its residents safe.

### Important Information Regarding your Health Benefits

Effective August 30, 2010, the New York City Office of Labor Relations Employee Health Benefits Program, in cooperation with the Department of Citywide Administrative Services (DCAS), has authorized the centralization of the Health Benefits Enrollment process to NYCAPS Central, a division of DCAS. You will now be able to contact NYCAPS Central to handle all of your enrollment needs including:

- Enrolling in New York City health benefits
- Updating your enrollment information after a qualifying event
- Updating your dependent information
- Inquiring about your health benefits enrollment status and eligibility
- Questions about your health benefits coverage

Please note you do not need to take any action at this time. Additional information will be distributed next week.

## Milestones

Congratulations to **Minaz David**, BWT, and his wife **Siju** on the birth of their son **Isaac** on August 17, 2010. Mother and baby are both doing fine.

**We welcome your feedback! To submit an announcement or suggestion, please email us at: [newsletter@dep.nyc.gov](mailto:newsletter@dep.nyc.gov).**