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Abby Owens
Strategic Planning &
Compliance Manager
Plano, Texas

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ON THE COVER: Strategic Planning & Compliance Manager Abby Owens has helped the Plano (Texas) Wastewater Department implement a comprehensive upgrade of its sewer management protocol. (Photography by Olivia Ogren-Hrejsa)



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Luke Laggis

IT ISN'T WORTH WAITING

Dates don't matter when it's time to make changes to better your systems

Sometimes a fresh start is nice. New Year's provides that for some people, at least symbolically, but I've never found much difference between December 31 and January 1. They're two consecutive days on the calendar. And one is as cold as the next here in northern Wisconsin.

Meaningful change isn't defined or controlled by a date on your desktop planner. It requires real effort. Planning is important, but you don't need to wait for any specific date, and you have to be willing to adapt and make changes along the way. The same goes for your utility systems. Aging pipes don't always wait for

There's always more to do, and I think if you always keep that mentality, it'll serve you and your utilities well.

their planned replacement date to fail. Overflows won't be held at bay because you have a CSO abatement project on the calendar for next year.

The city of Plano, Texas, profiled in this issue, knew they needed to make changes. The city's collections system wasn't in terrible shape, but its asset management practices opened the door for inefficiencies.

Plano's first step in changing the approach was adopting a CMOM plan in 2017. That provided a roadmap for collections system inspection and maintenance efforts, and from there the city was able to develop a master plan to identify capacity needs and direct inspection and replacement work toward the

most critical assets. It took a lot of work, and buy-in from the whole team, but the results have been worth the effort.

Along the way, Plano gained operational efficiency. In addition to having better control of its collections system, the city has also been able to provide a higher level of customer service. Those are good goals for any utility.

What benchmarks are you trying to meet? You've no doubt done some good work, but maybe you still have some FOG issues (see this month's Better Mousetraps) or stretches of failing sewer line. Maybe you've made great strides in reducing overflows but aren't quite where you want to be yet. Or maybe you have a seemingly insurmountable backlog of maintenance work but you're putting together a 10-year plan to address deficiencies.

We've featured a lot of utilities in this magazine. Most have accomplished great things, but none have completed their work. There's always more to do, and I think if you always keep that mentality, it'll serve you and your utilities well.

The past year and a half has presented new challenges to everyone, and it's shown the need for good planning and contingencies. I wouldn't expect the start of 2022 to be much different than the end of 2021, but every day is a fresh start with new opportunities to take steps toward a more sustainable future for your utilities. Taking advantage of those opportunities can put you in a proactive mode that brings compounding success. Treating each day like it's just another will keep you reacting and you'll never get ahead.

Here's to fresh starts and making today count.

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.

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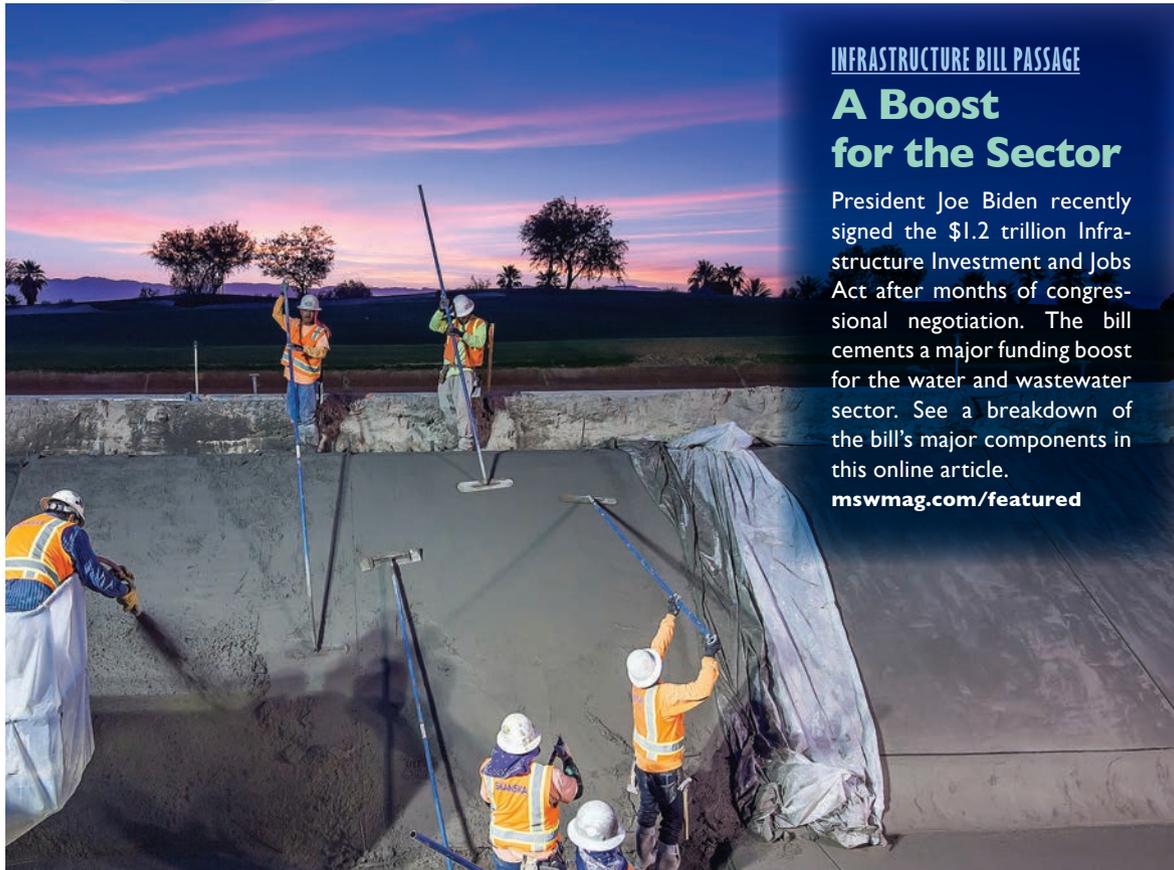
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A Boost for the Sector

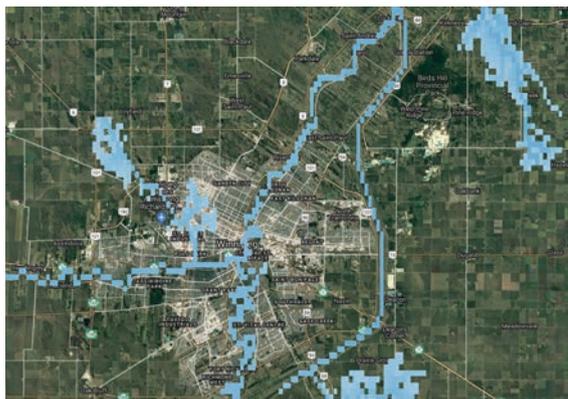
President Joe Biden recently signed the \$1.2 trillion Infrastructure Investment and Jobs Act after months of congressional negotiation. The bill cements a major funding boost for the water and wastewater sector. See a breakdown of the bill's major components in this online article.

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OVERHEARD ONLINE

“Employee burnout can be a big problem, not just for individual employees, but for your utility as a whole.”

— *How to Keep Employee Burnout at Bay*
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FLOOD-IMPACT MAP

A First for Canada

A Western University flood-control expert has developed the first Canada-wide maps showing how floodplains — including low-lying areas of major cities like Vancouver and Montreal — may become inundated in the next 80 years under various climate change scenarios. mswmag.com/featured

PUBLIC OUTREACH

Valuable Videos

Two team members at a Virginia water utility responded to the COVID-19 pandemic by creating an award-winning series of informational videos. The videos have been so popular with the public that the utility has continued to make them and has expanded the topics. Read more about it and see the videos in this online exclusive article. mswmag.com/featured



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CAREER SUSTAINABILITY

Utah public works director protects water supply for the future while creating an environment of opportunity

By Suzan Chin-Taylor

“I was blessed to have many mentors along the way.”

Zane DeWeese

Coalville City (Utah) Public Works Director and 2020 Water Operator of the Year award winner Zane DeWeese at the Coalville Wastewater Treatment Plant. (Photography by Douglas Barnes)

From humble beginnings as a seasonal worker, Zane DeWeese has helped his hometown create a sustainable water management plan and secure safe drinking water supply.

As public works director and head of the Water Department in Coalville City, Utah, DeWeese has drawn on opportunities provided by mentors, and on lifelong study, to build a long and rewarding career.

His achievements include working with the city's consulting engineers to create a water master plan, setting Coalville up for future growth and the ability to meet its water requirements in a sustainable manner. For his efforts he received the 2020 Water Operator of the Year award from the Rural Water Association of Utah.

Starting out

DeWeese entered public service in 1986 as a part-time seasonal worker in Coalville. After three months of hard work and on-the-job training, he earned a full-time position. In 1997 he took an opportunity to work with the Summit County (Utah) Health Department as an environmental health technician, a position he enjoyed for 17 years.

During that time he wore many hats and learned a great deal about water standards, treatment processes and distribution systems. He developed a keen interest in drinking water and, with the help of mentors and schooling, he obtained his drinking water certificate. In 2013, he returned to Coalville as public works director.

"I was blessed to have many mentors along the way," he says. "Without them I wouldn't have been able to learn what I needed to handle the job I have today." Three mentors stand out as instrumental to his career growth. Doug Moore, his first boss at Coalville City, went to bat for him to be hired full-time and provided his introduction to the water industry.

Roy Dixon, his senior co-worker at Summit County, was a generous teacher, working side-by-side with DeWeese in the field and coaching him on the finer points of water chemistry and biology. Steve Jenkins, health director for the county, gave



Zane DeWeese checks readings on the TrojanUV water monitoring equipment at the Coalville Wastewater Treatment Plant.

“We hoped that the replacement and upsize would be a two-for-one solution.”

Zane DeWeese

him responsibilities that were a catalyst to expand his technical knowledge and acquire management skills.

Today, DeWeese incorporates the lessons learned from the mentor/apprentice approach to leading his own crew.

High morale

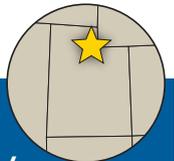
Coalville City is a bedroom community of 1,500 people, 45 miles east of Salt Lake City and 20 miles east of Park City. Being born and raised in a rural mountain community, DeWeese understands and accepts the accompanying challenges. The city must run lean with small crews; leaders and team members need to multitask and cross-function.

Besides DeWeese, the team consists of Kyle Clark, public works fore-

man; Samuel Adams, lead wastewater treatment plant operator; and Russell Larson and Colby Smith, maintenance operators. DeWeese gives his crew opportunities to learn and try new things, working with them in the field just as his mentors did so that everyone can share knowledge, implement ideas and grow.

This approach keeps morale high and team members accountable to each other. DeWeese set up a financial rewards program to recognize staff members who take the extra steps to ensure projects' success and make a difference in the community.

DeWeese admits that although it can be stressful, he enjoys the problem-solving aspects of his position and, on the flip side, the simple maintenance tasks. "There are days that I go out there and work side by side with my guy," he says. "It can be some of the simplest tasks, maybe in some people's minds menial tasks, but I enjoy those days, the camaraderie, working with my team, interacting with the residents. It's great."



PROFILE:
Zane DeWeese,
Coalville City, Utah

POSITION:
Public Works Director,
Water Department

EXPERIENCE:
34 years

DUTIES:
Manage staff of five, manage wastewater treatment and collection, manage water treatment and distribution

CERTIFICATIONS:
Drinking Water Operator,
Distribution Grade 4; Water
Treatment, Grade 2

AWARDS:
800 miles of sanitary
sewer lines, 470 miles
of stormwater lines

GOALS:
Create a great work
environment and community
support; ensure a sustainable
water supply

“It comes down to taking pride in what you do.”

Zane DeWeese

Less loss

DeWeese's first priority when he stepped into his director role was to work on the water master plan. To execute the plan he needed to equip his team with the right tools. The bulk of the equipment on hand when he took the job was at the end of or past its service life. He acquired a new John Deere 310S backhoe, a John Deere 50G mini-excavator, tool trailers, updated safety gear and new service vehicles.

The water master plan was aggressive and extensive. It included the replacement and upsizing of the Icy Springs No. 1 storage tank to a capacity of 600,000 gallons; the rehabilitation of the Lewis Well, which provided the city's water supply; and the upgrading and upsizing of almost all water distribution lines within the city limits.

Most of the potable system (or culinary water system as it is called in Coalville) was 40 to 50 years old or more, and crews typically repaired several leaks each month to keep it functioning. “Coalville is kind of a geological wonder,” DeWeese says. “Some of our older lines had been in the ground for more than 50 years, and because of the depth and terrain, leaks going on in the system would never surface and be detected,” DeWeese shares.

In 2019, nearly 20,000 linear feet of pipe was replaced, and most of the city's system is now new. Unlike major metropolitan areas that can afford

cutting-edge assessment and reporting technology, Coalville relied heavily on its crews' knowledge of the system's history to assess and analyze the results of the master plan and in particular the effects of the line replacements.

“We hoped that the replacement and upsize would be a two-for-one solution,” DeWeese says. “So changes in our storage tank levels against historical usage would be a strong indicator of success.”

Sure enough, the city immediately noted a decline in water loss because of the line replacements in the form of a steady increase in tank water levels.

Maintaining health

During the plan development, the city also recognized that its water supply from underground springs and wells was becoming unstable. The city consumed an average of 275,000 gpd of culinary water, and DeWeese spent many sleepless nights concerned about adequate water supply during drought years.

Studies determined that the existing sources would have to be augmented, but the new source would require treatment, something Coalville previously had not needed. Water is delivered straight from underground into holding tanks to receive chlorination before distribution. The new water treatment plant will draw from the Weber River by way of a pump station and will treat both river water and shallow well water.

In addition to concerns over adequate supply, Coalville had been paying the Weber Basin Water Conservancy District, a wholesaler, \$15,000 per year to hold 300 acre-feet of Weber River water in reserve, and more than \$29,000 per year to use 110 acre-feet of its water. The new water source and treatment plant will eliminate those costs, make the city more water resource independent, and help the utility maintain financial health.

