

MUNICIPAL

SEWER
&

WATER™

FOR SANITARY, STORM AND WATER SYSTEM MAINTENANCE PROFESSIONALS

March 2024

www.msn.com

HUMAN SIDE:
SILO-BUSTING SPURS SUCCESS
PAGE 18

WATER:
NASHVILLE HITS THE RIGHT NOTES
PAGE 24

STAYING SAFE:
BE PRESENT IN YOUR WORK
PAGE 34

NO WORRIES ABOUT WATER SUPPLY

Atlanta reservoir project has made the city's water system more resilient

PAGE 12

Ade Abon
Senior Watershed Director
Atlanta Department of Watershed Management

TV/VIDEO INSPECTION AND LOCATION DIRECTORY

PAGE 30

PRODUCT FOCUS:
MAINLINE TV INSPECTION AND LOCATION



INSPECT SMARTER

Overwhelmed by your sewer inspection workload? Don't be. Our platform boosts productivity, automates workflows, and delivers world-class decision support.



DOUBLE DOWN ON YOUR INSIGHT



Envirosight inspection systems integrate seamlessly with WinCan, the world leader in sewer asset management, analytics and AI. Together, Envirosight and WinCan deliver an assessment technology platform with innovative capabilities and enhanced workflows that bridge the gaps between inspection crews, data experts and managers.



See how our solutions work together. Schedule a field demo by scanning the code or visiting envirosight.com/demo



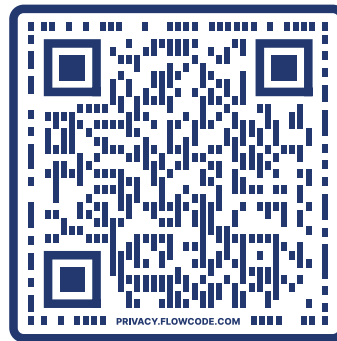


WRONG NUMBER? LET US HELP.

Connect with a Pentair® Authorized Distributor to get your Pentair pumps back to full strength with genuine OEM parts.

Our helpful, robust network can provide you with trusted, high-performing parts, or complete repair services to get your pumps back in the **green**.

If you've lost touch with your Pentair Authorized Distributor, get connected today at pentair.com/pumpcare.



Scan for more details.

800 Airport Road | North Aurora, IL 60542 | Ph: 630.859.7000 | pentair.com/pumpcare

All indicated Pentair trademarks and logos are property of Pentair. Third party registered and unregistered trademarks and logos are the property of their respective owners. Because we are continuously improving our products and services, Pentair reserves the right to change specifications without prior notice. Pentair is an equal opportunity employer.

©2023 Pentair. All Rights Reserved.

P14763 (09-25-23)

CONTENTS

MAINLINE TV INSPECTION AND LOCATION



12

ON THE COVER:

Ade Abon is a project engineer and senior watershed director for the city of Atlanta's Department of Watershed Management, which recently wrapped up a \$360 million project that transformed a 100-year-old granite quarry into a raw-water storage reservoir filled by the Chattahoochee River. (Photography by Matt Odom)



18



34



38



42

COMING IN APRIL 2024

Hydroexcavation and Industrial Jet/Vac Services

- ◆ TECH TALK: Analyzing Lead Service Lines
- ◆ BETTER MOUSETRAPS: Spray-on solution for pipeline rehab
- ◆ HUMAN SIDE: Promoting high-quality tap water

FEATURES

12 WATER: No Worries About Water Supply

Atlanta reservoir project has made the city's water system more resilient

By Ken Wysocky

24 WATER: Hitting the Right Notes

In Music City, massive sewer system upgrades will improve water quality, mitigate sewer overflows.

By Ken Wysocky

COLUMNS

8 FROM THE EDITOR: Telling the Right Story

We're here to highlight and promote progress in the water industry.

By Luke Laggis

10 @mswmag.com

Visit daily for news, features and blogs. Get the most from

Municipal Sewer & Water magazine.

18 HUMAN SIDE: Silo-Busting Spurs Success

Phoenix utility takes a team-oriented approach to solving problems.

By Ken Wysocky

22 NASSCO: Safety is Part of Everything

NASSCO's Technical Advisory Council is a resource for the whole industry.

By Sheila Joy

30 TV/VIDEO INSPECTION AND LOCATION DIRECTORY

32 BETTER MOUSETRAPS: Cutting Through the Grease

Large-bubble mixing devices help a Rhode Island sewer authority eliminate many lift station cleanings and reduce odor complaints.

By Ted J. Rulseh

34 STAYING SAFE: Be Present at Work

Keeping your mind on the task at hand makes you safer and more productive.

By Ronnie Freeman

36 CASE STUDIES: Mainline TV Inspection and Location

Alternative stormwater pipe serves the needs of international airport's expansion.

By Steve Cooper

38 PRODUCT FOCUS: Mainline TV Inspection and Location

By Craig Mandli

42 PRODUCT NEWS

Product Spotlight: New pipe fusion unit gives operators more control.

By Craig Mandli

44 WORTH NOTING/CALENDAR

People/Awards; Calendar

46 INDUSTRY NEWS

MARCH 2024

MUNICIPAL
SEWER
&
WATER



Count on Us for Your **Plant Supply** Needs **NATIONAL REACH. LOCAL EXPERTISE.**

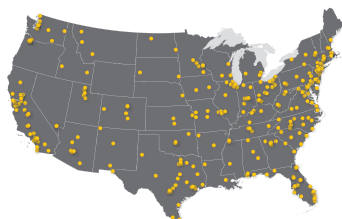
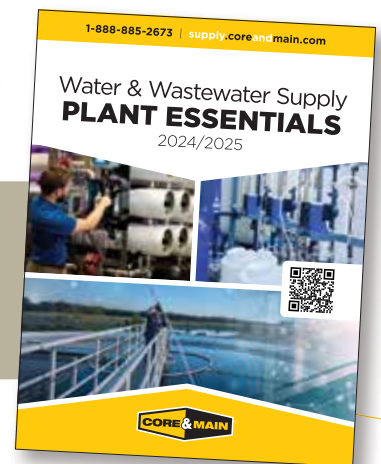


...and more!

We are a leading specialized distributor of water, wastewater, storm drainage, and related services. With 300+ branches nationwide, and 24/7 access to the **lab, plant and field products**, we have what you need to keep your municipal operations running smoothly.

Contact us to place an order, to request a catalog or to ask a question.

1-888-885-2673
support.supply@coreandmain.com
supply.coreandmain.com



Local Knowledge
Local Experience
Local Service, Nationwide®

ROBUST LIKE A RHINO.



RHINO MANHOLES by
FIBERTECH **FP**
PLASTICS

Field-tested, industrial-strength alternative to concrete, steel, and fiberglass manholes.









- Sewer
- Wastewater
- Landfill Leachate
- Storm Water Collection
- Underground Utility Inspection Chambers
- Various sizes and configurations are available



800-304-4600 ext 207 · emendel@fibertechplastics.com

ADVERTISER INDEX

COMPANY PAGE

	American Highway Products Ltd.41
	Aries Industries27
	Cam Spray37
	Composite Access Products (CAP) 11
	Core & Main 5
	CUES, Inc. 17, 23
	Envirosight LLC 2
	Fibertech Inc. 6
	GapVax, Inc.47
	InfoSense, Inc. 8
	Massa Products Corporation33
	Pentair 3
	RELINER/Duran Inc.29
	Saniflo SFA Inc.21
	Spartan Tool LLC 9

COMPANY PAGE

Specialty Maintenance Products, Inc.	35
	T&T Tools, Inc.40
	Vactor Manufacturing48
	Vanair15
	Vivax-Metrotech Corp19
	WinCan 7
CLASSIFIEDS	44
MARKETPLACE	45



MSW is FREE!

Subscribe/Renew Online at www.MSWmag.com

MUNICIPAL
SEWER & WATER

FOR SANITARY, STORM AND WATER
SYSTEM MAINTENANCE PROFESSIONALS

Published monthly by:

 COLEpublishing

PO Box 220
Three Lakes, WI 54562



www.mswmag.com

© Copyright 2023, COLE Publishing Inc.

No part may be reproduced without permission of publisher.

In U.S. or Canada call toll free 800-257-7222
Email: info@mswmag.com / Fax: 715-350-8456

Office hours Mon.-Fri., 7:30 a.m.-5 p.m. CST

SUBSCRIPTIONS: A one year (12 issue) subscription to *Municipal Sewer & Water*™ in the United States, Canada and Mexico is free to qualified subscribers. A qualified subscriber is any individual or company in the United States, Canada and Mexico that maintains, manages, designs or installs municipal or commercial sewer, water and storm infrastructures. To qualify, visit www.mswmag.com or call 800-257-7222.

Non-qualified subscriptions are available at a cost of \$60 per year in the United States and Canada/Mexico. Subscriptions to all other foreign countries cost \$150 per year. To subscribe, visit www.mswmag.com or send company name, mailing address, phone number and check or money order (U.S. funds payable to COLE Publishing Inc.) to the address above. MasterCard, VISA, American Express and Discover are also accepted. Include credit card information with your order.

Our subscriber list is occasionally made available to carefully selected companies whose products or services may be of interest to you. Your privacy is important to us. If you prefer not to be a part of these lists, please contact Holly at holly.gensler@colepublishing.com.

CLASSIFIED ADVERTISING: Submit classified ads online at www.mswmag.com/ classifieds. Minimum rate of \$25 for 20 words; \$1 per each additional word. All classified advertising must be paid in advance. DEADLINE: Classified ads must be received by the first of the month for insertion in the next month's edition. PHONE-IN ADS ARE NOT ACCEPTED. Fax to 715-350-8456 only if charging to MasterCard, VISA, Discover or AmEx. Include all credit card information and your phone number (with area code). Mail with check payable to COLE Publishing Inc. to the address above. CLASSIFIED ADVERTISING APPEARS NATIONWIDE AND ON THE INTERNET. Not responsible for errors beyond first insertion.

DISPLAY ADVERTISING: Contact Jim Koshuta or Kayla Bisnette at 800-994-7990. Publisher reserves the right to reject advertising which in its opinion is misleading, unfair or incompatible with the character of the publication.



Jim Koshuta



Kayla Bisnette

EDITORIAL CORRESPONDENCE:

Send to Editor, *Municipal Sewer & Water*, P.O. Box 220, Three Lakes, WI, 54562 or email editor@mswmag.com.

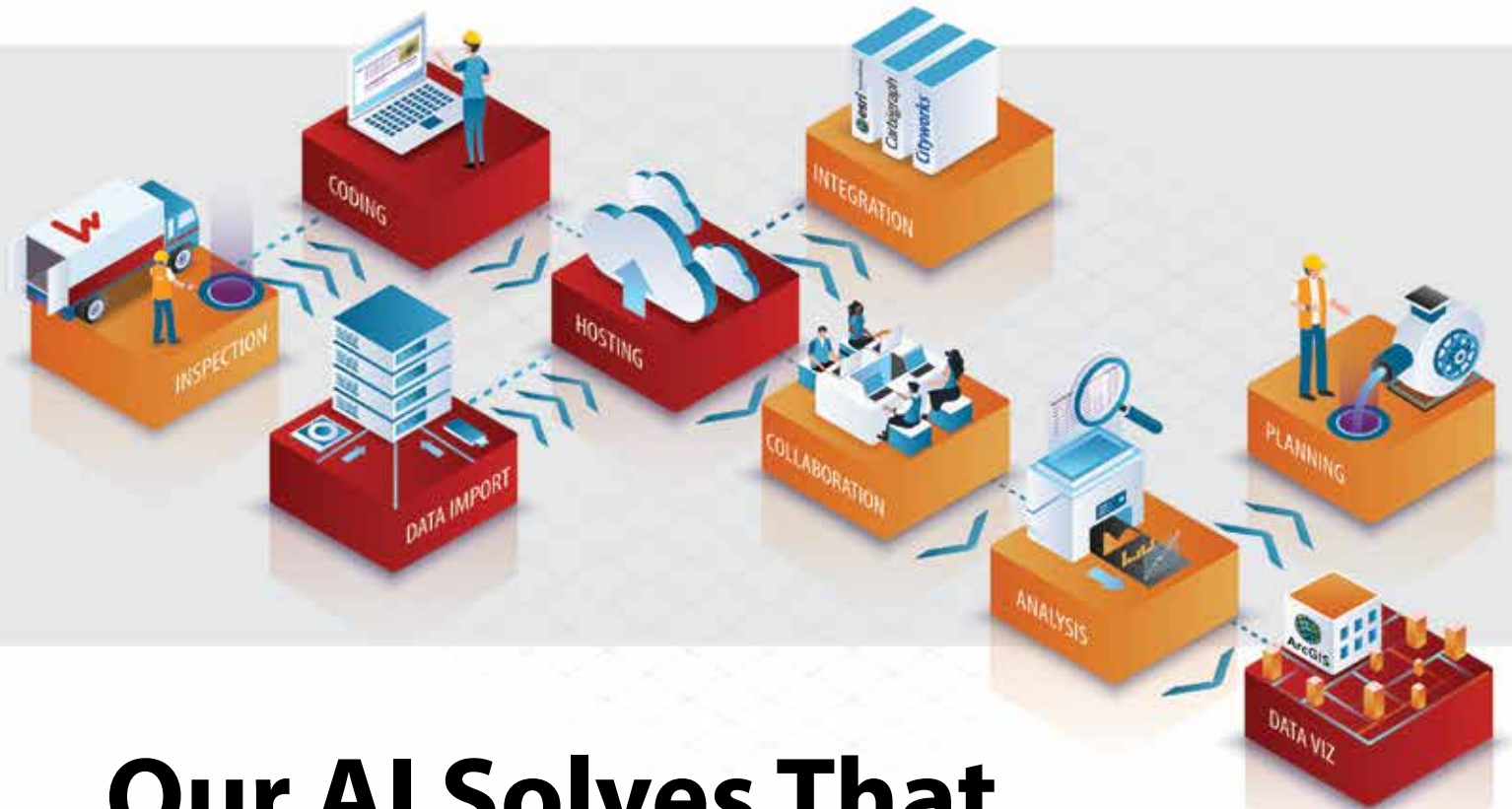
REPRINTS AND BACK ISSUES: Visit www.mswmag.com for options and pricing. To order back issues, call Holly Gensler at 800-257-7222 or email holly.gensler@colepublishing.com. To order reprints, call Jeff Lane at 800-257-7222 or email jeff.lane@colepublishing.com.

CONTROLLED CIRCULATION: 30,000 copies per month (U.S. and international distribution).



www.facebook.com/MSWmag
www.twitter.com/MSWmagazine
www.youtube.com/MunicipalSewerWater
www.linkedin.com/company/municipal-sewer-&-water-magazine

Sewer Insight Can Be Complicated.



Our AI Solves That.

Sewermatics applies powerful AI to the biggest challenges in sewer inspection and rehab. It works seamlessly with the WinCan ecosystem you know and trust—delivering AI-powered results and actionable insights that integrate with your team and processes.

Sewer upkeep is full of challenges. Our AI solves more of them.



Automatic Coding. Upload pipe and manhole footage, get back coded inspections. It's that simple. And WinCan has the world's largest user base, so our AI can grow faster.



Team Collaboration. Different jobs, different departments, one goal. Using AI, Sewermatics optimizes team scheduling and workflow hand-offs so you get more done.



Data Translation. Data siloed across different applications, formats and standards? Let our AI fix that. With merged data, you'll get broader insights.



Map-based Visualization. More data, more headaches? Not with AI from Sewermatics. View real-time heatmaps, spot hidden trends, and drill down to root causes.



Rehab Planning. Save days of effort and guesswork. Our AI builds smart, system-wide rehab plans that factor in defect type, proximity, severity, criticality and repair cost.



Sewermatics

wincan.com/sewermatics



Luke Laggis

TELLING THE RIGHT STORY

We're here to highlight and promote progress in the water industry

You are the experts in this field. I'm just a magazine editor helping to share your stories with the rest of the industry.

Back in November, I wrote a column based on a story I'd seen about a family in Georgia whose regular water bill jumped from about \$150 to nearly \$3,000. Over a four-month period, their bills totaled over \$12,000 for two retirees with no pool, hot tub or sprinkler system. They called their utility and then their home warranty company, which came out to investigate but found no leaks.

So, the family called a plumber to come out and investigate. Again, no leaks were found, but the plumber did find the water meter to be defective. When the family called the utility again to request a billing adjustment, they were denied and told no adjustment was warranted. Keep in mind this was a two-person residence with spikes 30 times their average monthly usage.

The family appealed to their water and sewer appeals board, according to the report, but were again denied any adjustment. And while the utility had sent someone out to check for leaks, no one from the utility had checked the meter.

When the family's bill finally dropped to a more regular charge, they appealed again and were again denied, with the utility saying it had checked equipment on the site and everything was working properly.

I wrote that column not to call out the utility but to highlight the importance of working for and with your customers to help make them champions of your work. But, as is sometimes the case, I didn't articulate that quite as well as intended.

