

City of Greensboro Water Resources Department

Sewage Collection and Water Reclamation Plant Report for 2012

The Clean Water Act of 1999 (House Bill 1160) requires all entities that own or operate wastewater collection and treatment systems to provide 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 2012. 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.

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



Aerial photo of T.Z. Osborne Wastewater Plant



Aerial photo of North Buffalo Wastewater Plant

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 1,597 miles of gravity line, 39,191 manholes, 47 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 must be reported to the State. Spills that exceed 1,000 gallons must also be reported to all 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 that 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. Cyanide, fluoride, selenium and cadmium are some of the limits over which, wastewater treatment plant operators have no control over other than through regulating what industry and households can discharge to the sewers.

During 2012 the Water Resources Department treated 9.5 billion gallons of wastewater and returned it to our streams. We are proud of the outstanding performance of these facilities that was made possible by the dedicated efforts of the professionals who operate, maintain and conduct tests for these facilities. Whenever there is a NPDES permit violation, they are reported to the State to ensure compliance with all reporting regulations. A list of the violations that occurred during the 2012 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; 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. Within the FOG Policy's Inspection Program, all commercial and food service establishments are required to install and regularly maintain an appropriately sized grease trap or interceptor by the City of Greensboro Inspections & Engineering Department.

Summary

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, and the Central Library, Melvin Municipal Office Building (MMOB), Water Resources Facilities, and also the City's website: www.greensboro-nc.gov/water.

All customers will be notified of its availability in the *At Your Service* newsletter, that are distributed in water and sewer bills from April to May of 2013. Additional copies of the report may be requested by calling the City Contact Center at (336) 373-2489 (CITY).

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)
July	CBOD	1	One Weekly Average
July	Bioassay	1	Bioassay

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)
N/A	N/A	0	0

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

Definitions:

Weekly average –The arithmetic mean of all “daily discharges” of a pollutant measured during the calendar week.

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

Permittee	Permit Number	Incident Started	Volume Reaching Surface Water	Surface Water Name	Location	Probable Cause
City of Greensboro	WQCS00006	2/23/2012	1,500	North Buffalo IV	2607 Wendover Avenue	Grease
City of Greensboro	WQCS00006	3/12/2012	3,000	Lake Townsend	5702-X River Glen Drive	Contractor hit force main during installation of FM
City of Greensboro	WQCS00006	4/2/2012	4,200	Middle Reedy Fork Creek	5909 Landerwood Drive (on O/F)	Debris in line due to exposed manholes lids that were stolen
City of Greensboro	WQCS00006	9/10/2012	1,500	Lake Townsend	5303 Holly Ridge Road	Pipe failure (Break)

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

