

## WASTEWATER SPILLS JULY 1, 2007 - JUNE 30, 2008

DATE	CAUSE	GAL. SPILLED	GAL. TO STREAM	LOCATION
6/29/07	Inflow and Infiltration	17,700	10,000	Little Buffalo Creek Lift Station Manholes 4210, 4220, 4234, 4235
7/2/07	Contractor by-pass pump malfunction - sewer rehab project	300	300	Manhole 1489, Behind 115 N. First Street
7/30/07	Inflow and Infiltration	4,020	1,620	424 Amos Bridges Rd. Near 522 Sunset Ave. Intersection of Second St. and Sycamore St. Near Hickory St. & Market St. Near 544 Sunset Ave. Intersection of Jenkins & Maple Near 616 Sunset Ave.
9/26/07	Severe Natural Condition	56,100	56,100	Manhole 190 off Hwy 421
10/17/07	Debris in line	450	150	Manhole 1848 near Creekside and Belaire
10/26/07	Inflow and Infiltration	34,800	20,000	Manhole 4210, near Amos Bridges Rd. Little Buffalo Creek Lift Station Manhole 4220, near Amos Bridges Rd.
12/30/07	Inflow and Infiltration	30,000	24,000	Little Buffalo Creek Lift Station
1/25/08	Debris in line, Vandalism, Roots	750	750	Manhole 540, easement behind BT Bullock school
1/29/08	Debris in line	600	600	Manhole 813, on outfall near Pathway Drive
2/18/08	Contractor hit Force Main	30,000	28,000	Close to 5327 Iron Furnace Road
3/7/08	Severe Natural Condition	36,000	30,000	Little Buffalo Creek Lift Station
4/5/08	Inflow and Infiltration	27,000	21,000	Little Buffalo Creek Lift Station
<b>TOTAL SPILLED</b>		<b>220,020</b>	<b>182,520</b>	

**Notes:**  
 \*This spill was omitted from the 06/07 annual report but is not added into the 07/08 total spilled amounts.  
 \*\*Spills are reportable if any amount reaches the surface waters or the spill amount is greater than 1,000 gallons.

### Big Buffalo Wastewater Treatment Plant Expansion

With normal growth, the Big Buffalo plant will be at capacity by 2015 or in eight years. The City will expand the existing plant that is permitted for 6.8 millions gallons a day to 12 millions gallons a day to withstand expected growth through 2030.

The City requested and received speculative limits from the state to expand its Big Buffalo Wastewater Treatment Facility. The engineering firm Hazen Sawyer is currently designing the expansion of the existing plant and has prepared environmental documents for review by the state. Construction of the project should begin in 2010 and be completed in 2013. The seventy million dollar upgrade will have an impact on our sewer rates in the future. However, the expansion will give Sanford the ability to continue to grow and attract industry in the future.

We will continue to search for the most cost effective and efficient ways to maximize our plant and sewer infrastructures' growth. Our goal is to protect the environment and increase the effectiveness of our system.

### Sewer Projects

#### Northview Sewer Improvements

The \$4.3 million dollar Northview Sewer Improvements Project is 70 percent complete as of June 30, 2008. The Pump Station base, walls, and top have been poured and the backfill around the station is complete. The gravity sewer line installation is complete and approximately 5,000 feet of force main has been installed. The force main installation is approximately 40 percent complete. The contractor anticipates completing the project by the end of August. This project will reduce the number of overflows in the Amos Bridges road area, and increase the capacity of the Big Buffalo outfall to allow additional growth in east Sanford and the industrial park.



### 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.

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 or visit our web site at [www.sanfordnc.net](http://www.sanfordnc.net).

### HOW CAN YOU HELP?

The City does all it can to provide safe treatment of wastewater to protect you and the environment. You can help as well. 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.

### Sanitary Sewer Overflow (SSO)

Sanitary sewer overflows occur when wastewater escapes from the sanitary sewer system to the ground. Any wastewater spill 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. There are several causes for sanitary sewer spills, such as excessive rainfall that causes overloading of sewer lines, 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 spills during this reporting period.