A reader in Ohio, a 28-year veteran of her water utility, pointed out some things I missed.

"We have seen this exact type of thing happen in our own community," she wrote. "Customers will call for a plumber to come in to look for a leak after receiving their bill and the plumber will find nothing. We send our meter repairman in, please keep in mind he is not a plumber but uses the drip indicator on the meter, and he will find a toilet running. Why the difference? Toilets can start and stop leaking because of the seal on the flapper starting to go bad.

"The other biggest offender is a water-driven sump pump. Many customers do not realize it is metered water that drives that sump pump. It is wonderful for keeping the basement dry when power goes out, but if it has to run while the main one is out or the float gets stuck somehow, these are the amounts of bills we have seen because of it. While our meter repairman is there, he will also take an actual reading from the meter, and if that reading matches the reading we have in the system that we received electronically, we have no choice but to follow what that meter says. He will explain to them how to use the meter to watch for leaks in the future, but if everything matches, the system is working correctly."

As I said, I'm not the expert here and I don't mind being called out. I probably should have dug a little deeper and asked the questions brought up by the writer from Ohio. I was making assumptions, and assuming makes — well, you've all heard that one.

Municipal Sewer & Water is focused on celebrating the people, projects and operational improvements that are driving this industry forward. Luckily, there are plenty of those stories to tell.

Thanks for reading, Lisa. Enjoy this month's issue. ♦

Comments on this column or about any article in this publication may be directed to editor Luke Laggis, 800-257-7222; editor@mswmag.com.

TAP INTO SOUND SCIENCE

Looking for a safer and easier way to know which sewer lines need cleaning?

SAVE TIME
Get a reading in 3 minutes or less with no flow contact.

SAVE MONEY
Screen 2+ miles per day at a fraction of CCTV costs.

SAVE WATER
Clean the pipes that truly need it.

Easy to use.
Light to carry.
EPA evaluated.

See and Hear the Difference

Request a Demo Today
877-747-3245 · infosense.com
sales@infosense.com

InfoSense, Inc.
Innovating Acoustic Inspection Technology™

MSW IS FREE

GET:

- New techniques that boost efficiency and drive out costs.
- Tips for building a stronger, more productive staff.
- Bargains on a wide range of tools and equipment.
- And much more.

visit **MSWMag.com**

MUNICIPAL
SEWER & WATER

MACHINES
AS THAT WORK
HARD
AS YOU DO



THE NEXT GENERATION
OF INSPECTION CAMERAS

TRAVELER
4.0



TRAVELER
LITE



ASK ABOUT OUR
TRADE-IN PROGRAM!



Introducing the first **FULLY FIELD REPAIRABLE** sewer inspection cameras!



Traveler series cameras use the ALL-NEW, redesigned **Spartan Vision App** with built-in PDF Report Builder! Create a professional report you can send to your customers in minutes. Optimized for tablet and smartphone. Available on iOS and Android devices.



SPARTANTOOL.COM
800.435.3866

Visit the site daily for new, exclusive content. Read our blogs, find resources and get the most out of *Municipal Sewer & Water* magazine.



CAPTURING WATER

California Storage Project

Smart water solutions are flowing to California. Local agencies' crucial investment in the 1.5 million acre-foot Sites Reservoir Project is securing a sustainable water future for Pass Area communities by capturing precious resources for dry periods. mswmag.com/featured

EMPLOYEE BENEFITS

Financial Literacy Programs

Offering financial literacy guidance can be a key benefit to employees. Supporting your team members as they try to improve their own financial health is an effective way to ease stress, benefiting both employee and employer. mswmag.com/featured



OVERHEARD ONLINE

“The problem is not just that the land is sinking. The problem is that the hotspots of sinking land intersect directly with population and infrastructure hubs.”

— **New Study Says East Coast Cities Are Sinking**
mswmag.com/featured



FILL STATIONS

Promoting Sustainability

California residents are getting convenient access to high-quality tap water thanks to a utility's innovative program installing water bottle fill stations in schools and community centers. This initiative highlights the benefits of tap water over bottled alternatives, promoting sustainability and reducing plastic waste. mswmag.com/featured



Join the Discussion

Find us at:
facebook.com/MSWmag
twitter.com/MSWmagazine



Emails & Alerts

Visit **MSWmag.com** and sign up for newsletters and alerts. You'll get exclusive content delivered right to your inbox, and you'll stay in the loop on topics important to you.



THE "BEAST"

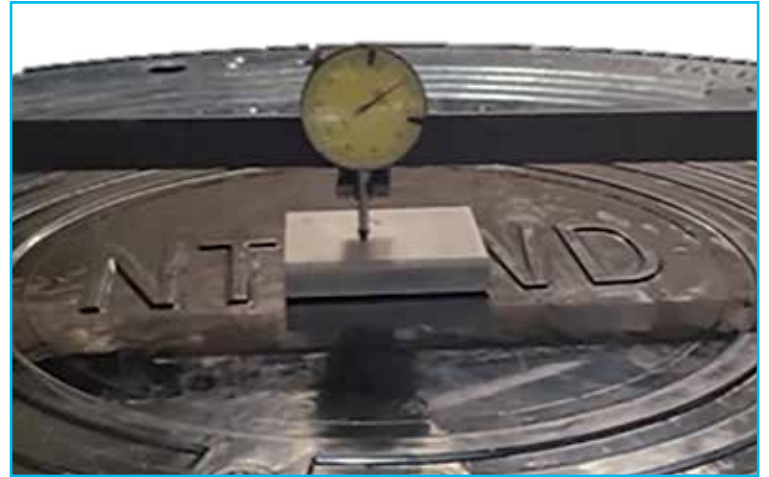
CAP'S 36" CLEAR OPENING COMPOSITE MANHOLE COVER

- ✓ TRAFFIC-RATED - rated above 100k lbs.
- ✓ WATERTIGHT SUBMERGED
- ✓ FATIGUE TESTED - 500k cycles at 40,000 lbs.
- ✓ ERGONOMIC - One person lift!!!

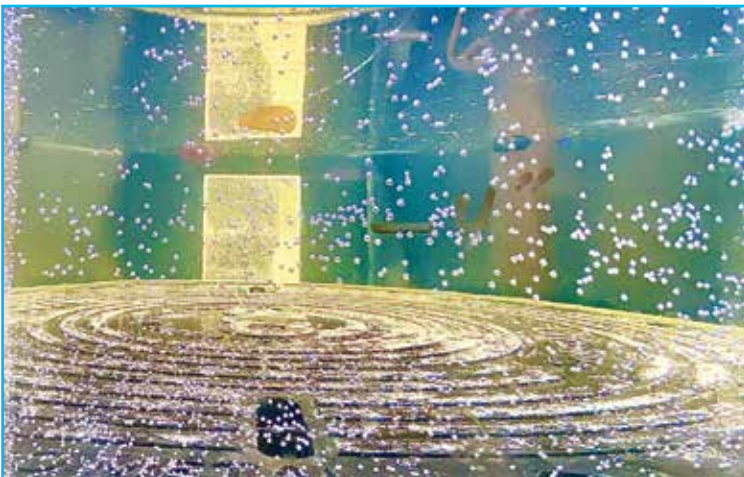


CAP Access Covers Test to New Levels of Resistance from Above and Below

Industry Recognized - "ACE" Finalist '23, AOC Focus Article



H25 Proof Load Approved with Minimal Deflection



One of the Only 3rd-Party Certified Watertight Submerged



Winner of 2024 Bid - Orange County CA Sanitation

Use For Interceptors, Trunk Lines, Fuel Service Stations!!!

COMPOSITE ACCESS PRODUCTS, L.P. (CAP)

5216 N. 26TH STREET • MCALLEN, TX 78504 • WWW.JUSTCAPTHAT.COM
(844) 344-CAP1 (2271) • (956) 331-8232 • sales@compositeap.com

NO WORRIES ABOUT WATER SUPPLY

Atlanta reservoir project has made the city's water system more resilient

By Ken Wysocky

More than a decade ago, the city of Atlanta faced a significant water crisis stemming from a severe, extended drought from 2007 through 2009. It left the city on the verge of a potentially crippling crisis: just a three-day reserve of emergency raw water.

Today, the city has a 30- to 90-day supply of emergency water available, depending on what water-use restrictions are imposed. And it no longer fears the looming specter of an estimated \$250 million-a-day loss in business activity for every day it's without water, as one study had predicted.

The difference-maker is an ambitious and innovative \$360 million project that transformed a more than 100-year-old granite quarry into a raw-water storage reservoir, filled by the Chattahoochee River via a 5-mile-long tunnel carved out of bedrock hundreds of feet underground.

"It's the biggest single project we've ever undertaken and we think it might be the only project of its kind in America," says Ade Abon, senior watershed director of the city's Department of Watershed Management, which manages Atlanta's water and sewer systems. "It was a very complex feat of engineering with many logistical challenges.

"We've had a lot of people from other municipalities and even those from foreign countries visit us because they're interested in doing this kind of project."

The project's main component is the 53-acre quarry, which the city bought in 2006 for \$26 million. Located about four miles northwest of downtown Atlanta, the quarry now holds 2.4 billion gallons of raw water the utility can tap into during droughts or other emergencies, such as river water contamination.

An interesting aside: Scenes from television shows such as *The Walking Dead* and *Stranger Things*, as well as several movies, were filmed at the quarry.

Other primary components include the 10-foot-diameter tunnel, about 70% of which is lined with concrete for structural strength; 11 vertical shafts that are hundreds of feet deep; two new pump stations, one located adjacent to the quarry and another at the DWM's Hemphill Water Treatment Plant; and six adits that connect various parts of the system.

In addition, 280 acres of land next to the quarry were transformed into Westside Park, now the city's largest greenspace.

Persistent supply issues

Atlanta is no stranger to water problems, due to geological conditions that make groundwater largely inaccessible. As such, the city relies almost entirely on surface water. About 70% of its drinking water comes from Lake Lanier, a 38,000-acre, constructed lake; the remainder comes from nearby Allatoona Lake and two small city-owned reservoirs.

Lake Lanier was created in the mid-1950s when the U.S. Army Corps of Engineers built the Buford Dam on the Chattahoochee River. The USACE owns and manages the lake, from which the river drains.

Under the terms of a regional water use agreement, the city is allowed to take up to 180 million gallons of water a day from the river.

But while Atlanta's growth has mushroomed, its water supply has remained constant. As a result, demand for water has increased exponentially over the last several decades, leaving the city vulnerable to water shortages.

The severe drought from 2007 through 2009 dramatically underscored that vulnerability, Abon says.

"Lake Lanier dried up enough that we could see the bottom of parts of the lake," he says. "If Lake Lanier dries up, we have no water.

"It got to the point where we were praying for rain."

In addition, the city could be crippled by any kind of pollution spill in the Chattahoochee River, Abon notes. As a case in point, he cites the Elk River in West Virginia. In 2014, a faulty storage tank leaked 10,000 gallons of an industrial coal-processing liquid into the river, disrupting water supply for thousands of downstream residents.

The drought, coupled with the need to replace four aging transmission lines, spurred DWM officials to develop the water supply program. Two of the lines take water from the river to the Hemphill treatment facility, located about 4 miles from the river, and the other two transport water to the city's second plant, the older Chattahoochee Water Treatment Plant, located near the river.

Some of the pipes date back to the late 1890s and early 1900s and have reached the end of their usable life cycles, Abon says.

"It got to the point where we were praying for rain."

Ade Abon

A boring project

Construction of the tunnel, which connects the river, the quarry and two water treatment

facilities, was a formidable project in and of itself. Boring began in March 2016 at a point inside the roughly 350-foot-deep quarry.

From the quarry, the tunnel travels northeast and passes below a 345 million-gallon reservoir at the Hemphill treatment plant. From there it slowly curves in a northwesterly direction and eventually passes under the Chattahoochee treatment plant. It then terminates a short distance from there at a shaft that will connect to a not-yet-built pumping station that, in turn, will connect to an existing intake in the riverbed.

The project also features 11 vertical shafts that range in depth from 250 to 450 feet, with finished diameters ranging from 20 to 35 feet. The shafts, most of them equipped with submersible pumps, allow the utility to control the flow of water and raise it to the required elevations along the tunnel route.

"By the time water flows into the quarry via gravity, it will only rise to a certain level because the quarry filled to its highest point is much higher than the river level," Abon says. "So there's not enough head to fill the quarry to its peak level."

To solve that problem, the tunnel is plugged right before it meets the quarry, which forces the water to rise up one shaft (a riser shaft) and travel via an adit into another shaft (a drop shaft) that connects to the quarry, he says.

The system also was designed to allow water from the quarry to be sent



PROFILE:

Department of Watershed Management, Atlanta

POPULATION SERVED:
About 1.2 million people

WATER SERVICE AREA:
About 540 square miles

WATER CUSTOMER BASE:
Roughly 170,000 accounts

WATER INFRASTRUCTURE:
2 treatment plants, about 2,750 miles of water mains, three reservoirs, 11 pumping stations, around 25,000 fire hydrants

TREATMENT CAPACITY:
Up to 201 mgd

AVERAGE DAILY TREATMENT:
Approximately 100 mgd

WATER SUPPLY PROGRAM COMPONENTS:
A 45-acre, 350-foot-deep quarry converted into a storage reservoir that holds 2.4 billion gallons of water; a 5-mile-long, 10-foot-diameter water-transmission tunnel; 11 vertical shafts that are hundreds of feet deep; two new pumping stations

PROGRAM COST:
About \$360 million

EMPLOYEES:
About 1,500

WEBSITE:
www.atlantawatershed.org

Ade Abon is a project engineer and senior watershed director for the city of Atlanta's Department of Watershed Management.
PHOTOGRAPHY BY MATT ODOM

Before entering the reservoir, water rises up one shaft and travels via adit into a drop shaft that connects to the reservoir.



‘DRILLER MIKE’ DID YEOMAN’S WORK

How did contractors working on Atlanta’s massive \$360 million water-supply project bore a 5-mile-long, up to 400-foot-deep curving tunnel through extremely hard and abrasive bedrock known as granitic gneiss?

Very slowly and very carefully, with a custom-built, \$11.6 million tunnel-boring machine made in Ohio and built expressly for the Atlanta project.

Two large contractors, PC Construction and H.J. Russell & Co., formed a joint-venture partnership that was selected as the general contractor to manage the complex project. And to perform the complex and intricate bore — which started in an old quarry and ended near an intake in the Chattahoochee River, passing under two water treatment plants along the way — the companies bought a tunnel-boring machine made by The Robbins Co.

Boring operations started in July 2016 and finished in December 2020, when water traveled through it to the quarry, transforming the former granite-mining site into a 2.4-billion-gallon emergency raw-water reservoir that can provide up to 90 days of water for Atlanta. Before, the city had only a precarious three-day emergency supply of water.

The machine was nicknamed “Driller Mike” in honor of Michael “Killer Mike” Render, an Atlanta rapper and community activist. More than 700 names were submitted in a naming contest.

The immense machine is 400 feet long, weighs 420 tons and measures 12 1/2 feet in diameter. It was shipped to Atlanta in 78 semi-trailers and assembled on the quarry floor.

It took about three months to assemble the machine. It features 16 “cutters” on its face and generated operational cutterhead thrust of 1.82 million pounds and operational torque of 727,516 ft-lbs., according to published reports.

The machine drilled an average of 45 feet per day; the longest one-day stretch was 137 feet. The job reportedly required 14 workers per shift, working around the clock for six days a week. The bore was completed two weeks ahead of schedule.

The average depth of the tunnel, which connects to pumping stations and water treatment plants via 11 shafts, is about 350 feet. But parts of it are up to 450 feet deep, making it the state’s deepest tunnel.

During its 5-mile route, the tunnel gradually rises from the quarry to the river end of the tunnel at a 0.02% grade, rising about 50 feet above the quarry floor by the time it reaches the river intake structure, Abon says.

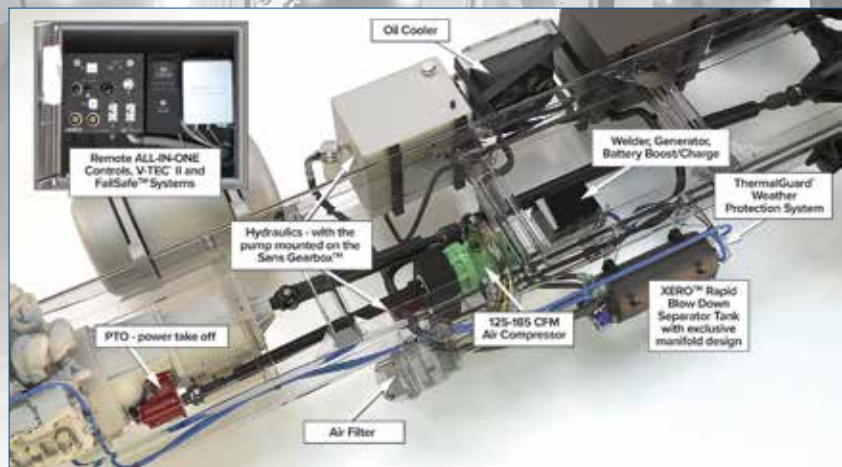
Debris from the boring was removed by two five-car-long “mucking trains” that traveled on train tracks.

