

City of Greensboro Water Resources Department



Sewage Collection and Water Reclamation Plant Report for 2013



Aerial photo of T.Z. Osborne Wastewater Plant



Aerial photo of North Buffalo Wastewater Plant

The Clean Water Act of 1999 (House Bill 1160) requires all entities that own or operate wastewater collection and treatment systems to make an annual report available to their customers. The report must detail how a system operates, how well it performed during the year, what violations occurred, and other information. This report is produced in compliance with these requirements and covers the calendar year January - December 2013. This report is available to all customers, and is submitted to the North Carolina Department of Environment and Natural Resources. Included in this report is a table listing the spills and overflows that occurred during the 2013 year.

The City of Greensboro Water Resources Department operates two water reclamation plants and a sewage collection system that collects and transports the sewage to these two plants; some transfer of sewage occurs between the two plants. The North Buffalo Facility and the T.Z. Osborne Facility are permitted to process up to 16 and 40 million gallons of wastewater per day, respectively.

Wastewater System Overview

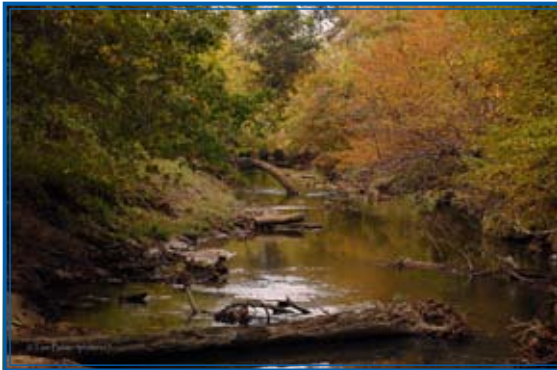
The sewage collection and water reclamation system of the City of Greensboro begins with approximately 102,826 connections that serve homes, commercial establishments, and industries. Every day an average of 26 million gallons of sewage is generated in our homes and industries that must be collected, transported, and treated to very stringent standards before it is released back into our environment (in our streams). This service is provided by the City's Water Resources Department and is funded almost entirely from the user charges that are paid monthly by our customers.

The City of Greensboro operates a sewage collection system comprised of 1,603 miles of gravity line, 39,329 sewer manholes, 48 pump stations, and 90 miles of pressurized sewage force main. The system is subject to many rules and regulations. All spills and overflows of any volume that reach surface water must be reported to the State. Spills that exceed 1,000 gallons must also be reported to local news media outlets.

Wastewater Treatment Plant Performance



The City of Greensboro's Treatment Plants operate under National Pollutant Discharge Elimination System (NPDES) Permits. These are highly complex permits that include monitoring requirements and discharge limits. The permits can be viewed at our treatment plants upon request. Compliance with these permits require our laboratory to conduct over 10,500 tests per year. Any one of these tests may result in a value that causes us to violate the limits of the NPDES Permit. Wastewater treatment plant operators have no control over some limited parameters (Cyanide, selenium and cadmium) other than through regulating what industry and households can discharge to the sewers.



During 2013 the Water Resources Department treated 10.4 billion gallons of wastewater and returned it to our streams. We are proud of the outstanding performance of these facilities made possible by the dedicated efforts of the professionals who operate, maintain and conduct tests for these plants. All NPDES permit violations are reported to the State of North Carolina to ensure compliance with all reporting regulations. A list of the violations that occurred during the 2013 calendar year is at the end of this report (Tables 1-3). There were no detected environmental impacts from any of these permit violations.

Fats, Oils, and Grease Program



To prevent undue introduction of fats, oils, and grease (FOG) into the wastewater collection system, the City of Greensboro Water Resources Department is implementing a FOG Policy designed to educate and enforce the proper disposal of FOG within City jurisdictions. The FOG policy educational and enforcement programs are intended for all customers (Food Service Establishments, Nursing/Group homes, Schools/Cafeterias, Industries, and Residents) that discharge wastewater into the City of Greensboro Sanitary Sewer System with the aim of mitigating or eliminating Sanitary Sewer Overflow (SSOs) that are grease related. The City of Greensboro FOG policy requires all commercial and food service establishments to install and regularly maintain an appropriately sized grease trap or interceptor.

System Improvements



The Greensboro Water Resources Department is proud that given the capacity of our treatment plants and the age of our collection system, our permit departures have been minimal, especially when compared to similar cities. We recognize however, that in the changing climate of environmental concern, total compliance is demanded by the public.