Sanford had nineteen wastewater spills this past fiscal year. Of the nineteen spills, three were due to debris and roots in the lines, two were due to structural damage, and twelve were due to excessive rain inflow and infiltration. The volume of wastewater spilled was 220,020 gallons. The volume that reached a stream was 182,520 gallons.

The wastewater treatment plant treated 1.332 billion gallons of wastewater during the year, so the volume of sanitary sewer overflows comprises 0.01% percent of the total flow. Only one gallon was spilled for every 7,298 gallons treated. Our largest spill event was 56,100 gallons on September 26, 2007. This spill was caused by heavy rain. Twenty-five percent of the total volume spilled for the year occurred during this event.

### COLLECTION SYSTEM PERFORMANCE

#### Sewer Rehabilitation

The City of Sanford has approximately seventy miles of sewer lines in the collection system that are fifty years or older which are being rehabilitated with cured-in-place pipe lining. This past fiscal year the Engineering Division completed the three million dollar rehabilitation project that included: the videoing, cleaning, and installation of approximately 100,000 linear feet of cured-in-place pipe lining. Within the next seven to ten years, we hope to have all the lines fifty years or older rehabbed. Additionally, the Wastewater Construction and Maintenance Division spent \$268,500 this past fiscal year on repairs and replacements in the collection system.



**Sewer Line Cleaning:** This past year we cleaned fifty-four percent of our lines. Our staff responded to 210 stoppage complaints, and we rodded and jetted 104 miles of sewer main.

**Smoke Testing and "TV-ing" lines:** Smoke testing is 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 videoed and smoke tested approximately 2.25 miles of sewer line.

**Easement-clearing Program:** 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 thirty-three miles of right-of-way, inspected eighty-three miles of priority (aerial) lines, and inspected 101 miles of collection lines.

**FOG Program:** The City of Sanford's "Fats, Oils, and Grease Program" has been in effect for five years. The purpose of the program is to prevent the accumulation of fats, oils, and grease in the sanitary sewer system. We have 227 commercial facilities participating in the program. Six new traps were installed, 205 grease traps were inspected, and 881,333 gallons of grease-containing fluids were removed through routine maintenance.



these industries to ensure compliance. We currently have nine industries in the program. The City issues permits to these industries specifying the parameters of concern and flow limitations

**Reclamation Facility Lab**

**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.



City management. City employees are on duty twenty-four hours, seven days per week monitoring all system activity from the plant control room.

**Biosolids**

The nutrient-rich organic materials resulting from the treatment of domestic sewage at the wastewater treatment facility are called biosolids. The nutrients in these biosolids contain calcium, nitrogen, phosphorus, and micronutrients like copper and zinc, which are essential for plants. 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 in Lee, Chatham, and Montgomery Counties. This past year we applied six million gallons of biosolids to permitted land.

**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.

**Pretreatment Program**

Industrial discharges are monitored through the City's pretreatment program. This program helps protect the wastewater treatment facility by specifying the maximum amounts of pollutants that may be discharged into the facility. Staff conducts routine monitoring and inspections of

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

**Big Buffalo Wastewater Reclamation Facility**

**Treatment Process**



The Big Buffalo Reclamation Facility is an advanced treatment facility with a permitted capacity of 6.8 million gallons per day. Physical, biological, and chemical processes at the plant treat wastewater before it is released into the environment. First, 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. 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 wastewater is disinfected by a chlorination process and safely dechlorinated prior to being discharged through an outfall pipe into the Deep River.

**Staffing**

There are twenty-five employees of the Public Works Department, which provide day-to-day operations and twenty-four hour response to plant and collection system emergencies. Employees are certified by the State of North Carolina for proficiency in plant operation, collection system repair, pump station maintenance, laboratory analysis, and pretreatment

**ANNUAL WASTEWATER REPORT**  
**Wastewater System Performance 2007-2008**



**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

**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)775-8351
- 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