Before boring could start, however, the quarry walls had to be “scaled” to remove loose, partially fractured rocks that posed a safety risk to workers building the machine on the quarry floor, as well as those doing the tunneling work. Then a rock-dowel and mesh system was installed along the entire quarry perimeter to help stabilize its rock walls.



Subscribe or Renew online
at www.mswwmag.com

One Underdeck PTO System... Six Forms of Power



Our PTO Shaft-Driven Underdeck ALL-IN-ONE Power System® replaces six pieces of equipment, saving you over 2000 lbs. of extra weight. This single unit delivers an impressive 125-185 CFM rotary screw air compressor, a powerful 10kW generator, a 330A welder, 12V-24V battery boosting, 12V-24V battery charging, and up to 30 GPM @ 2000 PSI of hydraulic-driven power. In addition to having six forms of power at the ready, this unit:

Reduces Costs

- Less weight reduces fuel costs
- No need to buy extra equipment
- Patented UltraLife® Hour Air/Oil Separator reduces maintenance and oil disposal costs

Increases Uptime

- Patented FailSafe™ Dual Sensor Redundancy System virtually eliminates downtime
- Patented ThermalGuard™ Weather Protection Kit prevents regulator freeze-up, reduces startup torque, and eliminates moisture
- Patent Pending XERO™ Rapid Blow Down Tank provides instant restart time and reduces leak points

“I lived through that drought and remember the panic and the frustration everyone felt.”

Ade Abon

from the quarry and back through the tunnel to the treatment plants without having to build two separate tunnels, which saved millions of dollars, Abon says.

Intricate system

Two of the shafts — a 250-foot-deep primary shaft and a 340-foot-deep low-level shaft — are located inside the new quarry pump station. Pumps inside the shafts push water from the quarry back into the tunnel.

The drop shaft and riser shaft, both 320 feet deep and located across the quarry from the pumping station, allow

Only Vanair® offers a PTO Shaft Driven Underdeck ALL-IN-ONE Power System® that saves you a ton in weight, cost, and downtime.



800-526-8817 • vanair.com

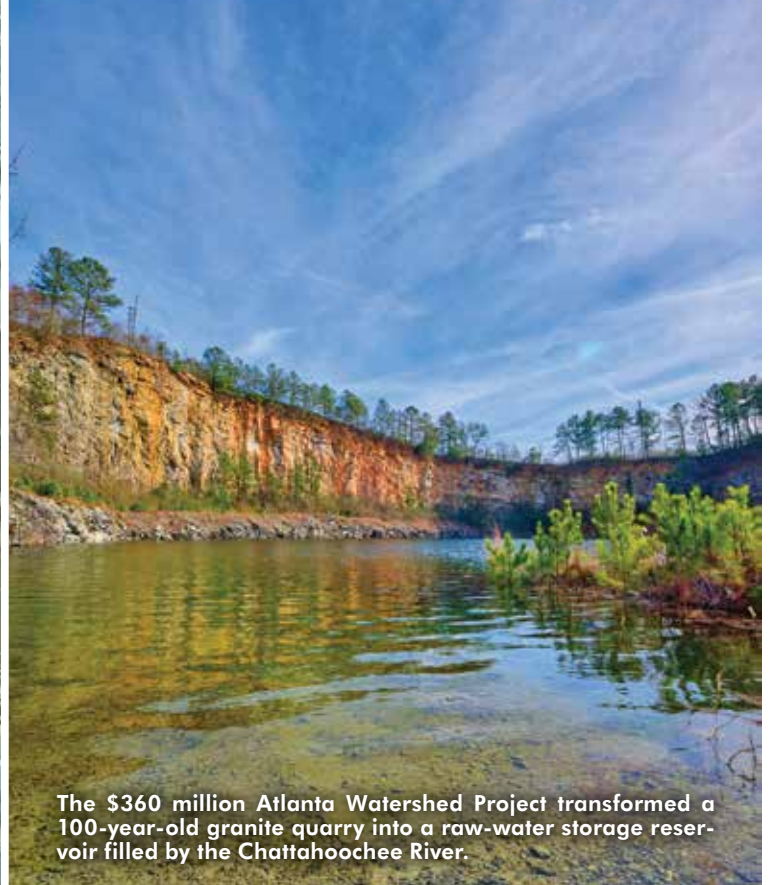


LEARN MORE





Nonpotable pipes and pumps (US Motors) fill the interior of the Quarry Pump Station. All of the materials used in the building are composed of low-emitting materials to reduce the number of VOCs in the building atmosphere.



The \$360 million Atlanta Watershed Project transformed a 100-year-old granite quarry into a raw-water storage reservoir filled by the Chattahoochee River.

FEATURED PRODUCTS FROM:

PC Construction
802-658-4100
www.pcconstruction.com

The Robbins Company
440-248-3303
www.therobbinscompany.com

the utility to convey water through the tunnel in both directions based on its needs. They're connected to each other and to the pump station shafts by adits.

Five 420-foot-deep shafts are located inside a new pumping station by the Hemphill treatment plant; four of them are equipped with pumps that bring water from the tunnel up to the treatment plant.

Another shaft equipped with a pump moves water from the tunnel up to a transmission line, where it flows by gravity to the Chattahoochee plant. The last shaft is by the river and eventually will be connected to the aforementioned yet-to-be-built pumping station, which will replace a nearby aging pumping station.

Furthermore, to recirculate the quarry reservoir water and keep it fresh, operators at the quarry pumping station can pull water from different levels through small adits and push it upward.

"We don't want that water sitting there forever," Abon says.

Proving value

It took several weeks to fill the quarry after the tunnels and shafts were completed in late 2020.

"We filled it very slowly so we could test the controls at the same time," Abon explains.

Now the only piece of the water supply puzzle left to complete is the new pump station by the river, he says.

Since its completion, the system has not been pressed into emergency use. But it already proved its usefulness in 2020 when a break occurred in one of the old

transmission lines and prevented water from getting to the Hemphill plant, potentially leaving around 65% of city residents without water. But water from the quarry reservoir helped avert such a crisis.

"We shut down that line and pumped water from the quarry to the Hemphill plant," Abon says.

After the new pump station is completed, three of the old transmission lines will be abandoned, and the fourth one, which is more structurally sound, will be lined and remain in use.

"We hope to get a few more decades of use out of it," Abon says.

A great achievement

Looking back, Abon feels immensely relieved as well as proud of how his department helped add both capacity and resilience to the city's water system, leaving it much better equipped to handle climate change and other threats.

The system is expected to provide the city with a reliable source of drinking water for the next 100 years.

"This was a major, major accomplishment for us," he says. "I lived through that drought and remember the panic and the frustration everyone felt, from residents and city council members to business owners and the people in our department.

"For the first time in decades, Atlantans aren't worried about their water supply." ♦

LET MACHINES HELP YOU PROCESS AND DETERMINE CRITICAL INFRASTRUCTURE

GraniteNet Software is the turn-key Cloud-based platform for public works condition assessment and proactive decision making!



CUES CLOUD

GIS



ASSET MANAGEMENT



Sync data through the Internet to the Cloud



MANAGE OFFICE TASKS & EDIT INSPECTIONS



PERFORM & VIEW INSPECTIONS / REVIEW TASKS



FIELD INSPECTIONS



MOBILE INSPECTIONS

AI & DEFECT CODING AS-A-SERVICE



All of your inspection data is available at your fingertips



Get Prescriptive suggestions about what to fix and which method to use

CUES Cloud...fusing AI and Cloud Computing for superior Asset Management!



800.327.7791 | salesinfo@cuesinc.com | www.cuesinc.com

Ask for a demo! <http://gnet.us.com>

We invite readers to offer ideas for this regular column, designed to help municipal and utility managers deal with day-to-day people issues like motivation, team building, recognition and interpersonal relationships. Feel free to share your secrets for building and maintaining a cohesive, productive team. Or ask a question about a specific issue on which you would like advice. Call editor Luke Laggis at 800-257-7222, or email editor@mswmag.com.

SILO-BUSTING SPURS SUCCESS

Phoenix utility takes a team-oriented approach to solving problems

By **Ken Wysocky**

In 2022, Phoenix Water Services experienced a change in surface-water quality in the wake of large rainfalls.

But rather than have just the utility's water treatment team figure out a solution, officials quickly formed a cross-divisional team of employees from various other departments, including the utility's lab, distribution, collection and engineering divisions.

After studying the problem, the team forged a short-term solution: adopting a different treatment process; as well as a longer-term solution: upgrading some of the utility's reservoirs, says Brandy Kelso, assistant director of the utility.

What advantages did a cross-divisional team provide?

"I think that without a CDT, the solution might have been more reactive to what was happening right now instead of taking a more holistic look from a big-picture perspective," says Kelso, who's been with the utility for 20 years. It serves more than 1.7 million customers in a 540-square-mile service area.

"The group was able to consider things such as will this be what water quality looks like going forward or is it just a snapshot in time?" she says. "Or what engineering controls we might need — add new technology to a treatment plant, for instance — as opposed to just longer water-detention time, adding more chemicals or other short-term solutions.

"It also sped up our ability to solve the problem because there was so much more knowledge shared among the team members," Kelso adds. "It also helped us avoid solving one problem but creating another."

Using effectiveness attributes

Phoenix Water started using cross-divisional teams about 10 years ago when a new utility director at the time adopted a program created by the American Water Works Association called the 10 Attributes of Effective Utility Management. It gives utilities a blueprint for improving water quality, customer satisfaction, employee development, financial viability, sustainability and operational efficiency, to name a few, Kelso explains.

"We used those concepts to redefine our business plan at that time and develop some metrics we could use to judge ourselves against to be sure we're operating efficiently and effectively," she says.

The CDTs help ensure that all of the utility's divisions are effectively participating in developing each attribute.

"For example, we wanted to make sure the water and wastewater sides were developing programs and methodologies that ensure we were providing high-quality water," she says. "The CDTs learned together about things that worked or didn't work as well and shared that information to the benefit of all the groups, as opposed to working in silos.

"In the end, it's really all about breaking down silos and not investing in things



that only benefit a few divisions. Investing collectively benefits more people."

Faster and better recruiting and hiring

As another example of the program's effectiveness, Kelso points to the utility's recruitment and hiring methods. Years ago, a CDT composed of different divisional leaders and other employees systematically went through everything a supervisor had to do to fill a position, from recruiting to onboarding.

Team members did a lot of brainstorming about ways to streamline the recruiting and hiring process and vetting all ideas to determine which ones were truly worth further examination and study.

The results were well worth the time invested. In one division, for instance,



VIVAX
METROTECH

vCam Inspection Cameras

Call us for a no-obligation on-site demonstration!
☎ 1-800-446-3392



Visit Our YouTube Channel
to See Actual Videos

The clear choice for video inspection

Create crisp, detailed video inspections with audio comments, text observations, footage, date and timestamps to submit to your customers without worry.



vCam Mobile
Controller App



VMap
Mapping App

VMap Mapping App

- Show multiple utilities on one map
- Low and high GPS accuracy settings
- iOS and Android platforms
- Cloud-based storage
- Export to popular GIS programs

the time it took from when supervisors scheduled interviews to when they hired people dropped to an average of 48 to 54 days, a significant decrease from an average of 4 1/2 to six months.

“It was a very long hiring process,” Kelso notes. “Now we’re in the process of expanding that division’s recruiting and hiring approach to other departments because it’s been such a huge success.”

Structured approach

Here’s how the CDT program works: Two managers are assigned to each of the 10 attributes and are considered as “champions” of those particular attributes, such as water quality or employee development. The two managers aren’t always actively working on an attribute but are ready to do so when required.

“If there are, say, three to five things related to each attribute, that’s a lot to work on, so we have to prioritize them,” Kelso says.

When they’re assigned to work on a project related to their attribute, those managers reach out across the organization to round up team members. Teams vary in size depending on the size and scope of the problem being addressed.

All of the attributes merge into the utility’s master business plan, which is shared with employees annually.

“The business plans provide metrics that document where we are with various initiatives,” she says. “We update it each year and email our employees a link to it. It’s also accessible on our SharePoint platform.”

Keys to success

Open communication and allowing people to freely express all ideas without judgment are critical to running successful CDTs.

“It’s essential to let every idea be heard because it tells team members that everyone’s contributions are valued,” Kelso says. “Sometimes the craziest ideas lead to good solutions. You have to adopt a no-idea-is-a-stupid-idea kind of mindset.”

“It’s essential to let every idea be heard because it tells team members that everyone’s contributions are valued.”

Brandy Kelso

On the other hand, all ideas must be objectively and thoroughly vetted. And the CDTs must be truly cross-divisional, with participants selected on their merits versus managers selecting their favorite employees, she advises.

“You need to invite people with different thought patterns, educational backgrounds, work experience and so forth,” she explains. “A team composed of a variety of people tend to arrive at the best outcomes, so you need to be very intentional and thoughtful about which experts you bring on board.

“Sometimes you need the boots-on-the-ground, line-level employees to hear what they have to say. They often are best positioned to tell you what might or might not work and why.”

Beneficial side effects

CDTs are beneficial because they bring together people who normally might never work together. And by getting to know their peers and the challenges they face, they realize they’re not all alone on “islands,” Kelso points out.

“Some people in a service yard or in a treatment plant might think they’re

“We’re pulling in perspectives and information from a broader network as opposed to from narrow silos.”

Brandy Kelso

working by themselves,” she says. “But then they get on a CDT and see that others struggle with some of the same things.

“And in doing so, they form peer-to-peer relationships that might not otherwise exist.”

CDTs can also improve employee engagement by showing that their organization values their knowledge and ideas. Employees take a lot of pride in developing ideas that get accepted and put into practice.

“They get a lot of personal and professional satisfaction from being able to help,” Kelso says.

By sharing information organization-wide, CDTs also can help various divisions avoid reinventing the proverbial wheel by tapping into existing knowledge bases to solve problems already encountered and resolved by other departments.

“We’re leveraging the knowledge of the collective. There is a lot of untapped potential in organizations.”

The program also exposes employees to jobs in other departments. This can open up career opportunities that employees otherwise might not know about.

Patience is key

It’s not as if problems weren’t solved before the utility started using CDTs, Kelso says. But CDTs helped the organization be more focused and better able to improve efficiencies by more effectively communicating success stories and knowledge across all departments.

“We’re pulling in perspectives and information from a broader network as opposed to from narrow silos,” she explains.

What’s one critical piece of advice Kelso would share with other utilities interested in giving CDTs a try? Don’t expect it to change your organization’s culture overnight, she says.

“Working with CDTs has become second nature to us — it’s just something we do around here. But it wasn’t like that right away.

“You have to be patient,” Kelso continues. “Sometimes if we don’t see a benefit from something right away, we tend to scrap it and move onto something else. But it takes a while to foster communication between groups and get people to feel comfortable with sharing ideas.

“But it’s well worth the time. CDTs have benefited us a lot.” ♦

Have a story idea?

■ Email us at editor@mswmag.com ■

NEW Sanipit® 24 GR

RETROFIT 1 HP GRINDER PUMP

FITS
24 INCH
BASINS

EXTERNAL
CONTROL
PANEL AND
ALARM

ODORLESS
DRY PIT



EASY ACCESS TO
MAJOR COMPONENTS

FAIL-PROOF
TRIPLE AIR
PRESSURE
SWITCHES

Scan to
view video



Easily upgrade your sewage ejector pump!

800-571-8191
saniflo.com

Saniflo  SFA GROUP





NASSCO is located at 5285 Westview Drive, Suite #202, Frederick, MD 21703; 410-442-7473; www.nassco.org

Sheila Joy is executive director of NASSCO. She can be reached at director@nassco.org.

SAFETY IS PART OF EVERYTHING

NASSCO provides safety audits, training and consultation for members

By Sheila Joy

often get asked why safety is not one of NASSCO's core values. There are six in total:

1. **Adaptability:** We creatively utilize all available tools and resources to accomplish whatever needs to get done and help each other out whenever possible.
2. **Camaraderie:** We enjoy the work we do because of the fun and friendly culture, open communication and transparency among NASSCO's staff, board of directors and members.
3. **Efficiency:** We are hardworking, confident, and resourceful professionals who organize our time well to drive results.
4. **Fairness:** We are inclusive, valuing honesty and integrity above all else while humbling ourselves when we make mistakes.
5. **Knowledge:** We confidently and reliably serve as the trusted source of information for trenchless technologies and industry resources.
6. **Support:** We work as a dependable, capable team that partners with individuals and organizations to find solutions through a spirit of deep appreciation for the contributions of others.