Top operator

The community's citizens and leaders took notice of DeWeese's work to set a course to independence and to create a strong plan for the future. The mayor, city engineer and city staff members nominated him for the Operator of the Year award, a recognition he was surprised and humbled to receive.

“It comes down to taking pride in what you do,” DeWeese says. “Know going in that water and wastewater is a challenging industry that offers not just a job but a meaningful career. A career in our industry has many demands. Our customers are not aware of what it takes to deliver that clean, healthy water to the tap. For me, it's about knowing the difference we can make, even if no one else can see it.” ♦

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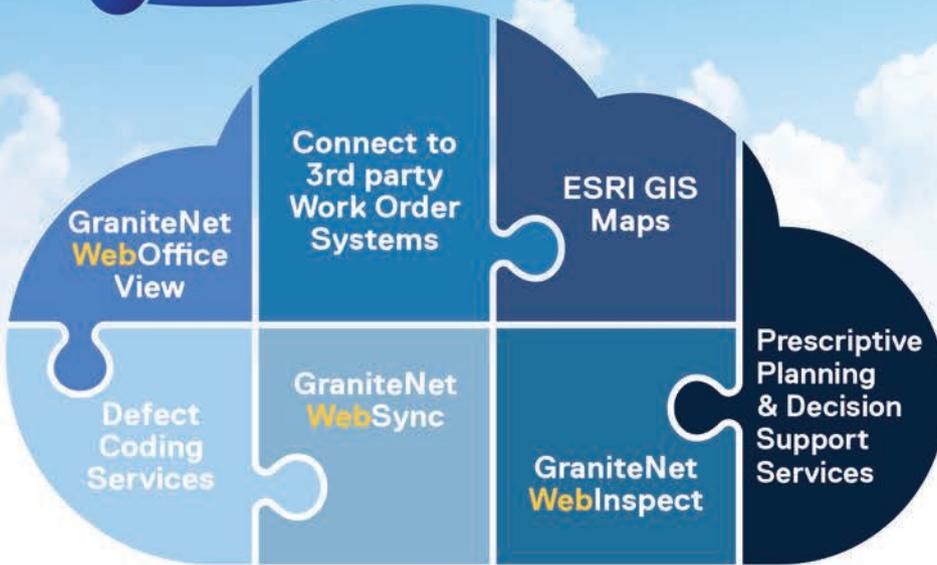
Coalville City Public Works crew members Russel Larsen, Colby Smith, Kyle Clark, Zane DeWeese and Sam Adams at the Coalville Wastewater Treatment Plant.

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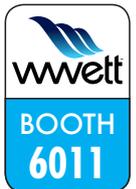
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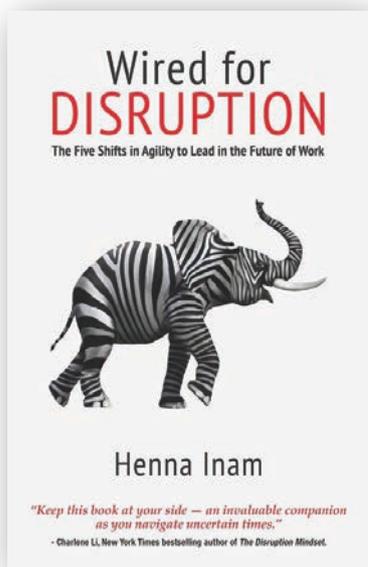
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AGILITY TRAINING

An agile workforce can more easily navigate change and turbulence

By Ken Wysocky

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.



“Stress causes people to be constantly on guard, which diminishes trust.”

Henna Inam

Henna Inam, an executive coach, speaker and author, has some helpful advice for organizations grappling with a seemingly endless series of workplace disruptions: Get agile — STAT.

“The workforce of the future will have to be much more agile,” says Inam, author of *Wired for Disruption: The Five Shifts in Agility to Lead the Future of Work*. “Human skills like emotional intelligence, empathy and the creativity to imagine completely new ways of doing things will be in much higher demand. And the people who are agile will more easily adapt to those demands.”

The COVID-19 pandemic is just the latest large-scale disruption that has created a reckoning of sorts for many employers. As evidence, consider the so-called Great Resignation — the tidal wave of people who’ve left their jobs in the wake of the pandemic, which left them with more time to ponder their values and personal and professional goals.

A record-breaking 4.3 million people quit their jobs in August and nearly 4 million did so in July, according to the U.S. Bureau of Labor Statistics. But more agile workforces can better weather social, political and economic turbulence, which is only going to continue, not abate, Inam contends.

“I’m afraid the hits will just keep coming,” she says. “One reason is the pace of technology, which keeps accelerating. Things like artificial intelligence, robotics and biotechnology are going to drive a lot of fundamental changes across all industries — change the way work gets done and the work that human beings do.”

Latent agility ability

There is some good news amidst all the mayhem, however: Scientific studies show that people already possess the ability to be agile, which generally is defined as the ability to adjust to changing workplace dynamics.

“I wrote *Wired for Disruption* to reassure people that agility is already part of our DNA,” Inam explains. “All we have to do is exercise those muscles and give people the tools and the confidence they need to not only survive, but also thrive in their jobs.”

Research performed by Dr. Richard Boyatzis, a professor of organizational behavior at Case Western Reserve University in Cleveland, shows the human brain operates in two neural networks: the analytical and the empathetic. When one is active, the other is dormant, Inam explains.

“They act like seesaws,” she continues. “In the workplace, most of us usually operate in the analytical neural network, which helps with problem solving. But the research shows that people are most open to change — and being agile — when they’re operating in the empathetic neural network, which is a much more relational and collaborative space.

“To be more agile and open to change, we need to spend more time in the empathetic neural network.”

Compassion and empathy

So how does one go about reaching that empathetic state of mind? Some of it starts with self-care in areas such as eating healthy, exercising and getting enough rest. But other kick-starters include compassion, laughter and spending more time in nature.

“You can activate that neural network by being concerned and empathetic for others — and for yourself,” Inam notes. “For many people, it involves just being more relational in the workplace ... and feeling more relaxed, creative and connected as opposed to stressed out.

“Most of us spend too much time in the sympathetic nervous system than the parasympathetic nervous system. My book explains how to switch that around.”

What are some warning signs that a workforce or

an employee isn't agile? After all, it's not unusual for managers to convince themselves that everything is fine when the evidence points to the contrary.

"I have an assessment I created that people can take on my website [www.transformleaders.tv]," Inam points out. "But some telltale signs would include lot of infighting among leadership or rank-and-file employees, as well as lack of trust.

"Stress causes people to be constantly on guard, which diminishes trust," she continues. "Furthermore, the inability to rapidly adapt to and figure out the new needs of customers or develop new products or services also shows a lack of agility."

Five kinds of agility

Inam says there are five kinds of agility that organizations — and employees — need to promote. The first is neuro-emotional agility, which is employees' ability to manage their own neurobiology. This enables them to move from a state of stress to calmness.

"Research shows that if we can activate that parasympathetic nervous system, we can confront changes in much more creative and agile ways," she explains. "It helps people take positive meaning from disruption."

The second agility centers on the ability to learn, unlearn and relearn. This area is important because if people use old neural patterns to interpret changing workplace dynamics, it prevents them from seeing things clearly and realistically, she says.

"There's something like 200 biases that prevent us from seeing things as they are, so they key is, how do we clear out those biases so we can adapt to what's happening in a much more effective way?

"The unlearning component is really important here because that allows us to confront our biases — examine our assumptions about things," she adds. "Otherwise our 'old' brain keeps searching for a perfect solution that doesn't exist."

Trust agility helps employees and organizations collaborate across ecosystems, which is critical to contending with disruptions.

Another critical area is stakeholder agility, in which senior management takes a critical and objective look at jobs and redefines them — and the skills needed to perform them.

"You need to determine what the future of work looks like and what are the most critical skills, then rescale and upscale your people accordingly," Inam notes.

The last agility component is growth, which requires creating a culture and workplace environment where people can grow.

"It's important to create new mindsets for employees so that they don't just survive, but thrive during times of change and disruption." ♦

"The unlearning component is really important here because that allows us to confront our biases — examine our assumptions about things."

Henna Inam

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TOTAL SYSTEM CONTROL



Texas utility changes its approach to asset management and gains systemwide efficiencies

By Giles Lambertson

The Plano (Texas) Public Works Department illustrates particularly well how a proactive approach to effective management can impact day-to-day and year-by-year operations.

Abby Owens is the department's strategic planning and compliance manager. During her four years in that role, Owens has helped implement a comprehensive upgrade in the department's sewer management protocol by implementing sound asset management practices that shifted the department's efforts from a reactive to a proactive approach.

With respect to the sewer system, the first step in changing the approach was adopting a CMOM plan in 2017.

"CMOM provided the roadmap for our efforts to inspect and maintain our collections system, which included determining the condition of our assets and prioritization of sewer lines and manholes," Owens says. "Then we worked to develop a master plan to identify capacity needs and direct our inspection and replacement work toward the most critical assets."

Plano (Texas) Wastewater Department crew leader Juan Mendoza connects an EnviroSight camera nozzle to clean and inspect a sewer line. (Photography by Olivia Ogren-Hrejsa)

The Cartegraph work order and asset management system was fully operational in the Plano department in 2018 after several years of incremental introduction. In 2020, sewer inspection data was integrated from GraniteNet software, which utilizes condition-based data to score pipelines. After assimilating the data, Cartegraph provides a ranking of assets that is used to develop a prioritization plan for scheduled pipe rehabilitation or replacement.

"Before Cartegraph, crews didn't have a uni-
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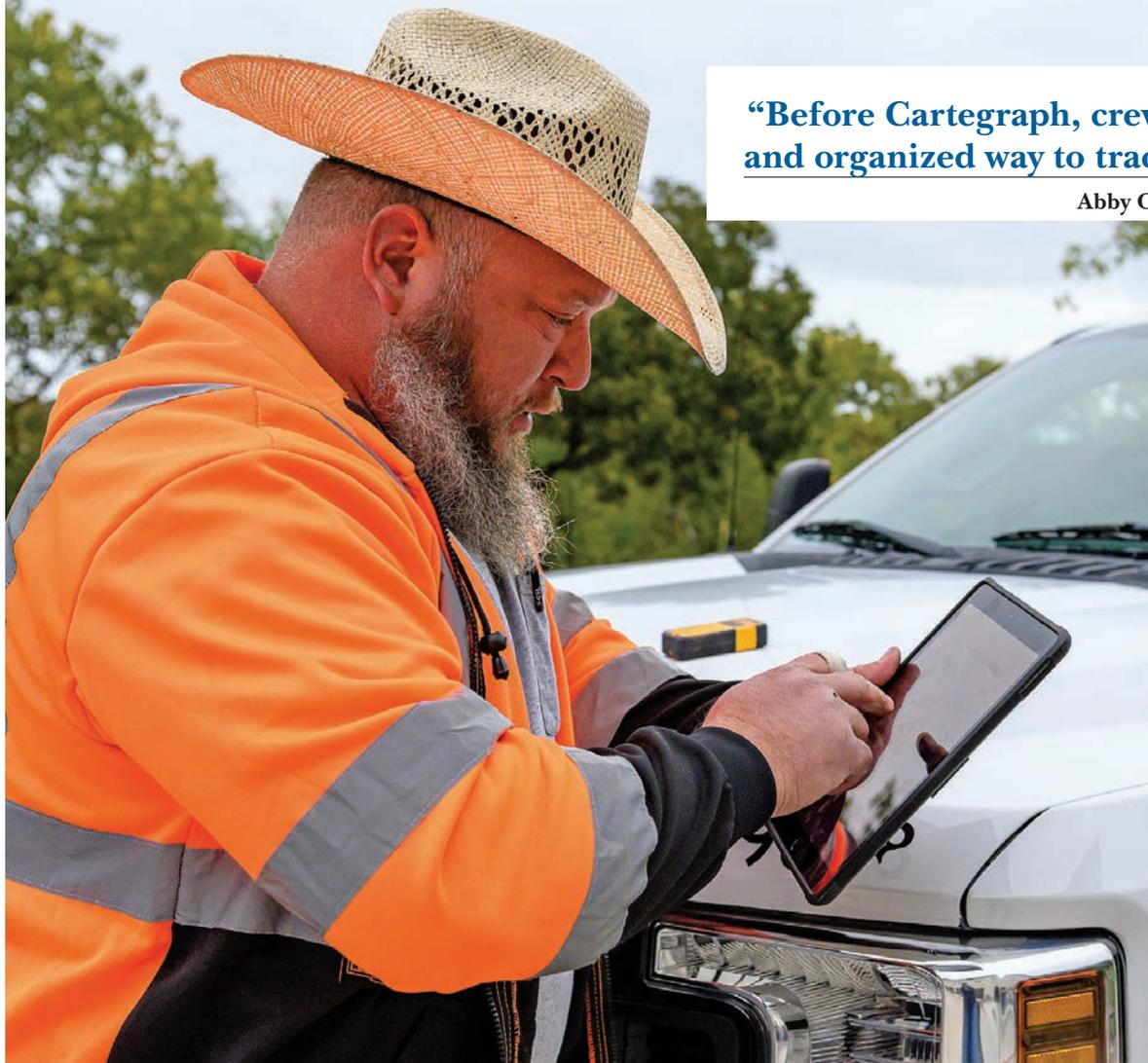
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“Before Cartegraph, crews didn’t have a uniform and organized way to track pipe inspection data.”

Abby Owens



was it was not on the verge of failing, it was in great condition. So, after importing the inspection score, instead of showing up as a zero, the pipe now shows as a 95.”

How could something like that happen? “Most of the time, a clay pipe installed in the ’70s would be in poor condition. But this particular pipe didn’t experience the same wear and tear that we had assumed,” she says.

In another surprise, a vintage clay pipe was presumed to be in a nearly failed state. However, when the TV crew inspected the pipe, they discovered that it had been lined at some unknown point in the past. “So, now we know and can update our records to better understand our system’s condition.”

