

January 2015

Lookout Mountain Water District Beaver Brook Currents

Breaks and Leaks in Water Lines and Laterals



This month's communication will be about Pipeline Leaks and Breaks, due to several recent events. The LMWD will pick up the ongoing topic about dam safety next month.

In the past two months, three different Laterals (see inset below) experienced water line breaks. These breaks are not only costly to the responsible parties, but also they are costly to all District residents in the form of water loss. There is a significant cost to produce and treat the wasted water, and the water could have otherwise been stored or consumed while creating revenue for the District.

Over 85% of customer's service lines are attached to a Lateral and do not connect directly to the District's main water line. Tap owners are also reminded that they are responsible for leaks or breaks of their individual service lines, regardless of where the meter is located along that line.

This article, using the three examples on the reverse side, will point out the facts about these breaks and the impact of each, to help inform all customers, but particularly members of Laterals. The goal is to help customers be proactive about water loss detection and to be prepared for water line breaks.

Pipes can develop leaks for many reasons. Sometimes they are caused by an external factor such as a breach by construction equipment, ground shift due to the freeze-thaw cycle, or freezing and rupture with subsequent thawing. Other pipe failures result from settling, corrosion, small dings or other damage that over many years develop into holes or ruptures. The continual water pressure will cause the water to find the weakest point within the closed system.

Pipes are typically buried 5 to 9 feet deep and run for many miles. A minimum of 6 feet depth is needed to reduce the risk of freezing and to minimize the risk of damage from other buried utility services and other typical projects such as landscaping or simple construction projects such as deck footers. The most important way to detect a leak is by seeing and hearing running, pooling, or bubbling water, where there is also a known buried pipeline and no other natural reason for the water.

Most water laterals in the Lookout Mountain Water District are privately owned. A lateral is a pipe that carries treated water to your property, neighborhood, or area from the District's water main.

The District does not maintain privately owned Laterals and is not responsible for the maintenance, repair, or replacement of Laterals or for any damage that may result from a break or other failure of a Lateral. (continued on reverse)

Where to report leaks or signs of unusual running water:

Answering Service: 303-688-7072 for Emergencies or non-business hours. Please call the emergency number for any water loss that is creating a hazard to safety or damage to property. During business hours – District Office 303-526-2025

Recent Case Study Breaks in the District

Name	Lehti-Hicks HOA	Mt Vernon Estates HOA	Cody Park
Repair Date	November 4, 2014	November 6, 2014	December 26, 2014
Pipeline Statistics	One section over 80 years old (1929), ductile iron, 2" diameter	31-35 years (pre 1983 estimated), ductile iron, 8" diameter	50 years old (1964), 4" diameter
Estimated Water Loss	15,000 to 100,000 gallons	750,000 to 1,000,000 gallons	70,000 gallons
Cost to repair break	\$6,336.25	\$17,751.50	\$6,900 (estimated)
Why it occurred	This section of the pipeline was beginning to deteriorate due to age and had multiple small perforations resulting from corrosion	The pipeline developed a large hole, possibly due to a weak spot from construction years ago	Unknown (break was at a seam)
How break was reported	A passer-by noticed a small water flow in the shoulder of Lookout Mountain Road and reported it right away	Nearby residents noticed unusually persistent wetness, then water bubbling in the road and shoulder but it was not reported for 24 to 48 hours	A nearby resident noticed water running early in the day but it was not reported. Later, the Fire Dept. reported it as an emergency during the night after the road began to develop a sink hole
Lessons Learned	An observant customer from a different Lateral identified the water and rapid response by the District allowed for a relatively low cost to repair the break, thus minimized water loss	Due to the delayed reporting, the large amount of water caused an enormous hole, a massive water loss, and a very costly repair. Customers should report any signs of running water or unusual wet areas as quickly as possible. The District can rule out snow melt or naturally occurring wet areas easily with a chemical test. The faster the response, the better the outcome in terms of cost and loss of water, which affects the whole District	Due to the delayed reporting, the water caused more damage resulting in a more costly repair. Due to delayed reporting, the emergency was identified after daylight hours and has to be completed the next day, which increased the water loss and cost of the repair
Long-term Implications	Due to the condition (age and degradation) of the pipe, the HOA should begin to fund and plan for a replacement or redesign of this Lateral, probably in partnership with adjacent Laterals	The HOA should begin a fund for Lateral repairs and maintenance on their line	Due to the likelihood of other repairs needed on the pipe, the group should begin to fund for Lateral repairs, maintenance and/or replacement



Some of the privately owned laterals that serve properties within the Lookout Mountain Water District are owned by home owners' associations or other formal legal entities, such as partnerships. Some are owned by less formal associations.

The Board of Directors of the Lookout Mountain Water District urges you to investigate the ownership of the lateral that serves your area and to understand your legal and financial responsibilities and obligations with respect to lateral maintenance, repair, replacement, and third party liability.

Please report to the District any unusual or anomalous signs of overly wet areas or running water as soon as possible.