

NYC Department of Environmental Protection  
 Bureau of Water & Sewer Operations, Environmental Health & Safety (EHS)

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## Environmental Health & Safety News for BWSO



**“Recently, Reservoir Operations detected a water leak aboveground between two Hillview Reservoir buildings, Downtake 1 and Downtake 2.”**  
 – BWSO EHS Staff



BUREAU OF WATER & SEWER OPERATIONS  
 ENVIRONMENTAL HEALTH & SAFETY DIVISION

**Inside this issue:**

- A Leaky Situation at Hillview’s South Connecting Conduit 1
- Out of Sight, Out of Mind? 1
- DEP EHS Survey: The tally of survey results is in! 2
- Streamlining our Bureau’s Emergency Response: BWSO’s On It 24 Hours / 7 Days a Week! 2
- The Ultimate Balancing Act, Part 2 – An Update on the Marcellus Shale Natural Gas Drilling in our Watershed 3
- Upcoming Training 3
- Special Thanks to our Summer Interns 3
- PPE Item available at GS-1: The New Fully Enclosed Face Shield 3
- Employee Profile: William Maggiulli, EHS Program Manager Field Operations, BWSO 4
- BWSO EHS Quiz 4

### A Leaky Situation at Hillview’s South Connecting Conduit

Before potable water makes its way into New York City’s (NYC) drinking water distribution system, currently every drop of water coming from the Catskill and Delaware aqueducts must first make its way through Hillview Reservoir. There the water is treated and then sent into the distribution system for all New Yorkers to enjoy.

Recently, Reservoir Operations detected a water leak aboveground between two Hillview Reservoir buildings, Downtake 1 and Downtake 2. Suspecting it was coming from the South Connecting Conduit (SCC), Reservoir Operations decided to shut down and dewater the SCC, which connects Downtake 1 and Downtake 2, to perform a thorough inspection of the conduit and to make any necessary repairs.

The SCC is a critical component of the operational system at Hillview as it provides a hydraulic balance between reservoir storage and tunnel demand. The SCC is a reinforced concrete conduit, well below ground, and is 14’6” in diameter. The total run is about 736 feet. Since the SCC plays a critical role in the function of the reservoir, it was critical to address the leak. Redundancy was built into the system, Continued on Page 2

### Out of Sight, Out of Mind?

**“The NYC sewer system is made up of nearly 6,000 miles of underground sewer lines...”** – BWSO EHS Staff

Whether we’re thirsty, need to wash our cars, or are just plain dirty, we’ve become accustomed to the fact that potable water is almost always available. And just as easily as clean water is at our fingertips, wastewater quickly vanishes down a drain. But where exactly does the water go once it enters a drain, and where does it ultimately end up? Read on to find out!

The NYC sewer system is made up of nearly 6,000 miles of underground sewer lines, and BWSO is responsible for ensuring that all wastewater and stormwater flowing through the system makes its way to its next destination – either one of the City’s 14 wastewater treatment plants (WWTPs) and/or one of the many bodies of water surrounding NYC. These WWTPs are strategically located in areas of the lowest possible elevation and rely on gravity to move the wastewater down to them. In higher areas where gravity is not sufficient as a means of carrying waste, pumping is required to keep the flow moving. Currently there are 93 pumping stations in NYC which help provide this additional muscle. DEP’s Bureau of Wastewater Treatment (BWT) is responsible for maintaining all wastewater treatment plants and pumping stations within the five boroughs. Continued on Page 3

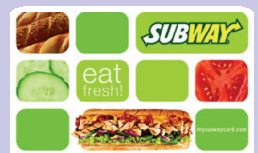
[www.citylimits.org](http://www.citylimits.org)



### Did you participate in the Agency-wide EHS survey?



**Go to Page 2 to see how your colleagues throughout the Agency feel about EHS.**



**WIN A SUBWAY’S GIFT CARD!  
 TAKE QUIZ ON PAGE 4**

# A Leaky Situation at Hillview's South Connecting Conduit

– Continued from Page 1

allowing Reservoir operations to use an alternate infrastructure while the SCC was being repaired.

