



**CHARLOTTE**<sup>SM</sup>

CHARLOTTE-MECKLENBURG  
UTILITIES

# Wastewater Performance Report

**July 1, 2008 – June 30, 2009**

**Charlotte-Mecklenburg Utilities**

5100 Brookshire Blvd.

Charlotte, NC 28216

Phone: (704) 399-2221 Fax: (704) 393-2219

[www.cmutilities.com](http://www.cmutilities.com)

## **I. General Information**

### **Name of Regulated Entity and Responsible Person:**

City of Charlotte  
Barry Gullet, Deputy Director  
Charlotte-Mecklenburg Utilities  
Administration Division  
5100 Brookshire Blvd.  
Charlotte, NC 28216  
(704) 399-2221

### **Applicable Permits:**

There are five wastewater treatment facilities owned and operated by Charlotte-Mecklenburg Utilities. Below is a list of these facilities and their applicable NPDES (National Pollutant Discharge Elimination System) permit number. Included with the list of facilities is the name of the Operator in Responsible Charge (ORC) at the facilities and the site telephone numbers.

<b><u>WWTF</u></b>	<b><u>NPDES Permit Number</u></b>	<b><u>ORC</u></b>	<b><u>Phone</u></b>
Irwin Creek WWTP	NC0024945	Michael Lingerfelt	704-357-1344
Mallard Creek WRF	NC0030210	Darrell DeWitt	704-547-0680
McAlpine Creek WWMF	NC0024970	Sandy Kim Neely	704-542-0736
McDowell Creek WWTP	NC0036277	Elliott E. Goins, Jr.	704-875-6443
Sugar Creek WWTP	NC0024937	Roy E. Purgason, Jr.	704-553-2124

In addition to those five plants, Utilities sends wastewater to the Rocky River Regional Wastewater Treatment Plant through an agreement with Cabarrus County. Utilities also accepts flow from Union County to McAlpine Creek WWMF.

<b><u>WW COLLECTION</u></b>	<b><u>NCDWQ Permit Number</u></b>	<b><u>ORC</u></b>	<b><u>Phone</u></b>
4100 W. Tyvola Road	WQCS00001	Tony Dubois	704-432-3779

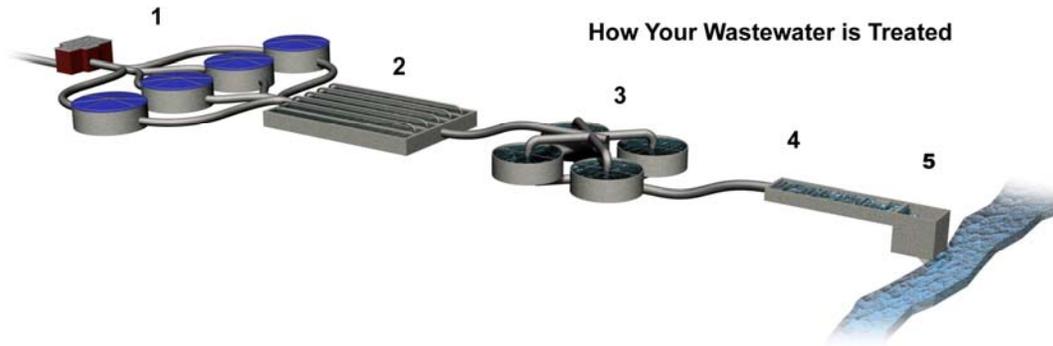
*Please note the 704-357-6064 number is no longer in use. Customers are encouraged to call 311 (or 704-336-7600) if they suspect a wastewater overflow.*

### **Description of collection and treatment systems:**

Charlotte-Mecklenburg Utilities collects wastewater from an estimated 223,855 connections to households and businesses throughout the county. Wastewater is collected and directed (via gravity flow supported by sewage lift stations) to one of five wastewater treatment plants where it is treated. An average of 81 million gallons of wastewater is treated and discharged each day.

More than 150 employees work to maintain 4,028 miles of collection pipelines and 75 sewage lift stations throughout the county. The gravity sewer pipes in this system range in size from 8 inches in diameter to 78 inches in diameter.

Each of the wastewater treatment plants provides primary, secondary and advanced treatment to the waste stream. Large solid particles and inorganic materials are removed by screening and settling. The wastewater is treated biologically to remove dissolved pollutants. Disinfection reduces bacterial and pathogenic materials. Finally, the waste stream passes through sand filters to remove very small particles that may not have been removed through the settling process.



**1. Primary Treatment**

Solid particles & objects are captured in grit screens and primary clarifiers.

**2. Aeration/Secondary Treatment**

Wastewater is aerated to support growth of microorganisms that remove harmful pollutants.

**3. Clarification**

Solids and microorganisms settle out in large basins.

**4. Advanced Treatment**

Wastewater flows through sand filters to remove fine particles.

**5. Disinfection**

Water is disinfected to remove any remaining pathogens, and then the water is released back into creeks to flow downstream.

**II. Summary of System Performance**

**How did we do?**

We are meeting all reporting deadlines and requirements of the federal EPA Administrative Order to reduce spills, and the EPA approved two of our key reports regarding our *Sewer Capacity Assurance* and *Fats, Oils and Grease* prevention programs.

We successfully collected and treated more than 29.69 billion gallons of our community's wastewater (99.9987 percent success rate).

There were 358 overflows in our community during the 2009 fiscal year. This is a decrease of 4 spills compared to the year before (362). Stated another way, it is less than nine spills per 100 miles of pipe in the ground overflowed from the collection system this year as illustrated by the table on page 4.

Number of SSOs/100 Miles vs. 5-Year Moving Average



The volume of wastewater that overflowed decreased from 505,568 gallons in fiscal year 2008 to 383,859 gallons in fiscal year 2009. The volume of wastewater that reached surface waters also decreased from 378,973 gallons in fiscal year 2008 to 303,287 gallons in fiscal year 2009.

Utilities works 24 hours a day, 365 days per year to prevent and respond to overflows. Crews prevent overflows by clearing pipes of tree roots and grease, as well as replacing broken and aging pipes. Utilities has also increased its efforts to educate customers about properly disposing of oils and grease.

**Highlights**

Charlotte-Mecklenburg Utilities celebrated some important milestones even as it took numerous actions to prevent overflows and protect water quality through effective wastewater treatment.