The reason safety is not a core value for NASSCO is this: While our core values are positive behaviors expected of NASSCO staff and members, safety is an important action that is woven into everything we do. Safety goes way beyond posters mounted on a wall; for NASSCO, it means shifting our entire culture to include a Certified Safety Professional staff member to oversee all NASSCO and committee activity.

To accomplish this, NASSCO hired Dennis Pivin, CSP, as its new director of health, safety and environmental in December. In his role, Dennis provides consulting services to all NASSCO members at a deeply discounted rate. Services include, but are not limited to, safety audits, employee training and consulting for NASSCO members in good standing. This is an important benefit of NASSCO membership that will promote and encourage safety best practices throughout our industry.

NASSCO's website also continues to grow as a repu-

Safety is an important action that is woven into everything we do.

table source for safety facts and information including styrene safety, confined space entry, PFAS, fall protection and so much more. This information, which is continually updated, is available to the public at no charge. There are also numerous specification guidelines, webinars and videos, all focusing on safety, available for free download and use at nassco.org. Finally, NASSCO's library of self-paced online safety courses, including topics on safe use of grouting and cured-in-place pipe best practices are available for a small fee and earn students who successfully complete the exams CEU/PDH credits.

NASSCO's mission is to set standards for the assessment, maintenance and rehabilitation of underground infrastructure and to assure the continued acceptance and growth of trenchless technologies. Listing safety as one of our core values will not accomplish what our industry deserves: Making safety an important action step in everything we do.

If you have a question about safety, please email safety@nassco.org and we will be happy to assist (whether you are a NASSCO member in good standing or not) because it is our goal to share safety facts and information with everyone. We also encourage you to bookmark NASSCO's Safety webpages and visit often at nassco.org/safety.

Finally, if you are not yet a member and would like to join NASSCO where you can benefit from deeply discounted safety consultation rates, discounted training and so much more, visit nassco.org/join today. ♦

Get the EDGE Training and Continuing Education Courses

PACP Training

March 11, 8 a.m. EST
Virtual

Includes PACP, LACP, MACP
Trainer: Michael Lukas

March 25, 8 a.m. MST
Virtual

Includes PACP, LACP, MACP
Trainer: Jerry Weimer

March 28, 8 a.m. EST
Virtual

Includes PACP
Trainer: Jerry Weimer

April 8, 8 a.m. EST
Virtual

Includes PACP, LACP, MACP
Trainer: Michael Lukas

April 16, 8 a.m. EST
Charles County, Maryland

Includes PACP, LACP, MACP
Trainer: Jim Harris

ITCP Training

March 19, 8 a.m. MST
Boise, Idaho

Includes ITCP-CIPP
Trainer: Rocky Capehart

March 21, 8 a.m. MST
Boise, Idaho

Includes ITCP-Manhole Rehab
Trainer: Rocky Capehart

April 23, 8 a.m. PST

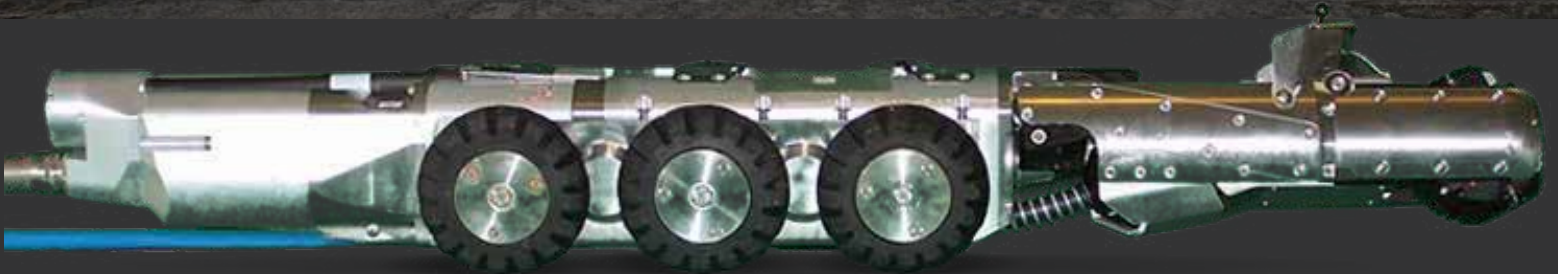
Portland, Oregon
Includes ITCP-CIPP
Trainer: Rocky Capehart

NASSCO
PRO
TRAINING



OTHER CLASSES FORMING

Contact one of the trainers listed above if you are interested in having a class at your facility or in your area.



TESTED

to endure the harshest pipeline conditions.

TRUSTED

by industry experts for reliability.

PROVEN

to deliver unparalleled performance.

CUES offers the largest variety of CCTV pipeline inspection cameras and steerable/non-steerable transporters to fit every application in pipe sizes ranging from 6" relined to 200" in diameter.

From compact mini-cameras to the latest technology that includes high resolution, digital CCTV, side-scanning, as well as innovative wireless manhole scanning technology, CUES has the best cameras and transporters to help you GO THE DISTANCE.



CUES



800.327.7791 salesinfo@cuesinc.com | www.cuesinc.com

HITTING THE RIGHT NOTES

In Music City, massive sewer system upgrades will improve water quality, mitigate sewer overflows

By **Ken Wysocky**

After more than a decade of planning, a \$2.7 billion program to upgrade sewer system infrastructure and mitigate combined and sanitary sewer overflows is in full swing in Nashville and surrounding Davidson County.

The aptly named Clean Water Nashville initiative stems from a consent decree signed by a federal judge in March 2009. The decree has been amended since then and now gives the Metro Water Services utility until December 2031 to meet the decree mandates, which include full compliance with the Clean Water Act and elimination of sanitary sewer overflows, says Ron Taylor, director of the CWN program.

When the sprawling endeavor is completed, residents of the city of Nashville and Davidson County (the two entities merged to form a metropolitan government in 1963) will benefit from more than 300 miles of newly lined sanitary sewers; a \$400 million expansion of the Central Water Reclamation Facility, the largest of the utility's three wastewater treatment plants; 80 million gallons of wet-weather storage capacity, courtesy of seven new, strategically located storage tanks; separation of roughly 30 miles of combined sewers; and the installation of approximately 38 miles of new, larger sanitary and storm sewers, Taylor says.

"This is one of the largest infrastructure programs ever undertaken in Nashville and it certainly is the largest capital improvement program ever undertaken by Metro Water Service," he says.

The biggest component of the program is rehabilitation of sanitary and combined sewers, primarily by lining them with cured-in-place pipe. About two-thirds of the total cost will go towards fixing SSOs and another third will go towards fixing combined sewer overflows, which mostly occur in downtown Nashville where the city's oldest sewers are located, Taylor says.

The utility manages about 348 miles of combined sewers.

"We've already lined 200 miles of leaking sanitary sewers," he notes. "Because of improvements we made in the 1990s to address CSOs, long before the consent decree, the current program emphasizes addressing problems with SSOs."

The size of the sewer mains ranges from as small as 8 inches to as much as 16 feet in diameter for the largest combined sewers.

Long time coming

The utility's efforts to resolve sewer overflow issues actually began in 1990, when the Tennessee Department of Environmental and Conservation issued an enforcement order to fix sewer overflow problems that were affecting water quality in the Cumberland River, the area's primary water source.

"If it rained hard enough that you needed to use your windshield wipers while driving, we were probably having combined sewer overflows," Taylor notes.

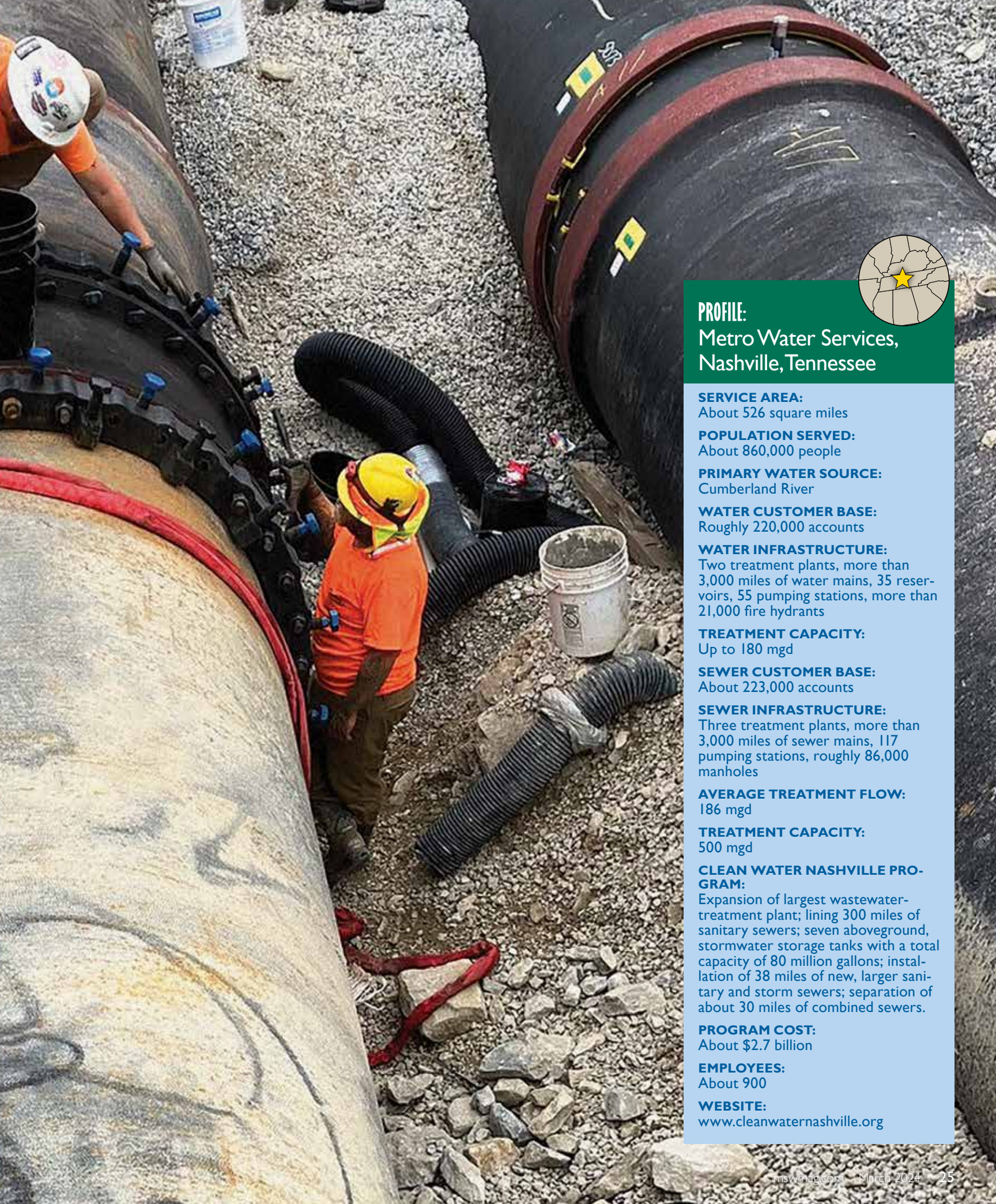
At that time, there were 32 combined sewer discharge points into the river and some of its tributaries. So the utility upgraded its three wastewater treatment facilities and reduced the number of combined sewer discharges to eight, all of which flowed into the river during significant rainfalls.

"We also added 9,000 feet of conveyance tunnels that took waste from the points of overflow to either storage tanks or a treatment plant, upgraded our major pumping stations and separated about 19 miles of combined sewers in downtown Nashville," Taylor explains. "The combined sewers are in about an 11-square-mile area and we separated sewers in about a 1-square-mile area."

Growth poses challenges

Nonetheless, CSOs and SSOs still persisted. So in 2007, as Taylor puts it, "The EPA came for a visit."





PROFILE:
Metro Water Services,
Nashville, Tennessee

SERVICE AREA:
About 526 square miles

POPULATION SERVED:
About 860,000 people

PRIMARY WATER SOURCE:
Cumberland River

WATER CUSTOMER BASE:
Roughly 220,000 accounts

WATER INFRASTRUCTURE:
Two treatment plants, more than 3,000 miles of water mains, 35 reservoirs, 55 pumping stations, more than 21,000 fire hydrants

TREATMENT CAPACITY:
Up to 180 mgd

SEWER CUSTOMER BASE:
About 223,000 accounts

SEWER INFRASTRUCTURE:
Three treatment plants, more than 3,000 miles of sewer mains, 117 pumping stations, roughly 86,000 manholes

AVERAGE TREATMENT FLOW:
186 mgd

TREATMENT CAPACITY:
500 mgd

CLEAN WATER NASHVILLE PROGRAM:
Expansion of largest wastewater-treatment plant; lining 300 miles of sanitary sewers; seven aboveground, stormwater storage tanks with a total capacity of 80 million gallons; installation of 38 miles of new, larger sanitary and storm sewers; separation of about 30 miles of combined sewers.

PROGRAM COST:
About \$2.7 billion

EMPLOYEES:
About 900

WEBSITE:
www.cleanwaternashville.org



A crew prepares a section of sewer line for CIPP lining to reduce infiltration.

At that point, the metro area was experiencing excessive numbers of both CSOs and SSOs during significant rainfalls, he says.

Planning for the project was a challenge, largely because of the area's rapid growth. (Davidson County's population swelled to 715,884 people in 2020, compared to 626,681 people in 2010 – about a 14% increase, statistics show. It's one of the fastest-growing metro areas nationwide.)

"In certain areas, the growth was so substantial that we had to amend some projects and even add some that we didn't anticipate," Taylor points out. "This is not a static program – we've had to make a lot of changes on the fly.

"It's like running a marathon while the organizers are constantly changing the distance of the event and throwing in unexpected obstacles."

For example, the utility had planned to put wastewater storage tanks in three of its smaller combined sewer basins. But a more in-depth assessment of the combined sewer infrastructure, some of which was 120 years old, revealed that it would be more cost-effective to install new sanitary and stormwater sewers than to keep trying to maintain the existing sewers.

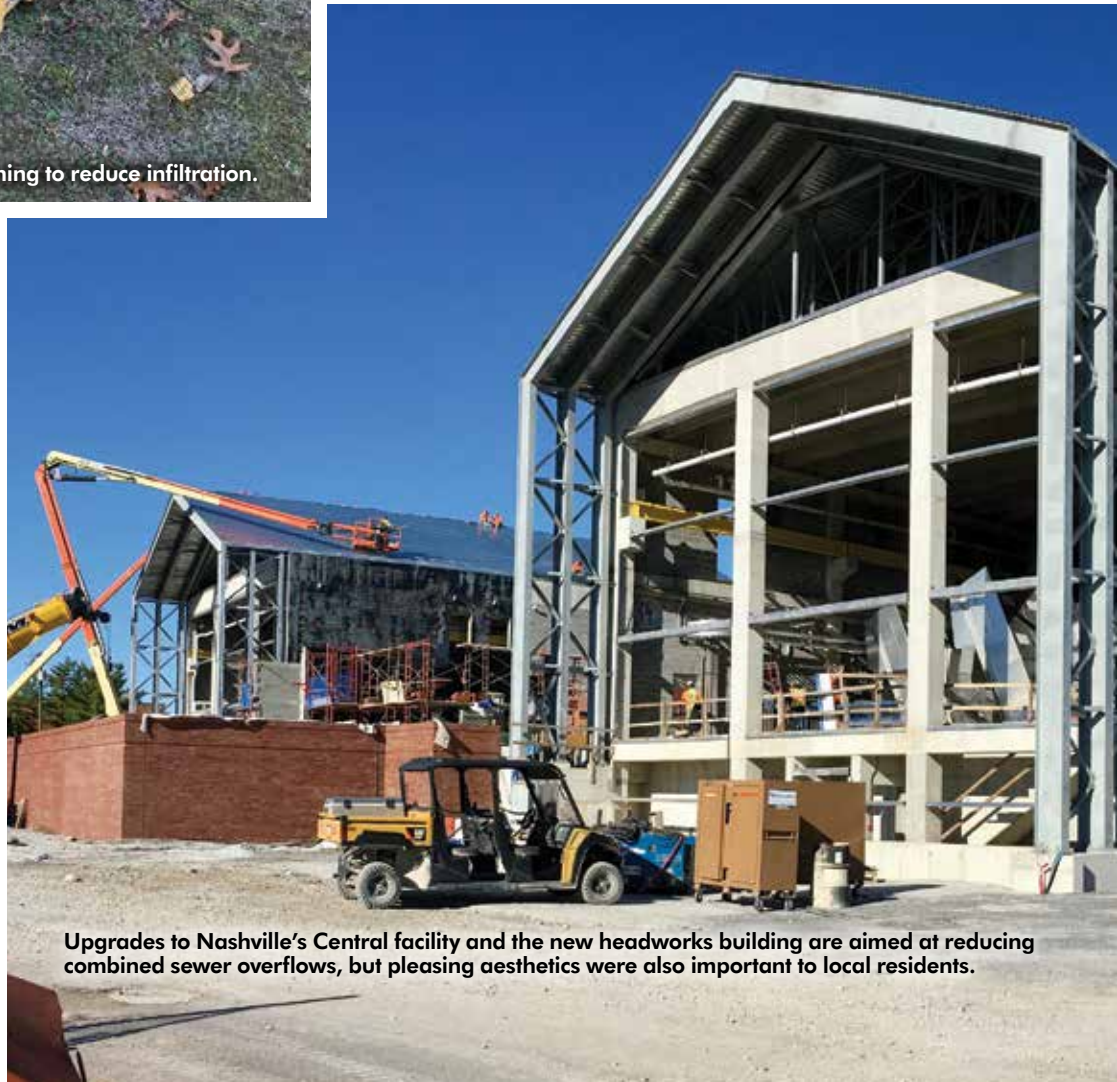
"Ultimately, it will save us more money in the long run," Taylor says.

