THE CITY OF BENTONVILLE

May 31, 2013

Via Electronic Delivery

Mr. Miles Johnson
Enforcement Analyst
Water Division / Enforcement Branch
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

RE: NPDES Permit No. AR0022403, AFIN 04-00154
Sanitary Sewer Overflows

Dear Mr. Johnson:

The purpose of this correspondence is to provide a response to your letter dated May 15, 2013 regarding sanitary sewer overflows reported by the City of Bentonville since April 1, 2010. Please note that the City of Bentonville (City) takes sanitary sewer overflows very seriously, and the City is very conscientious about the environment and strives to ensure the safety and health of the public and our natural resources. The City has been and will continue to work diligently toward eliminating sanitary sewer overflows.

As noted in your letter, the City has reported 50 overflows in the last 36 months. Of the 50 overflows, the majority are directly related to two primary locations, 1) South Lift Station and 2) McKissic Creek Facility.

The sites associated with the McKissic Creek Facility (3690 Peach Orchard Road, McKissic Lift Station #1, 2 McKissic Creek Road) account for approximately 15 million gallons of the 16 million reported. The extremely large volumes reported prior to June 29, 2011, are primarily due to the fact that the City's wastewater treatment plant was operating at an average daily flow of 4.5 MGD while only permitted for 4 MGD. With Inflow and Infiltration (I&I) events, the system including the plant did not have the capacity or capability to handle much additional volume. On June 29, 2011, the City redirected an average flow of 1.5 MGD to the Northwest Arkansas Conservation Authority (NACA) regional facility which greatly reduced the average flows and I&I demands of the wet seasons we typically experience. Reduction of overflows can be seen in the table you provided when comparing similar rain events in May 2010 and May 2013. Overflow volumes have greatly reduced from an average of 5 million gallons to about 200,000 gallons for similar large rain events. While we have seen a great reduction in the volume and duration of overflows at the McKissic site due to redirecting flows to NACA, it is, by no means, the end of our efforts. We have been aggressively cleaning and inspecting older clay lines in

the northwest part of our system that is susceptible to I&I from high rain events. Earlier this month, we discovered and repaired a section of cracked clay line located in a drainage area along North Walton Blvd. that was a source of high inflow during rain events. This repair will have a significant impact (reduction) on I&I at the McKissic site. In addition to the system contributing to the McKissic site, we have replaced over 1 mile of old clay line including new manholes in our downtown area since April 2010. We continue replacing old clay portions of our system by the rate of about one half mile per year and will continue to do so in to the foreseeable future.

Overflows associated with the South Lift Station site (1706 SE Walton Blvd.) can also be attributed to I&I and capacity issues. The existing force main is undersized and will not accommodate flows associated with a high I&I event. The City has acquired McClelland Consulting Engineers to design an upgrade. The design has been completed and the project is now in the easement acquisition stage and hopefully will be bid late this summer with construction completed in 2014. While the force main upgrade will provide additional capacity that should eliminate the overflows at 1706 SE Walton Blvd., we still have to contend with I&I. We maintain an aggressive inspection and repair program on our entire system just as explained above for portions associated with the McKissic site.

The following list is for overflows associated with heavy rain events and their associated volumes. I have rounded volumes so they may not match those in your list exactly. These overflows represent 24 reported overflows associated with 11 heavy rain events and total well over 15 million gallons.

1. May 14 – May 22, 2010 at 3690 Peach Orchard Road. Overflow total of 5 million gallons resulting from a 3.7" rain event.
2. May 20, 2010 at 1708 SE Walton Blvd. Total overflow of 4,500 gallons associated with the same rain event as Item 1 above.
3. September 9, 2010 at 1706 SE Walton Blvd. Total volume of 3,600 gallons associated with a 2.1" rain.
4. April 23 - May 1, 2011 at 3690 Peach Orchard Road. Total volume of 5 million gallons associated with an extreme 12+" rain in 6 days.
5. April 23 – April 29, 2011 at 1706 SE Walton. Total volume of 252,000 gallons associated with the same event as Item 4 above.
6. April 23- April 25, 2011 at 415 NW 4th. Total volume of 11,000 gallons associated with the same event as Item 4 above. This location is in Demming's Addition where we have been working for the last couple of years to replace old clay line. I&I issues will reduce with the system replacement.
7. April 25, 2011 at 2311 NE A Street. Total overflow volume of 25,000 gallons with same rain event as Item 4 above with 12+" of rain in 6 days.
8. May 2 – May 4, 2011 at 3690 Peach Orchard Road. Overflow of 25,000 gallons associated with 1" rain shortly after 12+" rain event.
9. May 23, 2011 at 415 NW 4th. Total overflow of 20,000 gallons associated with 6" of rain in 3 days. This site is the same as described in Item 6 above.
10. May 23 – May 27, 2011 at 3690 Peach Orchard Road (Manholes #116, 107 and 4961) Total volume of overflow is 900,000 + 1,150,000+1,500,000 = 3.55 MG. Overflow is associated with same rain event as Item 9 above.
11. May 23 – May 26, 2011 at 1706 SE Walton Blvd. Overflow volume of 516,000 gallons associated with the same rain event as Item 9 above.

