

YOU CAN HELP!

Please follow these guidelines:

- Collect fat, oils, and grease in a container and dispose of it in the garbage.
- Place personal hygiene products and diapers in a wastebasket. Do not flush plastics.
- Place food scraps in the trash or start a compost area. Use the garbage disposal as little as possible.
- Don't pour hazardous materials, such as pesticides, paint, and herbicides down the drain.
- Check before you dig! Do not plant trees, shrubs, and other vegetation or erect fences and other structures on or near sewer lines, easements, or manholes.

SEWER PROJECTS

Big Buffalo Wastewater Treatment Plant Expansion

The expansion for the Big Buffalo Waste Water Treatment Plant is underway. Once complete the plant capacity will be increased to 12 million gallons per day which should support growth through 2030. The contracts came in at \$48 million which is considerably less than the estimated \$69 million. The lower pricing is directly related to the economy and lack of construction projects which made the contractors bid the project aggressively.

The contract calls for completion of the project by May 2014 however the contractors are hoping to be finished well before then.

Sewer Rehabilitation

The City completed the \$1.2 million project to renew portions of the gravity sewer system using cured in place lining technology. This technology replaces old sewer with little or no digging. A liner is inserted in one manhole and fed through the sewer to the next manhole. The liner is then inflated and cured which forms a new pipe inside the existing one. One length of sewer between two manholes can be renewed in less than a day and required very little cleanup when finished. This resulted in less inconvenience to the general public during the project. The contractor renewed 34,000 feet of old sewer and rehabilitated 100 manholes.



COLLECTION SYSTEM PERFORMANCE

Sanitary Sewer Overflow (SSO)

On a daily basis approximately 4 million gallons of wastewater moves through the collection system from bathtubs, showers, kitchen sinks, toilets, washing machines, and dishwashers from homes and businesses to the Big Buffalo WRF. The collection system is made up of mechanical devices such as pump stations, and sewer lines that are subject to malfunction or have unavoidable clogs or cracks.

Sanitary sewer overflows occur when wastewater escapes from the sanitary sewer system to the ground. Any wastewater spill (SSO) in excess of 1,000 gallons or any amount that reaches surface waters must be reported to the Division of Water Quality and revealed in this report to our customers.

One common reason for a sanitary sewer overflow is heavy rainfall accumulation in the storm water system that overflows into the sewer collection lines causing the sanitary sewer overflow to occur. Other sanitary sewer overflows may result from pump station malfunction, tree roots or debris in lines, structural damage, vandalism, grease, and electrical failures. The chart that follows details the amount, location, and cause of our (SSO's) during this reporting period.

Sanford has a wastewater collection system with a total of 215 miles of gravity wastewater lines and pressurized force mains ranging in diameter from six inches to thirty-six inches. This system also encompasses nine sewer lift stations and 4,600 manholes.

Sanford had one wastewater spills this past fiscal year. This spill was caused by debris in the line. The volume of wastewater spilled was 525 gallons. The volume that reached a stream was 200 gallons.

The wastewater treatment plant treated 1.446 billion gallons of wastewater during the year, so the volume of sanitary sewer overflows comprises 0.0000003% percent of the total flow.



Sewer Collection System Activities

The City of Sanford's Sewer Construction and Maintenance Department performs routine and preventative maintenance on the collection system daily and are on call for any problems with the system twenty four hours a day. This department consists of twelve highly trained and certified employees with a combination of 124 years of experience.

Some of the routine maintenance performed in the system includes sewer line cleaning. This past year we cleaned twenty-four percent of our lines. Our staff responded to 318 sewer backup or stoppage investigations. If a stoppage is discovered to be on the citizens' property, city staff will explain to the property owner or business owner the next step in getting the problem fixed. The property owner may be required to contact a plumber to clear the line, or install a new line and cleanout. A line stoppage often involves rodding and jetting to clear a clogged line and this fiscal year we rodded and jetted 54 miles of sewer main. Easement-clearing is also part of the maintenance performed in the collection system, because wastewater lines are located along utility easements. Our staff performs inspections of the lines and mows the easements. This past fiscal year the staff mowed 44 miles of right-of-way, inspected 80 miles of priority (aerial) lines, and inspected 50 miles of collection lines.