New approach

The city has over 1,000 miles of sewer main. The systematic exploration of all that underground infrastructure must be done in a smart way to stay ahead of problems. In prior years, the department relied on sheer volume of inspections to keep managers abreast of pipe condition, but that approach didn’t always pan out.

Owens says inspection crews were directed to “focus on footage, to get lots of pipe visually inspected.” Consequently, TV crews would focus on the pipes that were easiest to inspect. Unfortunately, this often meant PVC pipe that was relatively new and of low priority concern was inspected. “Our focus was on footage rather than understanding problem areas. Since the shift, we have seen a slight decrease in footage completed each month, but we are gaining valuable knowledge of the real condition of our sewer mains.”

The videos of sewer mains are shot with an assortment of cameras. JetScan (Envirosight LLC) and Red-Dawg video units are used on jetter lines during cleaning to capture quick scans of lines. CUES MPlus push cameras record what’s happening inside residential lateral lines during customer service calls and CUES OZIII units provide CCTV

(continued)

Crew leader Blake Tessem visually inspects a manhole and logs the data into Cartegraph using an iPad.

form and organized way to track pipe inspection data,” Owens says. “The reports were not geospatially referenced so supervisors would have to read page by page and then look up pipe IDs to figure out where a defect was located. It was also difficult to log when repair work was completed. Cartegraph gave us the ability to log both inspection and repair work and tie the information to the sewer main asset. Now we have a full history of inspection and repair which allows us to better understand our system and take a proactive approach with directing our work.”

The asset management software and correlated systems proved to have a consequential impact on the city’s sewer system. It improved the utility’s awareness of infrastructure condition, changed manpower assignments and equipment usage, and made expenditures more cost effective.

Owens says the most singular benefit was “increased operational

efficiency with a proactive approach. We previously didn’t have a plan of operation or prioritization for inspection. Now our TV trucks inspect areas based on criticality. We are able to catch problems sooner and direct our rehab efforts to priority areas. Operational efficiency is definitely the biggest benefit.”

Verification

Through the use of asset management tools and coordinated planning, supervisors are able to direct the department’s TV inspection vans to priority areas that were rarely visited, and some surprising information came to light. Assumptions about the condition of pipe have proven wrong in some cases.

“We had a sewer line that, according to our GIS data, was clay and installed in the 1970s. We expected it to be in failed condition,” Owens says. “When we inspected it, we found that not only



PROFILE:

Plano (Texas) Public Works Department

CUSTOMERS:

80,000 customers, 285,000 residents

SERVICE AREA:

72 square miles

WASTEWATER:

1,000 miles of sewer main, 1,500 miles of water main, 860 miles of storm sewer

WASTEWATER VOLUME:

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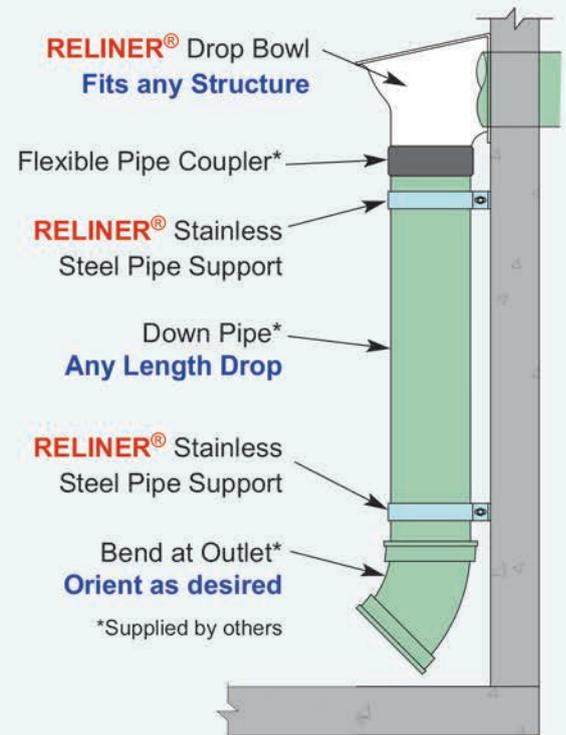
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“Our focus was on footage rather than understanding problem areas.”

Abby Owens



COMMUNICATION SOLVES PROBLEMS

Municipal sewer systems must contend with Mother Nature to keep things flowing. Excessive rainfall, shifting ground, harsh soils, freezing temperatures, gravity — they can all bring negative consequences.

The sewer lines in Plano, Texas, are impacted minimally by harsh weather conditions. They are buried in a humid subtropical region that doesn't experience severe freezing — with the exception of last winter's historic icy blast — or regular flood conditions. And because the Dallas suburb's geography is something like a tabletop — “plano” is Spanish for “flat” — the community's 72-square-mile wastewater system requires just six lift stations.

Nevertheless, some of the stations can still be problematic for public works employees.

“The two biggest problems are grease and rags,” says Abby Owens, the system's strategic planner and compliance manager.

One lift station that was adversely affected by cleaning rags, Owens points out, is situated just down the road from a hospital. Hospital cleaning crews evidently were flushing wipes and other cleaning cloths down drains as they completed their work. Out of sight, out of mind — until the rags clogged the lift station.

“We talked to the maintenance management company about the problem,” she says. “What we came to realize is it was just a breakdown in communication among the cleaning employees. They were educated about the impact of the rags on the lift stations and the problem was resolved almost immediately.”

The Plano Wastewater Department staff includes (from left) Chris Stanton, utility compliance superintendent; Juan Mendoza, crew leader and jet truck operator; Blake Tessem, crew leader; Abby Owens, strategic planning and compliance manager, Delbert Kleppe, crew leader and CCTV truck operator, Daniel Prendergast, director of public works; Albert Trevino, maintenance worker; Justina Sylvester, crew leader and CCTV truck operator; and Jacob Gadbury, preventive maintenance supervisor.

operators a view of the interior of mainlines during inspections.

The department is halfway through accumulating data on pipe 12 to 48 inches in diameter, with the contractor to complete all lines by next May. In addition, some 80% of Plano's 15,300 manholes have been inspected, and about 45% of 4.6 million linear feet of smaller diameter pipes have had cameras run through them.

“In April 2021, we built a filter in Cartegraph to direct our TV crews to areas most in need of inspection,” Owens says. “Of 825 segments of smaller diameter pipe to be inspected, we've completed inspections on 25%.”

Focused maintenance

The inspection routine wasn't the only activity impacted by implementing Cartegraph. Smarter data collection and goal setting also impacted the cleaning side. “Before Cartegraph, we didn't have a clear picture of which lines were being cleaned when we calculated total footage. Through better work order management, we can track our cleaning to ensure we get to all lines every five years,” Owens says. “We learned that we had way more cleaning going on than we really needed to achieve that goal.”

That realization led to the department

routinely rolling out two vac trucks each day instead of three. Vac-Con full-sized trucks are the mainstay units. A mid-sized PipeHunter sewer cleaning unit rides a Freightliner chassis into areas harder to access and a smaller PipeHunter jetter is mounted on a Hino truck for residential services and light cleaning.

Besides cutting truck operating costs by one-third, the reduction in vac activity meant that the water-sewer preventive maintenance staff could be reorganized. “We have struggled to stay fully staffed, like many other public works departments, and this let us prioritize work to focus efforts.”

Instead of dedicating employees to the same role each day, crews cross-train and rotate through the different roles, including flushing dead-end mains and inspecting and maintaining valves.

The department crews do their own spot-repairing of sewer infrastructure, which includes point repairs and service line repairs. Contractors are hired to handle any cured-in-place lining projects, pipe replacement or installation of new lines.

The cost side of operations was positively impacted by the more effective management of people and equipment. Plano draws on its revenue and capital accounts to fund major rehab and replacement



Delbert Kleppe (left) and Justina Sylvester lift the CCTV truck's CUES mainline camera out of a sewer line after inspection.

“We learned that we had way more cleaning going on than we really needed to achieve that goal.”

Abby Owens

Through improved operations and the implementation of Cartegraph, Plano is ahead of the game.

“We’ve been able to provide a better level of customer service as well,” Owens says. “We are able to track customer service calls and compare them with inspection data and cleaning history to identify potential areas for improvement. Providing excellent customer service is important for us while maintaining high levels of service.” ♦

undertakings, spending about \$20 million on such capital investments in 2021, a projected \$18 million in 2022. This consistent investment in sewer infrastructure has provided staff with the resources to maintain such a vast collections network.

Value

Owens says the adoption of the asset management software has been well received by department crews, even though it came with a learning curve.

“We conducted trainings with employees and meet them where they are for training needs,” she says. “We have found over the last few years that employees like having goals and knowing where we are as a department and how their work can help us reach a goal.”

The younger team members also like the iPads they were given to use in the field as compared to the old paperwork order system. Some employees struggled to learn the new technology in the beginning, but with training and support, they’ve found the value that Cartegraph adds — especially after hours when trying to locate an asset.

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BIG-CITY CAPABILITIES

Small Massachusetts community uses online data management system to handle FOG like a large utility

By Rich Prinster

The City of Marlborough is situated at the convergence of three major highways in Massachusetts, with a prosperous industrial sector and big players from the food, pharmaceutical and electronics industries. Handling the wastewater stream presents challenges.

These industries use a lot of water and the city's two wastewater treatment plants must treat almost all their effluent. The city also has a relatively large number of restaurants that serve fans during sporting events, and visitors who enjoy the area's many recreational activities.

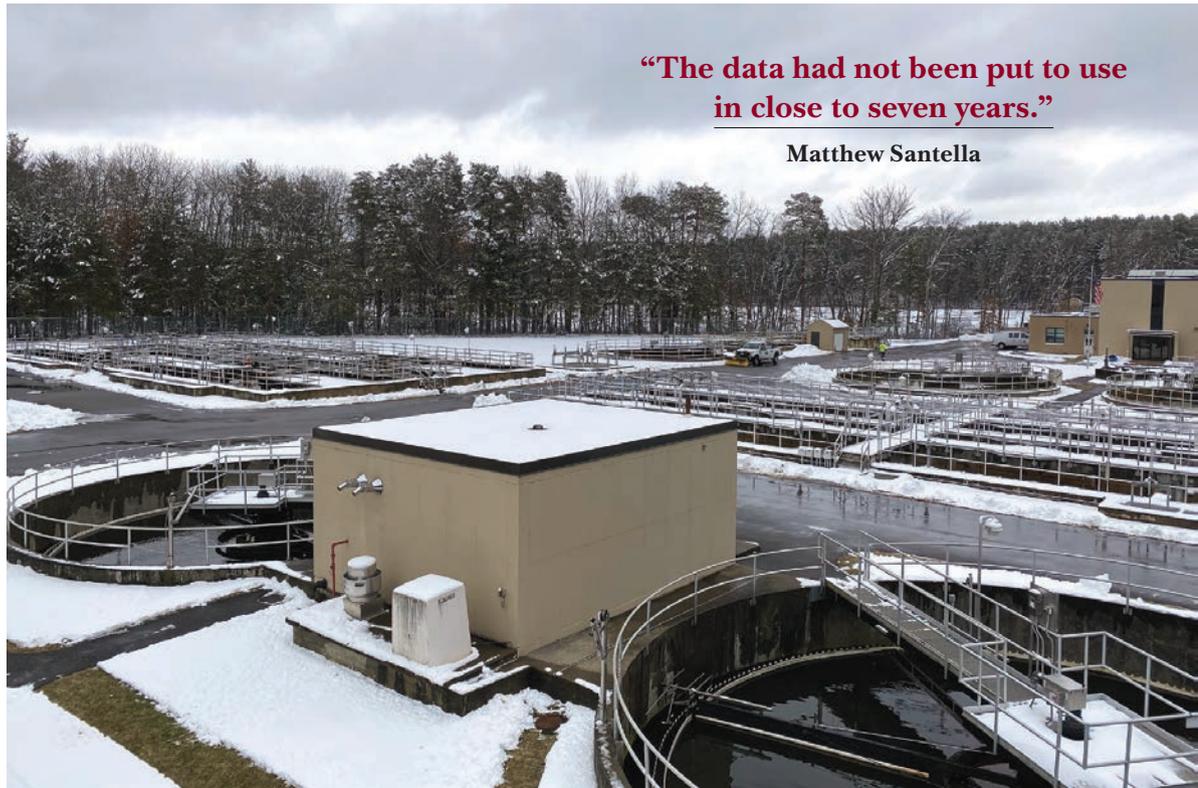
As in many smaller communities, the public works department needs to be efficient and find creative solutions to challenges. Matthew Santella has worked with the city for 10 years and is the creator, designer, inspector and everything else needed to manage a successful industrial pretreatment program.

Needing insights

"Before 2017, we collected samples from our industrial users and entered the data into an old version of the Linko software on the hard drive of one of our computers," says Santella, recently promoted to general foreman for the city's water and sewer division. "The data had not been put to use in close to seven years."

Marlborough, like many municipalities, was collecting volumes of regulatory data, but not gaining actionable insights. In addition, the more than 300 food service establishments were not being monitored effectively and efficiently for FOG compliance. That forced the public works crews into a reactionary approach to collections system maintenance.

"As a one-man show, it was imperative that I found the right tools to get the data entry tasks under control and streamline my processes wherever possible, so I could spend more time in the field," Santella says.



"The data had not been put to use in close to seven years."

Matthew Santella

Up in the cloud

The most logical approach was to update to the latest version of Linko (Aquatic Informatics) in order to get the data securely hosted and accessible online. This made it possible to record and retrieve inspection results on site, eliminating paperwork and data entry back at the office. It also opened up accessibility for other stakeholders' input.

To get all the food service establishments into the system, Santella used the Linko POM Portal for electronic reporting on site. The portal gathers electronic pumpout manifests from the establishments or from haulers directly, eliminating manual data entry of manifests by FOG program staff.