In an effort to continue to improve our wastewater collection system and meet the demands of new regulations various capital improvement projects have been initiated. To prepare for nutrient reduction requirements of the Jordan Lake Rules, upgrades that will provide a higher level of treatment for the T.Z. Osborne facility are currently underway. Also at T.Z. Osborne plant, solid waste that is generated by both facilities is now managed by a new fluidized bed incinerator. An on-going cleaning and inspection program to monitor and maintain our sewer system continues, along with an aggressive program to rehabilitate old leaking sewer lines that exhibit signs of age.



The annual Sewage and Water Reclamation Plant Report is available at the following City of Greensboro locations: the Vance H. Chavis Lifelong Learning Branch Library, McGirt-Horton Branch Library, Central Library, Melvin Municipal Office Building (MMOB), all Water Resources Facilities, and also the City's website: www.greensboro-nc.gov/water.

Customers will also receive notification concerning availability in the At Your Service quarterly newsletter, that are distributed in water and sewer bills from April to May of 2014. Additional copies of the report may be requested by calling the City Contact Center at (336) 373-2489 (CITY).



Summary of Collection System Performance

The City of Greensboro had a total of 77 Sanitary Sewer Overflows (SSOs) in 2013 from January 1st – December 31st. SSOs occur when problems in the system cause sewage to emerge from manhole covers, service cleanouts or plumbing fixtures. With the help of each sewer customer using the sewer system responsibly, the City will continue to reduce the number of SSO occurrences each year.

Grease was the number one contributing factor of SSOs during 2013. Other issues reported were debris in line, pump station equipment failure, roots, and pipe failure breaks. Examples of debris found in the collection system are rags, flushable wipes, rocks, sticks, feminine hygiene products, etc. The City has an ongoing Fats, Oils, and Grease Program to educate residents and business owners regarding the need to keep grease and other inappropriate objects out of the sewer system, as well as a comprehensive maintenance program. We thank our customers and the sewer maintenance staff for the collaborative efforts in reducing the amount of SSOs every year.

Table 1

T.Z. Osborne Publicly Owned Treatment Works National Pollutant Discharge Elimination System (NPDES) Permit #NC0047384

Month	Description	Number of Violations	Type of Violation (s)
N/A	N/A	0	N/A

Table 2

North Buffalo Publicly Owned Treatment Works National Pollutant Discharge Elimination System (NPDES) Permit #NC0024325

Month	Description	Number of Violation	Type of Violation (s)
January	Bioassay	1	Bioassay

Note: There were no environmental impacts noted for the above violations.

Definitions:

Bioassay- No Female Water Flea Mortality or Significant Reproduction Rate Impact Using 90% Effluent.

Table 3

Sewage Spills from Collection System Exceeding 1,000 Gallons

Sewage Collection System Permit #WQCS00006

Permittee	Permit Number	Incident Started	Volume Reaching Surface Water	Surface Water Name	Location	Probable Cause
City of Greensboro	WQCS00006	1/22/2013	1,800	Horsepen Creek	Battleground Avenue at Devonshire Drive	Broken Main
City of Greensboro	WQCS00006	2/12/2013	3,000	S Buffalo	4931 W Market	Paper/Rags
City of Greensboro	WQCS00006	2/19/2013	3,500	Horsepen Creek	800 Radar Road	Grease
City of Greensboro	WQCS00006	7/10/2013	12,000	S Buffalo	3600 Frazier Road	Roots
City of Greensboro	WQCS00006	7/15/2013	3,500	S Buffalo	1616 Random Drive	Grease
City of Greensboro	WQCS00006	9/16/2013	6,000	Brush Creek	4912 Jessup Grove Road	Broken Main

Contact Information

The following are the professionals designated by the state as the "Operators in Responsible Charge" (ORC) of the respective systems and permits for the systems:

North Buffalo Water Reclamation Facility Permit No. NC0024325, ORC Nathan Osborne, (336) 373-7850
 T.Z. Osborne Water Reclamation Facility Permit No. NC0047384, ORC Lori Cooper, (336) 373-4502
 Sewage Collection System, Permit No. WQCS00006, ORC Mark Malloy, (336) 373-2033

WATER RESOURCES ADMINISTRATION: 336-373-2055

T. Z. OSBORNE WATER RECLAMATION: 336-373-7740 NORTH BUFFALO WATER RECLAMATION: 336-373-5913

www.greensboro-nc.gov/water