

## City of Morganton

# 2013 Wastewater System Performance Report



The City of Morganton operates a wastewater treatment system consisting of a 10.5 million-gallon a day wastewater treatment plant, fifteen sewer lift stations and over 200 miles of collection system. Morganton's collection system operates from the shore of Lake James to the Town of Glen Alpine, to portions of the Salem area and most of the City of Morganton. The collection system is a complex network of piping materials ranging from six inch diameter vitrified clay pipe, plastic pipe, ductile iron pipe and cement pipe up to 54 inches in diameter.

NPDES permit #NC0026573 allows the discharge of treated wastewater into the Catawba River. The wastewater treatment plant is a pure oxygen type facility. Its treatment units are bar screens, flow monitoring, cyclone degritting, primary clarification, aeration, secondary clarification, disinfection and dechlorination before discharge to the Catawba River. The solids process consists of raw sludge removal and storage as well as activated sludge removal to digesters. A dewatering process consists of centrifuge, polymer addition and composting. The composting product is then made available for sale to the public as Morganite.

During 2013, Morganton treated over **2.109 billion** gallons of wastewater. Average daily flows were 5.772 million gallons per day. The wastewater treatment plant was compliant 4 out of 12 months. The facility was non-compliant in the months of January, February, April, May, June, July, November, and December due to heavy rainfall periods which caused hydraulic overloading of the plant. Throughout the year, the wastewater treatment facility has been undergoing a 10.5 million dollar expansion. The ongoing renovations and new additions are anticipated to alleviate some of the challenges the aging facility has experienced. Construction is expected to be concluded by the end of May, 2014.

Residuals from the wastewater treatment plant are managed through the City of Morganton's Composting Facility regulated by permit # WQ0002127. The facility operates 5 days a week with two full time employees. During the 2013 calendar year the facility processed 1,245 dry tons of residuals from the wastewater treatment plant, producing 492 dry tons of finished compost material, 328 dry tons of which were distributed to customers.

There were twenty reportable overflows of the sewer system in 2013. On nine occasions, periods of heavy rainfall caused a combination of rain water and wastewater to overflow the junction box on Vine Arden Road which reached surface waters. The remaining eleven overflows were reported from various locations in the sewer outfall system. Rainfall, root encroachment, and sewer line blockages from rags were responsible for the overflows. City personnel worked diligently to mitigate the overflows and have taken measures to prevent future problems.

The collection and distribution division monitors the water and sewer system. This small crew of dedicated personnel routinely goes into the lines to maintain and repair them. During 2013, this division maintained 1350 manholes, flushed 153,325 feet (over 29 miles) of sewer line and used a robotic TV camera to inspect 3644 feet of sewer. Collection system crews completed 79 sewer taps during the 2013 calendar year, made 50 repairs to the system and relieved 66 stoppages. Sewer maintenance crews bush-hogged a total of 158,130 feet (29.95 miles) of sewer line right-of-way to give them access to the most remote sewer lines. Morganton's collection system is regulated through permit #WQCS00028.

Annually, City crews use a remote camera to help clean and inspect portions of the sewer system. The City plans to continue to use contractors, when the money becomes available, to augment its preventative maintenance program. The results will be used to identify areas that need to be repaired and to plan appropriate action.

The camera that is used has its own light system and can rotate 180 degrees. The camera can tell if the lines are in good condition or whether there are cracks that are allowing the surrounding soil to fall into the sewer line. Cameras can also locate missing taps or indicate where leaks are occurring. This information tells us if we need to make an immediate repair or if the repair can be scheduled.

Fats, oils and grease continue to plague the collection system. Residential customers should avoid placing food into sinks and sanitary sewer lines. Particles accumulate in the customer's home as well as the collection system causing maintenance issues for the homeowner and the City.

Often our customers are the first to find problems. If you see something that appears to be wrong, please call the 24-hour number for water and sewer utilities at 438-5276.