

# New York Contractor Puts Fresh Technology To Difficult Test

For most New York City contractors, the opportunity to overcome a difficult, high-profile job at the Statue of Liberty or JFK Airport would be a once-in-a-lifetime opportunity. But, for New York Trenchless of Port Washington, N.Y., persevering in these types of situations is becoming a trend.

Owners Peter Kenny and son John, along with director Bob Smith, are getting used to suggesting and showcasing innovative approaches to ultra-sensitive projects. Their reputation with HDD is working its way across the city. They're bidding and completing installations faster and more efficiently, and they're making believers out of those unfamiliar with some of the newest HDD methods in the industry.

Recently, New York Trenchless was asked to bid on an emergency sewer line replacement job at JFK International Airport. Under normal conditions, working around a site as secure as an airport is sensitive enough; however, JFK is situated on nearly 5,000 acres in the southeastern section of Queens County, in New York City. This area is known as Jamaica Bay—one of the few intact ecosystem complexes in the region, according to the New York Water Environment Association. It's a highly protected area, so the New York City Department of Environmental Protection (DEP) kept a close eye on how contractors were going to replace 3,400 ft. of 12-in. force main sewer with minimal disturbance and restoration. And, time was of the essence, because permits in areas like these carry strict deadlines.

Originally, conventional pipe bursting was considered the best option. New York Trenchless came up with an even better alternative—HammerHead HDD Impactor pneumatic technology, recently introduced by Vermeer. "We have drills, and we have experienced operators," said Smith. "This was a relatively easy jump for us."

Smith did have some concerns, mostly with the length of the bursts. On a conven-

tional bursting project, a six-man crew can usually replace 800 to 1,500 ft. per week. Achieving that kind of production would mean that the crew would not complete the job in the allotted two-week time frame. At times, whether conventional bursting or using HDD, pipe would be burst and pulled in below the water table, as the average depth of the line is 15 ft. On conventional bursting projects, shots of 300 to 400 ft. are average. Smith and John Kenny would need their crew to complete some 500-ft. shots and do multiple shots each day.

The Impactor pneumatic device had exceeded expectations in other applications, but it had not been employed on a project of this size. Until this job, high production, quick setups, and multiple bursts per day with a single crew had only been possible in theory.

Having an experienced, professional crew was key. "We had four people on-site," said Smith. "But, the skill of our operator was most critical. Typically, we'd set our drill back with enough distance to get about 15 ft. deep by the time it hit the manhole; then, the drill head would need to hit the pipe dead on. That's accuracy."

The Impactor system technology is a combination of pneumatic bursting and HDD. Air is produced by a compressor and pumped through the drill stem to the HammerHead Impactor, a pneumatic device that is attached like a common backreamer.

At the site, the operator sets up the HDD rig in any position that allows drilling through a manhole and into the existing pipe. It should be noted that the rig itself can be positioned anywhere near the manhole, even off to the side as long as there is room to steer into the manhole without over-bending the drill stem, and enough distance to level off at pipe depth.

Once through the manhole and into the pipe, the drill head follows the path to the next manhole and exits through it before

resurfacing on the other side. The Impactor device and the new pipe are then connected, and the operator pulls back before disassembling and raising the device out of the end manhole. On this project, it was essentially manhole-to-manhole bursting using HDD.

In order to work efficiently, Smith had his drill crew go from one manhole to the other, then turn and go the other way. This allowed time for some extraordinary burst lengths without wasteful setup time and moving of the machines.

"We averaged 300 to 600 ft. a day, and on most days we did more than one burst," Smith said. "We even did 720 ft. in one day with two shots. We did 416 ft. another day. That shows the significance of the team we worked with. By my estimation, this method was twice as fast as conventional bursting would have been."



Smith, John Kenny and crew were in and out in seven days, with 3,400 ft. of 12-in. pipe burst and reinstalled; this was well within the allowed two-week time period.

Smith estimates that total excavation for the 3,400-ft. project was a mere 200 ft. of trench, mainly because pits aren't as necessary as they are with conventional bursting.

With some innovative technology and a skilled four-man crew, New York Trenchless completed a 3,400-ft. bursting project in the span of seven days. The setting was not an easy one—among the delicate and protected wetlands of Jamaica Bay, on the premises of a highly restricted international airport. They've once again brought a better solution to a challenging high-profile job.

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