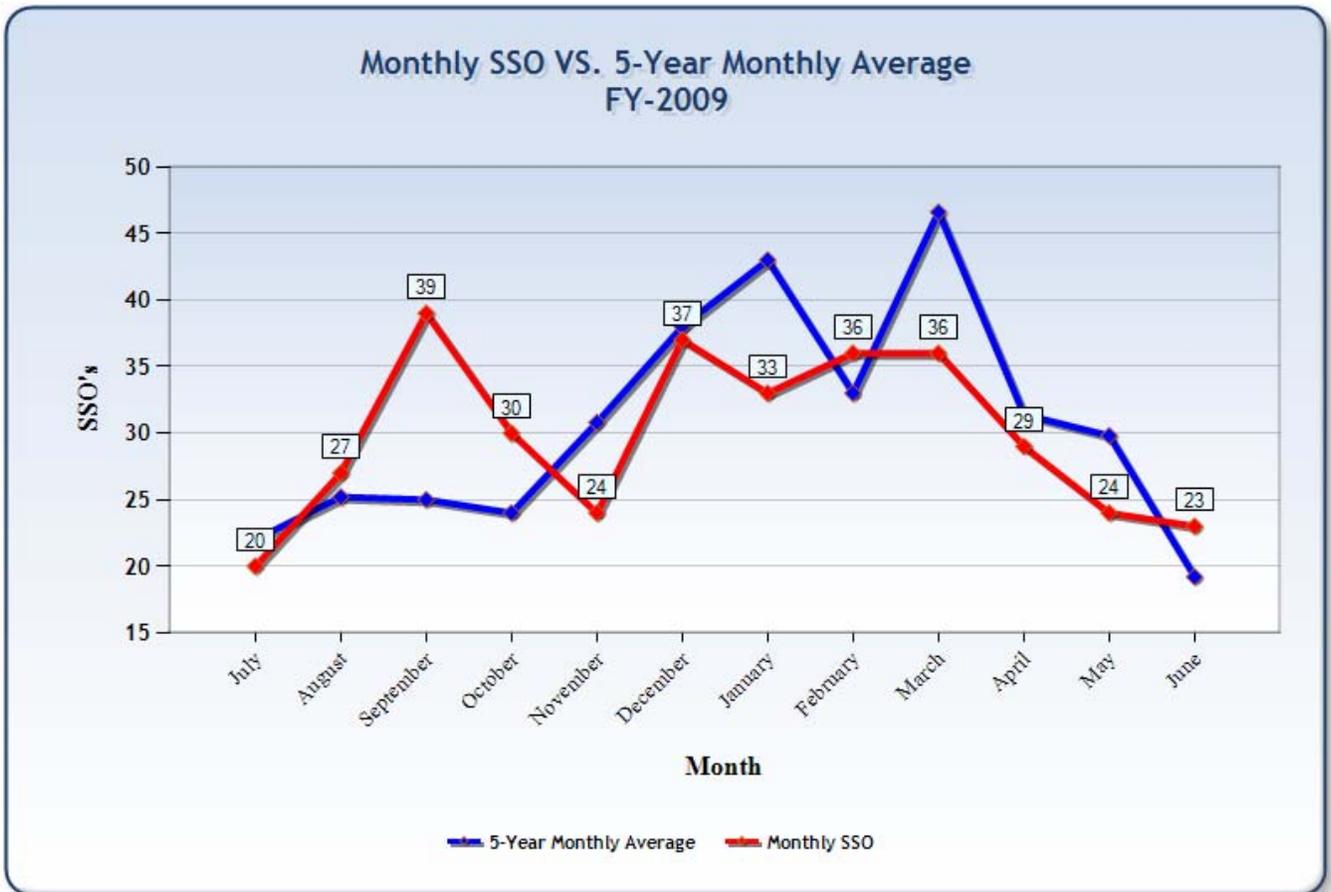
- Our wastewater treatment plants met 99.93 percent of all permitted discharge limits.
- Our commitment to protecting the environment goes far beyond water quality. In May 2009, the utility’s Environmental Services Facility on Westmont Drive was officially dedicated, representing Charlotte City government’s first LEED Gold-Certified building. This facility serves as home base for water quality laboratory and Environmental Management staff, and is built and equipped with conservation-minded and certified sustainable materials.
- All five plants earned Peak Performance Awards from the National Association of Clean Water Agencies (NACWA) for the calendar year ending 2008. McDowell Creek Wastewater Treatment Plant won a Platinum Award for maintaining 100

percent perfect compliance with their permit requirements for five years. Mallard and McAlpine Creek Wastewater Treatment Plants earned Gold Awards for 100 percent perfect compliance. Sugar and Irwin Creek Wastewater Treatment Plants earned NACWA Silver Awards for outstanding compliance.

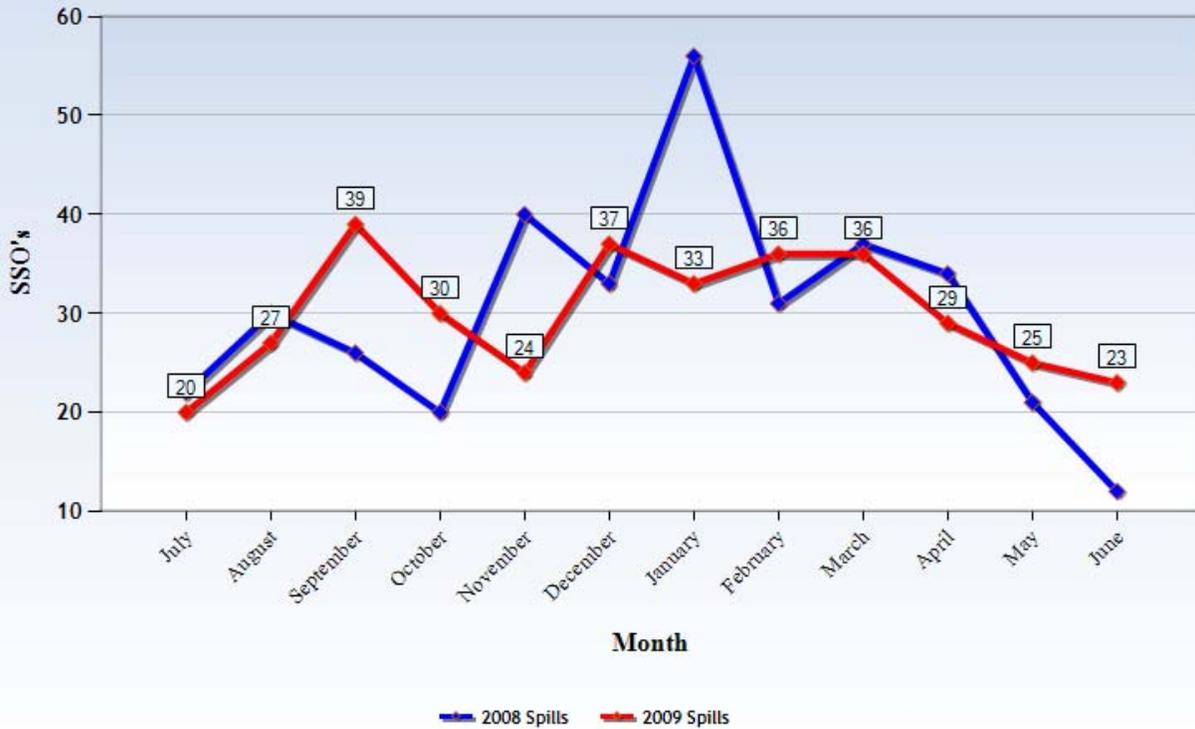
- 10 miles of sewer pipe and 348 manholes were rehabilitated or replaced.
- 180 miles of sewer pipe were treated with root control chemicals.
- 646 miles of sewer lines were cleaned (including some multiple cleanings in the same location) by Field Operations and 8.4 miles of large diameter pipe were cleaned by contractors.
- 379 sewer service pipes were replaced.
- 296 cleanouts installed for customers that did not have them or had defective cleanouts.
- 369.7 miles of rights of way were cleared by Field Operations and contractors.
- Utilities increased the funding for cleaning equipment and purchased nine (9) new jet/cleaning trucks. Seven trucks replaced aging equipment so our fleet is now 13.
- Utilities is proceeding with the implementation planning for a Work and Asset Management (WAM) Program that includes deployment of a software solution as well as improved infrastructure management processes. Solution selection was completed in 2009 and the implementation approach has been approved by the executive sponsors. Pending approval of the solution and implementation contracts by City Council, implementation of the program (software and processes) is to begin in late 2009. Utilities Field Operations Division is the top WAM implementation priority.
- Utilities has contracted for a physical survey of the entire wastewater collection system, including inspection of manholes and any exposed piping. This multi-year project is estimated to cost more than \$5,000,000. The project is collecting data that will be used as part of the foundation of a new geographic information system (GIS) and for hydraulic modeling that is needed for planning and implementation of the capacity assurance program discussed earlier. The data being collected includes manhole locations, flowline elevations, pipe sizes, construction materials, and other information. This survey is approximately 85% complete.
- Utilities continued contracting for biological grease treatment in several selected areas of the collection system. Video inspections are scheduled for FY10 to continue measuring the effectiveness of the process. Since treatment began in March 2007, only two grease related SSOs have been reported along 42,000 ft. of treated lines and the regular removal of grease from a downstream pump station wet well has been eliminated. Utilities recently renewed the biological grease treatment contract.
- Utilities continues to expand their continuous improvement and optimization efforts by meeting and extending the ISO 14001:2004 certification for a third year. This international certification focuses on minimizing negative impacts on the environment. This collaborative effort among many employees throughout Utilities is being led by Environmental Management System Protection. The Mallard Creek Water Reclamation Facility passed ISO 14001:2004 recertification for a third year in May 2009 and the Biosolids program achieved initial certification in June 2009. Mallard Creek WRF was the first City of Charlotte government facility to earn this prestigious certification and serves as a model as we seek future certifications.
- Utilities is collaborating with UNC-Charlotte, Centralina Council of Governments, and CPCC to assess the feasibility of using problematic fats, oil and grease (FOG) as biodiesel feedstock. This feasibility study of alternative fuel has been awarded grant

funds from the Biofuels Center of NC and is seeking additional funds from the NC Green Fund. The study will investigate the alternative fuel product to determine if it will save fuel, avoid disposal costs, and reduce pollution for local governments. The economic analysis will consider conventional costs and total life cycle impact assessment.