To mitigate this condition, an entry had to be made into the dewatered SCC pursuant to DEP's Confined Space Entry policy. DEP utilized the services of emergency contractor, Halcyon, (which in turn hired subcontractor Moretrench) and AECOM (a BEDC contract). Moretrench will be responsible for making any below ground repairs on the SCC based on the outcome of AECOM's inspection. The Yonkers Fire Department and DEP Police Emergency Services Unit (ESU) assisted with the project as the rescue team for confined space entries into the conduit.

Due to the involvement of multiple parties in this project, constant communication and coordination of roles and responsibilities were key to ensuring safety. The project commenced with the request for Health & Safety Plans (HASPs) from all parties, and the development of a Standard Operating Procedure (SOP) by Bureau EHS (BEHS) for initial entry into the SCC. This complex project triggered several EHS programs such as confined space, lock out/tag out, and fall protection.

The first phase of this monumental task was to dewater the conduit. To accomplish this, Reservoir Operations personnel installed three stop shutters and closed three sluice gates on the Downtake 1 side. The sluice gate clutch handles were locked and tagged out with metal chains to prevent an employee from opening the gates. On the Downtake 2 side, an enormous stop shutter was installed using a crane. With the water energy isolated, the SCC was then dewatered using pumps. After the conduit was dewatered, DEP noticed a stream of water entering the conduit from the side of Downtake 2 causing potential for engulfment. To mitigate this situation, smaller pumps were placed into each of the three bays at Downtake 1 to continuously pump out excess water.



**“Reservoir Operations personnel installed three stop shutters and closed three sluice gates on the Downtake 1 side. On the Downtake 2 side, an enormous stop shutter was installed using a crane.”**  
– BWSO EHS Staff

The second phase of the project was to conduct a confined space entry to perform air monitoring of the conduit. Several hazardous conditions were considered in planning the entry, such as the stop shutter not providing an adequate seal, maintaining water elevation, slippery slope, lack of lighting, possible residual chlorine, oxygen deficiency, communication challenges due to the length of the conduit and ensuring a qualified rescue team was available to conduct an entry-rescue if there should ever be an entrant injured and unable to get out of the confined space.

To address these concerns, the following controls were put in place:

- Ventilation – using a 25-hp blower, supplying 17,000 cfm!
- Continuous pumping using three water pumps;
- Air monitoring using confined space gas meters and personal chlorine meters;
- Fall protection using 60-foot ladders, a man-basket, harnesses and a tripod; and
- Communication using point-to-point radios.

On July 15, 2010, under the oversight of BEHS, the initial entry was successfully made by Bobby Musliwala, Safety Officer for Reservoir Operations, with the assistance of the Yonkers Fire Department. The air monitoring data gathered from the initial entry illustrated that the air levels were free from atmospheric hazards and deemed acceptable for entrants to inspect and repair the conduit. Subsequent entries were made on July 19, 2010 by Reservoir Operations Management with the assistance of DEP Police ESU. The successful entries were a testament to the importance of detailed planning, proper communication and coordination between operations, EHS, and contractors!

# DEP EHS Survey: The tally of survey results is in!

As of the end of June, 1,930 completed surveys from all over DEP were collected (either electronically or in paper form) and have been tabulated thanks to the hard work of one of our EHS Summer Interns, Maya Thomas!

Preliminary analyses indicate that BWSO employees show more concern about equipment safety and equipment training than do other utility (operating) bureaus and DEP as a whole; but also indicate more positive rankings in areas of EHS communication, management of injuries, supervisors demonstrating a good knowledge of EHS rules and procedures, and PPE availability.

Here is a snapshot on a few selected questions....

Parameter/Question	DEP Total	BWSO
Survey response rate	32% of DEP employees responded	30% of BWSO employees responded
When I identify an EHS concern, my supervisor/manager responds quickly?	76% agree	81% agree
I am comfortable reporting errors in paperwork to my supervisor.	88% agree	93% agree
I have the proper equipment and resources to do my job safely.	86% agree	82% agree
When I offer EHS suggestions to my supervisor, they are heard and feedback is provided.	70% agree	76% agree
Equipment training is an EHS concern to me.	27%	37%
Equipment safety is an EHS concern to me.	34%	48%

A final report will be issued in the fall and will be made available to all employees. Thanks for your participation!

