

January 30, 2017

Miles Johnson, Enforcement Analyst  
Water Division / Enforcement Branch  
Arkansas Department of Environmental Quality  
5301 Northshore Drive  
North Little Rock, AR 72118

RE: NPDES Permit No. AR0036498, AFIN 63-00063  
CAO LIS 11-069 / SSES Review

Dear Mr. Johnson,

Please receive this correspondence as the 2016 annual report for the City of Benton's wastewater collection system. I am grateful to report that we have had a very productive year in our efforts to reduce sanitary sewer overflows as well as infiltration and inflow issues. We have pursued these objectives by (1) gravity line repair, (2) manhole rehabilitation and repair, (3) addition of equipment, (4) upgrades and rehabilitation of lift stations, (5) proactive and preventative maintenance, and (6) strategic planning. Benton's sewer infrastructure has undergone significant improvements this past year, and we feel we are making real progress in satisfying the demands of the Consent Administrative Order.

In 2016, the Benton City Council raised sewer rates by 3%. This demonstrates positive community support for improvements in infrastructure. This should generate a projected \$254,671 increase in available funds this year alone for maintenance, repair and needed equipment. Over five years this increase will extrapolate to \$666,330 in additional, available funds. This involves funding for both wastewater collections and treatment departments. It does not take into account, however, the steady, significant growth of our customer base. For example, The Links apartment complex made up of some 692 units was completed in 2016 alone besides numerous residential and commercial developments.

One of the highlights of the year was a significant, gravity sewer trunk line that was installed along Highway 5 from the Hurricane Lake Estates main pump station westward some 7100 feet to the Shoal Creek lift station in the Longhills Subdivision. This entire project involved 5,307 feet of 15-inch, 1,805 feet of 12-inch, 116 feet of 10-inch and 705 feet of 8-inch sewer, or 7,933 total linear feet of new sewer associated with this project. Consequently, we were able to decommission 5 lift stations, replacing them with gravity sewer. They are: (1) Shoal Creek at Longhills, (2) Oak Forest Mobil Home Court, (3) Dogwood Lakes Apartments, (4 and 5) Rivendell Behavioral Health Lift Stations one and two. This project also provided gravity sewer where no public sewer existed. Numerous septic systems, holding tanks, and a small grinder pump station are all being replaced by public sewer connections.

This same project enabled a shifting in load capacity to allow The Links apartment complex (692 units) to be serviced by gravity sewer through the Military Road gravity main rather than having to pump the sewer by the addition of another large lift station. It has, moreover, provided gravity sewer to The Shoppes of Benton, a large retail development that is under construction.

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Another important project was a gravity sewer extension south of I-30 on Alcoa Road. It involved the installation of 1,815 linear feet of 10-inch and 246 feet of 8-inch gravity sewer. This made it possible for the lift station at the CITGO convenient store at Boone and Alcoa to be decommissioned. It provided gravity sewer capacity for a planned funeral home in lieu of a pump station. Moreover, it has provided public sewer to replace a number of septic systems including a daycare at Boone and Alcoa Roads.

The 6-inch force main from the Chapel Ridge Apartments lift station was rerouted to connect to this gravity extension at Boone and Alcoa Roads. This was done primarily to shift load capacity off the Heritage Farm Subdivision lift station and thence the Military Road gravity main. However, this provided increased capacity for the Hurricane Creek Elementary School and The Manor assisted living center, which is another new development in 2016. Moreover, this reroute along Boone Road has provided public sewer to several residents whose septic systems were failing. An additional benefit is that the connection of this force main is at the south most end of the gravity extension which will help push gravity effluent northward on its route to the Hurricane Lake Estates main pump station.

I am very happy to report that 5,649 linear feet of gravity sewer was pipe bursted. This is significantly higher than in recent years. There was 4,484 linear feet of 8-inch main pipe bursted to 10-inch diameter pipe and an additional 328 linear feet of 8-inch replaced with 8-inch. This work was done in Basin #10 in the vicinity of Brookview and Edgehill Streets. There was another 837 linear feet of 6-inch line bursted to 8-inch pipe in Basin #3. This was done along the I-30 Service Road east of the intersection of West Sevier Street. Besides an increase in capacity and structural integrity, inflow and infiltration are greatly reduced, especially in the area of Depot Creek along Brookview.