- Utilities reclaimed water program continues to operate. Reclaimed water is highly treated wastewater effluent that is land applied, rather than being discharged into the creek. The Traditions Golf Course is using up to 500,000 gallons a day during spring and summer time. Mallard Creek Park is using up to 500,000 gallons each month. Additional customers may be added in fiscal year 2010.
- There were 75 Wastewater Lift Stations serving our low-lying areas. Staff performed 107 preventative maintenance tasks for a total of 1745 work hours. This does not include twice weekly station checks, wet well cleaning, emergency generator testing, or emergency/routine repairs.
- The Northeast Davidson Lift Station was replaced with a new submersible lift station and the pumps at Kingstree Lift Station were replaced.
- Phase one of the Briar Creek Relief Sewer project is more than 80% complete.
- Phase one of the McAlpine Creek Relief Sewer project is more than 90% complete. Construction on phase two will begin in FY 2010.
- Sugar Creek Pump Station project is in service.
- Last year's frequency of sewer spills was below the 5-year average in seven of the twelve months.



## 2009 Spills Vs. 2008 Spills



Sample of new advertising on trucks



- City staff inspected grease-handling facilities at 4,642 food service establishments and restaurants (not including follow-up inspections) to ensure proper grease disposal. The City continued its Grease Free education program to teach proper disposal of a pipe-blocking menace. Inspectors mailed information to more than 4,595 customers and handed out information to 9,108 customers in apartments / multi-family complexes. Staff conducted more than 120 presentations to more than 5,000 children and adults. Some of the key presentations were to eight apartment property managers and plumbers.
- Bill inserts, television news reports, giveaway grease cans / lids, and participating in the Latin American Festival were all parts of this year's educational program. Grease Free television commercials ran for six weeks, advertisements were on Spanish radio stations for two months, and a print advertisement was in Charlotte Parent Magazine. Utilities also worked with the Health Department to distribute bilingual door hangers

to the Health Department's five waiting rooms. Grease Free advertisements were permanently placed on nine new sewer cleaning trucks.

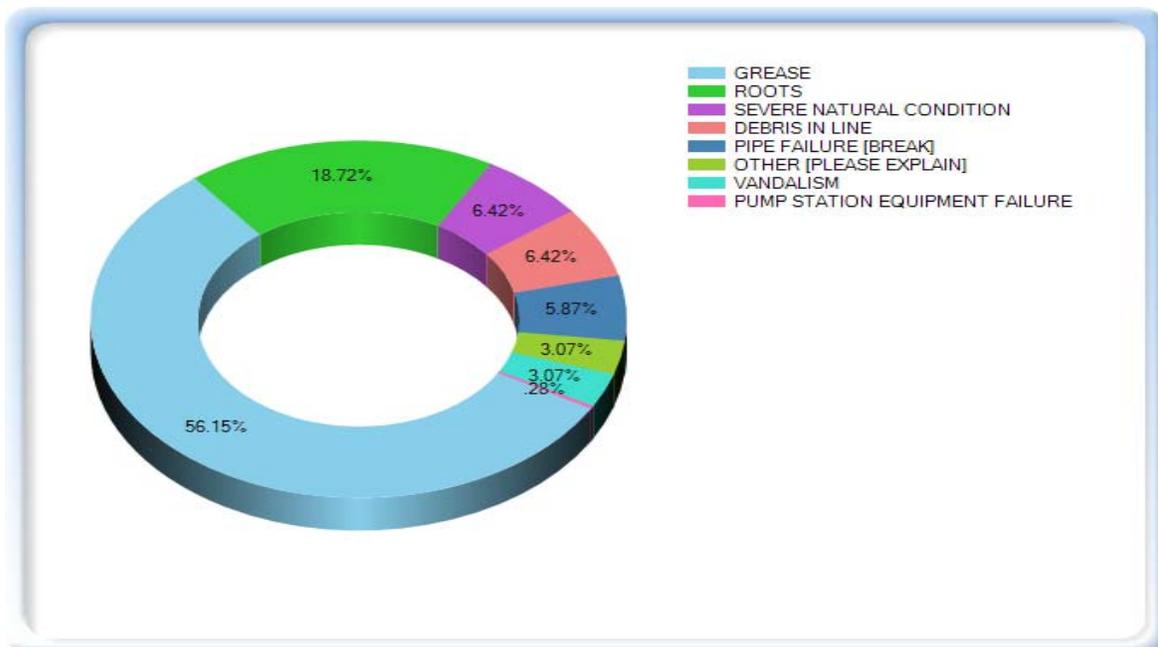
- Utilities added two Closed-Circuit TV (CCTV) inspection vehicles and upgraded its TV inspection software. These additional CCTV inspection crews provide quality control and quality assurance for collection system cleaning programs and proactively locate pipe deficiencies. To assure deficiencies found are repaired within performance goal parameters, Utilities is supplementing its Field Operations forces with a point repair / rehab contract.
- One major success was responding to up-to 11-inches of rain between August 25 and August 27, 2008. The underground sanitary sewer pipe network is not designed to handle storm water, yet the runoff and flooding from torrential rains inevitably infiltrated the pipe network here and around the region. Although Utilities had some spills, no fish kills or other environmental impacts were reported. All five wastewater treatment plants have flow equalization basins that are able to capture and later treat several million gallons of rainwater infiltration. Recently, the Long Creek Lift Station added flow equalization basins and a retention pond. Both came in use during this rain event. The lift station collected six million gallons in the flow equalization basins and 500,000 gallons in the retention pond. Without these back-up systems, the treatment plants and pipe network would have spilled a significantly larger amount.

### Continuing Challenges

#### *Wastewater Collection Challenges*

The greatest continuing wastewater challenge in this community – and in others across the U.S. – is sewage overflows. Of the 358 sewer spills that occurred, more than half were due to hardened grease clogging pipes and backing up the system. Other spill causes included the infiltration of tree roots into pipes, vandalism, general debris, and broken pipes.

## Fiscal Year 2009 Overflows by Primary Cause



Grease and other blockages that lead to sewer overflows are cleared by Utilities crews, using various cleaning methods, including mechanical rodders and truck-mounted water jets. If damaged pipe or other infrastructure is discovered it is repaired. The spilled sewage can sometimes be captured and pumped back into the sewer system.

Inspection crews and our customers find overflows. Reports of overflows where 1,000 or more gallons reach surface waters are distributed to the media in an effort to notify the public. A legal notice is posted when overflows of 15,000 gallons or more reach surface waters. Crews also use door hangers to notify customers when appropriate.

Charlotte-Mecklenburg Utilities continues its excellent sewage spill response record. Our wastewater collection staff response time averaged 36 minutes to all overflows as of June 30, 2009. Staff responded to over 65 percent of the spills in fewer than 60 minutes. This compares to a state response standard of 120 minutes or less.

