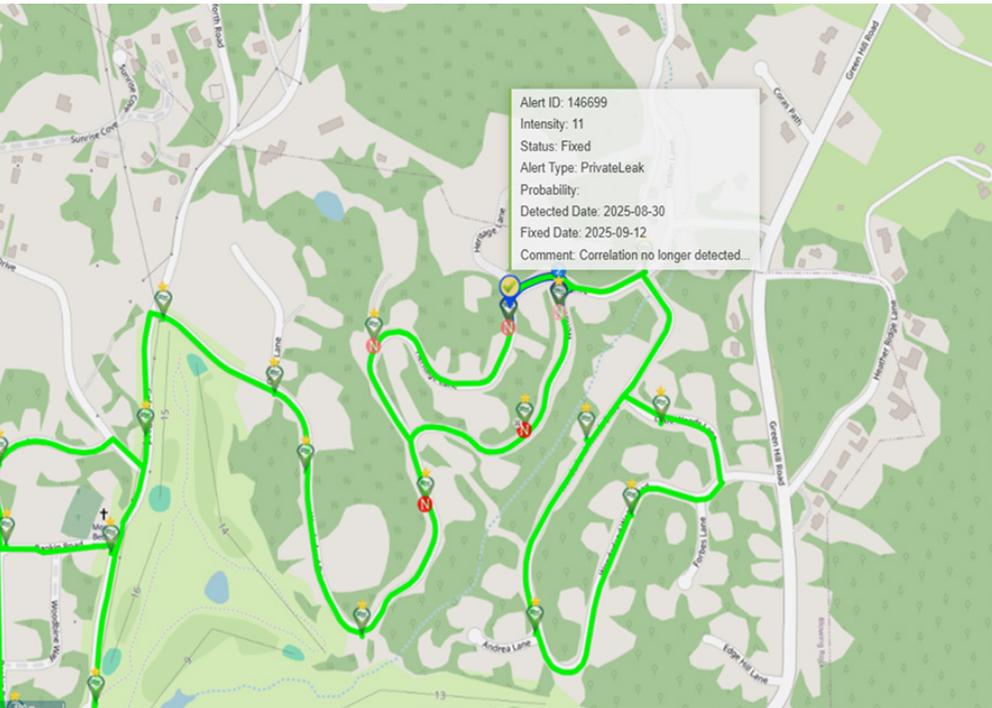


CUSTOMER CASE STUDY

**AQS ACOUSTIC LEAK DETECTION IDENTIFIES A COSTLY LEAK IN THE TOWN OF BLOWING ROCK**



**PROJECT OVERVIEW**

**PROJECT/CUSTOMER:**

Town of Blowing Rock

**LOCATION:**

Blue Ridge Mountains

**PRODUCT / SOLUTIONS:**

AQS Acoustic Leak Detection Technology

**CHALLENGE:**

The Town of Blowing Rock nestled in the rugged terrain of the Blue Mountains, NC, supplies water to high-value homes including seasonal vacation homes. This high-income customer base expects consistent service reliability and have limited tolerance for service disruption. In response, the water utility is taking a proactive approach to detecting leaks efficiently to reduce water loss, safeguard customer satisfaction and improve operational performance.

**SOLUTION:**

AQS Fixed acoustic sensors were installed on fire hydrants in targeted areas of the network to monitor continuously for water loss.

**OUR ADVANTAGES:**

- Comprehensive and scalable acoustic leak detection solution
- Sensor placement with remote technical support and monitoring
- Simplified surveys and improved efficiencies to reduce non-revenue water
- Industry-leading technologies for continuous monitoring and efficient management.

## PROJECT BACKGROUND:

The Town of Blowing Rock, a small water utility located in North Carolina's Blue Ridge Mountains, serves roughly 2,300 customers through 22 miles of water distribution piping. Its service area includes an affluent customer base, seasonal vacation homes, and rugged terrain with deep valleys and varying elevations, which creates daily challenges for the utility in maintaining a reliable and consistent water supply.

The utility adopted a proactive approach by investing in acoustic leak detection technology. Identifying and repairing leaks within the water distribution system helps reduce network pressure, decreases the occurrence of pipe failures, and minimizes unplanned maintenance, thereby limiting disruptions to the water supply. By installing advanced acoustic sensors on key assets throughout the network, the utility can continuously monitor critical infrastructure and receive early alerts about leaks before they develop into major breaks. To support this initiative, AQS advanced acoustic leak detection technology was deployed in select areas of the water distribution network.

## OBJECTIVES:

The key objective of this program was not only to reduce water loss, but primarily to support planned repair efforts and contribute to the continued reliability and operational integrity of the water distribution system. The findings from this program will serve to inform and guide future strategies aimed at supporting The Town of Blowing Rock's overarching goal of maintaining consistently high levels of customer service and minimizing water loss by highlighting areas that may require further intervention or system enhancements.

In order to achieve this, the AQS platform will allow the utility to:

1. Validate leaks identified within a targeted area.
2. Detect the location of the leaks within a 5 to 10-foot radius.
3. Improve leak response time and repair co-ordination.
4. Substantiate the successful completion of repairs.
5. Leverage data and technology to make informed decisions.

## METHOD:

On August 19, 2025, twenty fixed acoustic leak detection sensors were installed on fire hydrants throughout the Rankin Rd/Goforth Rd and Wonderland Drive neighborhood. The AQS Customer Success team continuously analyzed and monitored the data, collaborating closely with Town personnel to prioritize field investigations. This enabled the utility to efficiently dispatch and coordinate their leak detection contractor in targeted areas, making the process both more effective and cost-efficient.

Not long after the initial deployment, the AQS platform was able to identify several points of interest, including one that the utility confirmed as a significant customer-side leak estimated at 550 gpm. The water department promptly notified the customer, allowing for a timely, well-coordinated repair. Follow-up acoustic sampling and continuous monitoring verified the repair was successful and the leak was fully eliminated. Had this leak gone undetected for a year, it would have resulted in approximately 289 million gallons of lost water, costing the utility nearly \$1.3 million.

## CONCLUSION:

Since deploying the AQS fixed acoustic sensor system and AQS-SYS platform in August 2025, the Town of Blowing Rock has gained access to a proactive, continuous stream of data and expertise, laying the groundwork for a strong, long-term water loss control program. The successful identification and repair of a substantial customer-side leak has not only allowed the utility to payback the program within a very short period of time, but has also enabled faster leak response, planned repair scheduling, and minimal disruption to customer service.

## THE SOLUTION: FERGUSON WATERWORKS AND AQS

Ferguson Waterworks manages the complete water lifecycle. From underground PVF for durable infrastructure to smart utility solutions, we serve as your single-source partner. Leveraging advanced technologies—including AQS acoustic leak detection, pressure and flow monitoring, and predictive AI—utility authorities can access better data, reduce NRW, and prevent major pipe failures. Reach out to your local Ferguson Waterworks expert to explore utility optimization solutions.

