American Water Works Association
WILEY

Opflow

PRACTICAL IDEAS FOR WATER OPERATORS

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GIMMICKS & GADGETS
2022 CONTEST WINNERS

SUSTAINABILITY
Strengthen Climate Resilience

WATER QUALITY
Use Color and Appearance to Identify Common Water Quality Issues

TASTE AND ODOR
Screening and Training Analysts to Detect Geosmin

CONSTRUCTION
Airplane Crash Prompts a Unique Tank Repair

Gimmicks & Gadgets

THIRD-PLACE WINNER (TIE)

https://doi.org/10.1002/opfl.1719

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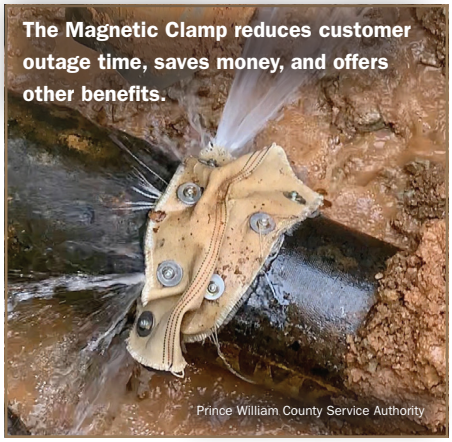
Magnetic Clamp Streamlines Pipe Repairs

BY CHARLES (DUSTIN) ROLLINS AND JOSEPH (MATHEW) CRIBB

The Magnetic Clamp allows us to repair more water main breaks under pressure. It also stops water from spraying the excavated walls, which creates erosion issues, and keeps technicians from being sprayed during extreme weather conditions, reducing the risk for hypothermia.

To build the Magnetic Clamp, we use rare earth magnets, a cut section of water hydrant hose, and panhead screws and bolts to attach the magnets to the hose section. We cut a 12-inch section of hydrant hose and split it long ways. Then we heat a nail to create eight puncture holes around the outside edge of the hose and attach the magnets to the section of hose with the panhead screws so the magnet can sit flush on the pipe. Finally, we tighten the nut on the screw and use a ball-peen hammer to peen the end of the screw over so the nut can't back off.

A three-year cost/time savings breakdown before and after we implemented the Magnetic Clamp revealed a 32.6% decrease in outage time and a cost savings of $39,231.



The Magnetic Clamp reduces customer outage time, saves money, and offers other benefits.

Prince William County Service Authority