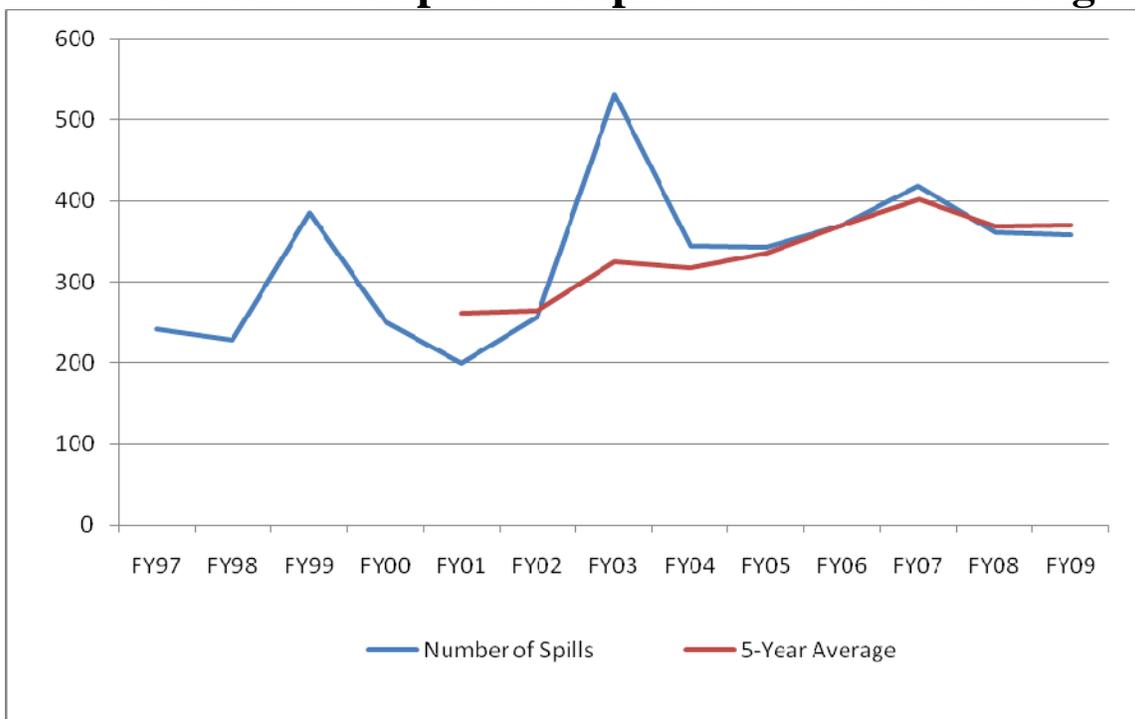
Utilities continued to evaluate and refine sewer cleaning operation. A significant change of strategy was tested relative to how cleaning resources are assigned. Utilities initiated a Consolidated Cleaning Project in January 2009. Under the direction of the Field Operations Senior Engineer, and using our SSO data base and GIS, sub-basins with high concentrations of system failures and SSOs are being identified. Resources from each of the Field Operation Zones are pooled or consolidated in these problematic sub-basins and deliberate and focused cleaning, inspection, and repair efforts are directed from the top to the bottom of the sub-basins.

Since January 18, 2009, eleven sub-basins have been completed. Within these basins, approximately 300,000 linear feet, or 57 miles have been cleaned using hydraulic / vacuum combination machines, rodders, and off-street hydraulic equipment, and each line segment was then inspected using CCTV. Main line deficiencies that are identified are immediately repaired.

Data is being collected during this project to evaluate this approach, adjust from lessons learned, and to redeploy the process over the four geographic zones of our collection system in the future. Although it is too soon to measure success, Utilities remains optimistic that this approach will deliver continuous improvements in SSO reduction and MOM program efficiencies.

The five-year moving average now stands at 370 collection system spills per year (from fiscal year 2005 to present- fiscal year 2009).

## Number of Spills Compared to 5-Year Average



Utilities tracks, trends, and analyzes the effectiveness of its efforts in reducing SSOs. On a monthly basis Utilities studies SSOs trends, including: a comparison of the current month's SSO total and SSOs experienced the same month during the previous year, SSOs per 100 miles of pipe, SSOs versus the five year average number of SSOs, and SSO volume.

### ***U.S. Environmental Protection Agency (EPA) Administrative Order Update***

Charlotte-Mecklenburg Utilities performed a voluntary sewer system audit in 1999-2000 at the EPA's request. During 2003, frequent heavy rains contributed to Charlotte's worst year of wastewater overflows. At that point the EPA and Utilities met several times to review the audit and actions taken since 2000. Utilities also worked with North Carolina Department of Environment and Natural Resources (NCDENR) to receive a state collection system permit.

In March 2007, the U.S. EPA issued a formal Administrative Order for Charlotte-Mecklenburg Utilities. This Administrative Order is a regulatory enforcement action that includes a series of steps Utilities must take to reduce overflows in our community. These steps included paying a fine for past spills and assuring that certain construction projects would be completed on time. The administrative order will help guide our ongoing efforts to address a community problem we've been working on for many years. Utilities will continue to update the EPA on its progress.

Charlotte is the first major city in the Carolinas to face EPA enforcement as it relates to overflows. Quite a few other communities in the southeast, including Atlanta, Mobile and Knoxville have already received a much more severe EPA enforcement action known as a judicial Consent Decree.

Preventing sewer spills has been a high priority in Charlotte-Mecklenburg for more than a decade. The administrative order will help further guide our ongoing efforts to address a community problem. We have increased preventative line maintenance, capital improvements and other programs.

The EPA's and our goal for overflows is zero. Reality is that a system our size will always have some overflows, but we agree even one spill is too many. Zero spills continue to be our standard and goal in Charlotte-Mecklenburg.

### ***Wastewater Treatment Plant Challenges***

Charlotte-Mecklenburg Utilities five wastewater treatment plants met 99.93 percent of all discharge limit tests set forth by our NPDES permits but our commitment is 100 percent compliance. Staff continues to improve maintenance capabilities and overall performance. Major rehabilitation and improvement projects help maintain compliance. Future upgrades and expansions are being added.

During this fiscal year there were 5 permit limit violations out of a potential of 7,335 compliance tests.

Charlotte-Mecklenburg had four bypasses at wastewater treatment facilities. Bypasses occur when mostly treated wastewater leaves the plant without the final stage of treatment, Ultra-Violet Disinfection. These can be caused by an electrical, mechanical, computer, or operator error. In each case, operators on-site quickly responded to the bypass and took appropriate cleanup/repair action. No dead fish were found associated with these bypasses.

Utilities operates a system protection program to help maintain our infrastructure. This Pretreatment program has identified, permitted, and regulated large industrial users and others to keep unsuitable discharges out of the wastewater system. While industrial compliance is extremely high in Charlotte-Mecklenburg, identifying other potentially hazardous discharge sources is an ongoing challenge. In fiscal year 2009, the Trunkline Monitoring and Grease Free programs also continued, enabling Utilities System Protection and Water Quality staff to closely observe what industrial, institutional, and commercial customers discharge into the sewer network, identify potential problem areas, and protect the collection system, sewer line workers, and treatment plants.

### **Wastewater Capacity Needs**

In 2007 a study of the McAlpine, Irwin and Sugar creek basins was completed to help identify our community's future wastewater treatment capacity needs through the year 2030. Two of the larger, near-term projects include an expansion at the Sugar Creek Wastewater Treatment Plant and a new regional wastewater treatment plant along the Catawba River, near its intersection with Long Creek. Both projects will take years and tens of millions of dollars to complete, and stakeholder input and sustainable design practices are critical components of each. Sugar Creek is in the design phase and on schedule. Long Creek is in the environmental permitting and planning phase. As we proceed with the wastewater master plan, we will remain challenged to address environmental and regulatory needs while designing sustainable facilities and staying within budget, given all the construction cost increases we are experiencing. On another note, the drought and water conservation have resulted in lower-than-projected flow rates at our wastewater plants, and it is unclear yet whether these patterns will persist over time such that wastewater capacities may be extended further than we originally projected.

*The sections following this page – Sections IIA and IIB -- detail all spills from the collection system and plants, along with plant permit limit violations and monitoring and reporting violations. Section IIA includes spills for the fiscal year ending June 30, 2008 and is separated by month. These include size of spills, their cause and descriptions of any known environmental impact.*

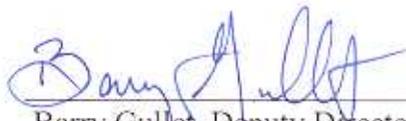
*The second section, Section IIB, represents NPDES reporting and monitoring violations and is separated by plant.*

### **III. Notification**

This report is available to the users or customers of this system by clicking on the 'publications' link of the Charlotte-Mecklenburg Utilities homepage at [www.cmutilities.com](http://www.cmutilities.com). There are also printed copies available at the Charlotte-Mecklenburg Utilities Administration Building at 5100 Brookshire Blvd., Charlotte, NC 28216, and at the City/County Customer Service and Information Center at 600 East Fourth Street, Charlotte, NC 28202. The users or customers of this system will receive a summary version of this report and will be notified of the availability of this comprehensive version via a bill insert in the September water/sewer bill. A news release will be issued before September 1 about this report. In addition, the summary version will be translated into Spanish and advertised during the month of September in a regional Spanish-speaking newspaper. We will also make this Spanish version available via our website.

### **IV. Certification**

I certify under penalty of law that this report is complete and accurate to the best of my knowledge. I further certify that this report has been made available to the users or customers of the named system and that those users have been notified of its availability.

