

DESIGN OF RONDOUT-WEST BRANCH TUNNEL SHAFT SITES 'DRAWS' ON IN-HOUSE EXPERTISE

As the centerpiece of the Water for the Future program, repair of the Rondout-West Branch Tunnel of the Delaware Aqueduct represents a critical infrastructure investment for New York City. The 85-mile Delaware Aqueduct has a capacity to convey more than 840 million gallons of water per day from Cannonsville, Pepacton, Neversink and Rondout Reservoirs. It transports approximately half of the drinking water supply for more than eight million New York City residents and one million residents of Orange, Putnam, Ulster and Westchester Counties. Additionally, residents of the Towns of Newburgh and



Marlboro are supplied directly by the Rondout-West Branch Tunnel. Leaks in the tunnel are causing the loss of up to 35 million gallons of water per day, and the necessary design that will allow for repair work is complex and has a multitude of moving parts.

What's remarkable about this undertaking is that its design

(Continued on reverse side)

Spotlight on Safety

June is National Safety Month

June is National Safety month and each week the National Safety Council (NSC) will be offering education programs. The first week's focus is employee wellness.

The World Health Organization states that at least 80% of all heart disease, stroke, and type 2 diabetes—and up to 40% of cancers—can be prevented if people made choices to eat better, engage in more physical activity, and quit smoking. Choose to become more involved in your own health and wellness. One simple way to do this is to avoid the SUPERSIZE trap. Studies show that we tend to finish the portions we are served, no matter the size. Supersized meals might seem like a good value, but they can add another 500 to 700 calories to your meal.

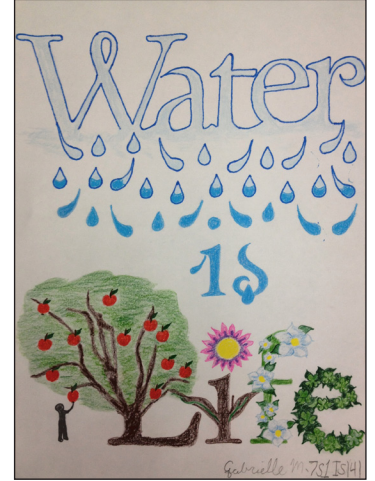
On June 25 from noon until 2:00 pm, DEP's Labor-Management Quality of Work Life Committee will host two nutrition seminars in the Lefrak Cafeteria. The seminar is open to everyone, and will cover how to prepare a healthy diet and live a healthy lifestyle. Also, "Healthy Apps" for your smartphone can quickly provide you with information on food choices including food quality grades (A-F), health content of foods, and healthier alternatives. Some apps will even allow you to track your daily food consumption and assess how much good and bad food you eat on a daily basis. Visit Fitness Magazine's Top Healthy Eating & Food iPhone Apps.

For more information on health and wellness from NSC:

Commissioner's Corner

DEP is continually striving to improve performance and make our agency an even better place to work—after all, the best always do better. On May 21, I e-mailed all employees to request voluntary responses to a 170-question survey on the strengths and weaknesses of our organization. The contributions of our staff help shape our strategy as we work toward becoming the safest, most effective, cost-efficient and effective water utility in the nation. We have asked for responses to be completed by the end of the day on June 13, and I thank all of our employees who have already participated. The work done by DEP day-in and day-out is essential to all New Yorkers as they go about their day, and I look forward to reviewing the valuable insight of our employees as we chart our course forward—both as an agency and as a city.

The work performed by DEP to provide a world class supply of drinking water is appreciated every day in many different ways. Now in its 26th year, the Water Resources Art and Poetry contest offers a unique opportunity for New York City students to match their artistic vision with an appreciation for the natural world. The program helps to raise awareness about the importance of access to clean, high-quality drinking water, and educates students on the work behind supplying more than nine million New Yorkers with a world-class water supply. This year, I'm pleased to announce that over 700 students participated, and they will be honored tomorrow at a Citi Field ceremony. The program this year encompassed four major themes: Water, a Precious Resource; The New York City Water Supply System; The New York City Wastewater Treatment System; and Water Stewardship – What Can I Do to Help Conserve Wa-



ter? I thank DEP's Deputy Director of Education and Outreach **Kim Estes-Fradis**, all of the students who participated, and the teachers and parents of New York City students who encourage their work and promote their learning about the city's critical water infrastructure. I look forward to welcoming them to the ceremony—truly, their work is something that makes all New Yorkers proud.

Education is an essential component of our daily operations—not just at DEP but in New York City at large. Believe it or not, it's that time of year again where more than 80 college or graduate students join us at DEP to further their education through immersion in our day-to-day functions. Spanning virtually all DEP bureaus, interns will get a first-hand look at what it takes to make the city run every day. It's a distinct privilege to provide this opportunity to so many students at the graduate and undergraduate level, and I hope that it proves an invaluable experience as they further their education and begin to develop their careers. Please join me in welcoming the 2012 intern class to DEP. In fact, Deputy Commissioner **Vincent Sapienza** began his DEP career as an intern 31 years ago. You never know, some of them may one day be our full-time colleagues!