More storage capacity

The most visible components of the initiative are the aboveground wastewater storage tanks, which range in capacity from 3 to 21 million gallons. During heavy rains, the tanks will hold diluted wastewater until

"It's like running a marathon while the organizers are constantly changing the distance of the event and throwing in unexpected obstacles."

Ron Taylor



Upgrades to Nashville's Central facility and the new headworks building are aimed at reducing combined sewer overflows, but pleasing aesthetics were also important to local residents.

levels in the collections system subside enough for treatment facilities to handle the additional flow, he says.

One of the larger tanks, which holds 21 million gallons of wastewater and went online in 2018, is located in West Park. Named after a former mayor, Ben West, the 13-acre park is located on the city's west side.

In collaboration with the Metro Parks department, the utility worked out a plan to soften the impact of the large structure by decorating it with a large mural and adding landscaping. The structure is partially underground, but still rises about 20 feet above ground level.

"We prefer to rehab sewers to keep out extraneous water, but storage tanks are the quickest fix for the problem of overflows," Taylor says. "And buried tanks are much more expensive than aboveground tanks."

In exchange for permission to site the storage tank in the park, the utility agreed to pay for \$2 million in park improvements, including a new pavilion, playground, walking track, softball field and landscaping.

Positioned for further growth

With the program's current finish line still eight years away, there's still much left to do to bring the utility's sewer infrastructure into compliance. But notable progress has already been made, including about a 50% decrease in SSOs, Taylor says.

Taylor is proud of what's been accomplished so far,

"If it rained hard enough that you needed to use your windshield wipers while driving, we were probably having combined sewer overflows."

Ron Taylor

PIPELINE INSPECTION SYSTEMS



Complete mainline inspections with maximum portability and flexibility

- ✓ Detailed full HD video capture
- ✓ Digital CANbus enabled for instantaneous camera and tractor response
- ✓ 15" daylight readable touchscreen
- ✓ In-the-pipe WiperCam™ lens cleaning system
- ✓ Optional green battery powerstation or gas generator

Questions about
Mobile Voyager™ HD?
Let's Talk
800-234-7205

ARIES

Waukesha, WI 53186 USA 800-234-7205 ariesindustries.com

raising the bar UNDERGROUND



NEW HEADWORKS DEFIES CONVENTIONAL AESTHETICS

Sewer-related infrastructure doesn't have to be ugly.

As an example, look no further than certain components included in the \$2.7 billion Clean Water Nashville program, slated for completion in 2031. The Metro Water Services utility, which is managing the project, collaborates with neighborhood residents to ensure as many elements of the massive endeavor are visually more palatable — if not downright eye-pleasing — than typical sewage facilities.

"We've made extensive effort to obtain public input that helps us make good choices about aesthetics and other features," says Ron Taylor, program director of Clean Water Nashville.

Take the \$400 million expansion of the utility's Central Water Reclamation Facility, for instance; built in 1958, it's one of three wastewater treatment plants in Nashville.

The upgrades to the Central facility and the new headworks building are aimed at reducing combined sewer overflows by increasing the facility's overall capacity to 440 mgd from 330 mgd. That will allow it to handle intense rainfalls.

Because the facility is located near a residential area, residents were asked to weigh in on the design of the headworks building, which is about 50 feet tall. The result: an attractive building that features two visually striking gables on the side of the structure facing the street, with the walls below the gables made of translucent panels.

"They liked the idea that you couldn't see exactly what's going on inside the building, but it implies something is going on inside this massive structure," Taylor explains.

The building was scheduled for completion in January 2024.

In addition, the utility upgraded odor-control equipment at the facility, built a dog park on 2 acres of land on one side of the facility and converted unused space into a park on the other side. The park areas now include a playground, a water feature, a bus shelter, a greenway connector, improved lighting, bike racks and upgraded landscaping — all improvements suggested by residents, Taylor says.

"This community has lived next door to the biggest sewage plant in Tennessee for 65 years, so I think the least we could do is provide a few things to make it more palatable," he says.

In another instance, a 21 million-gallon stormwater storage — the largest of seven storage tanks included in the program — was sited in a large park on the west side of Nashville. To make the tank visually less onerous, it features a mural with trees and blue skies. The utility also paid for numerous park improvements.

despite bumps in the road like the pandemic.

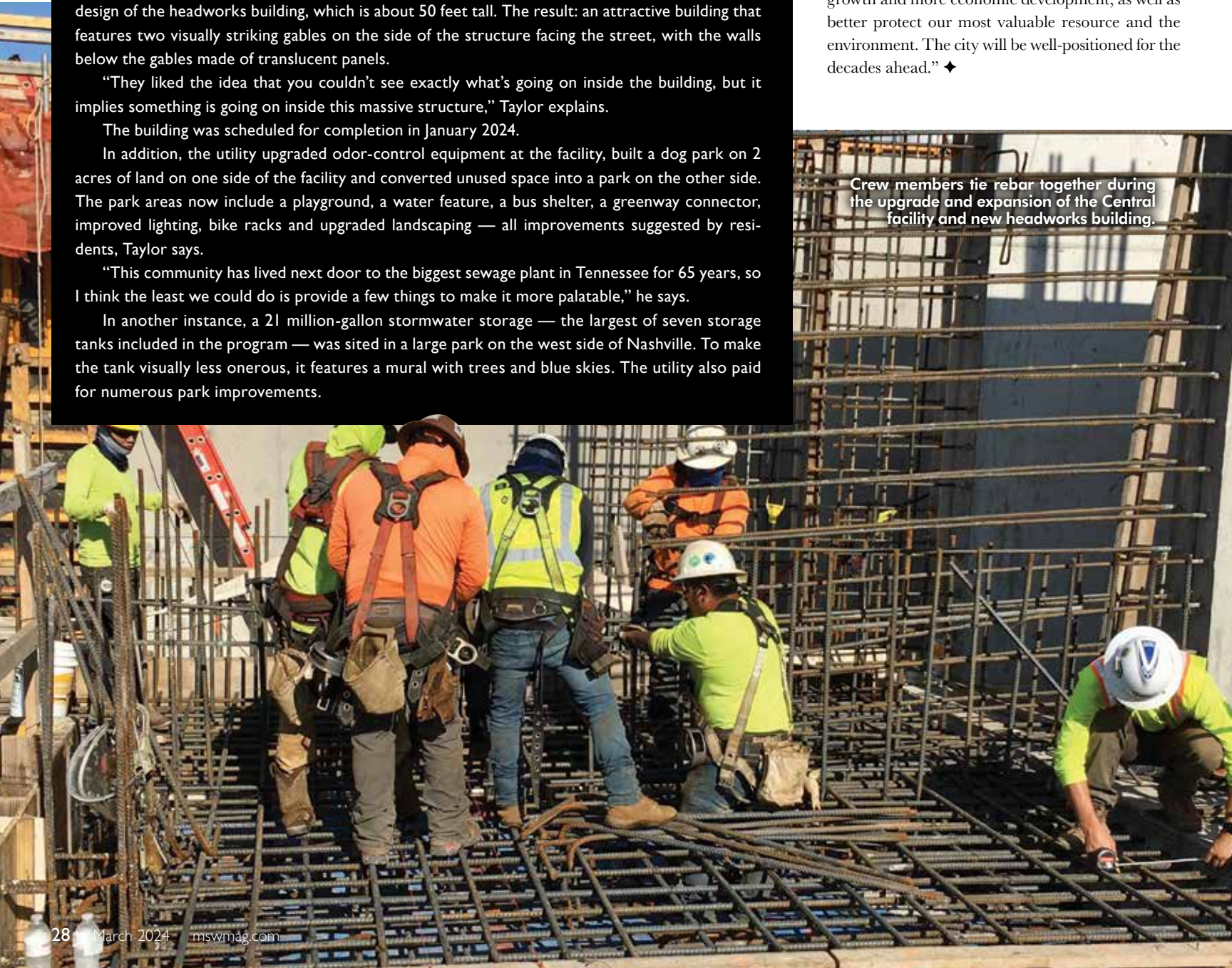
"The cost of certain construction projects nearly doubled because of unanticipated price increases stemming from supply-chain disruptions and other COVID-related impacts," he explains.

But ultimately, after all is said and done, the Nashville area will have a revamped sewer system that truly reflects the Clean Water Nashville moniker.

"We called the previous program an overflow abatement program, but that sounded too negative to me," Taylor says. "So we opted for Clean Water Nashville for this new iteration, since the ultimate goal is to enhance the water resources of the community.

"When everything is completed, the metro Nashville area will be able to handle more population growth and more economic development, as well as better protect our most valuable resource and the environment. The city will be well-positioned for the decades ahead." ♦

Crew members tie rebar together during the upgrade and expansion of the Central facility and new headworks building.



RELINER® / Duran Inc.

Invert Channel System, Inside Drop System, Stainless Brackets



Before

After



Before

After

The RELINER® Modular Manhole Invert Channel System provides durable factory quality flumes for optimum flow conditions.

The RELINER® Inside Drop System is the solution to troublesome outside drops and interior tee's.

Simple to install
Cost effective
Reduces maintenance
Simplifies cleaning

www.reliner.com
1-800-508-6001







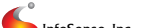

MSWmag.com

- Online Exclusives
- Digital Editions
- New & Used Equipment
- Product Categories
- E-mail Alerts
- Classifieds
- Free Subscriptions








2024 TV/VIDEO INSPECTION & LOCATION DIRECTORY



COMPANY		Acoustic Inspection	Drainline Inspection	Large Diameter	Laser Measurement	Lateral Launch	Mainline Inspection	Manhold Inspection	Panoramic Scanning	Push System	Software	Sonar Inspection	Location Equipment: Electronic, Smoke/Dye, Pipe/Leak/Valve/Sewer
 See ad on pg. 27	Aries Industries, Inc. 550 Elizabeth St. Waukesha, WI 53186 800-234-7205 www.ariesindustries.com jim.kraschinsky@ariesindustries.com		✓		✓	✓	✓			✓	✓		
 See ads on pg. 17 and pg. 23	CUES, Inc. 3600 Rio Vista Ave. Orlando, FL 32805 800-327-7791 Fax: 407-425-1569 www.cuesinc.com salesinfo@cuesinc.com		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
 See ad on pg. 2	Envirosight 111 Canfield Ave. Randolph, NJ 07869 866-567-8316 www.envirosight.com mail@envirosight.com		✓	✓	✓	✓	✓	✓	✓	✓	✓		
	EPL Solutions, Inc. 1330 W Collins Ave. Orange, CA 92867 714-453-9760 www.epls-usa.com sales@epls-usa.com		✓				✓			✓			
	General Pipe Cleaners 1101 Thompson Ave. McKees Rocks, PA 15136 800-245-6200 412-771-6300 www.drainbrain.com info@drainbrain.com	✓	✓							✓			✓ Electronic
 See ad on pg. 8	InfoSense, Inc. 8116 S Tryon St. Charlotte, NC 28273 877-747-3245 Fax: 704-930-0145 www.infosense.com cmendell@infosense.com	✓									✓		
	Insight Vision Cameras 600 N. Dekora Woods Blvd. Saukville, WI 53080 800-488-8177 262-268-9330 www.goinsightvision.com sales@goinsightvision.com		✓	✓		✓	✓			✓			

2024 TV/VIDEO INSPECTION & LOCATION DIRECTORY



COMPANY	Acoustic Inspection	Drainline Inspection	Large Diameter	Laser Measurement	Lateral Launch	Mainline Inspection	Manhole Inspection	Panoramic Scanning	Push System	Software	Sonar Inspection	Location Equipment: Electronic, Smoke/Dye, Pipe/Leak/Valve/Sewer
 MyTana LLC 746 Selby Ave. St. Paul, MN 55104 800-328-8170 • 651-222-1738 Fax: 651-222-1739 www.mytana.com mytana@idexcorp.com		✓				✓			✓			✓ Electronic
 Pearpoint Inc. 39-740 Garand Ln., Unit B Palm Desert, CA 92211 800-688-8094 • 760-343-7350 Fax: 760-343-7351 www.pearpoint.com pearpoint.uk@spx.com		✓				✓			✓			
Ratech Electronics, Ltd. 260 Spinnaker Way, Ste. 7 Vaughan, ON L4K 4P9 CANADA 800-461-9200 • 905-660-7072 Fax: 905-660-1519 www.ratech-electronics.com sales@ratech-electronics.com		✓				✓	✓		✓	✓		
 SPARTAN TOOL See ad on pg. 9 Spartan Tool, LLC 1618 Terminal Dr. Niles, MI 49120 800-435-3866 www.spartantool.com customerservice@spartantool.com		✓				✓			✓			✓ Electronic
 VIVAX METROTECH See ad on pg. 19 Vivax-Metrotech Corp 3251 Olcott St. Santa Clara, CA 95054 800-446-3392 • 408-734-1400 www.vivax-metrotech.com salesUSA@vxmt.com		✓				✓			✓	✓		✓ Electronic, Pipe/Leak/ Valve/ Sewer
 WinCan See ad on pg. 7 WinCan 300 Cedar Ridge Dr., Ste. 308 Pittsburgh, PA 15205 877-626-8386 www.wincan.com sales.us@wincan.com		✓				✓	✓			✓		

SEE THE DIRECTORY ONLINE AT
[MSWmag.com/2024-tv-video-inspection-directory](https://mswmag.com/2024-tv-video-inspection-directory)

CUTTING THROUGH THE GREASE

Large-bubble mixing devices help a Rhode Island sewer authority eliminate many lift station cleanings and reduce odor complaints

By **Ted J. Rulseh**

Flat topography in the Rhode Island city of Warwick requires multiple lift stations and force mains to deliver wastewater for treatment.

Some of the city's 49 lift stations experienced grease buildup that ultimately restricted flow in force mains and created odors in residential neighborhoods. The Warwick Sewer Authority tried chemical treatments with limited success.

Then three years ago, staff members learned about a

“There is no grease buildup, and there are no issues downstream in the sewer mains.”

Joe Colicchio

mixing device offered by C3ND Environmental Consulting, based on technology from Pulsed Hydraulics.

After a successful trial at one of the most problematic lift stations, the authority purchased the unit; it has since added eight more. “We had usually cleaned that pump station twice a year,” says Joe Colicchio, senior collection inspector. “We haven’t cleaned it in two years. There is no grease buildup, and there are no issues downstream in the sewer mains.”

BETTER MOUSETRAPS

PROBLEM:

Grease buildup in lift stations restricted flow and created odor issues.

SOLUTION:

The PHi-CA mixing device offered by C3ND Environmental Consulting, based on technology from Pulsed Hydraulics.

RESULT:

Elimination of grease buildup and odor, and a significant reduction in required frequency of cleaning.



Before and after photos show the effectiveness of the mixing device offered by C3ND Environmental Consulting, based on technology from Pulsed Hydraulics.

Maintenance headaches

Before installing the mixers, the Warwick team faced substantial labor and expense for lift station cleaning, according to Mike Bedard, superintendent. Some stations needed cleaning two or more times per year. Cleanings meant hiring a combination vacuum-jetter truck and often performing a confined-space entry. A single cleaning event costs as much as \$5,000.

The mixing system, a PHi-CA (Constant Air), is a simple device that uses the upward surge of large bubbles from the bottom of the lift station wet wells to mix the contents. The mixing action keeps grease from coming out of solution and solidifying, Colicchio says.

The device consists of a 1 hp linear air pump, stainless steel couplings and clamps, 50 feet of air hose, and an 8-inch stainless steel bubble-forming plate that sits just above the suction side of the lift station pumps.

The hose directs air to the bubble-forming plate, which then ejects bubbles several inches in diameter. As these bubbles rise to the surface, they keep grease as well as rags and other debris in motion so that the pumps can push them out in a controlled manner. The bubbles also break up grease mats that otherwise would form on the surface.

Giving it a try

The technology was first tested at a 1 mgd lift station in a residential neighborhood where grease had been a persistent problem. The Warwick team installed a full-scale unit inside the station. Improvement was evident “right off the bat,”

says Colicchio. “Previously, grease would start forming days after we cleaned the wet well. Now it just doesn’t form.”