  
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Barry Gullet, Deputy Director  
Charlotte – Mecklenburg Utilities

AUGUST 26, 2009  
Date

**IIA. Listing of Sewer Spills by Month**

The following is a list of spills (in gallons) from the public wastewater system that occurred between July 1, 2008 and June 30, 2009. Most occurred from the wastewater collection system. Spills that occurred at wastewater plants are noted in the address.

July	Total Estimate	Volume Reaching Surface Water	Surface Water Name	Fish Killed	Block	Street Name and Type	Cause of Spill / Bypass	
7/2/2008	2700	2700	Little Sugar Creek Tributary	0	800	Camborne	Pl	Pipe Failure [Break]
7/4/2008	99	99	Briar Creek Tributary	0	2400	Kenmore	Av	Other
7/4/2008	471	471	Four Mile Creek	0	400	Brenwycke (Matthews)	Ln	Roots
7/5/2008	114	114	Four Mile Tributary	0	900	Matthews School (Matthews)	Rd	Debris In Line
7/7/2008	550	550	Little Sugar Creek	0	400	Alexander (Matthews)	St	Grease
7/9/2008	450	450	Sugar Creek	0	1200	Marsh	Rd	Grease
7/10/2008	1500	1500	Irwin Creek Tributary	0	4400	Statesville	Rd	Grease
7/11/2008	51	51	McMullen Creek	0	11223	Treebark (Pineville)	Dr	Grease
7/14/2008	1800	1800	Paw Creek	0	7000	Flintrock	Rd	Grease
7/15/2008	1557	1557	Little Sugar Creek	0	3600	Frew	Rd	Grease
7/18/2008	1020	1020	Briar Creek Tributary	0	2300	Vernon	Dr	Pipe Failure [Break]
7/18/2008	1200	1200	Irwin Creek	0	1000	Fairground	St	Grease
7/19/2008	120	120	Campbell Creek	0	5500	Hickory Grove	Rd	Grease
7/20/2008	104	104	Upper Little Sugar Creek	0	3500	Sharon	Rd	Roots
7/20/2008	1800	1800	Paw Creek Tributary	0	5800	Silver Eagle	Dr	Vandalism
7/21/2008	3000	3000	Briar Creek Tributary	0	2800	Meadowcliff	Dr	Grease
7/23/2008	414	414	Little Sugar Creek	0	508	Tremont (East)	Av	Debris In Line
7/28/2008	600	600	Little Sugar Creek	0	5200	Graham (North)	St	Roots
7/31/2008	225	225	Briar Creek Tributary	0	6400	Woody Glen	Pl	Grease
7/31/2008	475	475	Briar Creek	0	2100	Pinewood	Cr	Roots
<b>20 total spills</b>	<b>18250</b>	<b>18250</b>						

August	Total Estimate	Volume Reaching Surface Water	Surface Water Name	Fish Killed	Block	Street Name and Type	Cause of Spill / Bypass
8/2/2008	800	800	McAlpine Creek	0	3500	Bon-Rea Dr	Grease
8/6/2008	600	600	Paw Creek	0	1200	Exchange St	Grease
8/6/2008	25	25	Briar Creek	0	2400	Kenmore Av	Pipe Failure [Break]
8/6/2008	34	34	Little Sugar Creek	0	200	Church (North) St	Debris In Line
8/9/2008	225	225	McAlpine Creek	0	5906	Ryder Av	Grease
8/10/2008	1200	1020	Paw Creek	0	5800	Silver Eagle Dr	Debris In Line
8/14/2008	210	210	South Prong Clarke Creek	0	15734	Centennial Forest (Huntersville) Dr	Pump Station Equipment Failure
8/18/2008	365	182	Campbell Creek Tributary	0	7525	Linda Lake Dr	Roots
8/19/2008	1190	1190	McDowell Creek	0	203	Lorimer (Davidson) Rd	Other
8/24/2008	540	270	Campbell Creek Tributary	0	6430	Randy Dr	Roots
8/25/2008	98	9	McAlpine Creek	0	7318	Valleybrook Rd	Roots
8/25/2008	210	210	Campbell Creek	0	6212	Four Seasons Ln	Debris In Line
8/27/2008	3280	3280	Little Sugar Creek	0	2621	Pine (North) St	Severe Natural Condition
8/27/2008	4800	4800	Briar Creek	0	357	Fannie Cr	Severe Natural Condition
8/27/2008	670	670	Little Sugar Creek	0	3120	Westfield Rd	Severe Natural Condition
8/27/2008	3600	3600	Briar Creek	0	247	Meadowbrook Rd	Severe Natural Condition
8/27/2008	450	450	Little Hope Creek	0	1026	Montford Dr	Severe Natural Condition / Other, Sag
8/27/2008	680	0	Not Applicable	0	920	Sharon Amity (North) Rd	Severe Natural Condition
8/27/2008	300	300	Irwin Creek	0	3400	Kempton Pl	Severe Natural Condition
8/27/2008	1200	1200	Taggart Creek	0	4518	Sampson St	Severe Natural Condition
8/27/2008	5950	5950	Briar Creek	0	3601	Shamrock Dr	Severe Natural Condition
8/27/2008	13760	13760	McAlpine Creek	0	7400	Valleybrook Rd	Severe Natural Condition

8/27/2008	2400	2400	Briar Creek	0	1909	Shoreham	Dr	Severe Natural Condition
8/27/2008	500	500	Paw Creek	0	8924	Old Dowd	Rd	Severe Natural Condition
8/28/2008	24	24	McAlpine Creek	0	3011	Dubberly	Ct	Grease
8/29/2008	415	0	Not Applicable	0	5050	Farm Pond	Ln	Grease
8/31/2008	1500	1350	McAlpine Creek	0	1300	Marlwood	Cr	Roots
<b>27 total spills</b>	<b>45026</b>	<b>43059</b>						

September	Total Estimate	Volume Reaching Surface Water	Surface Water Name	Fish Killed	Block	Street Name and Type	Cause of Spill / Bypass
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9/1/2008	60	30	Stewart Creek	0	2606	Roslyn	Av	Roots
9/1/2008	1200	1200	McMullen Creek	0	1215	Erinshire	Rd	Grease
9/3/2008	5600	5600	McAlpine Creek	12	5204	Whisperwood	Pl	Grease
9/3/2008	2355	2355	Derita Branch	0	633	Northcrest	Dr	Vandalism
9/4/2008	3150	3150	Irwin Creek	0	2931	Bellaire	Dr	Roots
9/6/2008	53	53	Campbell Creek	0	6411	Dale	Av	Grease
9/6/2008	132	13	Toby Creek Tributary	0	9139	Robert Frost	Ln	Grease
9/7/2008	360	360	McMullen Creek	0	6007	Florence	Av	Grease
9/7/2008	1150	575	McDowell Creek	0	15913	Cranleigh (Huntersville)	Dr	Grease
9/8/2008	360	360	Lower Sugar Creek	0	2400	Archdale	Dr	Grease
9/8/2008	1800	1800	Little Sugar Creek	0	600	Bilmark	Av	Debris In Line
9/9/2008	300	300	Briar Creek	0	3400	Monroe	Rd	Grease
9/9/2008	780	780	Toby Creek Tributary	0	8500	University City	Bv	Grease
9/13/2008	1600	1600	Little Sugar Creek	0	2800	Huntingtowne Farms	Ln	Grease
9/14/2008	1875	1875	Doby Creek	0	7920	Neal	Rd	Vandalism
9/15/2008	2400	2400	South Prong Clarke Creek	0	319	Dellwood (Huntersville)	Dr	Grease
9/18/2008	520	520	Steele Creek	0	12301	Falconer	Pl	Grease
9/18/2008	134	134	Irwins Creek	0	1400	Orchard Lake	Dr	Roots

