

In the early morning hours, as you prepare for your day at work or school, you might notice what appears to be a man with his ear to your water meter. While at first glance you might think he has lost his mind, be aware that he may just be saving you money. This man is the Albemarle County Service Authority's secret weapon in their fight to eliminate leaks.

The American Water Works Association estimates that between 8.8% and 13.7% of treated water is wasted on leaks. That equates to 4 to 9.5 gallons of water per capita per day, or as much as 13,870 gallons of water wasted each year by a family of four. If such a leak occurs between the meter and the house, those 13,870 gallons would be charged to the homeowner, increasing his annual water bill by over \$70.

In addition to leaks on private lines, occasionally they occur on main lines, before the meter. In such a case there is no single homeowner to whom to pass along the costs associated with that water loss. As a result, the water retailer is forced to absorb the costs, thereby increasing their costs of doing business. The loss of such a precious resource is a detriment to the entire community.

As leaks can result in an unnecessary financial burden to both public utilities and private citizens, Albemarle County Service Authority (ACSA) decided to enlist the help of a leak detection surveyor. His name is Merle Sandridge and with thirty years of water and sewer utility service and a sensitive ear, he is able to detect leaks that might otherwise have gone unnoticed.

In 1996, Albemarle County Service Authority hired Mr. Sandridge on a part-time basis to help detect leaks throughout their system. He was a recent retiree from the City of Charlottesville's Public Works Department. After a 32½ year career that began in 1959 as a stockroom clerk and culminated as the Superintendent of Water and Sewer, Mr. Sandridge left the City to redirect his priorities toward his family and enjoy a leisurely retirement.

As many do, Mr. Sandridge found it difficult to make the adjustment from full-time employee to full-time retiree. He had an itch for a reason to get up and going every morning and to keep from talking to himself at home while his wife continued to work part-time. Mr. Sandridge found a way to satisfy that itch by going back to work as the part-time leak detection surveyor for ACSA.

In this position, Mr. Sandridge takes his experience and finely tuned ear out into the community where he checks both private and public lines for leaks. All leaks detected by Mr. Sandridge are done so by sound, never visually. He uses a simple device that resembles the earpiece of an antique telephone and a metal rod to listen for leaks. He places the metal rod on pipes near water meters, fire hydrants and valves, then connects the rod to his listening device and listens carefully for the characteristic sound of water escaping a pipe. Mr. Sandridge performs this task throughout the ACSA service area. In some areas where there are no meters or hydrants to listen to he uses a device called a geophone. Much like a large stethoscope, a geophone set on the ground allows Mr. Sandridge to listen to the pipes below ground. With his trained ear he sorts out the sounds of leaking water from car traffic, airplanes overhead and transformers on power poles. He finds early mornings the best time to complete his work, when these other distracting noises seem to be at their lowest. It also frees up his afternoons for himself, as lest you forget, he will remind you, he is after all retired.

Should Mr. Sandridge identify any leaks on a private water line, he sends written notification to homeowners to make them aware there is a problem. Occasionally he even goes a step further, as he did one time upon detecting a leak in the Key West subdivision. At that time he heard a leak, and upon checking the meter noticed it was turning quite rapidly despite that no one was home. Mr. Sandridge notified a neighbor who in turn used his key to let himself into the home where he was able to turn off the water and eliminate any further water damage. When the homeowners returned to find what had happened, they were grateful for the extra steps taken by Mr. Sandridge, and expressed their gratitude in a note to the Executive Director of ACSA.

When leaks are identified on public lines, a repair crew is dispatched and repairs are made, thus providing tremendous savings. Mr. Sandridge has also noted that since the drought, he finds fewer leaks on private lines. He attributes this to customers being far more aware of the importance of leak detection in water conservation.

Mr. Sandridge is able to make his way through the entire ACSA system every four years. His work is weather-dependent, most being completed in Spring and Fall when temperatures are mild, the sun is shining and most importantly the air is still.

When he is not detecting leaks for ACSA he is enjoying that retirement and his family. His two sons and one daughter have provided him with three grandchildren who come for a week in the summer to spend time with Grandma and Grandpa without their parents.

Retirement has also provided him an opportunity to travel, with favorite destinations being the beach, Lancaster, Pennsylvania and the Angus Barn Restaurant in Raleigh, North Carolina. After a trip to San Francisco during the earthquake of 1989, where he was left on the 21<sup>st</sup> floor of a hotel with no water or electricity for days, Mr. Sandridge says he will stick to short trips and sees no reason to return to California. His wife has other ideas, and is looking forward to a trip back. In the meantime however, they are shopping for a cruise.

His other retirement passion is old milkshake machines. He has 17 or 18 already, and all are in good working order.

So, while he might look a bit odd with his ear to the ground, Mr. Sandridge is actually a quite interesting man with a distinguished water utility career behind him and a full retirement in front of him, and fortunately for ACSA and its customers a keen ear that saves both money and water. As he poignantly says: "as long as water is coming out of the spigot no one is concerned. The problem is when it stops or when it comes out of somewhere other than the faucet."