

Inspection and Data Collection



WINNER: PORTABLE MANHOLE HITS THE ROAD

The Highway Department of Beacon, NY, recently developed a new way to encourage employees to think outside the box, or in this case, the manhole.

There are hundreds of thousands of manholes in municipal streets across the country. They are portals to many vital city systems, and maintenance crews must be able to navigate them safely because these types of confined spaces present special dangers not found in normal work areas.

To provide safer, more flexible training to its maintenance workers, the department created an innovative way to conduct confined space training that reduces travel and downtime. It involves the invention of a portable manhole that can be used indoors, eliminating the unpredictability of Mother Nature.

“We used to go on site to one of our confined spaces, but that’s outdoors,” said Working Supervisor Reuben Simmons. “Having something that is built and can be used indoors makes scheduling the training so much easier. In the past, if we tried to schedule the training and it turned out to be a bad weather day, it would require us to reschedule, which affected a lot of people and their time.”

The city’s highway superintendent, fire inspector, and maintenance mechanic came up with the idea to build a mobile structure that is a mockup of a complete confined space manhole. In addition to avoiding inclement weather, the system also provides safer training for larger groups in one session, which reduces lost time traveling to various training site locations.

A tripod is set up over the simulator and an employee strapped in a harness is hooked up to the tripod. A smell meter is dropped in to ensure there are no odorless gases and it is safe for entry. Additionally, the team developed a confined space checklist to review all hazards and procedures for the trainees to use during the training.

Maintenance Mechanic Dave Way is a carpenter by trade and built the structure in just 5 days.

“We don’t have the room to store it, so it had to be portable,” he said. “We take it apart and put it back together several times a year because people, like the city of Newburgh and the fire department, borrow it from us.” Way also added a window to the simulator to accommodate firefighter “bailout” training.

Materials cost about \$1,500, and the team is already thinking of improvements.

“If I had to do it over again, I’d make it out of aluminum, because wood is a little heavy, especially the staircase,” said Way.

More than 100 people use the simulator annually across multiple agencies.

“Ironically, more people from other agencies have used this than people from our highway department,” said Simmons. “We’re really excited about the difference we’ve been able to make in our community. We’re saving lives, time, and money.”



Source: Beacon, NY, Highway Dept.



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