9/18/2008	1085	1085	Sugar Creek	0	5130	Parkway Plaza	Bv	Grease
9/19/2008	110	110	Little Sugar Creek	0	1308	Squirrel Hill	Rd	Grease
9/20/2008	190	0	Not Applicable	0	8806	Sharonbrook	Dr	Grease
9/20/2008	2100	1050	Campbell Creek	0	5716	Cedars East	Ct	Other
9/21/2008	61	30	McAlpine Creek	0	413	Livingston	Dr	Roots
9/22/2008	1200	1200	Irwin Creek	0	801	Holland	Av	Grease
9/22/2008	2400	0	Not Applicable	0	7320	Old Dowd	Rd	Pipe Failure [Break]
9/22/2008	1215	1215	Irwin Creek Tributary	0	2628	Celia	Av	Grease
9/22/2008	1800	1800	Stewart Creek	0	1232	Hazel	St	Grease
9/22/2008	180	0	Not Applicable	0	5000	Morris Field	Dr	Grease
9/23/2008	2200	2200	Briar Creek Tributary	0	1301	Morningside	Dr	Vandalism
9/23/2008	2280	2280	Stewart Creek	0	3627	Crestridge	Dr	Pipe Failure [Break]
9/23/2008	665	665	Sugar Creek	0	724	Montana	Dr	Grease
9/27/2008	2970	2970	Four Mile Creek	0	11336	Deer Ridge	Ln	Roots
9/27/2008	91	91	Four Mile Creek	0	6700	Windyrush	Rd	Debris In Line
9/28/2008	88	44	Reedy Creek Tributary	0	226	Shenandoah	Cr	Roots
9/29/2008	75	0	Not Applicable	0	1544	Duckworth	Av	Grease
9/30/2008	1800	1350	Briar Creek	0	825	Villa	Ct	Grease
9/30/2008	174	174	McMullen Creek	0	4009	Craig	Av	Grease
9/30/2008	980	980	Six Mile Creek	0	16045	Johnston	Rd	Grease
9/30/2008	1560	1248	Campbell Creek	0	5723	Cedars East	Ct	Grease
<b>39 total spills</b>	<b>47053</b>	<b>41597</b>						

October	Total Estimate	Volume Reaching Surface Water	Surface Water Name	Fish Killed	Block	Street Name and Type	Cause of Spill / Bypass
10/1/2008	4400	4400	Sugar Creek Tributary	0	1536	Tyvola Rd	Grease
10/2/2008	3020	3020	Gum Branch	0	8001	Larkhaven Rd	Grease
10/2/2008	285	285	Briar Creek Tributary	0	3301	Krupa Ct	Grease
10/3/2008	111	111	Walker Branch	0	13430	Cassington Ct	Grease
10/4/2008	355	355	West Branch Rocky River	0	246	Ashby (Davidson) Dr	Grease
10/5/2008	920	920	Little Sugar Creek	0	5239	Queen Anne Rd	Grease
10/13/2008	42	42	McAlpine Creek	0	7500	Sardis Rd	Grease
10/13/2008	660	660	Briar Creek Tributary	0	4132	Larkspur Ln	Grease
10/14/2008	1770	1770	Toby Creek	0	8600	University City Bv	Debris In Line
10/14/2008	120	120	Briar Creek Tributary	0	4211	Oak Forest Dr	Pipe Failure [Break]
10/15/2008	1500	1500	Mallard Creek	0	12412	Clackwyck Ln	Grease
10/15/2008	248	248	Irwin Creek	0	1721	Lela Av	Grease
10/16/2008	520	520	Briar Creek	0	2001	Milton Rd	Debris In Line
10/16/2008	82	82	McAlpine Creek	0	14925	John J Delaney Dr	Grease
10/17/2008	230	230	Stewart Creek	0	814	Seldon Dr	Roots
10/17/2008	560	560	Clarke Creek	0	205	3 <sup>rd</sup> (Huntersville) St	Grease
10/17/2008	760	760	Lake Norman	0	100	North Harbor (Davidson) Pl	Grease
10/17/2008	4316	4316	McMullen Creek	0	1215	Erinshire Rd	Pipe Failure [Break]
10/20/2008	12600	1260	Little Sugar Creek	0	425	Towne Centre (Pineville) Bv	Grease
10/21/2008	300	300	Briar Creek	0	1028	Hickory Nut St	Roots
10/23/2008	112	112	Briar Creek	0	1000	Wendover (North) Rd	Grease
10/27/2008	104	104	Briar Creek	0	6109	Delham Dr	Grease
10/28/2008	60	60	Stewart Creek	0	2632	Coronet Wy	Pipe Failure [Break]
10/28/2008	1350	1350	Little Sugar Creek	0	5200	Pine Dr	Pipe Failure [Break]

10/28/2008	300	0	Not Applicable	0	251	Ney (Davidson)	Cr	Roots
10/29/2008	5850	5265	Paw Creek	0	3521	Mulberry Church	Rd	Pipe Failure [Break]
10/29/2008	0	0	Not Applicable	0	4421	Swan Meadow	Ln	Grease
10/30/2008	124	124	Briar Creek	0	6201	Barrington	Dr	Grease
10/31/2008	30	0	Not Applicable	0	255	Hebron (East)	St	Roots
10/31/2008	19	0	Not Applicable	0	944	Courtney (Matthews)	Ln	Roots
<b>30 total spills</b>	<b>40748</b>	<b>28474</b>						

November	Total Estimate	Volume Reaching Surface Water	Surface Water Name	Fish Killed	Block	Street Name and Type	Cause of Spill / Bypass
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11/1/2008	300	0	Not Applicable	0	20152	Washam (Cornelius)	St	Grease
11/2/2008	180	0	Not Applicable	0	6556	Deermont	Ct	Vandalism
11/5/2008	1320	1320	Lake Cornelius	0	791	Peninsula (Davidson)	Dr	Grease
11/6/2008	63	63	Paw Creek	0	1920	Daytona	Av	Grease
11/7/2008	332	0	Not Applicable	0	12110	New Abbey	Pl	Grease
11/10/2008	240	0	Not Applicable	0	600	Kings (South)	Dr	Grease
11/11/2008	410	410	Campbell Creek	0	5289	Ficus Tree	Ln	Debris In Line
11/11/2008	1850	1850	Briar Creek Tributary	0	2119	Sharon	Av	Grease
11/11/2008	240	240	Little Sugar Creek	0	600	Kings (South)	Dr	Grease
11/12/2008	105	105	Stewart Creek	0	2632	Coronet	Wy	Pipe Failure [Break]
11/15/2008	164	0	Not Applicable	0	6800	Dumbarton	Dr	Debris In Line
11/17/2008	200	200	Taggart Creek	0	3701	Carlyle	Dr	Grease
11/17/2008	120	120	Four Mile Creek	0	3516	Crescent Knoll (Matthews)	Dr	Grease
11/17/2008	900	900	McAlpine Creek	0	5000	Broken Saddle	Ln	Roots
11/17/2008	3600	3600	Mallard Creek Tributary	0	8909	J W Clay	Bv	Grease
11/18/2008	29	29	McAlpine Creek	0	7124	Carosan	Ln	Roots
11/21/2008	75	75	Irwin Creek	0	2000	Camp Greene	St	Grease

11/23/2008	1200	1200	Irwin Creek Tributary	0	1940	St John	St	Roots
11/24/2008	230	0	Not Applicable	0	500	Davidson (North)	St	Grease
11/26/2008	840	756	Paw Creek	0	5000	Freedom	Dr	Grease
11/26/2008	273	0	Not Applicable	0	4912	Quail Canyon	Dr	Roots
11/27/2008	250	250	Briar Creek	0	5917	Albemarle	Rd	Grease
11/27/2008	750	750	McAlpine Creek	0	1412	East Barden	Rd	Grease
11/28/2008	600	600	Little Sugar Creek	0	3800	Park	Rd	Roots
<b>24 total spills</b>	<b>14271</b>	<b>12468</b>						

December	Total Estimate	Volume Reaching Surface Water	Surface Water Name	Fish Killed	Block	Street Name and Type	Cause of Spill / Bypass
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12/1/2008	2700	2700	Paw Creek Tributary	0	7524	Kenstead	Cr	Vandalism
12/2/2008	120	60	Toby Creek	0	8420	University City	Bv	Grease
12/2/2008	50	50	McMullen Creek	0	8220	Pineville-Matthews (Pineville)	Rd	Grease
12/3/2008	1017	1017	McMullen Creek	0	413	Livingston	Dr	Roots
12/3/2008	250	0	Not Applicable	0	6400	Reagan	Dr	Grease
12/3/2008	195	97	Four Mile Creek	0	2405	Hidden Trail (Matthews)	Ct	Roots
12/3/2008	120	60	Irving Tributary	0	2500	Beatties Ford	Rd	Grease
12/3/2008	215	215	Briar Creek	0	718	Harwyn	Dr	Pipe Failure [Break]
12/5/2008	17	0	Not Applicable	0	2307	Red Barn	Ln	Roots
12/6/2008	402	201	Dairy Branch Tributary	0	2029	Springdale	Av	Grease
12/6/2008	1200	1200	Little Sugar Creek	0	1571	Pecan	Av	Grease
12/6/2008	120	120	McAlpine Creek	0	3328	Fortis	Ln	Grease
12/7/2008	261	261	Irving Creek Tributary	0	304	Honeywood	Av	Grease
12/7/2008	3600	3600	Four Mile Creek	0	6101	Providence Glen	Rd	Vandalism
12/8/2008	825	825	Campbell Creek	0	6348	Green Vista	Ct	Grease

