

Asheville, NC Reduces Water Loss and Bolsters Capital Improvement Program with **Hot Rod™** AMR



Asheville, NC covers a total area of 41.3 square miles and is home to more than 83,000 residents, according to the U.S. Census Bureau. Its Water Resources Department works non-stop, providing the city's residents with clean drinking water through approximately 56,000 service connections. The Department is committed to continuously improving its products, systems and processes to maximize customer satisfaction and conservation of its water resources.

situation

Recently, the Department realized that the manual collection of meter readings provided extremely limited information it needed to effectively manage water loss levels and answer customers' billing-related questions. It also noticed that its water meters had become outdated and were not accurately measuring the volume of water used by customers.

Immediately, the Department began searching for a partner that would upgrade its water meters and install a smart metering solution that would provide the information needed to better account for the water distributed through its network.

action

Asheville turned to Cleveland, NC-based Mueller Systems, a leading provider of innovative water infrastructure products and services and technologically advanced metering systems, to replace all of its water meters and install **Hot Rod™**—Mueller Systems' high performance automated meter reading (AMR) system. The components of the **Hot Rod** AMR system, which include **Hot Rod™** Radio Transmitter Units, the **Street Machine™** Mobile Data Collector and **EZ Reader™** Software, work together to help utilities reduce the amount of time it takes to manually collect meter reads, more effectively manage water usage, and improve customer service.

The logo for HOT ROD, with "HOT" in a stylized, flame-like font and "ROD" in a bold, italicized, sans-serif font, both in red and orange colors.

Hot Rod units transmit monthly consumption reads and leak and backflow alerts via radio frequency, while internally storing hourly consumption data for up to 170 days (six months) for retrieval. **Street Machine** and **EZ Reader Software—Hot Rod's** data management tools—automatically collect meter reads and instant data logging alarms as a meter reader drives along selected routes (at posted speed limits), while providing progress screens and route maps, which display collected readings and meters that still need to have their data collected. Meter locations are graphically represented on route maps by blue icons that disappear as soon as readings are collected. If a leak, reverse flow, no flow or tamper alarm is received, the corresponding icon will turn a different color, immediately prompting the meter reader to proactively approach customers about possible leaks or other service related issues.

results

Immediately following the first phase of project, in which 48,000 meters were replaced and deployed with the **Hot Rod** system, Asheville's Water Department began seeing results.

The technology enabled Asheville to automatically collect meter readings from their vehicles instead of having to stop at each customer location. This allowed the Department to reduce meter reading times by 60% while being able to cut the

department's meter reading staff by 50%. These employees were then re-classified and delegated new duties related to work as Meter Technicians to ensure all new assemblies were maintained properly. **Hot Rod's** reporting capabilities also improved the City's ability to answer customers' billing-related questions.

"The data and increased efficiencies provided by **Hot Rod** and the new meters have been very impressive," said Brandon Buckner, Meter Services Superintendent for the City of Asheville. "We've drastically reduced the amount of time it takes to collect meter readings every billing cycle and we've seen revenues increase due to our ability to more accurately account for water used by customers. Previously, we weren't always able to answer customers' billing-related questions because we didn't have accurate and reliable data. Now, we have the information at our disposal to answer their questions and help them better understand their bills."

Data logging and consumption profiling made possible by **Hot Rod's** storage of 170 days of consumption data and alarms provides the Department with detailed information that helps it to identify leaks and track water loss.

The city credits these advanced features for helping it to identify leaks and track water loss in a timelier manner—

Water loss costs utilities worldwide an estimated total of \$18 billion per year, according to the World Bank.

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“Receiving leak alerts and being able to access stored metering data—both in the field and in the office—has helped us reduce and better control our non-revenue water levels,” said Buckner. “Being able to identify specific areas where most of our leaks are concentrated also allows us to more efficiently prioritize water main repair and installation projects that can further increase revenues and reduce water loss.”

According to Buckner, his Department is using this type of information for its part in a capital improvement program that Asheville is currently “ramping up” to improve conservation, infrastructure and customer service throughout the city.

“As part of our capital improvement program, we’ve created a Data Technician position that will focus exclusively on answering customers’ questions and alerting them of household leaks or excessive water consumption based on data provided by **Hot Rod**,” said Buckner. “We’re also in the process of establishing a non-revenue water committee that will use the data to further identify and reduce current water loss levels. These developments, which are largely made possible by our decision to implement **Hot Rod**, will not only help us improve conservation as a utility, but will also enable us to help our customers improve conservation as well.”



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Brandon Buckner,
Meter Services Superintendent
for the City of Asheville

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Printed in the USA. REV 01/14