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AUGUSTA, GEORGIA
BLAZING TRAILS
IDENTIFYING AND ADDRESSING SEWER LINE BLOCKAGES

BY RYAN BUTLER, GISP, SENIOR SYSTEM ANALYST AND PHASE MANAGER, WOOLPERT

Evolving technology allows municipalities to perform essential tasks more quickly, efficiently, and cost effectively. Municipal employees, who have the most hands-on experience and applicable worksite knowledge, often play pivotal roles in that evolution.

This was the case in Augusta, Georgia, in 2016. The city of more than 200,000 people had been placed under a Georgia Department of Environmental Protection consent order, which mandated the Utilities Department evaluate the original combined sewer system and take the necessary actions to prevent sanitary sewer overflows (SSOs).

Augusta had purchased one of the first Sewer Line Rapid Assessment Tools (SL-RAT™), which employs acoustics to evaluate line conditions and assess sewer line blockages, in 2013. It works by having a technician place an SL-RAT transmitter on top of an open manhole, sending an acoustic signal to the receiving unit at the next manhole downstream. The SL-RAT receiver then evaluates the signal, providing a blockage assessment to the operator in real time. The acoustic inspection takes less than three minutes and does not come in contact with the waste stream. It was developed to help focus closed-circuit television (CCTV) and cleaning resources on the pipes that need the most attention. It became commercially available in 2012.

Augusta hired Woolpert in 2014 to implement the Cityworks work order management system to streamline and modernize the Utilities Department's operations.

As the Utilities Department was implementing Cityworks, IT and technical support manager, Jerry Philpot, said it quickly became apparent that the software could facilitate communications between the SL-RAT team and the cleaning team. The SL-RAT could identify where the blockages were along the 1,200 miles of sewer lines and, in compliance with a consent order directive, immediately address those blockages. The Cityworks software was central to the immediacy of the response of the cleaning crews.

as the crews immediately applied the condition assessment to a line. Based on their findings, the map colors change from red to yellow to green, and we could watch them go through their route for the day." Alex Churchill, the chief operating officer of SL-RAT's parent company, InfoSense, said the EPA-validated SL-RAT tool has been employed at about 160 utility departments around the world in the last four years, with sales growing by a reported 50 percent in 2016.

But to Churchill's knowledge, Augusta was the first municipality to pair SL-RAT with a work order management system like Cityworks. He credited the municipality with connecting the dots to improve the use of both systems, saying it comes down to knowing which tools to use and when.

Churchill described SL-RAT as being similar to a hammer. "It can help you build a house, but it won't build it for you. It's up to you to figure out what you want your house to look like."

Steve Schwabe, a Woolpert program director and one of the firm's 12 Institute of Asset Management-certified professionals, mentioned Augusta has had significant reduction in its SSOs since they began using the SL-RAT with Cityworks.

"The response time was the biggest benefit for us. We had SL-RAT crews out in the field, and when they found blockages, they routed their inspection work order directly to the cleaning crews," Philpot said. "We didn't have to come back in and review on papers like we used to. We didn't have to engage the supervisors to make decisions. We could watch live