Bedard says PHi-CA units will be added to all the bigger pump stations. “We’re also looking at smaller problematic wet wells. We’re not done. If our field people see issues at a given lift station, we will make the investment.” He notes that odor complaints have dropped dramatically in neighborhoods where the mixers have been deployed.

Installation is simple and takes less than an hour, Colicchio says. Maintenance consists of removing and cleaning two filters on the air pump, which operates quietly and is suitable for outdoor or indoor applications.

Steve Buckley, director of business development with C3ND, says that in addition to pump stations the mixers have been used in locations such as primary clarifier scum pits, sludge holding tanks, equalization basins and aerobic digesters. Warwick now has 13 mixers installed.

“The Warwick team has been going to every pump station where they have a problem with grease and other buildup of debris and putting mixers in,” Buckley says. “They have saved hundreds of hours of labor and thousands of dollars by not having to clean the wet wells.

“Warwick is a very well-run authority. Bedard and Colicchio have been champions of this mixer, along with Chuck Labbe, director of maintenance and operation. They are a very professional staff and furnish reliable, high-quality services for the city and its environment. They believed in the product. C3ND has supported them and will continue to do so.” ♦

MASSA

GENERATIONS AHEAD IN
SONAR & ULTRASONIC TECHNOLOGY

SUPERIOR SENSING SOLUTIONS FOR WATER & WASTEWATER

PulStar® Family of Sensors



- Standard, Plus, TTL, Loop Powered
- Ranges from 4 in. up to 20 ft.
- 95 kHz & 150 kHz

FlatPack® Sensors



- Operates in air and in water
- Ideal for Turbulent Surfaces
- 95 kHz & 160 kHz

Custom Solutions and More!

MassaSonic® Sensors are robustly designed to overcome industry challenges such as false echoes, turbulent surfaces, and harsh environments. Contact Massa for your next sensing solution today!

Challenge Your Perception of What's Possible

sensors@massa.com

781-749-4800

www.massa.com

BE PRESENT AT WORK

Keeping your mind on the task at hand makes you safer and more productive

By Ronnie Freeman



There are many things that can distract us at work and in life in general. Family circumstances, financial struggles and medical issues have always been sources of distraction. Today, our cellphones are a near-constant source of distraction. If we allow these distractions to over take our thoughts, it can limit productivity, affect quality of work and lead to dangerous situations.

Sometimes work itself can be the distraction when your mind is on whatever

A major part of working safe is your ability to be mentally alert at all times but even more so when hazards or potential hazards are present.

to eliminate those distractions and focusing on the current task at hand.

The following are some ideas to help you eliminate distractions so you can

you need to do next before you complete the current task. When it comes to your professional lives, these distractions can make your work dangerous and unsafe. If others are around you, it can put them at risk too.

What does being present really mean? Being present means taking the necessary steps

focus and get the job done safely.

1. Prep your work area. Before you get started, make sure your work area is properly set up. Have the right tools on hand. Know which task each employee is assigned to complete and communicate the plan to complete the task so everyone knows what they need to accomplish.
2. Deal with the hazards. Have a plan ahead of beginning work to handle any hazards that are present or any potential hazards that might occur. This way your mind is free to focus on your task. When hazards do present themselves, deal with them quickly. Don't let them linger.
3. Be intentional. Being intentional means that we make deliberate decisions that reflect what is important to us. Being intentional helps us maintain a positive focus and allows us to experience the clarity we need to push out the distractions.
4. Monitor your thoughts. When you begin to notice your mind wandering, it's time to get back into focus. It's easy to allow life's distractions to take over your focus without even realizing it. It happens to us all. This takes practice, but it can be done and it's important to give yourself some grace, too.
5. Organize your thoughts. Give yourself time to focus on the things that can be distracting so that you can focus on the task while you are completing it. You may need to talk to someone and get some sort of resolution before you

begin your work task. Take a break if you need to and walk away from the task if the distractions become overwhelming.

6. Be an active listener. When you're getting instructions on operating equipment or tools or during safety meetings, make the effort to be engaged. You could miss something really important to your safety and the safety of others.
7. Get proper rest. Fatigue and general tiredness can lead to being distracted so make sure you are being disciplined about getting rest at night. A rule of thumb is to go to bed at the same time each night and wake up at the same time each morning to get your body in a regular sleep pattern.

A major part of working safe is your ability to be mentally alert at all times but even more so when hazards or potential hazards are present. A great quote from former military officer Col. Jeff Cooper is, "Safety is something that happens between your ears, not something you hold in your hands."

In our industry we have many tasks that present dangers. Your best defense starts with your mindset. Be present in the moment and work safely by staying focused on the task at hand. ♦

JOIN The Conversation.
The Camaraderie.
The Community.

- » facebook.com/MSWmag
- » twitter.com/MSWmagazine
- » youtube.com/MunicipalSewerWater
- » linkedin.com/company/municipal-sewer-&-water-magazine

MUNICIPAL
SEWER
WATER



VALVE-OUT TOOL

FLANGE SPREADING & VALVE REPLACEMENT

SMP
Safer Smarter Tools



Spread outside flanges & remove old valve



Prepare gasket surfaces



Reinstall new valve

VALVE-OUT TOOL WORKS ON FLANGES WITH BOLT HOLES FROM 3/4" TO 1-3/8" (STUD SIZES 5/8" TO 1-1/4")

CAN BE USED ON ANY VALVE WIDTH

REQUIRES NO GAP AND CAN BE USED TO SPREAD FLANGES AND REPLACE GASKET

SAFER, FASTER, EASIER

EMAIL: SALES@SMPTOOLS.COM

PHONE: 713-667-4402

Watch it in Action Right Now!



ASK ABOUT OUR
Water Service Kit

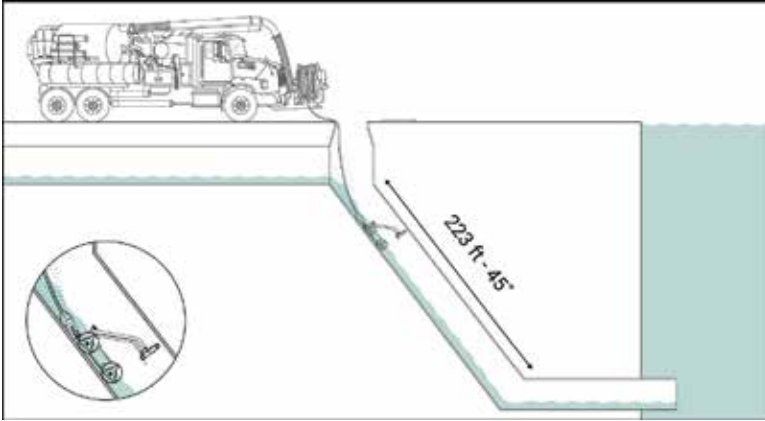


CASE STUDIES

MAINLINE TV INSPECTION AND LOCATION

By Craig Mandli

Municipality finds answer to complex pipe inspection in challenging environment



Problem:

A Canadian municipality needed to inspect a 223-foot stormwater pipe suspected of collapsing. The pipe discharges into a river at an angle of 45 degrees, maintaining a water level of about 25% with a strong continuous flow. The city had initially requested an inspection by a subcontractor, who was only able to complete 66 feet due to the challenging conditions for a crawler. Then they turned to Can-Explore, which attempted an inspection using a crawler held back by a manual winch. However, the water current interfered with the robot's stability, causing it to lose control and repeatedly collide with the pipe walls. The high risk of damage or even the total loss of the expensive crawler, which could be swept away by the current and fall into the river, was too significant to press on with further attempts.

Solution:

A ZIPCAM 360 from Can-Ex Technologies was fastened to a cleaning nozzle on the hose of a vacuum truck, which possesses a lift force far superior to what a crawler system could provide. An operator held onto the hose securely as the camera was allowed to descend, buoyed by the current.

RESULT:

The inspection was successfully completed along the entire length of the pipe, without any equipment damage. Given the strong water current within the pipe, water drops are noticeable in the inspection footage. Fortunately, video capture was conducted during both the descent and the ascent, compensating to provide a complete view of the pipe. Ultimately, the 360-degree camera covered all angles, offering a comprehensive assessment and enabling the municipality to acquire the necessary information to address the collapsing issue. 418-871-0045; www.canex.tech

Contractor rents portable crawler to inspect long drainage ducts



Problem:

A U.S. Postal Service Facility at Carol Stream, Illinois, requested Complete Plumbing to conduct a series of inspections to check the condition and ensure the integrity of their under-facility drainage ducts. The company owned equipment to conduct inspections in short tracts, but they required additional equipment for the two main drainage ducts, with the longest one running around 790 feet. At the point of entry, one of the mains had an initial pipe diameter of 12 inches, then enlarged to 15 inches and finished with a diameter of 18 inches with an inclination of 1% and 1.9%, respectively. The other main run started with a 10-inch pipe with an inclination of 1% and finished with an 18-inch-diameter pipe with a 2% inclination.

Solution:

The project team reached out to Fiberscope.net by MEDIT with their request to rent the portable crawler unit, TROGLOTREK, a self-contained robotic pipe crawler that features a compact portable reel and an all-wheel-drive crawler with a pan-and-tilt camera head.

RESULT:

The project team expected to complete the job in two days and wondered about the unit's user-friendliness. The crawler surpassed their expectations by completing the task in one day. The crawler proved itself a user-friendly and affordable solution for underground pipe inspections and integrity checks. 877-613-2210; www.fiberscope.net ♦

What you learn on these pages can save your community \$1,000s.
It's all yours for — FREE.

Join 35,000 municipal and utility managers each month who welcome MSW, for the unlimited value it brings them. Each issue will show you new techniques, tips on building a stronger staff, money-saving deals and much more.

Don't miss an issue! MSWmag.com

MUNICIPAL
**SEWER
&
WATER**

Searching for More?

More news at
MSWmag.com/featured

MUNICIPAL
**SEWER
&
WATER**



FEATURED IN AN ARTICLE?

Make the most of it!
REPRINTS AVAILABLE:

Hard copy color reprints | Electronic reprints

Go To MSWmag.com/order/reprint
for articles and pricing



WORKING WELL UNDER PRESSURE

PRICES GOOD THROUGH APRIL 1ST
OR WHILE QUANTITIES LAST

Pressure Washers & Drain Jetting Equipment



RCJ4008H
»8.2 gpm @ 4000 psi »200' x 3/8" Jet Hose
»800 cc EFI on Manual Reel
Honda Engine
30 GALLON TANK **\$8539 Plus Freight**



LJ4008H
»8.2 gpm @ 4000 psi »200' x 3/8" Jet Hose
»800 cc EFI on Manual Reel
Honda Engine
30 GALLON TANK **\$8399 Plus Freight**



4008H POWER UNIT
»8.2 gpm @ 4000 psi »400' x 3/8" Jet Hose
»800 cc EFI on DC Powered Reel
Honda Engine
Just Add A Tank! **\$12,719 Plus Freight**

3012H POWER UNIT
»12 gpm @ 3000 psi »400' x 1/2" Jet Hose
»800 cc EFI on DC Powered Reel
Honda Engine
Just Add A Tank! **\$13,159 Plus Freight**

3012H COMPACT SKID
»12 gpm @ 3000 psi »400' x 1/2" Jet Hose
»800 cc EFI on DC Powered Reel
Honda Engine
(100 GALLON TANK) **\$14,579 Plus Freight**



4008H COMPACT SKID
»8.2 gpm @ 4000 psi »400' x 3/8" Jet Hose
»800 cc EFI on DC Powered Reel
Honda Engine
(100 GALLON TANK) **\$14,129 Plus Freight**



VM4008H
»8.2 gpm @ 4000 psi
»690 cc Honda Engine
»50' x 3/8" Washdown Hose on DC Reel
\$13,399 Plus Freight



STB3012H
»12 gpm @ 3000 psi
»800 cc EFI Honda Engine
»400' x 1/2" Jet Hose on DC Reel
\$22,899 Plus Freight



STB4008H
»8.2 gpm @ 4000 psi
»690 cc Honda Engine
»50' x 3/8" Washdown Hose on DC Reel
\$22,299 Plus Freight

All Jets Shown Come with Pulse Valve, 2 Jet Nozzles, Tool Box, Gloves, Safety Glasses, Tip Cleaner, Tiger Tail, Wash Down Trigger Gun with Nozzles.

Building Drain and Sewer Equipment since 1981.

We Build Electric, Gas and Diesel powered models up to 4000 psi, flows up to 40 gallons per minute. Don't see exactly what you want... We will custom build exactly what you want!

800-648-5011 | www.camspray.com | sales@camspray.com

MAINLINE TV INSPECTION AND LOCATION

Crawler Camera

Envirosight ROVER X HD

The **ROVER X HD** sewer inspection system from **Envirosight** helps municipalities target high-priority areas for inspection, empowering wastewater professionals to pinpoint and characterize I&I sources in mainlines and laterals. It is suitable for performing detailed assessments that provide direct insights into areas of concern. With 12 quick-change wheel options, it can inspect lines from 4 to 96 inches in diameter and keep setup time short. Six-wheel drive with proportional steering navigates it past obstacles, and its overlapping wheels climb offsets with ease. Plus, powerful motors and a geared drivetrain maximize travel range.

866-937-1718; www.envirosight.com



Electronic Locators

Hermann Sewerin GmbH SeCorrPhon AC 200

The **SeCorrPhon AC 200** from **Hermann Sewerin GmbH** combines the characteristics of a correlator with acoustic water leak detection, meaning prelocation, pinpointing and correlation in one single system. It includes an easy-to-read measurement value display and automated filter selection. It is based on the tried and tested housing and hardware concept of the **AQUAPHON A 200**. Each is ideal for use for leak detection across all sections, materials, diameters and lengths of pipelines. Numerous additional functions are also available for complex location scenarios.

888-592-9916; www.sewerin.com



InfoSense SL-RAT

The Sewer Line Rapid Assessment Tool, or **SL-RAT**, from **InfoSense** is an acoustic inspection technology used to screen for blockages in small-diameter gravity sewers. It is a highly portable on-site assessment tool that utilizes transmissive acoustics to safely provide a very fast and low-cost understanding of blockage conditions. Hundreds of utilities around the world utilize the **SL-RAT** to rapidly screen collections systems and better deploy costly cleaning and CCTV resources. This technology offers real-time blockage assessments in 3 minutes or less with no flow contact.

877-747-3245; www.infosense.com



Subsite Electronics UtiliGuard 2 RTK

The **UtiliGuard 2 RTK** receiver from **Subsite Electronics** was designed as a simple, easy-to-operate utility locating tool for operators locating, mapping and capturing underground utilities. It utilizes survey-grade technology and features dual-band antennas to provide operators with reliable positioning data with centimeter-grade accuracy. Its precision helps when locating abandoned and untracked utilities that are difficult to pinpoint.



By quickly verifying the utilities installed, operators efficiently tailor bids to match a job site needs, as well as gain insight into the underground infrastructure to avoid cross bores during future projects. The receiver provides locate crews with integrated data capture, GPS positioning and an intuitive user interface to improve work quality and maximize locate awareness. By downloading the **MyUtiliGuard** application, operators simplify and streamline how they capture, map and share data. 800-846-2713; www.subsite.com

Vivax-Metrotech vLoc3 RTK-Pro

The **vLoc3 RTK-Pro** utility locator from **Vivax-Metrotech** adds RTK GNSS accuracy. Using the internal cellular module with 4G LTE capabilities, the operator can connect to an NTRIP RTK (Real-Time Kinematic) caster that provides RTCM 3 corrections. By utilizing these corrections, the operator can collect both utility location data and the utility's geographical location with survey-grade accuracy. All field data is sent to the cloud and retained in the receiver's onboard storage for review and exporting to mapping programs. 800-446-3392; www.vxmt.com



Inspection Vehicle

CUES pre-built trucks

For municipalities and contractors who need a lateral/mainline or mainline inspection truck fast, **CUES** pre-built trucks are available. They are always in stock and on the lot. They're pre-configured with all the essential **CUES** inspection equipment needed for most jobs, and can be delivered in a fraction of the time. **CUES** can deliver truck(s) three to four weeks from purchase, and often sooner if they have the accessories in stock.

800-327-7791; www.cuesinc.com



Mainline TV Camera Systems

Electric Eel EELvision Elite

The **EELvision Elite** inspection camera from **Electric Eel** is designed for inspecting 3- to 10-inch-diameter lines. It has a 1.30-inch self-leveling color camera with vivid adjustable LED lights and a large 7-inch monitor for easy viewing. A sunshield allows for outdoor viewing and protects the monitor in transport. It comes standard with 200 feet of 1/2-inch-diameter premium push cable, an on-screen footage counter, continuous display odometer, one-touch recording to USB and screenshot capability, an extended ergonomic handle to facilitate maneuverability and transport, heavy-duty metal frame and wheels, a user-friendly control panel, quick start guide tutorial prompts, QR code for manual and support accessibility, a built-in always-on sonde, dual power sources (AC and 18V), and a Makita M18 battery port. It also accepts both Milwaukee and DeWalt batteries with a provided adapter.