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.

Focus on the Field



Narendra Khatri is a member of the Tunnel Structural Design Team at the Bureau of Engineering, Design and Construction. Narendra joined DEP in 2010, and brought with him more than 30 years of experience working on heavy civil, geotechnical, tunneling, micro tunneling and trenchless underground engineering projects. His work on projects in India, Singapore, Canada and the United States together with his background in design, site supervision, and project management makes him an extremely valuable member of the team working on the Delaware Aqueduct repair. DEP is building a bypass tunnel around the most damaged portion of the aqueduct, which carries 500 mil-

lion gallons a day; about half of New York City's drinking water.

Narendra's work includes preparing technical specifications for the construction of shafts and coordinating the technical specifications for site preparation work by consultants. Engineering is a passion for Narendra, which enables him to "interpret complex geotechnical information, design underground work and investigate different construction methods." He has actively participated in reviewing geotechnical data collected at the bypass tunnel shaft and in finalizing the Geotechnical Baseline Report (GBR) prepared by the consultants. GBRs are key documents used as part of underground construction work. The GBR provides a baseline of conditions and serves as the basis for bidders in preparing their bids, and is also used in resolving disputes during construction.

In his spare time, Narendra enjoys walking, watching television, listening to music and spending quality time with his wife **Anita**, their daughters **Mansi** and **Ankita**, and his son-in-law **Durgesh**.

Kudos Corner

David Olton of the Office of Environmental, Health and Safety has become a Certified Safety Professional. He achieved this distinction after meeting academic and professional safety experience requirements and passing two rigorous examinations covering areas including engineering and managements aspects of safety, as well as applied sciences and legal and regulatory matters.

Event Calendar

Nature Walk Tour at Newtown Creek with Environmental Sculpture Artist George Trakas: Sunday, June 10, 1:00 pm. For more information [🔗](#).

VETERANS HOUSING: The Mayor's Office of Veteran's Affairs has asked that we share the following information on the HPD/MOVA Mitchell-Lama Housing Veterans' Preference Information Day on June 29. Please click [🔗](#) for more information. Please share this information with any veterans you know. Veterans Interested in attending are urged to register promptly on-line at [🔗](#).

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

(DESIGN OF RONDOUT WEST BRANCH TUNNEL... continued)

is being spearheaded almost entirely by DEP staff. Housed in the Bureau of Engineering, Design and Construction, the Tunnel Structural Design team comprises 30 staff and includes a mix of project managers, engineers, designers, and computer-aided design technicians. The design process involved structural, mechanical and electrical components, all under the leadership of Chief Tunnel Engineer **Burjor Kharivala**. Construction includes two new shafts for launch and retrieval of the tunnel boring machine in the towns of Newburgh and Wappinger—on opposite sides of the Hudson River. When completed, the shaft in the Town of Newburgh will reach 900 feet below the surface, while its counterpart across the river will be 700 feet underground. The taking of geotechnical borings required for shaft design necessitated extensive site work, with DEP purchasing land, securing permits from local municipalities and regulators, and clearing space for construction. The site work brought external partners from the private sector to the table in a fruitful partnership for the design team.

"It was a great venture to bring public and private sectors together on the site work," said **Floren Ansley**, Environmental Engineer II. "Working together with the contractors brought a nice sense of collaboration to the project, with private businesses coming onboard with a big public infrastructure project."

Drill rigs are set up at each site to allow for boring, and one of the primary responsibilities of the design team is to keep logs of the boring process. These log entries are analyzed by Waterworks Design project managers, and interpreted to determine the appropriate linings for the shafts once they're built. This study of the logs brings an understand-



Coring Boring Machine

ing of geological specifications to bear, as the shaft lining must support the structure and protect the safety of the workers below.

The work thus far has entailed a substantial permitting process in addition to the design itself. The BEDC Permit Resources Division has played a crucial role in coordinating the various regulations from the towns of Newburgh and Wappinger. An Environmental Impact Statement was also produced before any construction could begin; upon completion of the design contract, procurement began on the shaft construction itself. Bidding is currently underway, and boring is expected to begin early next year.

According to Design Manager **Ted Dowey**, "There are a lot of moving parts to this project. It really was a very big undertaking." Considering that the critical repair of the Delaware Aqueduct was designed almost entirely in-house, it's easy to conclude that there's very little that would be considered impossible for DEP staff to achieve.

DEP JUNE BLOOD DRIVE: Lefrak: 3rd Floor Cafeteria; high-rise building: 6/12-6/14, 7:45 am to 1:30 pm; **Grahamsville Parking Lot:** 6/6-6/7, 10:00 am to 3:00 pm; **Kingston:** 51 Albany Avenue: 6/12, noon to 7:00 pm; **Downsville Fire Department,** 6/13, 9:00 am to 2:00 pm; **Sutton Park:** 2nd Floor, 6/21, 8:30 am to 2:15 pm. Please click [🔗](#) to see the email from the Commissioner and [🔗](#) for the list of blood drive captains.