Smoke testing is still an efficient and inexpensive way to identify problems in lines. The pressurized smoke fills the line and escapes wherever there is an opening. TV-ing a line involves a closed circuit inspection unit that takes actual video of the lines. This year we did not have any lines videoed or smoke tested.

Grease in the collection system

In North Carolina and other states grease is one of the main causes for sewer overflows. These overflows are related to the improper disposal of oil and grease from kitchen drains. Grease congeals in sewer pipes and can cause wastewater to back up into homes and businesses and waterways. Sanford had three spills due to grease this year.

The City of Sanford's "Fats, Oils, and Grease Program" has been in effect for eight years. The purpose of the program is to prevent the accumulation of fats, oils, and grease in the sanitary sewer system. We have 164 commercial facilities with 177 grease traps participating in the program. Our FOG coordinator inspected 106 grease traps this year and 444,925 gallons of grease-containing fluids were removed through routine maintenance. Our staff strives to maintain the City's infrastructure at the highest quality possible, while providing you with continuous service and protecting the environment. All of us can work together to protect the environment and maintain the sewer infrastructure. You can help as well.

WASTEWATER SPILLS JULY 1, 2010 - JUNE 30, 2011

DATE	DURATION	CAUSE	GAL. SPILLED	GAL. TO STREAM	LOCATION
1/25/2011	10 min.	Debris in line	525	200	MH# 1143, intersection third & weatherspoon
TOTAL SPILLED			525	200	

Notes:

- *Spill is not reportable to State if 1,000 gallons or less & does not reach surface waters.
- **Spill is reportable to State if over 1,000 gallons, or if any amount reaches surface waters.
- ***Annual Wastewater Report only requires spills over 1,000 gallons reaching surface water to be listed.



City of Sanford Public Works Center

601 N. Fifth Street, Sanford, NC 27330

Fedd Walker

Operator in Responsible Charge, Collection

Phone (919) 775-8336

Permit #NC0024147/#WQCS00047

We certify that this report is accurate to the best of our knowledge. It is being mailed to The NC Division of Water Quality and to all City of Sanford wastewater customers. The report is also available at City Hall, the Public Works Center, and the Wastewater Treatment Plant.

IMPORTANT PHONE NUMBERS

- Public Works Service Center(919)775-8247
- Water Billing Department(919)775-8216
- Police Emergencies**911**
- Fire Emergencies**911**
- Police Dept.(non-emergencies)....(919)775-8266
- Fire Dept. (non-emergencies).....(919)775-8313

Big Buffalo

Wastewater Treatment Plant

5327 Iron Furnace Road, Sanford, NC 27330

Jay Grainger

Operator in Responsible Charge,

Wastewater Treatment Plant

Phone (919) 775-8305

Permit #NC0024147/#WQ0000543

**ANNUAL
WASTEWATER
REPORT
Wastewater System
Performance 2010-2011**

Community Participation

You are invited to participate in our public forum and voice your concerns about wastewater treatment. The City of Sanford Council meets the first and third Tuesdays of each month beginning at 7 P.M. at City Hall, 225 East Weatherspoon Street, Sanford, NC.

Information on the Internet:

Visit the City of Sanford's Web site to view and print this report at (www.sanfordnc.net) and for information on all city departments and departmental contacts. Also, the North Carolina Department of Environment and Natural Resources has a Web site (www.chnr.state.nc.us) that provides complete and current information on water and wastewater issues in North Carolina.