# Streamlining our Bureau's Emergency Response: BWSO's On It 24 Hours / 7 Days a Week!

From an illegally opened hydrant to flooded streets caused by a water main break, the Emergency Call Center (ECC) hears it all. The ECC has always been a key part of BWSO emergency response, but now it is part of the newly-formed Emergency Operations Unit— the structure and staffing of which is currently underway. This unit will be under the management of Paul Villella. The Emergency Operations Unit was created so that a single BWSO entity would have citywide responsibility for emergency planning, response and interaction with other agencies whenever emergencies arise.

Bureau EHS Safety Officer John Sloane was asked to cover one such call and tell us about it. On a sweltering June day a complaint was fielded by ECC from the Metropolitan Transportation Authority (MTA) with a report of water in the subway at the Manhattan intersection known as “The Crossroads of the World,” 42<sup>nd</sup> Street and Broadway. Immediately, the ECC redirected a Manhattan Repair crew from its original job assignment to find the source of the leak and to fix it. Fortunately, it turned out to be a relatively simple problem to fix – a leaky hydrant branch line.

Upon arrival at the location, the crew set up a traffic work zone in compliance with the NYC DEP Traffic Work Zone Safety policy. Here the usefulness of the new cone grabbers is quite apparent—the cone grabbers are extremely effective in isolating the work zone to prevent pedestrian incursions.



## The Ultimate Balancing Act, Part 2 An Update on the Marcellus Shale Natural Gas Drilling in our Watershed

In Volume 3, Issue 6 of The Conduit, the newsletter introduced you to the Marcellus Shale, which is a geological rock formation under New York, Pennsylvania, Ohio, Maryland and West Virginia. The Marcellus Shale is estimated to have 168 to 516 trillion cubic feet of natural gas.

In July 2010, New York Legislators proposed two moratoria – authorized delays or stopping of a specified activity such as drilling. As of August 6, the New York State Senate voted to pass one statewide moratorium. The Senate's moratorium would last until May 15, 2011. The other moratorium still requires the approval of the Assembly and Governor Paterson to become law. In the meantime, the U.S. Environmental Protection Agency (EPA) will be investigating hydrofracking and its potential effects on the state's natural resources.

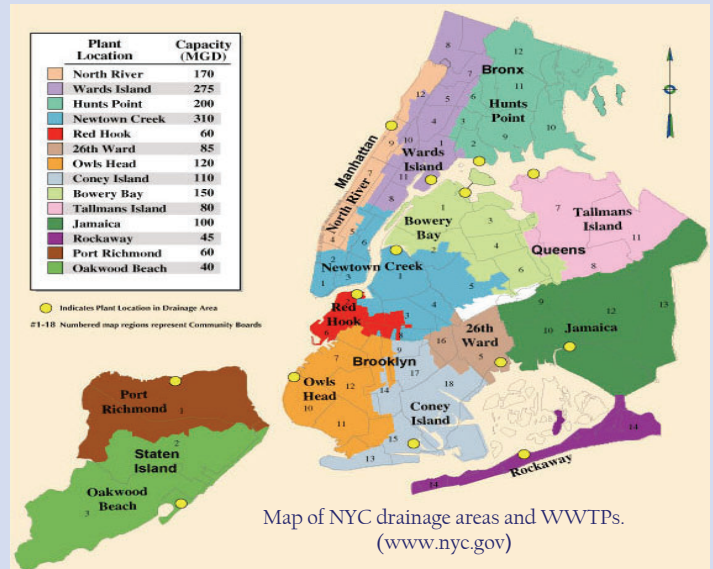
During a press release on April 23, 2010, our Commissioner Cas Holloway stated that, "It is not in the best interest of our watershed to allow gas companies to drill in our watershed. The New York State Department of Environmental Conservation's decision that hydraulic fracturing cannot be permitted in the New York City and Syracuse watersheds based on the information we have today recognizes that protecting New York's water supplies must be our top priority. Case-by-case environmental reviews must now be conducted as part of any plan to explore natural gas drilling in these watersheds, a requirement that recognizes the unique characteristics of the 2,000 square miles that support and protect our unfiltered water supply, and the potential danger posed to the watershed by high-volume hydrofracking and horizontal drilling. New York City has invested more than \$1.5 billion in watershed protection programs, including the purchase of more than 100,000 acres of watershed lands, which allow the water supply of nine million New Yorkers to remain unfiltered."

