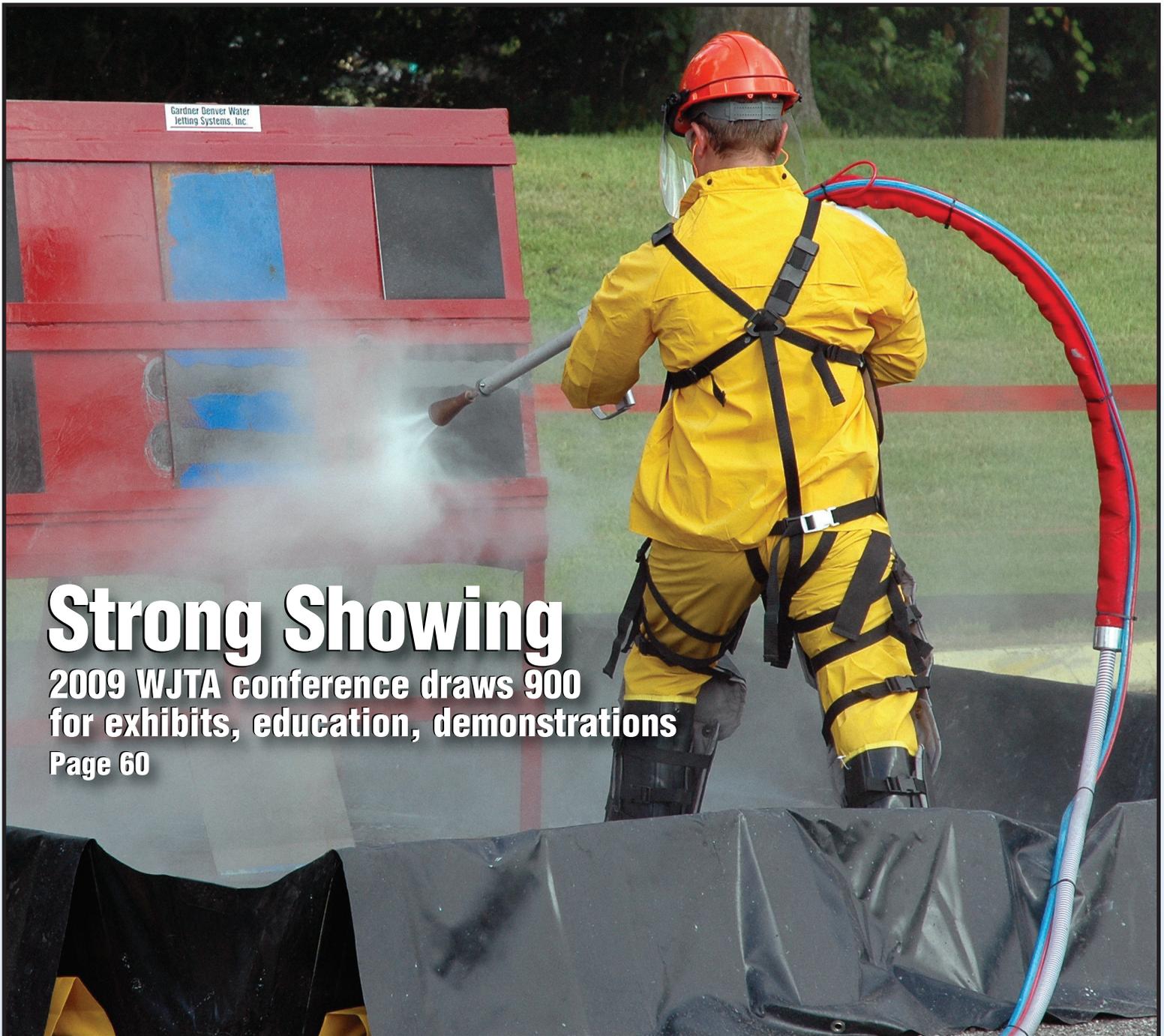


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NEW DEVELOPMENTS IN HIGH-PRESSURE CLEANING TOOLS

TECH PERSPECTIVE

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Dinner Is Served

Cured-in-place lining fixes a restaurant's problem cast iron drain line overnight while protecting a highly valued marble floor

By **Scottie Dayton**

The 3-inch cast-iron pipe between the waitress station and bar at Kincaid's Fish, Chop & Steakhouse in Bloomington, Minn., kept backing up despite frequent jetting by Drain King Inc. in Minneapolis. When Drain King vice president, Art Kallenbach, televised the 22-foot-long troublemaker, he found half the invert missing.