12/9/2008	338	338	Irwin Creek	0	5415	Graypark	Dr	Grease
12/10/2008	300	300	Lake Davidson	0	20705	Sterling Bay (East), Cornelius	Ln	Grease
12/11/2008	75000	37500	McAlpine Creek	0	6101	Bentway	Dr	Severe Natural Condition
12/12/2008	195	0	Not Applicable	0	19400	West Catawba (Cornelius)	Av	Debris In Line
12/12/2008	425	212	Briar Creek	0	5122	Auburndale	Rd	Debris In Line
12/13/2008	85	42	Swan Run Branch	0	7000	Folger	Dr	Roots
12/13/2008	135	135	Briar Creek	0	5100	Central	Av	Grease
12/14/2008	106	0	Not Applicable	0	3416	Winslow	Dr	Roots
12/21/2008	680	340	Coffey Creek	0	528	Crocus	Ct	Grease
12/22/2008	150	75	Long Creek	0	9217	Trinity	Rd	Debris In Line
12/23/2008	105	105	McAlpine Creek	0	9038	Covedale	Dr	Roots
12/23/2008	300	150	McAlpine Tributary	0	6600	Kirkstall	Ct	Grease
12/26/2008	834	834	McMullen Creek	0	6727	Rosemary	Ln	Grease
12/26/2008	770	770	Edward Branch	0	3612	Winterfield	Pl	Grease
12/27/2008	158	0	Not Applicable	0	624	Northway	Dr	Grease
12/27/2008	720	720	Little Sugar Creek	0	635	Neal	Dr	Roots
12/28/2008	141	141	Irwin Creek	0	710	Yorkmont	Rd	Roots
12/29/2008	530	53	McAlpine	0	6614	Ronda	Av	Roots
12/29/2008	275	137	Lower Little Sugar	0	1411	Sharon (West)	Rd	Grease
12/29/2008	7800	7800	Long Creek Tributary	0	10415	Mount Holly	Rd	Vandalism
12/30/2008	960	960	Walker Branch	0	12100	Cartgate	Ln	Grease
12/30/2008	415	415	Irving Creek Tributary	0	7459	Elwood	Dr	Grease
<b>37 total spills</b>	<b>101514</b>	<b>61433</b>						

January	Total Estimate	Volume Reaching Surface Water	Surface Water Name	Fish Killed	Block	Street Name and Type	Cause of Spill / Bypass
1/1/2009	96	96	Briar Creek	0	1914	Eastway Dr	Grease
1/1/2009	710	710	Little Sugar Creek	0	6133	Colchester Pl	Grease
1/2/2009	150	150	McMullen Creek	0	6500	Sharon Hills Rd	Roots
1/5/2009	2490	1245	McIntyre Creek	0	5936	St Frances (Pineville) Dr	Vandalism
1/6/2009	720	360	Big Sugar Creek	0	10112	Industrial (Pineville) Dr	Severe Natural Condition / Other
1/6/2009	3600	3600	McAlpine Creek	0	6101	Bentway Dr	Severe Natural Condition
1/7/2009	399	399	Campbell Creek	0	5417	Biederbeck Dr	Grease
1/8/2009	38	38	Paw Tuckette	0	4126	Eddleman Rd	Roots
1/8/2009	600	600	Big Sugar Creek	0	10112	Industrial (Pineville) Dr	Severe Natural Condition / Other
1/8/2009	122	122	Little Sugar Creek	0	4816	Fairheath Rd	Grease
1/9/2009	160	160	Campbell Creek Tributary	0	3431	Sharon Amity (North) Rd	Grease
1/10/2009	1460	1460	McMullen Creek	0	3308	Cambria Rd	Roots
1/13/2009	600	600	Steele Creek Tributary	0	13039	Rothe House Rd	Vandalism
1/14/2009	240	240	McMullen Creek	0	4107	Tapperty Cr	Grease
1/17/2009	1132	1132	Six Mile Creek	0	5417	Burwash Ct	Grease
1/17/2009	60	0	Not Applicable	0	3807	Oldfield Rd	Roots
1/18/2009	1499	1499	Gum Branch	0	7927	Old Plank Rd	Other
1/19/2009	11	0	Not Applicable	0	6014	Lakeview Rd	Roots
1/21/2009	960	960	Campbell Creek	0	7526	Dorn Cr	Roots
1/21/2009	1200	1200	Campbell Creek	0	6616	Highbrook Dr	Pipe Failure [Break]
1/21/2009	60	0	Not Applicable	0	3429	Cypress Pond Dr	Grease
1/21/2009	175	175	Little Sugar Creek	0	828	White Plains Rd	Grease
1/23/2009	1200	1200	Six Mile Creek	0	5417	Burwash Ct	Grease
1/24/2009	600	300	Reedy Creek	0	6322	Randy Dr	Grease

1/25/2009	780	780	Linda Lake	0	6631	Williams	Rd	Grease
1/26/2009	81	81	Irwin Creek	0	5524	South	Bv	Grease
1/26/2009	160	160	Sugar Creek	0	1340	Queens (West)	Rd	Grease
1/27/2009	69	69	Briar Creek	0	5721	The Plaza		Grease
1/27/2009	88	44	Irvins Creek Tributary	0	2617	Pitts	Dr	Grease
1/27/2009	395	395	Little Sugar	0	322	Lamar	Av	Grease
1/29/2009	220	220	McMullen Creek	0	4723	Stafford	Cr	Grease
1/31/2009	750	750	Campbell Creek	0	7817	Briardale	Dr	Roots
1/31/2009	250	125	Stewart Creek	0	1520	South	Bv	Grease
<b>33 total spills</b>	<b>21075</b>	<b>18870</b>						

February	Total Estimate	Volume Reaching Surface Water	Surface Water Name	Fish Killed	Block	Street Name and Type	Cause of Spill / Bypass
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2/1/2009	450	450	Mallard Creek	0	11001	Painted Tree	Rd	Grease
2/1/2009	900	900	Briar Creek	0	5913	Plainfield	Dr	Grease
2/2/2009	81	81	Irwin Creek	0	3600	Hashem	Dr	Grease
2/5/2009	231	231	Irwin Creek Tributary	0	1823	Northbrook	Dr	Grease
2/7/2009	470	235	Little Sugar Creek	0	2621	Pine (North)	St	Grease
2/7/2009	120	120	Rocky River Tributary	0	1107	Woody (Davidson)	Ln	Roots
2/8/2009	240	240	Campbell Creek	0	5513	Lawrence Orr	Rd	Roots
2/8/2009	1150	862	McAlpine Creek	0	5813	Camilla	Dr	Grease
2/10/2009	1325	662	McAlpine Creek	0	11833	Post Ridge	Ct	Grease
2/12/2009	2550	1275	Sugar Creek	0	1162	Nations	Dr	Roots
2/14/2009	600	300	Irwin Creek	0	3701	Nevin	Rd	Grease
2/14/2009	1920	1920	Swan Run Branch	0	7428	Sheffingdell	Dr	Grease
2/15/2009	325	162	Little Sugar Creek	0	1823	Seigle	Av	Grease
2/16/2009	240	120	Mallard Creek	0	2200	Ben Craig	Dr	Roots