With the stakes rising for opponents and proponents of gas drilling in New York State, it is imperative that the DEC develop precise and enforceable regulations that will protect our watersheds and other important natural resources. Recent environmental tragedies that we have seen in the news of late drive this point home even more!

References:  
www.nyc.gov, www.nytimes.com, www.nbcnewyork.com

## Out of Sight, Out of Mind? – Continued from Page 1

Approximately 50% of the City's land area is served by combined sewers which collect both "dry-weather" wastewater (e.g. sanitary sewage and industrial wastewater) and stormwater. Within these combined systems, stormwater is typically collected and diverted from buildings (e.g. roof drains) and from catch basins. During dry weather conditions, combined systems are specifically designed to convey all flows to the nearest WWTP. During wet weather episodes, the combined system may become overwhelmed. In such situations, the system is designed to prevent sewer back-ups by discharging overflows to local waterways through combined sewer outfalls (CSOs). There are about 422 CSOs in NYC, which are permitted by the New York State Department of Environmental Conservation (NYS DEC).



It is important to note that DEP is actively pursuing multiple design and construction projects to provide more sustainable drainage and stormwater management, thereby reducing the burden on the combined system.

The NYS DEC also issues a permit for each one of the WWTPs, which are regulated under the State Pollution Discharge Elimination System (SPDES) program. These SPDES permits specify limits on a number of "effluent parameters" or pollutants, such as suspended solids and fecal coliform, which each WWTP must meet prior to discharging the treated water. All treated water leaves the WWTPs via outfalls into surrounding bodies of water. Each of these outfalls is also identified within every WWTP's SPDES permit.

In some areas of NYC, such as southern Brooklyn and Staten Island, there are separate sewer systems; in other words, one sewer line is dedicated for sanitary sewage and a separate line is dedicated for the collection and conveyance of stormwater. In these areas, sanitary sewage is sent to the WWTP and the stormwater is discharged directly through an outfall into a nearby NYC waterway. As with combined sewer outfalls, these outfalls are also currently permitted under the same SPDES permit depending on which WWTP is responsible for the particular drainage area where the outfall is located.

So the next time you turn on the faucet and watch the wastewater "disappear" down the drain, remember all of the hard work that goes into keeping it moving and that the SPDES program is in place to protect and maintain the purity of New York's valuable water resources.

### UPCOMING TRAINING: August – September 2010

1. HAZWOPER 24 Hr. Chlorine Specialist
2. Forklift Training
3. Catch Basin Cleaner Training
4. Water Plant Operator C.E.U. Course -Watershed Protection

Questions? Contact Nelson Leon at (718) 595-5544

BWSO EHS would like to take this opportunity to thank our Summer Interns:

**Maya Thomas and Aminul Haque**  
for their hard work and dedication.

Maya Thomas manually inputted over 600 DEP EHS paper surveys. Once all the survey responses were inputted, she performed survey analyses to generate reports based on the survey responses.

Aminul Haque assisted the Health & Safety group with equipment modifications. He was responsible for ensuring the equipment modification forms were properly filled out. He also researched investigation reports to find trends on how to keep employees safe while on the job.

### Now available at the General Storehouse (GS-1): The New Fully Enclosed Face Shield

This new fully enclosed face shield with chin guard decreases the chances of sewage or catch basin debris inadvertently entering an employee's mouth and nose when the employee conducts sewer entries, and cleans sewers, manholes and catch basins with equipment such as Rodders, Flushers, Vactors or Catch Basin Trucks.



All BWSO employees must don the fully enclosed face shield mentioned above when performing the actual tasks mentioned above to ensure protection from potential exposure.

Note: The fully enclosed face shield must be worn with *safety glasses*.



## Environmental Protection

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from you!*

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# William Maggiulli – EHS Program Manager Field Operations, BWSO



William Maggiulli is the new EHS Program Manager within the Field Operations Division, Citywide. He began his career with the NYC DEP in 1984 as a Construction Laborer at Brooklyn Repairs. Over the past 26 years, Bill has worked at various maintenance and repair operations all around the City. In his new position, Bill will collaborate with EHS and Field Operations to manage several important EHS programs such as the development of the Field Operations training center and related curriculum, coordination of the employee suggestion program, and training for the Grade D water operator license. He will also be effectively participating in the EHS Labor Management Committees including EHS and Equipment/QWL.