Santella went one step further and enabled smaller establishments, which are only required to self-clean their grease traps, to file reports online. The

(continued)

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compliance rate is about 80%, and users like the efficiencies of the new system. Email reminders are automatically sent through the POM portal, improving the compliance rate. “Owners appreciate the reminders,” Santella says.

“We now have the data at the tips of our fingers, meaning we have better intelligence from our FSE reports to prevent and solve blockages.”

Matthew Santella

Automated process

“The streamlining of field data collection has not only saved time to get me in the field more often, but this data can now be used to automate a host of tasks including inspection and pumpout scheduling, issuing permit renewals, keeping us up to date with regulatory changes and violation notices,” Santella says.

“The software also connects to my Microsoft Outlook calendar, so I don’t have to go into the system to retrieve my work plan. I can head straight to an inspection site first thing in the morning and have all the history and contact information I need to conduct an efficient inspection.”

By eliminating paperwork from the field and manual data entry at the office, transcription errors are minimized. The system has also freed Santella to focus on the non-compliant establishments that are typically the culprits for sanitary sewer overflow hotspots.

“We now have the data at the tips of our fingers, meaning we have better intelligence from our FSE reports to prevent and solve blockages,” Santella says. Since the new FOG program was put into place, grease at both wastewater treatment plants has been noticeably reduced.

Monitoring industrial users

The industrial users with large

“I am proud to say that our pretreatment and FOG programs are now comparable to those of any major city.”

Matthew Santella



water consumption or heavy chemical usage are under more stringent regulations through the industrial pretreatment program under the Clean Water Act. Marlborough uses Linko to manage the permitting, sampling and compliance the act requires.

Automation is the key to eliminating errors when dealing with high volumes of sampling data, so the program allows labs to submit analytical data electronically to the industrial users. From there, the company compiles self-monitoring reports and signs and submits them online.

For each report, Santella receives an automated email from Linko saying that the industrial user has submitted its self-monitoring reports. He then goes into Linko and checks it for compliance. The system tells him if any of the parameters are out of compliance; if there is an issue, he contacts the user to inform them to retest or whatever else may be required. Configurable views make annual reporting fast and easy.

Marlborough’s FOG and pretreatment programs now have more accurate, up-to-date data than ever before and have alleviated the risk of important information being siloed on one computer, managed by one person.

“I am proud to say that our pretreatment and FOG programs are now comparable to those of any major city,” Santella says. “All customers are in the system and are actively monitored for compliance. There was simply no way for a one-man operation to achieve that without moving to an online data management program like Linko that allows for seamless flow of information between stakeholders.” ♦

Rich Prinster (rich.prinster@aquaticinformatics.com) is in charge of strategic development with Aquatic Informatics, a supplier of water data management software with offices in Denver and Vancouver, British Columbia.



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IT'S GOOD TO BE AUDITED

Taking a proactive approach with in-house safety audits is positive for everyone

By Giles Lambertson

Ed Koch was the amiable mayor of New York City for 12 years. During his tenure, he was known for greeting his constituents on the street and asking them, “How’m I doing?”

Municipal utilities should develop a similar habit and openly solicit feedback from employees about whether safety programs are actually keeping them safe.

“If management is committed to doing the right thing, employees are going to do things the right way.”

Kyle Irwin

are not worn, the discrepancy between theory and practice is red-flagged. Red flags signal changes need to be made.

Start inside

Ethical leadership will always prioritize employee safety.

“I like to tell people that a safety management plan should be part of your overall management system. If management is committed to doing the right thing, employees are going to do things the right way. It becomes a common culture,” says Kyle Irwin, founder of Irwin’s Safety. The Calgary, Canada, firm teaches best safety practices in western Canada and occasionally in the U.S.

While “doing the right thing” works the same on either side of the bor-

der, Irwin says the consequences of ignoring workplace safety often are more severe in the states. “We’re more regulated in Canada. We have more government agencies looking into it. The day-to-day standards are higher. However, the risk of litigation is much higher in the U.S. If you are a company in the U.S. and make some bad decision in respect to safety, you’re more likely to be litigated by the people affected by that decision.”

Neither of these two scenarios — more rigorous day-to-day regulation, or greater legal risk — are typically welcomed by utility managers. The happy alternative is to self-regulate at a responsible level, and thereby create a culture of safety as a first line of defense against unsafe behavior and work conditions. Internal audits are the way to develop that culture.

Usually conducted by a safety manager, ongoing internal audits sometimes are informal, undertaken on the spur of the moment while passing through a workplace or visiting a job site. Or they are formal, with an inspection occurring on a day purposely set aside for it with a checklist as the inspection tool.

The list can be as long and detailed as your company wishes. Small companies that are just developing a health and safety program sometimes get by with a one-page checklist with a comments section at the bottom. The completed listing is filed for follow-up and future reference.

More rigorous internal inspections are longer and more nuanced. An informal short-form inspection might ask, “Is there a standby employee positioned outside the confined space to provide emergency assistance?” Whereas a more thorough inspection checklist might ask an additional question: “Is the standby employee trained and equipped to render assistance in case of an emergency?”

These internal audits sometimes catch dangerous situations and correct them. However, the hope is that they will discover few serious defects

in safety, but find areas where reasonably safe behavior can be made safer. The frequency of the internal audits and the fact they are being conducted without coercion from outside entities makes them nonthreatening to a company and its employees. Therefore, they are less likely to cover up something unsafe.

Effective management

Irwin notes that the attitude of the person doing an audit goes a long way to determining how effective it will be. "I really think the No. 1 requirement for being an effective safety manager is to know your workplace and to understand the different roles in the company and the hazards of each role."

He gives the example of an engineer leaving his office two or three times a year to walk around a work site. "You wouldn't go up to him during his walkaround and talk to him about the need to wear a hard hat." Such a "gotcha" move would be officious. Rather, a safety manager should prioritize his time to deal with bigger workplace hazards.

Irwin recommends that safety leaders engage with employees rather than confront them. To effectively communicate the need for safety, a safety manager must first have a relationship. Failure to connect with people means the chance of influencing them is slim, he says.

"The attitude of the safety manager should not be, 'I am here and I'm going to change things.' It should be, 'I am here and we're going to learn things together.' It's the difference between being a safety cop and a safety adviser. If you're a cop, you ask, 'Where is your hat?' An adviser asks, 'Is there a reason you're not wearing your hat?' The attitude should be that the advisor is learning from the employees."

Seasoned employees might be expected to be most responsive to safety counsel, having been around long enough to witness the consequences of unsafe behavior. Unfortunately, longtime employees can be the least coachable. "A lot of people in the older generation, when you say, 'Hey, we need to do this and this,' they become defensive. They feel like you're suggesting they weren't doing something right."

Once again, Irwin counsels engaging with the old hands so they understand their experience is respected. "You might say, 'We know what you're doing is working really well and you're not injuring yourself. But someone newer on the job might not be as capable and could be hurt. We'd like to try a more systematic approach to doing this.'"

A safety manager needs to be something of a diplomat, in other words. However, diplomacy won't always work. Irwin laughs about the time he con-

fronted a longtime employee of a company working a railway project. "He was in a machine and I walked up and said, 'You need to wear that safety belt because some government inspector is going to come along and see you not wearing it and throw you off the work site. He looked at me, said, 'Back off!' and closed the door."

You can't win them all, even when you're president of a safety management company. The larger lesson, though, is that rules apply to everyone. ♦

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CAPTURE, CONVEY, STORE AND TREAT

Advanced Drainage Systems take a holistic approach to stormwater management

By Luke Laggis

THE SUPPLY SIDE

NAME:
Brian King

JOB TITLE:
Executive vice president of product management and marketing



“We’re thinking about ways to innovate in each phase of the life cycle of a raindrop.”

Brian King

MSW: What types of needs does ADS address for municipal utilities?

King: Advanced Drainage Systems helps municipalities replace failing infrastructure with the most resilient and sustainable products available. Whether facing an emergency repair due to aging stormwater infrastructure; upgrading existing stormwater infrastructure to meet the increasingly demanding needs of the future; or recovering from an extreme event like a hurricane, wildfire or earthquake, ADS has products to capture, convey, store and treat stormwater.

MSW: What’s the most common problem you see your municipal customers facing in their stormwater control efforts?

King: The most common problems ADS encounters from our municipal customers are emergency repairs for aging infrastructure; planning for resilient infrastructure to handle increasingly frequent 50- and 100-year storm events; and an increasing need for treatment of stormwater prior to returning to rivers, lakes and streams to ensure water quality standards are met.

MSW: Can you provide some insight on the company’s product development process?

King: At ADS, we are strengthening our product offering by building on our solutions package and advancing our sustainability objectives. We’re thinking about ways to innovate in each phase of the life cycle of a raindrop, whether that’s incorporating recycled materials in new ways, further minimizing our footprint, or developing low impact water treatment products. We lead the stormwater industry with product innovation that addresses customer needs.

We’re also coming up with innovative ways to service our customers, whether that’s through our dedicated fleet, engineered services or our comprehensive suite of online tools to ensure our customers have online support at all hours. We know innovation is about more than just products.

(continued)

Every community faces at least the occasional stormwater issue. For many utilities, the struggle is constant.

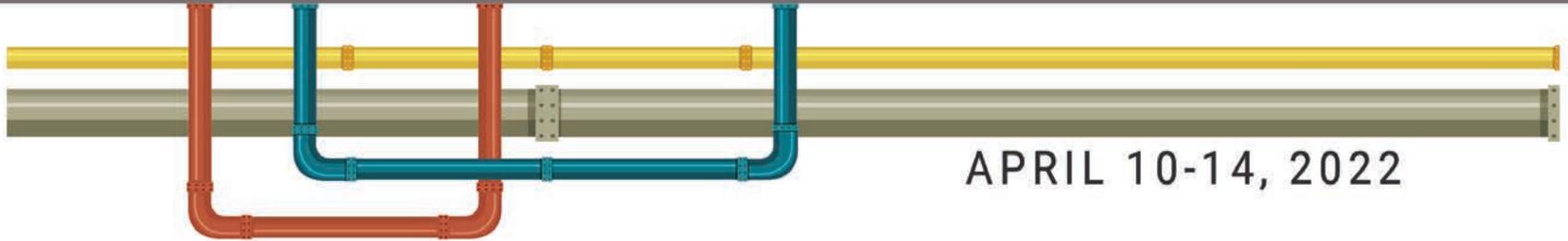
Advanced Drainage Systems is a leading provider of innovative water management solutions in the stormwater and onsite septic industries, providing drainage solutions for a variety of applications. For over 50 years, the company has been manufacturing innovative and environmentally friendly alternatives to traditional materials, and its products serve a broad range of municipal infrastructure needs.

Founded in 1966, the company operates a global network of 63 manufacturing plants and 32 distribution centers.

Municipal Sewer & Water recently spoke with Brian King, executive vice president of product management and marketing for ADS, about delivering the right stormwater products and solutions to municipal customers.



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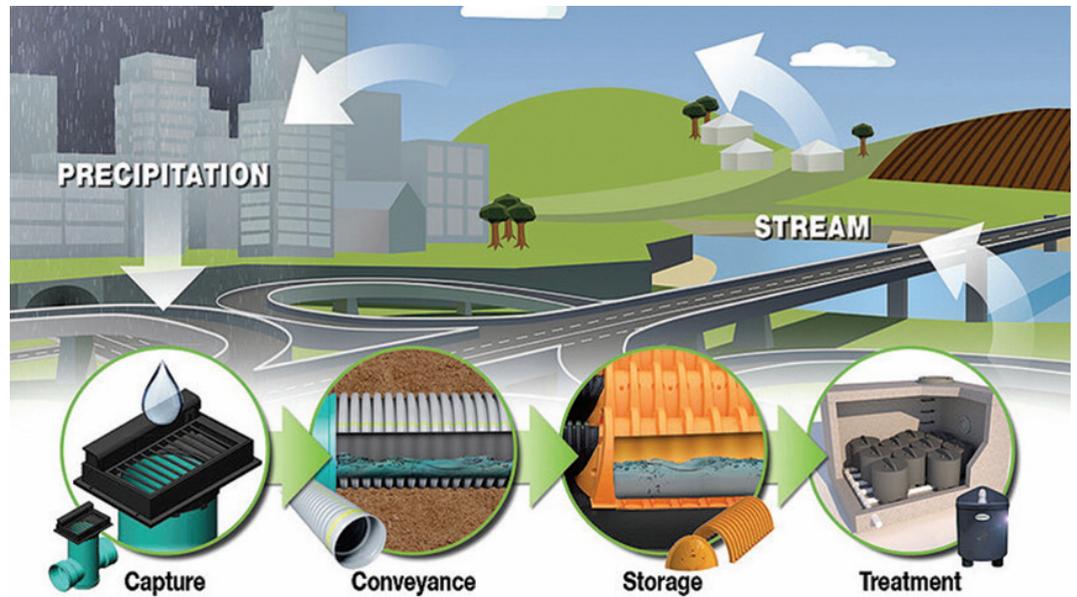
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“We know innovation is about more than just products.”

Brian King

MSW: Are your products designed to address individual issues or work together as a complete system?

King: The versatility of ADS products is that they can be used individually to address a specific problem like an emergency repair of a failed stormwater system, leading to rapid recovery, or they can be installed as a complete system to capture, convey, store and treat stormwater.

MSW: How does ADS take responsibility of managing stormwater from its entry into the system to its release back into the natural environment?

King: ADS covers the life cycle of a raindrop from the moment rain hits the ground until that water is returned to our lakes and streams with products that “Capture, Convey, Store and Treat”:

Capture – Storm water enters our basins and filters work to remove sediment and debris.

Convey – ADS pipes direct water away from parking lots, freeways and fields so areas stay dry, and neighborhoods stay safe.

Store – Chambers ensure water flow is managed appropriately, guarding against flooding.

Treat – ADS water quality products clean water before returning it to lakes and streams.

MSW: What are your most popular products, and how do they improve upon traditional stormwater control mechanisms?

King: Our Capture, Convey, Store and Treat products are most important as they each play a part in a safe stormwater return.