An important component of our plan to reduce sanitary sewer overflows is manhole rehabilitation and repair. In Benton's Sewer System Evaluation Study (SSES), 336 manholes were identified as needing repairs and rehabilitation work. This requirement now stands complete with many more besides. We are now requiring the Xypex anticorrosion additive to be put in all new manholes, both precast and pour in place.

There were 21 point repairs made to the municipal sewer mains in 2017. A very important repair involved moving an 8-inch sewer line that had been washed out along Salt Creek west of Misty Circle. This problem was actually solved by installing 95 linear feet of 8-inch pipe to reroute the flow to a manhole in a nearby 24-inch gravity main. Consequently, the old line along the creek channel was removed and properly terminated.

There was a reduction in sanitary sewer overflows from 39 in 2015 to only 32, or less than 3 per month on average, in 2016. We had only 24 involving manholes and 8 from lift stations. This reduction is an indication of the steady progress this department is making in addressing inflow and infiltration, oil and grease, rags and other debris which result in SSOs. We feel that beyond mechanical efforts, regular education of our customer base in newsletters is helping.

It has been our goal to replace the remaining USEMCO "tube," dry pit lift stations with wet well, submersible pump systems. Both the lift station on Highway 35 South and the one on South Richards Street were finished in 2016. New pumps, control panels, valves and plumbing were installed and other enhancements were made. The Centennial Valley lift station and the North Shore Drive lift station were rehabilitated with new pumps, electrical, and plumbing as needed. The USEMCO lift station on Fairfield is being converted to a submersible pump, wet well system as I write. This will leave only one remaining

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station of this sort on Bennett Road. It is our goal to make this last conversion this year.

*Benton Utilities Master Specifications and Design Drawings for Water and Sewer Utilities* is now available on our website at [www.bentonutilities.com](http://www.bentonutilities.com). This is a real asset and will promote higher standards throughout the entire wastewater collection system.

This year, we completed construction of the 40 ft. by 50 ft. storage shed for housing pumps, pipe and other supplies. A number of power tools, mechanic tools, safety equipment, etc. was bought to ensure the safety and productivity of the utility crew.

From a preventative or proactive standpoint, much work was accomplished to reduce infiltration and prevent overflows. Please note the following:

- 63,526 feet of sewer line was cleaned.
- 4,989 inspections were made of the City's lift stations
- 217 cleanings were performed on lift stations with the jet-vac truck.
- 442 inspections were made of grease traps within the City.
- 3,775 feet of line was evaluated through video sewer camera.
- 39 sewer main blockages were cleared.
- 259 repairs to the City's lift stations were performed
- 55 manholes were treated with chemical degreasers and root killer.
- 89 manholes were repaired and rehabilitated

To aid with strategic and proactive planning, McClelland Consulting Engineer, Inc. completed a system evaluation study that virtually involved a hydrological study of the entire collection system on the north side of Interstate 30. It particularly focused on current capacities of the Hurricane Lake Estates main pump station as well as the Thomas Pasture pump station. This is crucial to planned development and strategic planning to address Benton's growth.

In conclusion, this department has indeed had a productive year making demonstrable reduction in system overflows, inflow and infiltration. The integrity of the infrastructure has been ensured and expanded significantly. We will place emphasis this year on the basins and their priority identified in the SSES. Moreover, we will continue to strive to improve the integrity and efficiency of Benton's sanitary sewer collection system for public health, for good stewardship of the environment, and for the demands of the vibrant growth of Benton.

Please feel free to contact me at 501-776-5982, or you may email me at [jwbuff@bentonar.org](mailto:jwbuff@bentonar.org) with any questions or comments you may have.

Sincerely,

Jonathan Buff  
Benton Utilities Wastewater Manager

Cc: David Vondran, P.E., and General Manager of Benton Utilities  
Phil Miller, Chairman of the Benton Utilities Public Utilities Commission  
Byron Hicks, P.E. and C.E.O. of McClelland Consulting Engineer, Inc.