800-833-1212; www.electriceel.com



EPL Solutions Gvision V7

The **Gvision V7** from **EPL Solutions** is a ruggedized, elite camera system that can be purchased for mainline use with 200, 300 or 400 feet of stiff yet flexible pushrod or a 150-foot mini-camera. Instantly capture video recordings and snapshots with the press of a button and access them anytime within the internal storage. The tech will never have to wonder where a video was taken as geolocation information is automatically attached and displayed on recordings. Add text overlay using the camera reel or a USB keyboard. Copy recordings and snapshots on two USB flash drives at once, or share them using the Gvision app. The app allows the user to remotely control, preview and download video inspections for easy sharing. Users can capture every detail with the color camera head clearly displayed on a 10.4-inch TruView LCD screen. Add an internal battery for up to six hours of runtime. **714-453-9760; www.epls-usa.com**



General Pipe Cleaners Gen-Eye X-POD Plus

The **Gen-Eye X-POD Plus** sewer camera system from **General Pipe Cleaners** includes the Gen-Pack battery adapter, Wi-Fi transmitter and an on-screen distance counter as standard equipment. The battery adapter lets you operate the camera system for up to 12 hours in remote locations with limited access to power. Fuse-protected to safeguard your equipment investment, the battery adapter is also available separately. A battery and charger are not included. The built-in Wi-Fi transmitter lets you view and record inspections on a cellphone. Using the system's USB port, you can also archive activity on handy flash drives. The on-screen distance counter shows how far the camera has traveled down a line in feet or meters. Settings can be adjusted for full-size or mini-reel configurations. **800-245-6200; www.drainbrain.com**



Hathorn Inspection Cameras H12+ Command Module

The **H12+ Command Module** from **Hathorn Inspection Cameras** comes equipped with a bright, daylight-readable 12-inch screen. Available with Wi-Fi or standard, it provides stunning picture quality, high contrast and 8X digital pan-and-zoom technology. It has menus in three languages (English, French and Spanish), compatibility with all Hathorn reels from 100 to 500 feet, an information bar with text overlay options, two sonde frequencies (512 and 640 Hz) and a large amount of file storage. It comes standard with a 128 GB hard drive which is upgradeable to 512 GB, allowing the user to save MPG videos and JPG screenshots to either the HDD or to a USB stick. Powered by 18-volt Milwaukee (or equivalent) batteries, it will run up to 4 hours on a single charge. Batteries are sold separately. **866-428-4676; www.hathorncorp.com**



MyTana MS11-NG2

MyTana's versatile **MS11-NG2** inspection system inspects 3- to 6-inch lines with a self-leveling camera head. Swap in a smaller head included with the optional MS11+ Combo Kit to inspect 1.5- to 2-inch lines. Each head has a 512Hz transmitter built in. A high-clarity 6.4-inch daylight-readable monitor and all the controls are integrated on the sturdy reel frame for grab-and-go convenience; helpful when access



points are scattered or hard to reach. Save footage to internal or removable drives, or stream video wirelessly to a mobile device and add voice description using the built-in microphone. The durable pushrod is available in 150- or 200-foot lengths and can be replaced in your facility. **800-328-8170; www.mytana.com**

RapidView IBAK North America MicroLite Pushrod System

The **MicroLite Pushrod System** from **RapidView IBAK North America** is a lightweight, small-diameter push system with durable steel-frame construction that delivers a high-quality image for all contractors. Fitted with 100 feet of push cable, powerful LED lighting and an auto-uprighting camera, it is designed to inspect pipelines 2 to 4 inches in diameter. The entire system is powered by rechargeable batteries and is equipped with the positionable MicroLite Command Console, which includes a 10-inch touch-screen monitor, full Windows operating system, two USB connections and recording software. **800-656-4225; www.rapidview.com**



Spartan Tool Traveler 3.0

The **Traveler 3.0** is the next generation of **Spartan Tool's** all-in-one sewer inspection system, upgraded for tough customers. It is the same compact, portable size as before but includes completely rebuilt and upgraded interior components. It offers a stronger, more durable pushrod with a removable reel, allowing you to swap reels in the field quickly and easily. An upgraded camera head with high-intensity LEDs comes standard, but a line of easily interchangeable, customizable camera heads is offered for flexibility. The upgraded interior electronic components are built to withstand harsh environments and deliver better resolution and accuracy. **800-435-3866; www.spartantool.com**



Trojan Worldwide VisionHD

The **VisionHD 1080p** camera system from **Trojan Worldwide** is a reliable and easy-to-operate system designed for use in 1.5- to 4-inch lines. The all-in-one enclosed case features a 1-inch high-definition 1080p self-leveling waterproof color camera head with adjustable LED lights and a built-in 512 Hz sonde transmitter for locating. The system has 100 feet of durable pushrod, and a built-in foot counter. The display module has a 10-inch full HD LCD with DVR and is capable of recording to an SD card or USB flash drive for up to 6 hours on a full charge. Other features include a keyboard for text writing and attachable microphone for voice recording. Accessories include headphones with microphone, two centering skids, charging cord and USB adapter. **800-395-4902; www.trojanworldwide.com**



JOIN
The Conversation.

The Camaraderie.

The Community.

www.facebook.com/MSWmag

www.twitter.com/MSWmagazine

www.plus.google.com

www.youtube.com/MunicipalSewerWater

www.linkedin.com/company/municipal-sewer-&-water-magazine

Mainline TV Camera Accessory

CPI Products URS1

Often inspection cameras get down a pipe and start pushing debris, which obstructs the camera lens, or they just cannot reach the problem. The **URS1** roller skid from **CPI Products** moves the camera off the bottom of the pipe and centers it for an improved image. The wheels reduce friction and enable the camera to also go farther down the pipe. The legs automatically extend to keep it centered, and when the retrieval rope is pulled, it reduces the size of the URS1, making it easier to retrieve. Optional LED scuba lights increase visibility. **413-443-0925; www.cplproducts.com**



Smoke Locators

Cherne Residential Plumbing Smoke Blower

The **Cherne Residential Plumbing Smoke Blower** is a fast and easy leak detection system. The blower uses long-lasting dense smoke that is pumped into a plumbing system to identify leaks quickly and efficiently. Featuring a 5-foot heavy-duty hose that fits a 4-inch cleanout tee, the blower is lightweight and corrosion-resistant. With exhaust pumped through the plumbing, the blower can be used indoors and easily transported with its top-mounted carrying handle. Its efficient 122-CC, 3.5 hp, 4-stroke Honda engine provides more than 700 cfm, making it fast, easy, and safe to determine plumbing problem areas. Vibration damping minimizes excess movement and noise, creating a smoother and more efficient experience. **800-843-7584; www.cherneind.com**



Superior Signal 5E FLEX

Superior Signal's 5E FLEX battery-powered smoke blower is designed for smoke-testing building plumbing and sewer laterals. It is compatible with leading 18- to 20-volt tool batteries and, utilizing a high-quality power adapter, the blower integrates with an existing electric tool set. Additionally, it can run off any 12- to 24-volt power source — such as a car or truck battery — using the DC clips power adapter. It gently pushes smoke through the system in just a few minutes and takes only seconds to see results. While it is popular for a variety of plumbing applications, it is also useful in testing sewer laterals, and can clearly illustrate where a fault or leak may occur on private property. It comes with an 8-foot industrial-grade hose. Used with 1A or 2B smoke candles, it creates 4,000 or 8,000 cubic feet of smoke, respectively. The smoke candles are also sold in Seal-Pac cans which extend shelf life. **732-251-0800; www.superiorsignal.com** ♦



Think outside the box

Sign up to learn how **MSW** serves municipal decision-makers, sewer and water directors, technicians, and private water and wastewater contractors who install, inspect, maintain and rehabilitate sewer, water and stormwater infrastructures.

It's FREE.

SEND A FREE* SUBSCRIPTION OF MSW TO:



Contact Person

Company Name (optional)

Job Title (optional)

Address

City

State/Province

Zip/Postal Code

Phone

Phone Extension (optional)

Fax

Cell Phone (optional)

Email

What services does your company provide (categories)?

- Inspection n Infrastructure Trucks Rehab/Relining Manholes Flow Control Location/Detection Cleaning Stormwater Education/Training Safety Other _____

Which types of sewer, storm & water repair, maintenance & inspection do you perform monthly?

- Jetting Manhole Rehabilitation Treatment Pipeline Rehabilitation & Relining TV Inspection Repair/Replace Excavating Vacuum Truck Service

What is approximate population of the area in which you provide service?

- 1-10,000 10,001-50,000 50,001-100,000 100,001-200,000 200,001-500,000 500,001+

How many vehicles do you currently have in service?

- 1-5 6-10 11-15 16-20 21+

What is your annual equipment budget?

- Under \$50K \$51K-\$100K \$101K-\$200K \$201K-\$300K \$301K-\$400K \$401K-\$500K \$500K+

If municipal, what percentage of your sewer and/or water work is done by private contractor?

- None 1-20% 21-40% 41-60% 61-80% 80%+

FAX this form to 715-350-8456

MAIL this form to COLE Publishing, P.O. Box 2707, Eagle River, WI 54521

**What you learn on these pages can save your community \$1,000s.
It's all yours for — FREE.**

Join 35,000 municipal and utility managers each month who welcome MSW, for the unlimited value it brings them. Each issue will show you new techniques, tips on building a stronger staff, money-saving deals and much more.

Don't miss an issue! MSWmag.com



SUBSCRIBE ONLINE at www.mswmag.com

*U.S., Canada and Mexico only
MSW0324



AMERICAN HIGHWAY PRODUCTS LTD.

RAISING AMERICA, ONE INCH AT A TIME

the PIVOTED TURNBUCKLE Manhole Riser



PIVOTED TURNBUCKLE
For Easy Adjustment!



◀ **INCLINED RISER** also available.
RAISE & TILT the manhole cover.

The Most Efficient and Powerful Expanding Riser on the Market.
Riser heights 3/4" and up in all diameters. 1" diametric variance and DOT approved in most states.

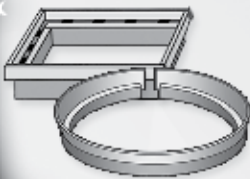
Made in the USA

SAFETY RAMPS ELIMINATE

- Vehicle Damage Claims •
- Material Cost for Cold Patch •
- Labor and Disposal Costs •



Catch Basin & Valve Box Risers
reduce costs and streamline adjustments



I.D. Locator allows for easy location of common utilities and aids in identifying striping



Sewer Lid Seal Kit eliminates lid vibration and reduces moisture penetration

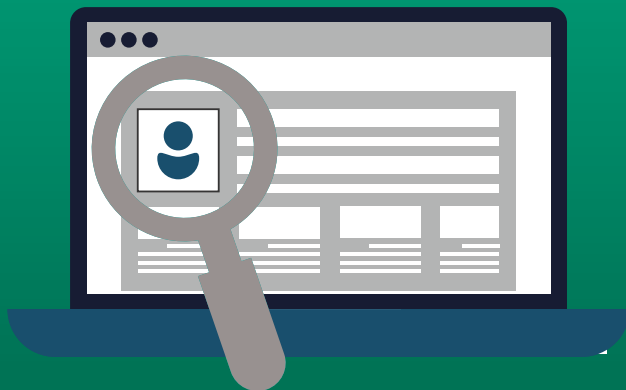


Rubber Adjusting Ring protects sub-structure, eliminates noise and vibration



Since 1978 • Toll Free: 1-888-272-2397 • www.ahp1.com • e-mail: sales@ahp1.com

Get new content
right to your
inbox!



www.MSWmag.com/alerts



T&T Tools, Inc.
800-521-6893



MADE IN THE USA | 30 YEARS OF EXPERIENCE | FAMILY BUSINESS

HOOKS...

- » Heat treated for long life
- » Manhole Cover Hooks
- » Septic Tank Lid Hooks
- » Many styles available
- » "T" handles for two hands or compact "D" handles

PROBES...

- » Insulated, standard, and specialty
- » Metal shaft sizes: 3/8" round, 3/8" hex or 7/16" hex
- » Replaceable hardened tips
- » Optional "slide" available to make your probe a mini-slide hammer

Call for a FREE Catalog

Email: sales@mightyprobe.com Fax: 800-521-3260

Product Spotlight

New pipe fusion unit gives operators more control

By Craig Mandli

Fusing pipes creates a monolithic pipeline with fewer mechanical transitions, meaning fewer opportunities for leaks. As the technique has gained traction among contractors and municipalities, the technology used to perform the work has improved significantly.

McElroy's compact TracStar 412i is designed to fuse pipe sizes from 4-inch IPS to 12-inch DIPS. To give more control to the operator, the unit incorporates the FusionGuide Control system seen on other larger iSeries models, providing operators with three levels of control during the fusion process. Each level has varying degrees of assistance, from manual control to fully automatic fusion.

"We are always looking for ways to increase operator productivity," says Geoff Koch, McElroy's vice president of product development. "These new machines incorporate the added technology of our existing iSeries line into the proven success of our TracStar 412 Series 2 units. These upgrades will translate into countless hours and dollars saved in the field."

An updated indexer keeps the heater and facer attached to the four-jaw carriage, condensing the heater, facer and jaws into a single unit. Operators will be able to move the indexer side to side along a set of rails, allowing them to position the heater and facer between the carriage's movable jaws as needed.

The indexer also includes a built-in stripping and release mechanism. Once



the heat soak phase of the fusion process has been completed and the operator opens the carriage, the mechanism will automatically strip the heater from the ends of the pipe. As the carriage continues to move, the indexer will then retract the heater out of the fusion zone.

The machine features an improved design, including a larger-volume hydraulic tank that is secured beneath the machine's dome. In addition to providing additional cooling, the design also reduces the risk of accidentally adding the wrong fluid to the hydraulic tank.

The unit is controlled via the DataLogger, a ruggedized tablet that records fusion parameters and other pertinent data during the fusion process. After the operator prepares the pipe and enters all joint details, the enhanced guided workflow manages machine pressures, carriage, shift sequence, and more to ensure standards compliance and a successful fusion. It controls all required fusion operations, including machine pressures, carriage open/close and shift sequence.

"As accountability and quality assurance become a top priority, we want to let our operators and contractors seamlessly track their fusion data," Koch says. **918-831-9236; www.mcelroy.com**

SPECIAL REPORT



OZ Lifting Products davit crane wheelbase

The new wheelbase from OZ Lifting Products can be used with its full range of davit cranes up to 1,200-pound capacity. Made in the U.S., the wheelbase is adjustable and has four different length positions: 56.57 to 77.57 inches long, 32.44 inches wide and 36.87 inches high. It weighs 140 pounds when fully assembled (without a crane pedestal base), so the total weight

will depend on the davit crane used. With durable steel construction and powder-coat finish, oversized casters make rolling the base and moving the crane easy. The floor anchoring system allows the davit to rotate 360 degrees, even when under load.