Our most popular stormwater capture market products are our drainage inlet basins in 8- to 36-inch diameters. What sets these products apart? They provide long-lasting service life with watertight joint integrity at the pipe-to-basin interface due to their unique design and resilient PVC body.

ADS does stormwater pipe differently. ADS manufactures HDPE pipe with recycled content. These pipes are manufactured with HDPE and polypropylene resins, which are durable and resistant against corrosion and abrasion. Joints are the weakest link in any storm sewer or culvert application; however, ADS pipes offer watertight joints that allow for protection against migration of backfill.

Our detention and retention products are engineered to provide durable, long-term solutions for any size project. These products increase usable land by providing space for parking lots, playgrounds and other facilities. With a 75-year minimum service life, this category of products provides easy handling and fast assembly, while still maintaining high strength without excessive weight to ensure cost-effective installation.

The Barracuda Max allows the owners and municipalities a cost-effective method for removing basic sediment and pollutants from their runoff. The use of the Barracuda also starts the conversation that we all need and can do something more to start improving the impact on the environment from urban development.

For higher filtration needs and greater capture, the BayFilter’s high-sediment capacity is a key feature, offering long service life before requiring maintenance.

MSW: How has your product line evolved to better meet the needs of municipal utilities with aging infrastructure and limited budgets?

King: ADS brings competitive products to the marketplace that encourage robust competition with traditional construction products. This competition among products drives efficiency and cost reduction.

MSW: What sort of support does ADS offer municipal customers?

King: ADS offers a full-range product documentation including drawings, specifications and technical notes, online and mobile design tools, installation guides, a drainage handbook, case studies and engineering support for all ADS products. The ADS Design Studio accessible online and includes the StormTech Design Tool, Water Quality Design Tool: Barracuda, and Nyloplast Drain Basin Configurator. ADS has close relationships with our distributors that allow our engineers to be involved in the design/sell process.

MSW: What’s new for ADS in 2022, and what’s on the horizon?

King: As ADS looks to the future, we are investing a large amount of capital into our manufacturing locations to increase our production capability and continue to supply the market with innovative products that are both sustainable and resilient.

MSW: Is there anything else you’d like people to know?

King: ADS products live at the intersection of resiliency and sustainability. Thermoplastic pipe for stormwater conveyance has the lowest carbon footprint among competing products. As the second largest plastic recycler in North America, ADS recycles more than 500 million pounds of plastic each year, keeping it out of landfills and reducing the greenhouse gas emissions in our supply chain by over 600 tons per year, and we look to nearly double our use of recycled plastic by 2030. ♦

To learn more about ADS, visit the company’s website at www.adspipe.com.

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NEVER BREAK THE CHAIN

Cutters and chain knockers are powerful tools but need to be used correctly to avoid damaging pipe

By *Tim Dobbins*

The last thing you want from a tool designed to fix problems is for it to create new ones. Unless you take the time to knowledgeably choose and operate the right chain knocker or chain cutter for your next pipe cleaning job, that could be exactly what happens.

When used correctly in the right applications, the capability of these tools to power through the toughest clogs, roots and blockages provides a gift to utility crews. Paying attention to the details of the environment and understanding the material options and specs of your individual system is key. Being careless can break equipment and damage pipes, making a seemingly simple job difficult and expensive.

Choosing a chain cutter

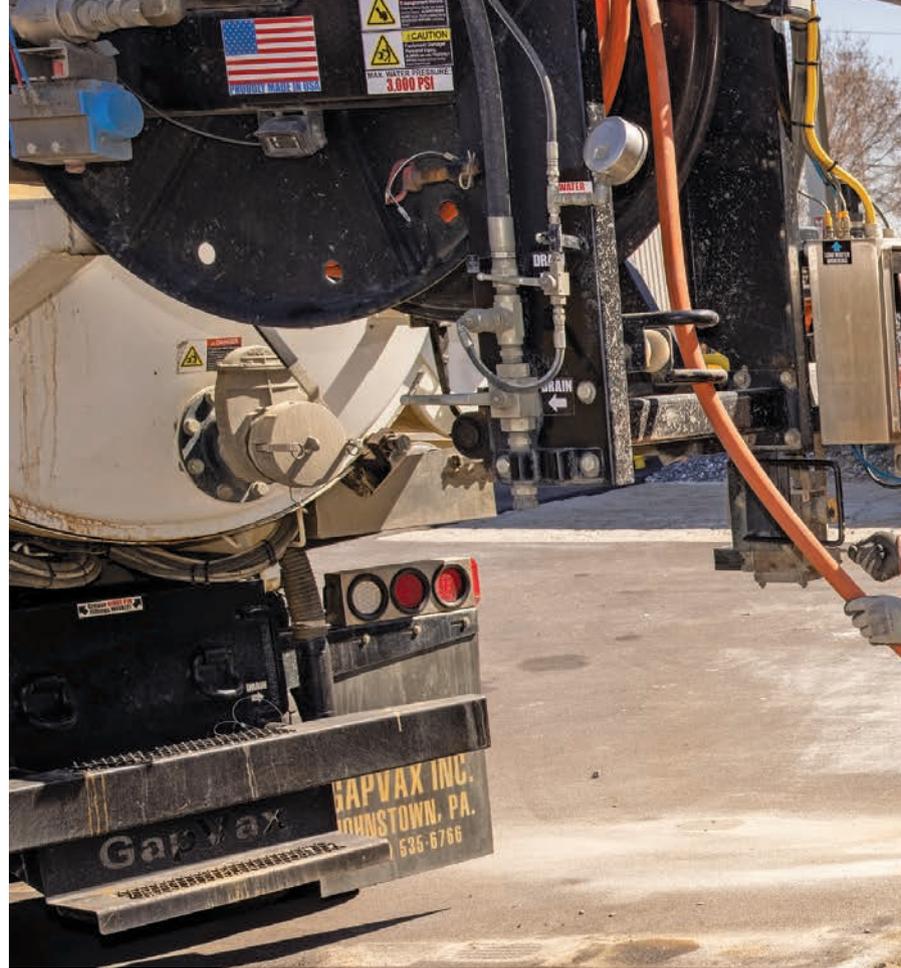
After 15 years as a part owner and engineer for Arthur Products, Richard Rauckhorst says there are a lot of things to think about when buying a chain cutter. “You need to know what your objective is. Consider your environment and equipment to start off with and be very selective.”

Obviously, the environmental conditions are going to vary with every job, but consider what you will most likely be handling and choose equipment accordingly. That sometimes means picking a tool built to adapt. “Every situation is unique. Customization when it comes to any nozzle is important, but when it comes to a chain cutter, it is ultimately important because there are a lot more moving parts to deal with,” Rauckhorst says. “Also, don’t get your expectations up too greatly as far as speed goes because you don’t know the exact environment this is going to be in. It could be hair roots which are easy to clean or trunks that aren’t so easy to clean.”

SewerProShop owner and 30-year veteran of the chain cutter and drain cleaning industry, Reinhart Laimer, agrees: “The operator needs to know first and foremost what they are going to be cutting. Are they cutting roots, or are they cutting grease? Grease can be as soft as butter or as hard as a rock.”

Once you’ve established the general conditions in which you will be working, take a good look at your equipment and understand that the effectiveness of a chain cutter is completely dependent on the pressure and flow you’re able to produce. Without enough gpm or psi, a cutter can easily become another blockade in the pipeline.

“I need to know four technical parameters when helping a customer choose a cutter,” Laimer says. “First, what is the flow rate of the pump? Second, [what is] the operating pressure? It is very important to know this infor-



mation because if you don’t use the right nozzle inserts with the right orifices the cutter won’t go up the line properly. Next is the hose size in diameter and then the length. This allows you to calculate friction loss.”

Rauckhorst also talks of the importance of using a suitable amount power for any cutter or knocker. “When you have chain or cables or anything on a rotating head, you’re adding mass,” he says. “To get that mass to rotate it requires more power, and that power comes from your system’s water pressure and flow.”

It boils down to knowing that the distance and effectiveness of any cutter or knocker is directly influenced by the specific system behind the head and what materials it is going through.



“I always tell people to use a nozzle first to actually clean out the line from debris such as sand, silt and rocks before running the cutter through.”

Reinhart Laimer

Cleaning with cutters and knockers is about evaluating each situation and knowing your equipment well. Inspecting or precleaning the line with a standard nozzle before using the cutter can help prevent problems.

Material matters

A lesson we all learned at a young age is if you're not sure what something is, don't touch it. The same holds true when using chain cutters and chain knockers. Make sure you know what the pipe is made from and match the material of the cutter or knocker properly to avoid damage to both equipment and pipes. Do some research before pushing in a tool and revving it up to full throttle.

“We supply a cable system, a rowler chain and link chain option based on the primary type of pipe you are going to be in whether it be PVC, clay, cast or steel,” Rauckhorst says. “Let's say you are in PVC pipe with light hair roots, I would recommend the cable. The cable is very effective, and it can

loiter and not damage the PVC. If you stopped a chain and let it spin in one spot, it would erode away the PVC.”

Rob Broccolo Jr. began his career in the industry over a decade ago and he has owned and operated Professional Drain Services of Southern New England for the past four years. Through servicing the variety of drains the New England area has to offer, he has learned a thing or two. “I try to use non-carbide tipped chains in older pipes the first time around to make sure nothing breaks but nine out of 10 times, I'm using a carbide cutter,” he says.

Manufacturers like RIDGID have readily available documentation for their chain knockers showing which of their products should be used in specific pipe materials. When in doubt, contact the manufacturer of your particular chain cutter or knocker and ask.



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Size according to the job

Choosing the proper size of cutter or knocker depends on the diameter of pipe to be cleaned. If you're unsure, ask the manufacturer. They will be able to provide assistance when purchasing and have documents to help contractors choose a model according to pipe-line inside diameter.

The end goal is obviously to clean wall to wall, but Broccolo says that sometimes it's smart to start with a chain that is smaller than the diameter of the pipe. "A smaller cutter can help you to navigate through and give yourself an opening for the right size chain afterwards," he says. "You don't want to go too small because it could flip on you, but with some experience you get the feel for when to use that technique."

Tricks of the trade

All three experts agree that with any chain cutter or knocker, it's best to proceed with caution. Knowing the details of the environment and materials you'll be working with is the first step, but even after that, they all mentioned other strategies to make sure their equipment lasts and the jobs get done.

"I always tell people to use a nozzle first to actually clean out the line from debris such as sand, silt and rocks before running the cutter through," Laimer says. "Our cutters spin at 4,000 rpm; if they hit rocks in the line, it can severely damage the cutter and the pipe. It is a root cutter, not a rock or concrete cutter."

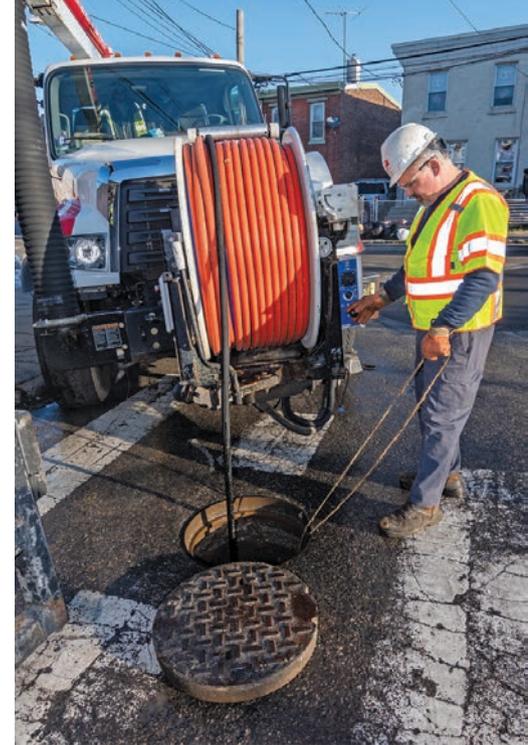
Broccolo adds that he uses a camera for visual inspection to help him decide which cutter or knocker he should use or at least which one to start with. Camera visuals can also inform contractors if there are multiple types of blockages in the line such as wipes and roots. In that situation, Broccolo opts for a different style head on his cutter. "Penetrating heads are nice for when you're going into wipes or a soft blockage," he says. "They provide a little grab to the front so they can grab and twist, allowing the chains to get in there and start spinning wall to wall."

Lessons learned

Experience is always helpful when operating any tool, for any job. Taking a few extra minutes to get things done right the first time will always be more efficient than the time it takes to clean up mistakes. "I've heard of people that either break the cable or flip the chains over inside the line and get it stuck," Broccolo says.

Breaking a cable and leaving a knocker stuck in a line is usually not a quick, easy fix. "If you're lucky, you're able to get it out. But if you are in a deep line and you didn't take the time to set it up properly and use it properly and you happen to make that mistake, the next thing you know you're fixing your machine on site wasting time and money," Broccolo says.

Cleaning with cutters and knockers is about evaluating each situation and knowing your equipment well, because when used correctly their effectiveness as a cleaning tool will boost your cleaning efficiency. ♦



With any chain cutter or knocker, it's best to proceed with caution. Knowing the details of the environment and materials you'll be working with is the first step.

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

THE SUNSET OF PACP VERSION 6

We're working to update and improve with upcoming PACP launch

By Sheila Joy

As NASSCO prepares for the 2023 launch of Pipeline Assessment Certification Program Version 8, it is important to know that while PACP Version 7 will continue to be supported by software vendors after the launch, PACP Version 6 will not.

This change is more than a year away, but it is our intention to provide as much advance notice as possible so that budgeting and other requirements to adopt PACP Version 8 may be considered well in advance.

In a highly collaborative and efficient manner, NASSCO staff, various NASSCO committees (Infrastructure Assessment, Software and Pressure Pipe), and various work groups within those committees have been working diligently to ensure PACP not only meets the growing demands of our industry's needs for the accurate identification of sewer conditions, but that it continues to expand its scope beyond gravity assets.