12. May 23 – May 31, 2011 at 3406 NW Creekstone Cove. Overflow volume of 864,000 gallons associated with the same rain event as Item 9 above.
13. November 8 – November 9, 2011 at 1706 SE Walton Blvd. Total volume of 8,200 gallons associated with 3 ½" of rain.
14. March 22 – March 23, 2012 at 3960 Peach Orchard Road. Overflow volume of 300,000 gallons associated with 7.1" of rain in 4 days with 4" in one day.
15. March 20 – 23, 2012 at 1706 SE Walton Blvd. Total volume of 63,000 gallons associated with the same rain event as Item 14 above.
16. October 12, 2012 at 2 McKissic Creek Road. Total volume of 1,500 gallons associated with 3.4" of rain.
17. March 10 – March 11, 2013 at 1706 SE Walton. Total volume of 2,340 gallons associated with 3.9" of rain.
18. March 10 – March 11, 2013 at 2 McKissic Creek Road. Total volume of 10,800 gallons associated with the same event as Item 17 above.
19. April 18 – April 20, 2013 at 1706 SE Walton Blvd. Overflow volume of 66,000 gallons associated with 3.6" of rain in 4 hours.
20. May 9 – May 11 at 1706 SE Walton Blvd. Total volume of 55,000 gallons associated with 6.5" of rain in 24 hours.
21. May 10 – May 11, 2013 at 3690 Peach Orchard Road. Total volume of 190,000 gallons associated with the same rain event as Item 20 above.
22. May 9 – May 10, 2013 at 3 McKissic Creek Road. Overflow volume of 20,000 gallons associated with the same rain event as Item 20 above.

In addition to I&I, heavy rain events have also presented erosion challenges. Overflows associated with 2702 and 1913 N. Walton Blvd. in late April and May 2013 were the result of stream bank erosion from an extreme rain event (5 inches in 4 hours). The slope along a drainage way was heavily eroded and failed exposing a sewer main which then broke. The main was repaired and the slope stabilized with crushed rock and concrete. The slope repair has performed well in a subsequent heavy rain event. Approximately 101,000 gallons was associated with this spill. The overflows associated with this slope failure are listed below.

- April 30 – May 2, 2013 at 1913 N Walton Blvd. Overflow was a result from debris in the line with a total volume of 15,000 gallons.
- May 2 – May 3, 2012 at 2702 N Walton Blvd. Overflow/spill was a result of slope failure which exposed the sewer main. Total volume of approximately 86,400 gallons.

Eight of the overflows reported since April 2010 have been associated with grease. These events account for roughly 5,500 gallons of the 16 million reported. Since April 2010, the City has implemented a grease abatement program as part of its pretreatment initiatives. The City has actively contacted and inspected food service establishments to ensure compliance with our program. The City is also working on public education and outreach to better educate the public on the effects of fats, oils, and grease including alternative disposal methods. In addition, the City's collection system inspection program addresses grease problems as well as the I&I described above.

The following list of overflows was attributed to grease issues.

- May 14, 2010 at 803 NW 2nd Street. Total volume of 100 gallons.
- June 18, 2010 at 909 W Central. Total volume of 500 gallons.
- June 23, 2010 at 6595 SW Regional Airport Blvd. Total volume of 2,000 gallons.
- April 13, 2011 at 817 NW 14th Street. Total volume of 500 gallons.
- May 27, 2011 at 1913 N Walton Blvd. Total volume of 1,000 gallons.
- November 21, 2011 at 2405 SE 16th Street. Total volume of 1,000 gallons.
- February 2, 2012 at 603 SE 10th Street. Total volume of 250 gallons.
- October 19, 2012 at 802 NW 11th Street. Total volume of 100 gallons.