800-749-1064; www.ozliftingproducts.com

Vermeer VX75 trailer vacuum excavator

Vermeer has introduced the first model of its next generation of new trailer vacuum excavators, the Vermeer VX75. The 75 hp machine is equipped with a 1,500 cfm vacuum blower capable of generating 15-inch Hg of suction force. It is available with a 5-inch hydraulic



boom option for standard units and a 4-inch hydraulic boom option for air and jetter versions. The control panel and full-function remote control allow operators to start and stop the machine and control everything from the boom to the water system and spoil tank. The remote control feature is especially useful for contractors using the excavator for slurry management, as they no longer have to manually restart the unit when draining a pit, potentially saving time and fuel. Powered by a 74.3 hp Kubota diesel engine, the VX75 can be equipped with either a 500-gallon spoil tank with two 125-gallon freshwater tanks or an 800-gallon spoil tank with two 205-gallon freshwater tanks. It also has an 8 gpm, 3,000 psi water system, a dual-cyclone filtration system and a full-open cam over the spoil tank door. **641-628-3141; www.vermeer.com**

Tnemec Series 108 and 109 ProBond protective coatings

Tnemec launched Series 108 and Series 109 ProBond, the newest epoxy penetrating sealers in its family of high-performance coatings. These products are designed as a go-to problem-solving primer in the epoxy sealer arena. The coatings offer new performance and convenience features including extended pot life and recoat windows, low-temperature cure, shipping and packaging advantages, and more. The products were designed to adhere to a multitude of substrates, including old finishes, and are frequently used as an overcoating primer. Series 108 and 109 are solvent-free coatings applied at a low film thickness to reduce stress and weight on old tightly adhered coatings, creating a reliable foundation to accept high-performance epoxy and polyurethane finishes. **800-863-6321; www.tnemec.com**



SFA Saniflo Sanipit 24 GR retrofit pump kit

Designed to replace faulty sewage pumps and its components from major manufacturers in North America, the new Sanipit 24GR offers an easy, mess-free and reliable replacement solution. The new retrofit pump kit offers a built-in 1 hp grinder motor and air pressure mechanism that fits most 24-inch basins. With the ability to retrofit into 24-inch basins from Liberty Pumps, Zoeller and Myers, the pump kit offers versatility and compatibility with existing pump systems. The current basin stays in place while the Sanipit 24GRs retrofit cover easily adapts to it. One of the key differentiators of the Sanipit 24GR is its ability to create a dry cavity within the pit. SFA Saniflo's design keeps the components and the motor separate, ensuring a hassle-free and mess-free experience for plumbing installers and service technicians. **800-571-8191; www.saniflo.com** ♦



Aquarius Spectrum iQ100B wireless acoustic sensor

Aquarius Spectrum's iQ100B is a new wireless acoustic sensor that enables listening to the pipe, performing leak survey and identifying leaks. It seamlessly connects to the AQS cloud via a user-friendly Android or iOS mobile application on a smartphone or tablet. The iQ100B allows you to hear the audio recording in real time using the registered audio speaker (the local speaker or a wireless headset). Collected samples can be uploaded, viewed and analyzed in a designated module in AQS-SYS portal. The recorded audio is sent to the AQS cloud for in-depth analysis, which classifies the audio as leak/no-leak. The sensor comes in a robust IP68 rigid plastic enclosure, meeting the safety, radio and environmental standards (UL94, CE/FCC, IP68). The internal rechargeable battery has the capacity to last for five complete survey days between recharging, with an average survey of 8 hours/day). An RGB LED indicator visually indicates states of operation by color and sequence. **www.ags-systems.com**



JOIN
The Conversation.
The Camaraderie.
The Community.

www.facebook.com/MSWmag
www.twitter.com/MSWmagazine
www.plus.google.com
www.youtube.com/MunicipalSewerWater
www.linkedin.com/company/municipal-sewer-&-water-magazine

Jetstream of Houston 2000 Series UNx Bareshaft pump

Jetstream of Houston's 2000 Series UNx Bareshaft pump is the smallest pump in Jetstream's seven-series line. The 2000 Series was developed as a compact option for industrial applications and offers minimal maintenance and maximum efficiency for jobs ranging from rig washing, petrochemical cleaning, hydrostatic testing, chemical injection, food processing and more. Compatible with up to 75 hp engines, the pump boasts flow capabilities of 6,000 to 15,000 psi and up to 20 gpm. Its triplex plunger design consists of three crankshaft-propelled plungers, offering powerful and smooth operation on the most demanding duty cycles. UNx fluid-end technology offers versatility by enabling a quick and easy three-step valve change process in the field to accommodate different pressure and flow requirements for a wide range of applications. **800-231-8192; www.waterblast.com**



**NEED SOMETHING
WANT SOMETHING
SELLING SOMETHING**

**We have somethings
and more
IN THE CLASSIFIEDS!**

Check it out in each issue of MSW magazine
or go to MSWmag.com/classifieds

Reach **30,000** dedicated professionals each month in MSW!

JETTERS-TRAILER



The HotJet® is a best-selling hot- and cold-water drainline cleaner featuring a 35hp Vanguard engine by Toyota and delivering 10gpm @ 4,000psi that cleans drains up to 300' and 12" in diameter. The HotJet II® is American made using nonproprietary parts for affordability and ease in serviceability making its return on investment truly impressive. Prices subject to change. Financing available. Contact us for current pricing and availability. **800-624-8186; sales@hotjetusa.com; www.hotjetusa.com** (MBM)

SERVICE/REPAIR

Dynamic Repairs - Inspection Camera Repairs: 48-hr. turn-around time. General Wire, Ratch, Ridgid, Hathorn, Electric Eel, Gator Cams, Insight Vision, Vision Intruders. Quality service on all brands. Rental equipment available. For more info, call Jack at **973-478-0893**. Lodi, New Jersey. **www.dynamicrepairs.biz** (MBM)

TV INSPECTION

NEED TRACTION? We make aftermarket gritted/gripping pads for all chain-driven camera transporters. Custom fabrication secured to a high-quality, nickel-plated carbon-steel chain that doesn't stretch. Also have non-gritted pads, wheels, and tires for all different brands. Pad samples upon request.

Pipe Tool Specialties LLC: 888-390-6794; Fax 888-390-6670; pipetoolspecialties.com or email pts4422llc@gmail.com (MBM)

CAMERA OPERATORS, STOP SPINNING YOUR WHEELS IN GREASY PIPE! Aftermarket gritted polymer wheels, steel carbide wheels, gritted and treaded tracks, tow cables, kiel sticks and more. Fitting Aries, CUES, EnviroSight, Ibak, Rausch, RST, Schwalm & IDTec. **ORDER TODAY at www.TruGritTraction.com; info@trugrittraction.com; 407-900-1091** (MBM)

**SUBMIT
YOUR
CLASSIFIED
AD
ONLINE
at
www.mswmag.com**

PEOPLE/AWARDS

The **Village of Sherman** was awarded \$1.25 million in Community Development Block Grant funds from the state of New York. The funds will be used to replace deteriorated/undersized storm sewer conveyance systems serving the village's Main Street corridor and downtown business district. It is the anchor project of a multiphase comprehensive stormwater improvement project.

The **Hawaii Department of Transportation-Highways Maui District** received the 2023 MS4 Phase II Overall Award from the Water Environment Federation. Established in 2015 through a cooperative agreement with the U.S. Environmental Protection Agency to recognize high-performing MS4 (Municipal Separate Storm Sewer System) programs, WEF's National Municipal Stormwater and Green Infrastructure Awards is a competitive recognition program in which applications are scored by an expert panel of judges.

The **U.S. Water Alliance** announced the 2023 recipients of its U.S. Water Prize, which is presented to "those trailblazers forging new paths in the water sector and redefining what's possible in water management and sustainability." Among the recipients were:

- **Rainplan** (Outstanding Private Sector Organization). The online platform empowers people to adopt and implement affordable green stormwater solutions tailored to their environments.
- **Erika Strassburger** (Outstanding Public Official). The Pittsburgh city councilperson has been a water champion for the city during her tenure, supporting the installation of stormwater solutions in public parks and advocating for policy changes to help prevent water pollution.
- **Rob Woodman** (Outstanding Rising One Water Leader): As Ferguson's National Green Stormwater Solutions manager, he has been an impactful leader and change-maker, focusing on educating and engaging communities and pushing the envelope on stormwater solutions across the country.

CALENDAR

April 7-10

American Society of Civil Engineers Operation and Maintenance of Stormwater Control Measures Conference, DoubleTree by Hilton, Austin, Texas. Visit asce.org.

April 8-11

Center for Watershed Protection National Watershed and Stormwater Conference, InterContinental Kansas City At The Plaza, Missouri. Visit cwp.org.

April 9-12

Water Environment Federation Collection Systems and Stormwater Conference, Connecticut Convention Center, Hartford. Visit wef.org.

May 7-9

New York State Floodplain and Stormwater Managers Association, Queensbury Hotel, Glens Falls. Visit nyfloods.org.

May 15-17

International Erosion Control Association / U.S. EPA Municipal Wet Weather Stormwater Conference, Auburn University, Alabama. Visit ieca.org.

May 8-10

Ohio Stormwater Conference, Kalahari Convention Center, Sandusky. Visit ohioswa.com.

June 23-27

Association of State Floodplain Managers Annual Conference, Salt Palace Convention Center, Salt Lake City. Visit floods.org.

August 27-29

StormCon 2024, Grand Sierra Resort and Casino, Reno, Nevada. Visit stormcon.com.

October 9-11

Southeast Stormwater Association Annual Conference, hotel TBA, Chattanooga, Tennessee. Visit seswa.org.

October 21-23

California Stormwater Quality Association Annual Conference, hotel TBA, Sacramento. Visit viscasqa.org.

Municipal Sewer & Water invites your national, state or local association to post notices and news items in this column. Send contributions to editor@mswmag.com.

OPEN
24/7/365
MSWmag.com

Get News & Stories, Product News, E-Zines, Upcoming Events, Product Guides, Reprints, Classifieds, and Much More.

SEWER CRAWLER PARTS & MANHOLE TOOLS

GRITTED WHEELS
GRITTED TRACKS
 PIGTAILS & MOTOR CABLES
 FIBERGLASS POLES
JETCAMS & MORE...
 FITTING ALL MAJOR BRANDS

TRUGRITRACTION.COM
 407-900-1091



AMERICAN JETTER.COM

Up to 67% MORE EFFICIENT

51T Trailer Jetter Hot or Cold
 20 GPM @ 4000 PSI
 76 HP Kohler EFI
 FREE Shipping/Delivery

58 Trailer Jetter Hot or Cold
 10 GPM @ 4000 PSI
 38 HP Kohler EFI
 FREE Shipping/Delivery

866-944-3569



PHi
 Pulsed Hydraulics, Inc.

Big Bubbles

No Trouble Mixers

800-641-1726
www.phewater.com

HOTJET II

OUR BEST SELLING DRAIN LINE JETTER
 COMBINED WITH A POWERFUL
 HYDRO-EXCAVATOR/VACUUM SYSTEM



- JETTER
- HYDRO-EXCAVATOR
- VACUUM
- POWER WASHER

HotJetusa
1-800-624-8186
WWW.HOTJETUSA.COM

OVER 30 YEARS BUILDING QUALITY EQUIPMENT

PRICES SUBJECT TO CHANGE - CONTACT US FOR A QUOTE!

It's your magazine.
Tell us your story.



At *Municipal Sewer & Water*, we're looking for municipal wastewater operations with interesting stories to tell. If you'd like to share your story, send us a note at editor@mswmag.com.



Cua Claws

A Simple Solution for Slippery PVC Pipe -
23 Years of Service

We resurface all makes of steel transport wheels

CALL JERRY AT 714-697-8697
www.cuac claws.com

Superior[®]

SMOKE

for Sewer Testing

REDUCE SANITARY SEWER OVERFLOWS



Classic Smoke Candles Smoke Fluid Systems

Smoke Testing
 The most cost effective method to find Sources of Surface Inflow

www.SuperiorSignal.com/MSW

MSW IS FREE

GET:

- New techniques that boost efficiency and drive out costs.
- Tips for building a stronger, more productive staff.
- Bargains on a wide range of tools and equipment.
- And much more.

MUNICIPAL SEWER & WATER
 visit **MSWMag.com**

MANHOLE SOLUTIONS



MANHOLE INFLOW PROTECTORS
 Control Excess Rainwater Inflow and Save Processing Costs




MANHOLE ODOR INSERTS
 Solve Those Pesky Odor Complaints Now with Saturation Indicator Sticker

Wastewater Systems, Manufacturing Plants, Breweries, Mines & More

Simple Solutions (866-667-8465)
 DISTRIBUTING LLC 973-846-7817 in NJ

sales@industrialodorcontrol.com
IndustrialOdorControl.com

RAT OUT YOUR ROOT PROBLEMS



- Uniquely designed to make short work of big sewer line headaches.
- Interchangeable heads.
- Use the chain rotor for major obstructions and the cable rotor for less aggressive problems.

3/8", 1/2", 1" nozzles come in kit form.

ROOT RAT NOZZLES 330.874.4300
 Patented • Made in USA • www.rootrat.net

Socially Accepted

facebook.com/MSWmag
 twitter.com/MSWmagazine
 youtube.com/MunicipalSewerWater
 linkedin.com/company/municipal-sewer-&-water-magazine

BOSS Industries names new regional sales manager

LaPorte, Indiana-based BOSS Industries has announced Paige Martin Geddings as its Southeastern regional sales manager. Geddings brings over seven years of technical truck upfit sales to the role, and she will focus on distributor support and new customer sales in the Southeastern region of the U.S.



Paige Martin Geddings

Mark Turpin returns to WWEMA board of directors

The Water and Wastewater Equipment Manufacturers Association has re-elected Mark Turpin, president of Duperon Corporation, for a third term on its board of directors. Turpin will join a prestigious group of industry leadership to help navigate an influx of issues impacting the sector, from regulatory issues like Build America and Buy America to broader topics like climate change and sustainability. Turpin previously served on the WWEMA board from 2012 to 2019, including a stint as chairman in 2017, chairperson-elect the prior year and treasurer from 2014-16.



Mark Turpin

Stantec to design pump station for Northeast Ohio Regional Sewer District

Stantec has been chosen to lead design of the Southerly Tunnel Dewatering Pump Station for the Northeast Ohio Regional Sewer District. The pump station is the third and final large pump station for NEORSRD's combined sewer overflow program, which has been in progress for 13 years. The goal of the program is to reduce CSO to the environment over 25 years and capture 98% of CSO flow in a typical year, as required by the U.S. Environmental Protection Agency. When complete, Stantec will have led design for all three deep tunnel dewatering pump stations.

SouthWest Water expands its headquarters in Sugar Land, Texas

Sugar Land Economic Development announced that SouthWest Water Co. has expanded its headquarters, relocating to a 41,114-square-foot facility at Sugar Land Town Square. The company signed a 15-year lease at 2150 Town Square Place, a newly renovated, mixed-use, Class A complex. The expansion will create 20 new jobs, adding to the company's workforce of more than 100 employees. SouthWest Water owns and operates regulated water and wastewater systems in seven states including Alabama, California, Florida, Louisiana, Oregon, South Carolina and Texas.

Super Products signs new dealer agreement

Super Products has signed with Cleveland-based MTech as a new dealer partner. MTech will serve the municipalities and contractors for the Camel, SuperJet and Mud Dog vacuum and hydroexcavation truck product lines in Ohio and Michigan. RNOW of West Allis, Wisconsin, will retain responsibility for municipalities in the western half of Michigan's Upper Peninsula.

ERDC awards Taylor-Woolpert JV with \$49M contract

The U.S. Army Engineer Research and Development Center has tasked the joint venture of Taylor Engineering and Woolpert with providing research and development services for its Coastal and Hydraulics Laboratory. The \$49 million, single-award task order contract will support CHL projects that advance navigation, flood risk management, water resources management, sediment management and military engineering. ERDC is the primary scientific research and development organization for the U.S. Army Corps of Engineers and oversees seven research laboratories across the U.S. Located

in Vicksburg, Mississippi, CHL is responsible for the discovery, development and delivery of coastal, estuarine and hydraulic water resources research in both the Civil Works Program and military domains.

ISCO Industries acquires Infinity Plastics

ISCO announced it has agreed to acquire substantially all of the assets of Infinity Plastics, a manufacturer of fabricated HDPE piping products. Located in Mayville, Wisconsin, the Infinity Plastics acquisition allows ISCO to increase production capacity, enhance proximity to customer demand and add top-caliber talent to its team. With this addition in place, ISCO now has a total of 36 facilities spanning the United States and Canada.

Rapid Applications Group changes name to RapidWorks

Rapid Applications Group, an ERP and dispatch software solution for the heavy equipment services industry, renamed the company to RapidWorks effective Jan. 4. The company states RapidWorks recognizes that both the heavy equipment industry and the technology it uses have matured over the years, and the rebranding better positions RapidWorks to continue to serve the industry with innovative products and solutions that meet or exceed the evolving needs of its customers. ♦

JOIN

The Conversation.
The Camaraderie.
The Community.

» facebook.com/MSWmag
 » twitter.com/MSWmagazine
 » youtube.com/MunicipalSewerWater
 » linkedin.com/company/municipal-sewer-&-water-magazine

MUNICIPAL
SEWER
&
WATER

MORE?!

**More News and Stories
at MSWmag.com/featured**

See what's not in print!

MUNICIPAL
SEWER
&
WATER

Celebrating 35 years

OF THE #BESTTRUCKSINTHEBUSINESS



GapVax®

GapVax custom builds to meet YOUR needs. Industrial vacuum equipment built FOR THE OPERATOR, BY THE OPERATOR. Air movers, hydro excavators, combination jetvac's, recycle jetvac's, trailer jettors, skid mounted vacuum units, parts and accessories - we've got what you need! Give us a call today to request a demo or speak with a sales manager!

Stay up to date with us on social to see where we're going next!

281-884-8658
LA PORTE, TX



888-442-7829
JOHNSTOWN, PA



VACTOR®



A WINNING LINEUP



Multiple products & configurations



IntuiTouch technology
all cleaning functions are in a single control panel



Comprehensive Service Support
National authorized dealer network



OEM parts and options available

For Any Application. Municipalities and contractors, stormwater management, treatment plants, lift stations, underground utilities— there's a Vactor for your job. And over 100 years of engineering, manufacturing and technical know-how go into each vehicle. Backed by service excellence and the support of the industry's strongest dealer network, we uphold the Vactor promise every day – to be there for the life of your machine.

intuitive. intelligent. innovative.



Have questions on equipment or applications?
ASK OUR EXPERTS



© 2023 Vactor Manufacturing