Some of the updates will include:

- Pressure pipe codes
- Stormwater pipes and access codes
- Inspection for new construction
- Inclusion of more pipe materials, including perforated pipe

In addition to these new codes and other enhancements to the curriculum, there will be many improvements and updates throughout PACP Version 8, making it necessary to sunset PACP Version 6. Changes in condition terminology are a good example. The term "buckling" is used in PACP Version 6, for example, and is now "deformed flexible" in PACP Versions 7 and 8. Another example is the addition of specific codes and ratings for dams

and levees, first introduced in PACP Version 7, with improvements to those codes and ratings in PACP Version 8. Version 6 did not include codes and ratings for dams and levees.

In addition to the specific additions and updates already mentioned, there will be universal improvements to PACP Version 8. Defect ratings for codes will be adjusted throughout, and some code definitions will be clarified. Figures and photos that better represent specific conditions will be integrated. Additionally, NASSCO's Manhole Inspection Certification Program, of which PACP is a prerequisite, will now include storm access points and structures.

Looking to the future of NASSCO's launch of PACP Version 8, we are also raising the bar on the way our certification programs — including Inspector Training Certification Program — are being delivered. With the

advent of virtual sessions brought about by COVID-19, the success of online training led NASSCO to the development of The NASSCO Training Source. Students can now enroll and pay for a course, provide information so the manuals are shipped directly to them, take the session within the software, download certificates and keep track of upcoming recertifications. Live, in-person training is also coming back, and The NASSCO Training Source will also support that.

The recent improvements to NASSCO's PACP and ITCP are part of our mission to set standards for the assessment, maintenance and rehabilitation of underground infrastructure and to assure the continued acceptance and growth of trenchless technologies. We do this through education, technical resources and advocacy. To learn more please visit NASSCO.org. ♦

In addition to the specific additions and updates already mentioned, there will be universal improvements to PACP Version 8.

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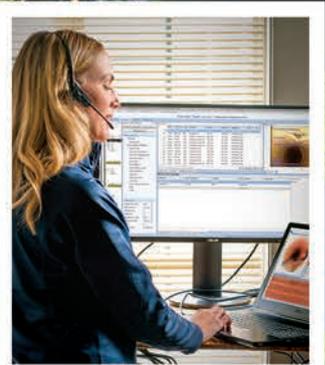
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Product Spotlight

Upgrade improves software platform's functionality and mobility

By Craig Mandli

WinCan Web continues to be a valuable platform to help municipalities streamline tasks. But that doesn't mean WinCan has stopped attempting to improve the product. The company recently announced the release of Web Flex, a powerful new cloud-based platform for managing, sharing, editing and analyzing wastewater inspection data.

While the original launch of WinCan Web focused on project management and communication tasks, Web Flex adds functionality with creation and editing features. It allows users to create projects, drop media directly into the web, and instantly log observations from any internet-enabled device. Projects can be scored and reports generated from directly within the platform.

"It's a unique link between the coding office and the field, allowing for more effective remote workflows and more productive inspections," says Mike Russin, general manager of WinCan in the Americas. "But more importantly, it is a gateway to WinCan artificial intelligence via Sewermatics. Field teams can focus on collection and limit time on roadways as the Sewermatics' AI-powered coding team processes the footage in the Web Flex media bucket. Paired with Sewermatics and WinCan VX, Web Flex ties the WinCan ecosystem together, creating a comprehensive inspection solution designed to get jobs done quickly and safely."

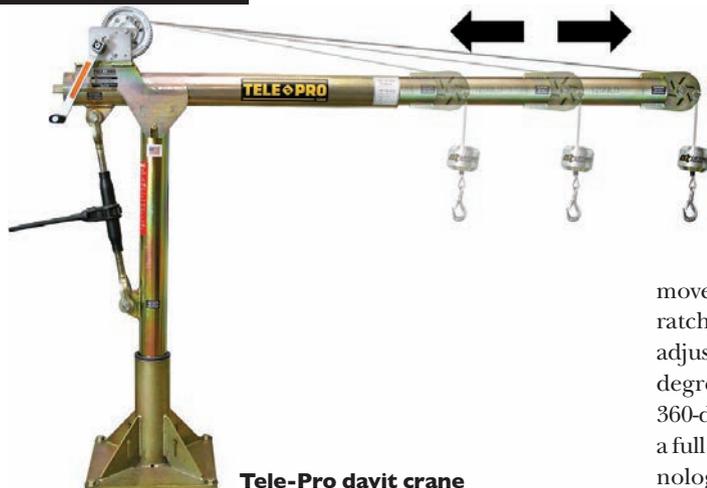


These changes open up new workflows for sewer inspection teams, allowing them to prioritize speed and efficiency. It creates flexible remote workflows for field and office teams to work simultaneously on the same project. If legacy inspections need to be re-evaluated for precision, re-scored using new standards, or offloaded to a third-party like Sewermatics, you can do it all online in Web Flex.

"With COVID-19-related operational shifts putting an emphasis on remote workflows, more people are going mobile than ever before," says Russin. "But even before the pandemic, the wastewater industry was trending toward digital sewer inspection workflows. WinCan Web Flex is a response to the growing demand for flexible, cloud-based inspection solutions that offer efficient collaboration between field and office teams."

According to Russin, technology that gives utility workers mobility is a prized acquisition. "Customers love that they can work remotely and bring work materials home with them," he says. "At the end of the day, not only does Web Flex allow them to employ more productive workflows in the field, it also brings convenience to the coding side of inspection work, which doesn't need to be completed out in the field." **877-626-8386; www.wincan.com**

SPECIAL REPORT



Tele-Pro davit crane

OZ Lifting Products Tele-Pro davit crane

OZ Lifting Products' patented Tele-Pro davit crane features an industry-first telescoping boom adjustment that can be moved in and out while under load. A ratchet screw jack allows the user to adjust the boom from horizontal to 45 degrees while under load and the 360-degree rotation of the crane allows a full range of motion. Smart latch technology at the boom/mast means no

tools are required for assembly. A zinc-plated finish provides added corrosion protection. The Tele-Pro is available in 500-, 1,200- and 2,500-pound capacities. AC and DC electric winches are optional on the 500- and 1,200-pound models, or manual winch with drill drive adapter is available for all three models. The cranes are made in the U.S. and each one is individually tested and certified at 125%.

800-749-1064; www.ozliftingproducts.com

Vertiflo Series 700, 800 and 900 immersion sump pumps

Vertiflo Pump's Series 700, 800 and 900 immersion sump pumps are available with variable frequency drive motors. The pumps are built for sump drainage, flood control and process drainage and meet EPA and OSHA requirements. Depending on the rpm selected, the VFDs provide the capability of varying flow and head performance from a vertical pump. The Series 800 specs include heads to 230 feet, temperatures to 350 degrees F, pit depths to 26 feet and up to 3,000 gpm. Select from cast iron, 316 stainless steel or alloy 20 construction. Series 700 sewage ejector pump specs include heads to 100 feet, pit depths to 26 feet and up to 1,500 gpm. The Series 700 pumps are available only in cast iron construction. The Series 900 has heads to 170 feet, pit depths to 26 feet and up to 1,600 gpm. **513-530-0888; www.vertiflopump.com**



Cherne larger I-Series line of test plugs

Cherne Industries added larger test plug sizes within its I-Series line of Test-Ball, Muni-Ball and Air-Loc pipe plugs. I-Series plugs are built using a robotic manufacturing system that delivers quality, consistency and durability. The new plugs are available as large as 24 to 48 inches. Manufactured robotically, each plug's natural rubber core is mechanically bonded to its aluminum end plate, ensuring precision and consistency while eliminating failures that can result from chemical-bonding processes. In addition, I-Series plugs feature corrosion-resistant aluminum base plates with laser-etched identifiers, replacing the use of raised rubber markings that eventually wear away with usage. The plugs are lightweight, short and flexible, while offering back pressure to accommodate the range of plug sizes offered. Protective sleeves are also available for the full range of I-Series plugs, helping further preserve the plugs for extended use. **800-843-7584; www.cherneind.com**



General Pipe Cleaners Gen-Eye X-POD Plus sewer camera

The Gen-Eye X-POD Plus sewer camera system from General Pipe Cleaners now includes the Gen-Pack battery adapter, Wi-Fi transmitter and an on-screen distance counter as standard equipment. Depending on battery type and settings, the built-in battery adapter allows for up to 12 hours of operation in remote locations with limited access to power. The built-in Wi-Fi transmitter lets you view and record work on a cell phone or tablet. And using the system's USB port, you can also archive activity on flash drives. The new on-screen distance counter also shows how far the camera has travelled down a line in feet or meters. And for optimum accuracy, settings can be adjusted for full-size or mini-reel configurations. A 7-inch LCD color monitor with a sunscreen provides easy viewing in any



location, and the camera has a one-touch recording for speed and convenience. **800-245-6200; www.drainbrain.com**

HammerHead Trenchless HydroGuide HG550 cable winch

The HydroGuide HG550 cable winch by HammerHead Trenchless enables operators to precisely match tonnage and speed to a job's specific requirements. The winch is ideal for slitting plastic gas pipes and pulling back new product in lines ranging from 1/2 to 2 inches in diameter. The HG550 provides infinite, proportional control of up to 5.5 tons of pulling force at payout/pullback speeds ranging from 3 inches to 110 feet per minute. It features a data tracking system to record performance information, and documentation can be used to meet reporting requirements, support operator training programs or for internal project tracking, assessment and more. The easy-to-read Precision Digital Job Data Recorder keeps track of line speed, distance, force and pressure, and a USB flash drive makes it easy to store and download data. **800-331-6653; www.hammerheadtrenchless.com** ♦





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PIPELINE REHABILITATION AND RELINING

By Craig Mandli

CIPP

MaxLiner USA MaxLight

MaxLiner's LED-based UV curing system, **MaxLight**, optimizes CIPP operations by dramatically increasing work efficiency. Curing does not begin until resin is exposed to finely calibrated UV light, allowing pre-impregnated liner assembly at the shop or on-site, eliminating pot life concerns and allowing for several installations in a single day. The UV resin systems are formulated to cure with UV light that offer superior mechanical properties and chemical resistance. As a part of the system, these resins are specially designed with suitable wet-out capability, ultra-low odor and are Styrene-free. Systems are single-component resins designed to meet all specifications for a fully structural CIPP liner conforming to all applicable ASTM standards. **877-426-5948; www.maxlinerusa.com**



Pipeline Renewal Technologies SpeedyLight+

SpeedyLight+ from Pipeline Renewal Technologies is an LED-based UV solution for CIPP that cures at speeds ranging from 0.66 to 3.3 feet per minute. Because it's compatible with felt (as well as invertible glass fiber), it can cure 90-degree bends in lines as small as 4 inches, as well as other challenging geometries like transitions and verticals. Free of styrene and amines (and the associated odor), UV-based cure technologies raise fewer objections from the public and a crew. The single-part vinyl ester resin requires no mixing and eliminates shelf life and working time challenges. It uses LED lamps to cure, drawing half the power of traditional UV technology while providing a more powerful cure. The integrated camera lets operators monitor the curing process in real time for optimal quality control. The highly portable design allows for access from even the most remote sites, curing up to 328 feet of liner in pipe 4 to 12 inches. **866-936-8476; www.pipelinert.com**



LightRay LRI System

The **LightRay LRI System** from Waterline Renewal Technologies allows complete operator control and closely resembles traditional ambient-cure inversion methods. It can accomplish through-



put up to 6.3 fpm of casting with the light train, which incorporates cold LED lights that require no heat to cast the liner. The light train comes in a standard casting length of 50 feet, operates on a low-voltage DC platform, and is internally protected to accommodate bends in pipes up to 90 degrees. Liners arrive ready to install without any need for refrigeration, which dramatically reduces the variability from mixing and preparing liners and eliminates the requirement for extra equipment in the field. The system uses non-thermal UV casting resin that is temperature-stable and only activated by UV light coupled with high-strength flexible fiberglass coated liners. **866-336-2568; www.lightrayinversion.com**

EXCAVATING EQUIPMENT

Enz USA Hydro X

The **Hydro X** nozzle from **Enz USA** is available in 3/8-inch NPT or 1/2-inch connecting threads, and it can function at up to 5,000 psi with flow as low as 8 gpm. It combines a powerful, oscillating water jet with a high debris removal rate. A tungsten carbide front jet ensures a longer life than ceramic jets can offer. For quick and easy maintenance, a repair kit is available. Due to the nozzle's simplicity, repairs can be made quickly and efficiently in the field with little downtime. For the operator's safety, a plastic cover provides protection against harsh and sensitive environments. **888-369-8721; www.enz.com**



Super Products Mud Dog 700

Mud Dog 700 vacuum excavators from **Super Products** are designed for operator convenience and consistent performance to meet the challenges of applications from compact, urban projects to large-scale excavation. Units come standard as hydroexcavators with an optional air excavation package. They maximize legal payload, allowing operators to carry and accomplish more while still excavating safely in small work areas. The compact, versatile vacuum excavator features a 7-yard debris body and 600-gallon water tank. The unit comes standard as a dump body with an electric vibrator offering a 50-degree dump angle with the capability of dumping into a 48-inch container. Additionally, it is equipped with a rear-mounted, extendable, 8-inch-diameter boom that reaches 18 feet, has 270-degree rotation and pivots 10 degrees downward, which minimizes jobsite restoration and eliminates traffic congestion near roads. **800-837-9711; www.superproducts.com**



GROUTING

Aries Industries Test and Seal Grouting System

The **Test and Seal Grouting System** from **Aries Industries** reduces setup time and provides efficient hands-on control to quickly seal leaking joints. Grout — pumped to a leaking joint — flows through the leak, sealing the surrounding soil to form an impenetrable barrier. Sixty-gallon tanks and continuous-duty mixers provide high volume to seal large voids. Reels for fast deployment and retrieval, as well as high-power winches, quickly move the packer from joint to joint for high productivity. The unit's 800 feet of color-coded hose allows long runs. The truck comes with a bench, storage and room to work. The operator tests and seals the joints while working in the control room, where test data and the sealing process are easily viewed, recorded and logged. **800-234-7205; www.ariesindustries.com**