Seven of the reported overflows were associated with equipment failure. All items have been repaired and should not be repeat events. These seven reported overflows are associated with 4 sites and contributed approximately 135,000 gallons of the 16 million reported. The City installs SCADA systems to ensure equipment operation, especially alarms for failures, is reported timely so issues can be addressed quickly to minimize or prevent overflows or hazards.

- 1100 NE John DeSheilds Blvd. - Overflow of 100 gallons was reported on July 4th during a high occupancy event. The facility was closed when the overflow was discovered. This overflow was due to a faulty design of a lift station that serves a restroom facility at a City park. The project design engineer was notified and the lift station was redesigned and corrected. The lift station currently functions properly.
- 9910 SW Regional Airport Blvd. – High level alarms indicated a problem at this privately owned lift station in August 2010. Upon inspection, it was determined that the pumps had failed. Both pumps in the station needed repair.. It was discovered that the Northwest Arkansas Regional Airport, who owns the lift station, was not performing inspections and maintenance as needed. Maintenance responsibilities were aligned and the lift station was repaired and operates properly. An overflow was not witnessed, but evidence was present that indicated an overflow had occurred. The overflow was estimated at approximately 800 gallons. The overflow was restricted to a low area adjacent to the lift station site.
- 3406 NW Creekstone - The City experienced pump failure at a lift station up stream from the McKissic site which resulted in overflows on June 1, 2011 (126,000 gallons), December 4, 2011 (2,500 gallons), December 16, 2011 (2,000 gallons) and December 18, 2011 (1,500 gallons). Pumps have been repaired and the lift station operates properly. In addition to this lift station, one of the influent lines is located along a creek which is prone to erosion. This section of line will be relocated as part of the Arkansas State Highway and Transportation Department's Bella Vista Bypass project. There was a delay with getting all the pumps repaired and lift station cleaned out which resulted in a larger overflow than expected.
- 3801 SW Flatrock – An overflow of 600 gallons was reported due to equipment failure. Equipment has been repaired and is functioning properly.

Five reported overflows contributing approximately 6,700 gallons to the overflow total were associated with debris of unknown origin or vandalism. These are listed below.

- May 2, 2011 at 2304 Trails End Drive. Total volume of 4,000 gallons.
- September 21, 2011 at 411 E Central. Total volume of 200 gallons.
- October 13, 2011 at 2702 N Walton. Total volume of 1,000 gallons.
- September 17, 2012 at 8 NW Jonquilla Way. Total volume of 500 gallons.
- March 22, 2013 at 402 SE Moberly 3/22/13. Total volume of 1,000 gallons.

The City takes overflows and I&I related issues very seriously and is very active in finding and correcting issues that cause such overflow events. Redirecting 1.5 MGD to NACA has greatly reduced the volume and duration of overflows at the McKissic site which can be seen in the table with your referenced letter when comparing similar rain events from 2010 to 2013. The South Lift Station Force Main upgrade project will greatly reduce the overflow potential at the SE Walton Blvd. site. This project should be bid late summer and completed in 2014. In addition, the City remains aggressive on camera inspections of its entire system to find and address I&I issues which have potential to cause overflows. Our inspection program includes routine cleaning as well. Once issues are discovered, the City performs repairs as quickly as practical. We are proactively addressing fats, oils, and grease in our system to reduce blockages and overflows as well as informing and educating businesses and the public. Addressing such issues is a time consuming and costly effort, but the City remains committed to improving its system to work toward eliminating overflows associated with numerous causes.

Thank you for your consideration of these comments regarding sanitary sewer overflows reported by Bentonville. Please feel free to contact me at 479-271-6873 or mbender@bentonvillear.com if you have any questions or wish to further discuss any items.

Respectfully,

Mike Bender, PE
Public Works Director

Cc: Honorable Bob McCaslin, Mayor, City of Bentonville
Mr. Preston Newbill, City of Bentonville Water Utilities Department Manager
Mr. Mike Roberts, City of Bentonville Waste Water Department Manager
File

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