When field crews update the asset condition, the SL-RAT integration allows office staff to see those updates in real time as the line color changes to reflect the new scores.
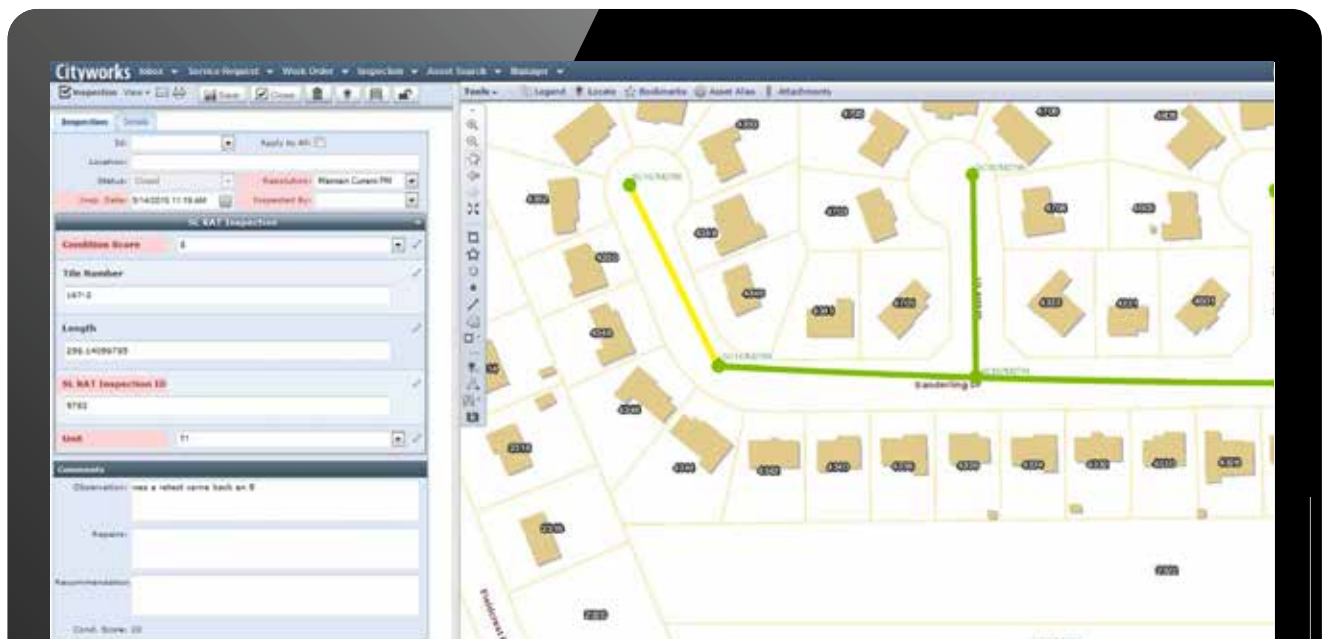
"Instead of spending the time and money to clean all the pipes, the city now just cleans blocked pipes," Schwabe explained. "This allows Augusta to use its expensive cleaning trucks more judiciously."

Cityworks has made Augusta more proactive than reactive, according to Philpot, both overall and specific to its use with SL-RAT.

"You can go through the system and check it—finding potential problem areas before they get too bad," Philpot said. "The further you let it go on, the worse these incidents can be. And if you find one that needs attention, the crews can be out there immediately." Philpot added that Cityworks came along at the right time for Augusta, after years of working in silos, and that the city has continued to reap benefits as more departments come online.

Schwabe said communication through configuration— letting the software streamline your work processes—led Augusta to earn a Cityworks Exemplary User Award in December 2016. The award recognizes organizations that have applied Cityworks in non-traditional ways, leveraging the platform and empowering GIS-centric asset management for their communities.

"They're not just looking at what Cityworks is designed to do, but they're taking it a step further and asking how it can make their jobs easier," Schwabe explained. "Cityworks wasn't designed for SL-RAT inspections, but the city set up an inspection on the map and got creative."

Schwabe credited the city's receptive Utilities Department for its effective and ground-breaking implementation. "They don't care what the product is, they just want it to work. SL-RAT and Cityworks make their jobs easier and the citizens reap the benefits," Schwabe said. "That mindset flows down from the director, Tom Wiedmeier, all the way to those in the field to make them better. Willingness to do that makes them successful." 📍

Author Ryan Butler is a certified GIS Professional who works as a senior system analyst and phase manager for Woolpert's geospatial discipline out of the firm's Columbus, Ohio office.

> "INSTEAD OF SPENDING THE TIME AND MONEY TO CLEAN ALL THE PIPES, THE CITY NOW JUST CLEANS BLOCKED PIPES."
>
> Steve Schwabe, Woolpert

Utility crews using SL-RAT™ for inspections in the field.