Avanti International AV-100

AV-100 chemical grout from **Avanti International** is used to rehabilitate storm and sanitary sewer systems by eliminating infiltration in manholes, mainlines, joints, laterals, lateral connections, and before or after various forms of CIPP lining. It is injected after lining seals in the annular space between host pipe/liner, and lateral reinstatement, which are the primary sources of infiltration. It is an ultralow viscosity, chemically reactive gel with a similar viscosity to water. It can permeate anywhere water can travel and has adjustable cure times from seconds to hours, creating an effective, long-lasting water barrier while providing soil stabilization. **800-877-2570; www.avantigrout.com**



HORIZONTAL DIRECTIONAL DRILLING

Ditch Witch JT28

Built to combat the challenges of today's utility installation industry, the **Ditch Witch JT28** maintains the mid-size footprint of its predecessor, the JT25, but upgrades on power with a 130 hp Tier 4 Cummins diesel engine. It has a rotational drive system with 4,200 ft-lb of torque and 28,000 pounds of thrust and pull-back. This provides the strength and reliability necessary for installation projects up to 12 inches in diameter and at lengths of up to 550 feet, making it a fit for a variety of jobs, from fiber, pipe and cable installation to larger utilities like water, gas and sewer. It requires fewer maintenance checks with daily service points in one easy-to-access location and no daily grease Zerks. With simplified maintenance and system controls, operators can minimize upkeep and downtime. **580-336-4402; www.ditchwitch.com**



POINT/SPOT REPAIR

Cretex Specialty Products HydraTite

HydraTite internal joint seal from **Cretex Specialty Products** is a mechanical, trenchless remediation for leaking pipe joints. It consists of a rubber seal that spans the joint and is held in place by stainless steel retaining bands on either side of the joint. The retaining bands are hydraulically expanded and locked in place using a wedge lock design, which forms an airtight seal around the joint, eliminating all possibilities of infiltration or exfiltration. These seals can be custom-fitted into irregular-shaped conduits and may be used as end seals on CIPP projects. The system is a recognized method of joint repair by American Water Works Association Manual M28 and has been widely accepted and approved by engineers, municipalities and Departments of Transportation. It has a 50-year design life, does not require excavation and has a low profile that ensures minimal flow loss. **800-345-3764; www.cretexseals.com**



PIPE BURSTING TOOLS

HammerHead Trenchless HydroBurst 100XTR

The **HydroBurst 100XTR** from **HammerHead Trenchless** gives operators the ability to take on a wide range of sewer, water and gas line replacement jobs with just one machine. The unit's 100-ton



(continued)

capability is rated for up to 16 inches in diameter, yet it is compact enough for use on pipe down to 4 inches. It comes with an easy-to-learn, easy-to-use radio remote control. Freeing operators from the pit allows them to position themselves for the best view of a bursting operation and increases workspace in the pit for rod handlers. Its lightweight, heat-treated alloy rods feature an API-style joint that resists buckling under the greater thrust loads required by longer burst runs, sweeping bends, and encrusted and collapsed lines. Used in combination with specialized tooling, operators can burst the toughest steel and ductile steel pipes. **800-331-6653; www.hammerheadtrenchless.com**

Pow-R Mole Trenchless Solutions PD-33M

The **PD-33M** pipe bursting machine from **Pow-R Mole Trenchless Solutions** is designed to replace existing underground pipes 2 to 6 inches in diameter. Its nonslip, cylinder-activated jaws prevent cable damage while providing 60,000 pounds of pulling force. It offers a cost-effective alternative to open-cut excavation, reducing customer disruption and increasing company profits. The process replaces the existing pipe with a fused HDPE pipe, which eliminates all joints, and allows the operator to pull through bends such as 45-degree fittings. This system is modular and can be easily disassembled and reassembled for manhole and basement applications. With a compact design and very small footprint of only 20 by 20 inches, this unit can be used in tight locations. **800-344-6653; www.powrmole.com**



PIPE CUTTER

Wachs Utility Products DWG 416

The **DWG 416** diamond wire guillotine saw from **Wachs Utility Products** can be used to cut pipe from 4 to 16 inches OD. Equipped with folding arms for ease of storage, transport and entry to tight locations, it uses a diamond-infused cutting wire. It cuts all materials quickly and precisely, including concrete lined and plastics, and mounts to the workpiece for safe operation, avoiding kickback injuries. It is hydraulic powered for long life, allowing for full water immersion. Its long-lasting diamond cutting wire delivers a low cost per cut. **847-537-8800; www.turnvalves.com**



PIPE FUSION

McElroy TracStar iSeries

McElroy's TracStar iSeries fusion machines have improved mechanical, hydraulic, electrical and control systems. They are powered by the Fusion-Guide Control System that offers three levels of control, from operator-controlled to completely automatic, machine-controlled operations. The DataLogger 7 is completely integrated with the iSeries, ensuring that each fusion joint is recorded and complies with the fusion standard. The TracStar 630i, 900i and 1200i cover three size ranges from 8-inch iron pipe size

to 48-inch outside diameter. All are equipped with a new and quieter Perkins (Caterpillar) engine that meets U.S. Tier 4 environmental regulations while providing greater torque. The system pressure was raised to more than 3,000 psi for more powerful ground drive, pipe lifts and other functions that use higher levels of pressure. **918-836-8611; www.mcelroy.com**



PIPE LINING

AGRU America Sure-Grip

Sure-Grip liners from **AGRU America** are made of HDPE, HDPE-el, PP, PVDF or ECTFE, and serve as a long-term alternative to spray-applied concrete protection products. The liners prevent concrete corrosion and degradation, can substantially extend the lifetime of a structure, and by preventing exfiltration and infiltration, provide direct protection for the environment. The liners have anchoring systems that enable construction in areas of significant backpressure. Unlike spray-applied liners, which have to be reapplied regularly due to cracking or delamination, these liners are long-lasting, and are designed to avoid the residuals cost often associated with concrete spray-on liners, which require tank emptying and cleaning every few years for reapplication. **843-546-0600; www.agruamerica.com**



Applied Felts AquaCure

The **AquaCure** inversion tube from **Applied Felts** is a multilayer felt liner with a choice of impermeable PU or PP coating that conforms to ASTM 1216. Available in up to 130-inch diameters for pipes with 1.5 to 100 mm wall thickness, this liner is used with inversion installations and is available in any length. Seams can be stitched or flame-bonded for liners in the 6- to 130-inch-diameter range. They are constructed specifically for municipal sewer applications such as force mains, and can also be used for industrial purposes including fire water lines and more. Fiberglass reinforcement provides static, self-supporting properties. They can be engineered to have the pressure resistance of a stand-alone AWWA Class IV pipe. Maximum pressure will depend on size and design criteria, but typically pressures exceeding 150 psi can be accommodated. **276-656-1904; www.appliedfelts.com**



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Epoxytec CPP Sprayliner MH

CPP Sprayliner MH from **Epoxytec** is designed to rehabilitate sanitary sewer collections system assets and other underground, cylindrical and/or small box structures in contact with hydrogen sulfide and in need of I&I mitigation with sealed lining. It performs in areas subject to chemical attack and, as a seal preventing oxidation while holding back water migration, I&I and hydrostatic pressure. The material can be sprayed ultra-high-build, up to 1/4 inch per pass. Blended with reinforcing agents and various fibers, the material when cured creates reinforcement lining as a fiber-reinforced polymer, with high-strength and flexural properties for partially or fully deteriorated structures. **877-463-7699; www.epoxytec.com**



Picote Solutions Dual-Color Epoxy Brush Coating System

The **Dual-Color Epoxy Brush Coating System** from **Picote Solutions** allows technicians to rehabilitate pipes from 1.25 to 12 inches for drains, sewers, water pipes, electrical conduits, and heat and air-conditioning ducts by brush-casting a coating. The coating resin forms a pipe inside the original pipe that is tested, safe and environmentally friendly. The new pipe is damp-proof, corrosion-resistant and wear-resistant. It is ASTM and NSF certified (NSF/ANSI 61-5). It is a 100% solids epoxy, and the method allows for clear visual verification during the application process. Apply to small areas or all drains in multistory buildings. The system is practical and easily fits in tight places. **219-440-1404; www.picotesolutions.com**



Warrior Trenchless Solutions Thermoform

Thermoform from **Warrior Trenchless Solutions** is a PVC-alloy structural pipe lining system designed for the trenchless rehabilitation of failing sewer and culvert pipes. It is an environmentally friendly, styrene-free thermoplastic. There are no harmful emissions, and it does not rely on any chemical reaction during installation. Factory-controlled production with rigorous material testing ensures a consistent quality product that conforms to and exceeds the expected standards. The material is highly flexible, allowing it to expand and fit tightly to the host pipe, including changes in shape and dimensions. It is produced in sizes ranging from 4 to 36 inches in diameter, and the wall thickness can be varied according to the application. All installers must be accredited and audited to ensure the highest quality work possible. **716-601-7760; www.thermoformliner.com**



PIPE PLUG

Real-Tite Plugs

Real-Tite Plugs are constructed of hard ABS plastic for the components, ASTM SC-715 Neoprene for the gasket and a stainless steel 1/4 by 20 by 1 3/4-inch fully threaded counter sunk stop bolt and square nut. They seal three ways: Behind the threads, over damaged threads and with a shoulder seal; ensuring a tight, dependable seal for both new and damaged openings. The product line offers a variety of sizes (1.5- to 4-inch diameters in 1/2-inch increments), styles (counter sunk, thumb bolt or hex head) and finishes (ABS plastic, stainless steel or chrome finishing covers). **800-877-0610; www.real-titeplugs.com**



REINSTATEMENT CUTTERS



CUES small and large Currahee Cutters

Small and large **Currahee Cutters** from **CUES** are designed to reinstate wastewater service laterals, remove protruding taps, and brush-finish existing cuts. The cutters function in a range of 5.25- through 36-inch pipe, are equally effective in CIPP or fold and form liners, and can be installed on a CUES K2 truck-mounted cutter system. A 1.9 hp air motor for the small cutter line provides more power, increased productivity, and a smoother cut when operating in 6- to 12-inch relined pipe. Kits are available to retrofit cutters for use with Kangaroo air-motors, and service kits can be purchased for regular maintenance intervals on existing motors. **800-327-7791; www.cuesinc.com**

RapidView IBAK North America IBAK MicroGator Air

The **IBAK MicroGator Air** from **RapidView IBAK North America** is suitable for service providers seeking the benefits of having both a compact cutting system, as well as a complete inspection system.



The pneumatic cutter designed with compatibility and convenience in mind. Equipped with a 1.5 hp pneumatic motor, it is compatible with the components of the MainLite System, including KW206 and KW306 cable reels and BP100 and BS10 control units. With these components, all you need is a hose reel for the air hose and a compressor to have a complete cutting system. It also shares many of the same features as the MicroGator 2.0, such as fourth-axis articulation, powerful tractor motors and the IBAK CutterCam. **800-656-4225; www.rapidview.com** ♦

Contractor uses pneumatic pipe plugs to meet extremely high head pressures

Problem:

As part of a project that lasted a year and a half, The Metropolitan Water Reclamation District of Greater Chicago performed structure rehabilitation and pipelining along 175th Street and Ridgeland Avenue in the Chicago suburb of Tinley Park. The project's objective was to update the infrastructure and prevent further deterioration of existing pipes and structures. Instead of digging up and replacing the old line, Insituform Technologies inserted a cured-in-place lining inside 14,051 feet of 60-inch sewer pipe. A Tinley Park-based subcontractor, Airy's, supported the installation of the cured-in-place lining. Airy's role as the subcontractor was to plug the sewer lines and bypass the entire 14,000 feet of sewer line, so Insituform Technologies could get into the line and safely put the cured-in-place liner in the pipe.



Solution:

Airy's used large bypass pipe plugs manufactured by **Cherne Industries** to stop and redirect wastewater flow into the bypass system. The subcontractor used **Muni-Ball** pipe plugs to meet extremely high head pressures and safely plug the lines, bypassing 14,000 feet of 60-inch sewer line.

RESULT:

With the use of pneumatic pipe plugs, the contractors did not have to enter the sewer to plug the pipe. For ultimate safety, Airy's "double-plugged" the sewer, says Airy's project manager Tom Land. The plug performance proved excellent, even in extreme rain events that truly tested the durability of the plugs. "These plugs had extremely large flows through them and were able to meet extremely high head pressures," says Land. **800-843-7584; www.cherneind.com**

Large liners a fit for CIPP rehab of corrugated metal pipes

Problem:

Large, deteriorating 72-inch corrugated metal pipes in Santa Rosa County, Florida, were full of water from three weeks of rain, delaying a relining project. Originally PCC had planned to transfer the large liners needed from FerraTex's rental trailer into their own 53-foot refrigerator trailer, but their Cat 938 loader could not handle the 72-inch liners, each weighing in at 15,000 pounds.



Solution:

PCC took over the rental from **FerraTex Solutions**. "Because FerraTex did such a great job icing, the liners were

saved, no issues whatsoever, in the summer, in Florida, for three weeks" says Ben Joyner, president of PCC. With the three 72-inch-diameter pipes being side by side, the excess water was diverted to flow through one pipe while the others were isolated to fit large scaffolding in front of the host pipes for installation. PCC used five 6-inch pumps to divert from the upstream side of the road through the discharge pipe, which ran into the woods. An additional 6-inch pump on the downstream side helped divert water away. Once the uphill battle against water diversion, rainstorms and high tide was won, installation began.

RESULT:

A large excavator was brought in to lift each 15,000-pound liner 10 feet to the top of the scaffolding. Water curing was chosen, and the install was completely successful. **844-433-7728; www.ferratex.com**

Severe leak stopped with trenchless point repair

Problem:

Peachtree City (Georgia) Water and Sewerage Authority (PCWASA) was experiencing a major leak in an 8-inch ductile iron sewer line under a high school football field. Infiltration was estimated at 50 gpm on dry days and rain events increased the infiltration significantly. The leak resembled a hose outlet open in the side of the line. Traditional dig-and-replace repair methods with dewatering would have been extremely expensive.