City of Sanford Public Access Channel

Please view the City of Sanford's Public Access Channel on Charter Cablevision Channel 11 for coverage of Council meetings, sewer and water construction and other information relevant to City activities. For more information about this report, copies, or any questions relating to the wastewater treatment system, please call Laura Spivey, Public Works Administrator, at (919) 775-8299.

Laboratory Analysis

Sanford's reclamation facility maintains a certified analytical laboratory approved by the State of North Carolina and the EPA. Our lab is certified to perform environmental analysis and report monitoring data to the Division of Water Quality for compliance with NPDES effluent and pretreatment regulations. Technicians observe wastewater discharge at local industries in order to monitor compliance, and laboratory personnel monitor the effluent daily by testing twenty wastewater parameters. All data reported this year was in compliance with the NPDES permit.

The City of Sanford's Annual Wastewater Treatment and Collection System Report

Reuse Program

Sanford's reuse program decreases the amount of nutrients and flow discharged into the river. Treated wastewater in recent years has been used to irrigate the local municipal golf course. The City is also looking into expanding its reclaimed water usage to industries in an effort to curb overall water usage, free up more capacity in the river, and to extend the life of the wastewater plant. We have asked local industries to examine the feasibility of introducing the use of reclaimed water into their operations.



Biосolids

The nutrient-rich organic materials resulting from the treatment of domestic sewage at the Big Buffalo WRF are called biosolids. The nutrients in these biosolids contain calcium, nitrogen, phosphorus, and micronutrients like copper and zinc, which are essential for plants. Recycling these biosolids is the most environmentally friendly and cost effective method for the City to manage its biosolids. Farmers have been using these biosolids for years because of their benefits as a fertilizer to maintain productive soils. These solids are converted to a dense residue, removed, and reused on permitted land. Sanford has seventy eight permitted fields for recycling of biosolids. This fiscal year we applied 4.6 million gallons or 492 dry tons to 7 of the 78 fields which equals 249 acres of land in Lee, Chatham, and Montgomery Counties.

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Staffing

Critical plant equipment is monitored twenty-four hours a day by thirteen highly trained and certified employees at the Big Buffalo WRF. Employees are certified by the State of North Carolina for proficiency in plant operation, pump station maintenance, laboratory analysis, and application of biosolids, and pretreatment management. City employees are on duty twenty-four hours, seven days per

Pre-treatment Program

Pre-treatment programs help water reclamation facilities maintain the requirements of water quality before it is returned to the river basin. Big Buffalo WRF is designed to handle domestic waste. Therefore, industries that produce certain amounts of non domestic waste are required to have a permit for disposal. We currently have ten indus-

Pre-treatment Program and Facility Lab

Microorganisms in the aeration basin are used to convert organic matter to a solid residue. The aeration basins discharge the wastewater to the clarifiers where solids are broken down further. Clear water in the clarifiers then travels to the filters. The reclaimed water is disinfected by a chlorination process and safely de-chlorinated prior to being discharged through an outfall pipe into the Deep River under the National Pollutant Discharge Elimination System permit (NPDES) number NC0024147.

Treatment Process

Sanford's Big Buffalo Wastewater Reclamation Facility is an advanced treatment facility with a permitted capacity of 6.8 million gallons per day. This past fiscal year we treated over 1.446 billion gallons of wastewater. This is an average of four million gallons a day. This facility treats waste from eighteen thousand residential customers, fifteen schools and fifteen industries in Sanford. Physical, biological, and chemical processes at the plant treat wastewater before it is released into the environment. When the wastewater is received at the plant through our collection system, it passes through a bar screen and then through a grit chamber where debris is removed prior to reaching the influent pumps that pump it to the aeration basins.



Big Buffalo Wastewater Reclamation Facility

The City of Sanford is pleased to provide an overview of your municipal Water Reclamation Facility and detailing the operation, maintenance and performance of your municipal Water Reclamation System. This report gives us the opportunity to keep you informed and to meet our State compliance requirements.