The restaurant owner insisted that his imported Italian marble floor remain untouched, and that repairs could disrupt business. Kallenbach consulted with Troy Ouverson of Ouverson Sewer and Water Inc. in Buffalo, Minn. Ouverson's decision to use a cured-in-place pipe (CIPP) lining system from Perma-Liner Industries Inc. met the owner's requirements and provided a long-term solution.

Cups of joe

Once the restaurant closed, Kallenbach's crew cut a 2- by 5-foot access hole 18 inches deep at the waitress station and cleaned the line with a trailer-mounted jetter. Ouverson's crew arrived at 11:30 p.m., and covered passageways and floors with plastic sheets. Work had to be completed by 9 a.m.

The restaurant was in a high-rise building. Ouverson's first challenge was the distance between his equipment trailer at the building's loading dock and the restaurant. "After we dragged our 250-foot air hoses through four doors and along winding hallways, we had three feet of play by the time we reached the access pit," says Ouverson.

Soils in the pit were clayey, reeked of rancid coffee and soft drinks, and were saturated with both. "We'd never smelled anything that awful," says Ouverson. The men pumped out some liquid to make the work area neater. Ouverson ran his Mainline push camera from MyTana Mfg. Co. Inc. down the pipe for a final inspection and was surprised to find sludge. His men used a garden hose to flush it away.

"The pipe sloped down, so anything we put in flowed to the sewer," says Ouverson. "A cast-iron air vent in the floor at the bar connected to the eroded pipe. The PVC pipe hooked into the other side of the vent was perfect."

Previous jettings by Drain King had washed away as much soil as was going to erode. "Art and I talked about packing dirt into the cavities to prevent the liner from falling in, but decided the air pressure would shoot it in so fast that it would skip over the gullies," says Ouverson.

"We needed a little longer working time to compensate for the distance between our trailer and access pit. On the other hand, we didn't want to sacrifice the cure-out time because of our deadline."

Troy Ouverson

Ouverson worried his camera would drop into a hole, but the head was just large enough to keep that from happening. "The farther we went down the pipe, the better it became," he says. "About half its length was rotten from the acidity in



Troy Ouverson (standing) and Doug Ouverson position the air inversion tank as Scott Veal measures the distance from the tank to the pipe about to be lined. (Photos from Troy Ouverson)

the coffee and soft drinks." The first foot of pipe was so bad that the men replaced it with PVC pipe.

Cooking formula

Ouverson chose the Perma-Lateral lining system because it requires only one entry point. "We needed a little longer working time

to compensate for the distance between our trailer and access pit," he says. "On the other hand, we didn't want to sacrifice the cure-out time because of our deadline."

The crew positioned the air inversion tank and every associated

TOUGH JOB

PROJECT:

Line 22 feet of a 3-inch drain line beneath an imported marble floor in a restaurant

CUSTOMER:

Kincaid's Fish, Chop & Steakhouse, Bloomington, Minn.

CONTRACTOR:

Art Kallenbach, Drain King Inc., Minneapolis, Minn.

SUBCONTRACTOR:

Troy Ouverson, Ouverson Sewer and Water Inc., Buffalo, Minn.

EQUIPMENT:

Perma-Lateral lining system, Perma-Liner Industries Inc., Largo, Fla.

RESULTS:

Drain line repaired on time without damaging the floor

item at the pit. Measuring the liner was critical, as it had to stop exactly flush with the air vent, yet cover the connecting joint. Walking at a fast pace, three men carried the felt liner



Troy Ouverson pours resin into a cone to begin the wetting-out process. Scott Veal holds the cone and Doug Ouverson assists him.

impregnated with a two-part medium resin from the trailer, then rolled it into the air inversion tank.

“Wetting out the liner and running it into the building took longer than shooting it,” says Ouverson. “Inversion took less than a minute at 6 psi. We hit the working and cure times almost perfectly. It was 70 degrees that night and slightly warmer inside.”

The men shot in the calibration tube, inflated it to 15 psi to force the liner against the walls of the host pipe, and maintained that pressure for three-and-a-half hours. “Perma-Liner tells us that three hours is sufficient, but we like going a little longer to be on the safe side,” says Ouverson.

Cleaning up and loading the trailer went quickly, and then came the hardest part – staying awake for two hours as the liner ambient cured. “We were sitting on chairs

and often caught ourselves starting to fall as we dozed off,” says Ouverson.

The men pulled the calibration tube at 5:10 a.m. and inspected the liner. It had inverted perfectly and stopped exactly at the designated point. Twenty minutes later, they were headed back to the shop. When the chefs arrived at 9 a.m., they found no evidence of the night’s activities and a pristine marble floor. ■

MORE INFO :

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