Solution:

A PCWASA crew installed an 8-inch by 3-foot trenchless point repair, manufactured by **Infrastructure Repair Systems**. The repair was accomplished in a single day from above the manholes: no trenching, dewatering or excavation required. Not even bypassing of the sewer line was required. The city's installation of the **Trenchless Point Repair Kit** sealed a major source of infiltration.

RESULT:

By utilizing the kit, the utility repaired a significant leak for a fraction of the cost of traditional methods. They also realized a large reduction in pump run time at the downstream lift station — from 50 down to 30 gpm. Calculations from actual pump runtime showed minimum reduction of 15,768,000 gallons per year and a cost savings of \$24,236 annually. The utility saved more than the entire cost of purchasing the system, inclusive of kits and equipment with their very first repair. **727-327-4216; www.irsinc.net**

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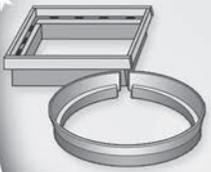
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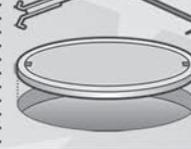
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Couplings used to connect deeply buried fire hydrants

Problem:

The Town of Gilbert, Arizona, has most of its fire hydrant piping 3.5 feet underground, except for older fire hydrants that have been buried closer to 6 feet. When the infrastructure for these older hydrants deteriorated, they needed to be replaced, but the repairs presented safety issues given the depth of the pipe. Each time crews needed to reconnect a fire hydrant to the mainline, shoring needed to be put in place to help prevent cave-ins. In addition, under digging was needed to allow space for tightening the bolts given the small space. The utility was looking for a way to minimize the time in the ditch and have the job done quickly.



Solution:

The utility chose the **HYMAX Grip** from **Mueller Water Products**, which has only two bolts to tighten compared to six on traditional mechanical joint restraints. Reducing the number of bolts to tighten makes a huge difference in getting the job done quickly. The space needed to repair fire hydrants is relatively tight, so anything that can make the job easier is a plus. Also, if you don't have to dig underneath to reach bolts close to the ground, it means that the ditch is more stable with a lower chance of cave-ins.

RESULT:

A quick and easy installation meant minimal time in the trench, making it safer for crews and allowing them to move on to the next project. 855-457-2879; www.muellerwaterproducts.com

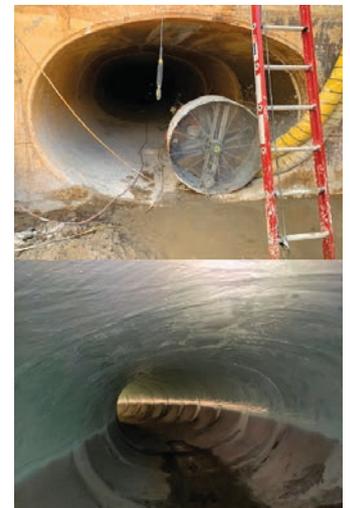
Epoxy used for rehabilitation of large-diameter pipes

Problem:

A 370-foot-long 87- by 136-inch elliptical pipe and 541-foot-long 96-inch-diameter pipe both had severe crown corrosion at San Jose Water Treatment Plant. An assessment estimated the remaining service life range of the pipes between 0 and 12 years. A high priority was given to performing a structural lining on these pipes.

Solution:

Michels Pipeline recommended using geopolymer for repairing badly deteriorated spots, followed by coating the pipes with **Neopoxy** high-strength corrosion-resistant **NPR-5304** epoxy resin. The project owner decided to line only the top half of the pipes due to the more serious corrosion in that area. The Michels crew applied epoxy using plural component spray equipment at 125 to 150 mil thickness.



RESULT:

The project was completed successfully. The coating successfully passed the spark and adhesion tests, and the pipes were back in service within a few days. Through the application of the epoxy, the lifespan of the large-diameter pipes was extended by approximately 50 years. 510-782-1290; www.neopoxy.com ♦

Carboline launches CarboNext program

Carboline launched CarboNext, a program aimed to educate, connect, support and engage with the next generation of engineers and professionals. CarboNext's core audience includes professionals aged 40 and under who are engineers, specifiers, inspectors, project managers, operators or anyone who desires to learn more about coatings and corrosion. In addition to training and education, the CarboNext program will include technical events and community support projects.

OCWD director Green receives VP nomination from ACWA

The Association of California Water Agencies nominating committee has unanimously chosen Orange County Water District Director Cathy Green as the vice president candidate for ACWA's recommended slate. With this latest announcement, nearly 40 statewide organizations have expressed their support for Green to serve as vice president of ACWA, the nation's largest statewide coalition of public water agencies.

Vortex promotes Matt Timberlake to chief administration officer

The Vortex Cos. announced the promotion of Matt Timberlake to chief administration officer to oversee the company's process improvement, fleet management and procurement divisions. He was previously the company's head of corporate development.



Matt Timberlake

NLB Corp. combines Michigan operations

NLB Corp. opened a new headquarters in Wixom, Michigan in December. The 170,000-square-foot facility, only a few miles from the company's current headquarters, combines all its Michigan operations — sales, parts, service, manufacturing, engineering and rentals — under one roof.

Omneity Innovations announces new staff members

Barbco announced that Omneity Innovations has added four new staff. Omneity Innovations was spun off from Barbco last year and serves as Barbco's in-house engineering and machine field service team. Michael Swope will manage the engineering, sales, service and production departments. Sales and marketing executive Tami Clark comes to Omneity with a combination of careers in sales, education, music and ministry. Angelo Cico is a draftsman and will be using new software to strengthen problem-solving and team building skills for the company. And new engineer Matthew Honnaker, who studied at the University of Mount Union for mechanical engineering and entrepreneurship, will design future projects.



From left to right: Tami Clark, Matthew Honnaker, Michael Swope, Angelo Cico.

Centrisys/CNP's MagPrex to be installed in Idaho, names new staff

The Meridian, Idaho, Wastewater Resource Recovery Facility has partnered with Centrisys/CNP to implement a MagPrex biological nutrient removal system.



Mickey Balash



Steve Brown



Drew Johnston

Meridian's WRRRF operates and maintains a centralized wastewater treatment facility and over 400 miles of sewer lines located throughout the city. Using the MagPrex system, operators can prevent crystallization in their biosolids train and reduce phosphate recycling by up to 90%. As the seventh MagPrex installation in the U.S. for Centrisys/CNP, the Meridian WRRRF's anticipated timeframe will begin in the summer of 2022.

Centrisys/CNP also announced the growth of its sales team with the addition of three new representatives. After eight years with EU-based manufacturers, John "Mickey" Balash rejoins the U.S.-based team as industrial sales manager. Additionally, Steve Brown joins as sales manager - Southeast region, and Drew Johnston joins as aftermarket sales - Central region.

Felling Trailers names new sales manager

Felling Trailers appointed Joel Lindmeyer as their Great Lakes regional sales manager. In this role, he will be responsible for all sales development, activity, and dealer support within Minnesota, Wisconsin, Illinois, Michigan, Indiana, Ohio and Kentucky. He will be taking over the Great Lakes region once served by Daniel "Boone" Larsen, who retired in May. Lindmeyer brings over 25 years' experience in the truck and trailer industry with a strong emphasis on sales and customer service.



Joel Lindmeyer

NAWC taps Jennifer Kocher as VP communications and marketing

The National Association of Water Companies welcomed Jennifer Kocher as NAWC's vice president of communications and marketing. She comes to NAWC with over 20 years' journalistic and strategic communications experience. Since 2015, Kocher worked for the Pennsylvania senate, and prior to her time in the senate, she served as press secretary to the Pennsylvania Public Utility Commission for 10 years.

Zeus to collaborate with JB Poindexter's EAVX on electric work trucks

Zeus Electric Chassis and EAVX announced they will join forces to develop and commercialize all-electric vocational work truck solutions. Joint development efforts will focus on integration of the JB Poindexter commercial truck bodies, utility truck bodies and vehicle cargo management systems with the Zeus Power Platform, an all-electric cab chassis. The non-exclusive collaboration agreement will initially focus on the Class 5 Zeus Z-19 and Class 6 Z-22, and then will expand to the Class 6 Z-26, all available with a variety of cab options.

Oklahoma City Water Utilities Trust selects Inframark

Inframark announced that the Oklahoma City Water Utilities Trust awarded the company a five-year partnership for operations, maintenance

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and repair services for water and wastewater systems for Tinker Air Force Base. The addition of TAFB builds on the company's growing presence in the Sooner state, where the company also operates seven other projects including OCVUT's wastewater facilities that treat more than 110 million gpd.

Wilo USA acquires QuantumFlo

As part of an asset deal, Wilo USA acquired the operating business of QuantumFlo, a specialist in pressure boosting systems and intelligent pump systems. The company, based in Sanford, Florida, employs 32 people and offers products and user-friendly software solutions for the design and operation of pressure boosting systems.

AVT announces global training program

Advanced Valve Technologies announced it is building its own Install Network, referred to as the Installation Army, and now has more than 120 certified installers around the world. AVT's EZ Valve-certified installers go through a rigorous two-step training program that utilizes an online training portal that introduces the valve and components, along with the proprietary installation process.

VMAC celebrates 20 years of partnership with Lincoln Electric

Lincoln Electric and VMAC partnered 20 years ago on Lincoln's Air Vantage system that uses VMAC's air compressor technology. VMAC's relationship with Lincoln Electric began at a tradeshow in the summer of 1997, when one of Lincoln Electric's engineers, Nino Silvestro, discovered VMAC's UNDERHOOD air compressor. In the early 2000s, VMAC and Lincoln joined forces and began working together to develop an air compressor for Lincoln machines. ♦

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PIPELINE REHABILITATION

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PEOPLE/AWARDS

A stormwater management project jointly organized by **Upper Gwynedd Township** and the **Wissahickon Trails** nonprofit group earned a Governor's Award for Environmental Excellence from the office of Pennsylvania Gov. Tom Wolf.

RiverLink, a regional nonprofit organization focused on the French Broad River, received a \$150,000 grant for the Southside Community Stormwater Project in Asheville, North Carolina.

The **Town Creek Culvert Drainage Improvement Project** in Greenville, North Carolina, received honors from the American Public Works Association-North Carolina Chapter. The annual award is presented to successful stormwater management improvement projects that excel in elements of infrastructure and natural systems.

The **Langdon Stormwater Management Facility Project**, a cooperative effort of the Carroll County Bureau of Resource Management and the City of Westminster, received a County Engineers Association of Maryland Mid-Size Project of the Year award.

Mickayla Poland received the Great Design Award from the PA Wilds Center for Entrepreneurship. Among her projects, she completed a series of storm drain murals for the Elk County Conservation that helps educate people about the importance of keeping stormwater and runoff water clean.

Matt Klontz was hired by Port Townsend (Washington) as its director of capital projects and chief engineer. He also will take the lead role in the stormwater system project at Boat Haven.

The American Academy for Park and Recreation Administration awarded **Cleveland Metroparks** (Ohio) with the National Gold Medal Best in Nation Award. It's the highest national honor in the parks and recreation field. Reducing stormwater runoff was among the achievements by Cleveland Metroparks. ♦

CALENDAR

Feb. 15-18

International Erosion Control Association Annual Conference, Minneapolis Convention Center. Visit ieca.org.

Feb. 21-24

Water & Wastewater Equipment, Treatment & Transport Show, Indiana Convention Center, Indianapolis, Indiana. Visit www.wwetshow.com.

March 2-5

National Utility Contractors Association Annual Convention and Exhibit, Hyatt Regency Hill Country Resort and Spa, San Antonio. Visit nuca.com.

March 13-16

American Society of Civil Engineers Operation and Maintenance of Stormwater Control Measures Conference, Wilmington Convention Center, Wilmington, North Carolina. Visit asce.org.

April 10-13

American Public Works Association Snow Conference, (hotel TBA), Pittsburgh. Visit snow.apwa.net.

April 24-27

American Water Resources Association Spring Conference, Bryant Conference Center, Tuscaloosa, Alabama. Visit awra.org.

May 2-4

Montana Stormwater Association Annual Conference, Holiday Inn Downtown, Missoula. Visit mtstormwaterconference.org.

June 12-15

American Water Works Association ACE22, Henry B. Gonzalez Convention Center, San Antonio. Visit awwa.org.

June 27-29

Water Environment Federation Stormwater Summit, Hyatt Regency, Minneapolis. Visit wef.org.

Aug. 28-31

American Public Works Association Public Works Expo 2022, (hotel TBA), Charlotte, North Carolina. Visit pwx.apwa.net.

Sept. 26-28

StormCon and National Rural Water Association WaterPro Conference, Gaylor National Resort and Conference Center, National Harbor, Maryland. These events are being held as parallel conferences. Visit nrwa.org or stormcon.com.

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.

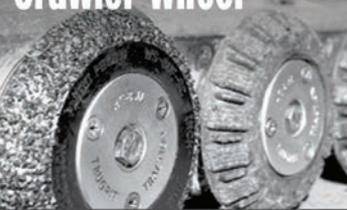
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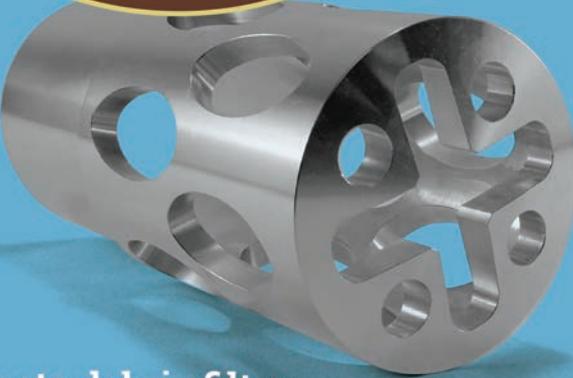


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