**Q: Where are you from?**

A: I was born in Brooklyn and raised in Queens.

**Q: Where did you attend school?**

A: I attended Queens Borough Community College and graduated from Queens College with a B.A. in Accounting.

**Q: Do you have any hobbies and/or interests? What do you like to do in your spare time?**

A: I enjoy playing the guitar and playing softball. I also like spending time with my daughters and family.

**Q: What made you choose a career at the DEP?**

A: My father introduced me to DEP. He worked at the DEP starting as a Construction Laborer and retiring as a Superintendent.

**Q: Congratulations on your new position! So, how do you think your new role will improve the EHS program?**

A: By working with EHS to develop technical training, my new role will ensure employees are trained beforehand rather than on the job to prevent any serious injuries.

**Q: How did your previous role prepare you for this new position?**

A: I worked in the field in different operations within the Bureau. Throughout my 26 years at BWSO, I gained field experience such as how to repair a main to using all the equipment properly and safely. As a Superintendent, I learned leadership skills. From being one of the field personnel, I can understand field situations easier and provide insight to EHS.

**Q: How has EHS play a key role in your career?**

A: EHS has changed the way we approach the job. EHS policies and procedures ensure we think of safety first before performing the work task.

**Q: Why do you feel EHS is important to you and our employees?**

A: EHS is for all of us – the policies and regulations are there to prevent us from getting hurt. Most employees think its more work on them but EHS is beneficial for all of us to prevent us from getting injured. We all want to go home in one piece.

**Q: What programs do you feel have vastly improved since the inception of the EHS program?**

A: I would say dealing with spills, fuel dispensing, and waste management. Back in the day, if a spill occurred we would just clean it up and dispose of it in the trash.

**Q: What are your goals with the Training Center?**

A: My goals with the training center include reducing the number of employee injuries, and training employees to work more efficiently while still being safe.

**Q: What was the most memorable experience and/or most challenging part you have encountered during a job?**

A: There are many memorable and challenging experiences that I have encountered, but the one that comes to my mind was when I was working at Queens Sewer Maintenance. There was a period when there were massive rainstorms in NYC which would cause floods and sewer back-ups. Working with Mike Krysko to inspect and fix the sewer drainage system to alleviate the flooding and sewer back-ups was one of the many memorable and challenging projects I have encountered during my years at DEP.

**Q: Have you achieved/met your career goals and if not, how satisfied are you in your career?**

A: I am satisfied with my career but there are still more challenges to face before achieving my career goals.

**Q: Who do you admire the most and why?**

A: I admire my father. He's genuinely a nice person who is always ready to lend a helping hand. He puts others first before himself.

**Q: What do you consider is your greatest achievement in life?**

A: My greatest achievement in life is raising my two daughters.

**Q: Do you have any final words of wisdom, mottos or advice you would like to share/what was the best advice given to you?**

A: My father gave me this advice before I started working at DEP – Make sure you work safe and always be aware of your surroundings.

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BE SURE TO INCLUDE YOUR FULL NAME AND WORK ADDRESS. FAX: (718) 595-5541 AND/OR  
EMAIL: BWSOEHS\_suggestions@dep.nyc.gov**

**1. Which of the following is not the name of a DEP reservoir?**

- A) Kensico
- B) Mosholu
- C) Neversink
- D) Hillview

**2. The NYS DEC SPDES program was developed in accordance with which federal regulation?**

- A) Safe Drinking Water Act (SDWA)
- B) Resource Conservation and Recovery Act (RCRA)
- C) Toxic Substances Control Act (TSCA)
- D) Clean Water Act (CWA)

**3. Which of the following is one of the defining characteristics of a confined space per OSHA 1910.146?**

- A) Greater than 5 feet deep
- B) Can comfortably hold no more than two (2) people
- C) Has limited or restricted means for entry/exit
- D) Is below grade/ground

**Answers for June 2010 Newsletter Quiz: 1) C 2) B 3) B**