2/17/2009	210	210	Little Sugar Creek	0	414	26 <sup>th</sup> (West)	St	Grease
2/17/2009	120	0	Not Applicable	0	600	State	St	Grease
2/18/2009	144	144	Little Sugar Creek	0	2513	Pine	St	Grease
2/19/2009	485	485	Four Mile Creek	0	15110	Wyndham Oaks	Dr	Grease
2/19/2009	180	180	Kings Branch	0	4651	South	Bv	Grease
2/19/2009	5	5	Irwin Creek	0	3101	Barringer	Dr	Other
2/20/2009	270	135	Irwins Creek Tributary	0	6211	Gold Wagon (Mint Hill)	Ln	Grease
2/21/2009	174	174	Paw Creek	0	6504	War Eagle	Ln	Grease
2/22/2009	88	88	Campbell Creek	0	6819	Rambling Rose	Dr	Grease
2/22/2009	360	360	Reedy Creek	0	2000	St Johns Church	Rd	Grease
2/23/2009	123	30	Withers Cove	0	10148	Orchard Grass	Ct	Grease
2/24/2009	550	550	Briar Creek	0	5316	Kimmerly Glen	Ln	Grease
2/24/2009	78	78	Briar Creek	0	1034	Nancy	Dr	Grease
2/25/2009	630	630	Edward Branch	0	5000	Erickson	Rd	Debris In Line
2/25/2009	50	50	Mallard Creek Tributary	0	9705	Tryon (North)	St	Pipe Failure [Break]
2/25/2009	78	78	Stewart Creek	0	2918	Tacoma	St	Grease
2/25/2009	450	450	Sugar Creek	0	6000	Ingleside	Dr	Grease
2/26/2009	900	900	Davidson Creek Tributary	0	800	Beaty (Davidson)	St	Grease
2/26/2009	2400	2400	Long Creek	0	10611	Hugue	Wy	Grease
2/27/2009	600	600	Four Mile Creek	0	3564	Cameron Creek	Dr	Grease
2/27/2009	240	240	Six Mile	0	16205	Annahill	Ct	Vandalism
2/27/2009	90	90	Briar Creek Tributary	0	5016	Glenview	Ct	Other
<b>36 total spills</b>	<b>18827</b>	<b>15435</b>						

March	Total Estimate	Volume Reaching Surface Water	Surface Water Name	Fish Killed	Block	Street Name and Type	Cause of Spill / Bypass
3/1/2009	180	0	Not Applicable	0	2621	Ashley Rd	Roots
3/1/2009	1110	1110	Sugar Creek	0	1026	Montford Dr	Severe Natural Condition / Other
3/3/2009	210	210	Upper Little Sugar Creek	0	3901	Pine Grove Cr	Grease
3/4/2009	182	182	Coffey Creek	0	2725	Water Ridge Py	Grease
3/4/2009	117	117	Little Sugar Creek	0	600	8 <sup>th</sup> (East) St	Grease
3/5/2009	1480	1480	Paw Creek	0	6931	Crossridge Rd	Grease
3/6/2009	670	0	Not Applicable	0	6816	Idlewild Rd	Grease
3/6/2009	12	12	McAlpine Creek	0	9010	Monroe Rd	Pipe Failure [Break]
3/7/2009	45	0	Not Applicable	0	11625	Sunswept Ln	Grease
3/8/2009	47	0	Not Applicable	0	11914	Rock Canyon Dr	Debris In Line
3/9/2009	132	132	Irwin Creek	0	4532	Valeview Ln	Grease
3/10/2009	90	0	Not Applicable	0	611	Mountainview Dr	Grease
3/11/2009	3198	799	Briar Creek Tributary	0	2040	Stonebridge Ln	Debris In Line
3/12/2009	1500	1500	Irvins Creek	0	2500	Cross Point Cr	Grease
3/13/2009	136	0	Not Applicable	0	8460	Huntdale Ct	Grease
3/18/2009	262	262	Long Creek	0	1617	Sugar Hollow Dr	Grease
3/18/2009	720	720	Campbell Creek	0	2121	Margaret Wallace Rd	Debris In Line
3/19/2009	560	280	Goose Creek	0	4524	Drifter Dr	Roots
3/19/2009	175	175	Little Sugar Creek Tributary	0	5814	Rose Valley Dr	Pipe Failure [Break]
3/20/2009	78	78	McAlpine Creek	0	4310	Windwood Cr	Roots
3/21/2009	62	31	Irwin Creek Tributary	0	1119	Fontana Av	Roots
3/21/2009	146	73	McAlpine Creek	0	9626	Barkridge (Mint Hill) Rd	Grease
3/22/2009	375	375	Swan Run Creek Tributary	0	7400	Valleybrook Rd	Grease
3/22/2009	2	0	Not Applicable	0	817	Wriston Pl	Grease

3/23/2009	900	0	Not Applicable	0	700	Toddville	Rd	Roots
3/26/2009	37	0	Not Applicable	0	3510	Dewitt	Ln	Roots
3/26/2009	8	8	Back Creek	0	9519	Vera Jones	Ln	Grease
3/27/2009	1540	770	Clear Creek	0	8321	Raven Top (Mint Hill)	Dr	Pipe Failure [Break]
3/29/2009	300	270	Little Sugar Creek	0	1200	Marsh	Rd	Debris In Line
3/29/2009	1350	1012	Four Mile Creek	0	4750	Andrews Links	St	Roots
3/29/2009	300	300	Briar Creek	0	3030	Shamrock	Dr	Grease
3/29/2009	300	300	Irwin Creek	0	2400	Statesville	Av	Grease
3/29/2009	370	370	McMullen Creek Tributary	0	4730	Stafford	Cr	Grease
3/29/2009	100	100	Briar Creek	0	1709	Shamrock	Dr	Grease
3/30/2009	255	255	Little Sugar Creek	0	5714	Eastbrook	Rd	Grease
3/31/2009	59	59	Briar Creek	0	3708	Medallion	Dr	Grease
<b>36 total spills</b>	<b>17008</b>	<b>10980</b>						

April	Total Estimate	Volume Reaching Surface Water	Surface Water Name	Fish Killed	Block	Street Name and Type	Cause of Spill / Bypass
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4/1/2009	4200	4200	Little Sugar Creek	0	739	12 <sup>th</sup> (East)	St	Grease
4/2/2009	244	244	Briar Creek	0	1363	Carolyn	Dr	Roots
4/3/2009	122	61	Withers Cove	0	11519	Tall Cedar	Ct	Grease
4/4/2009	508	508	Doby Creek Tributary	0	7245	McTeal	Pl	Grease
4/4/2009	2880	2304	Briar Creek Tributary	0	4200	Vinetta	Ct	Grease
4/4/2009	184	184	Four Mile Creek	0	10507	Lady Grace	Ln	Grease
4/6/2009	140	70	McMullen Creek	0	6555	Summerlin	Pl	Grease
4/9/2009	240	240	Irwin Creek	0	417	Andrill	Tr	Grease
4/9/2009	1200	1200	Rocky River Tributary	0	4501	Fairvista	Dr	Grease
4/10/2009	120	120	Four Mile Creek	0	9109	Deerpark	Ln	Grease

4/10/2009	2275	2275	McAlpine Creek Tributary	0	8306	Summerglen	Cr	Grease
4/11/2009	120	120	Briar Creek	0	3719	Barclay Downs	Dr	Grease
4/13/2009	600	600	Stoney Creek Tributary	0	3813	Beauvista	Dr	Roots
4/13/2009	585	292	McAlpine Creek	0	6130	Pineburr	Rd	Grease
4/15/2009	144	144	Taggart Creek	0	5400	Airport	Dr	Grease
4/17/2009	187	93	Coffee Creek	0	516	Farmhurst	Dr	Roots
4/19/2009	120	0	Not Applicable	0	6802	Dumbarton	Dr	Grease
4/21/2009	142	71	Lake Norman Tributary	0	20740	Torrence Chapel (Cornelius)	Rd	Grease
4/21/2009	220	220	Torrence Creek	0	12019	Verhoeff (Huntersville)	Dr	Debris In Line
4/21/2009	3000	1500	North Prong Clarke Creek	0	12811	Ramah Church	Rd	Pipe Failure [Break]
4/22/2009	9450	9450	Doby Creek	0	900	W T Harris (West)	Bv	Grease
4/23/2009	146	146	Four Mile Creek	0	10900	Stonepath	Ln	Grease
4/23/2009	690	690	Briar Creek	0	5710	Allenstown	Dr	Roots
4/24/2009	75	75	Reedy Creek	0	8456	Othello	Pl	Grease
4/25/2009	15	15	Sugar Creek	0	402	19 <sup>th</sup> (East)	St	Debris In Line
4/25/2009	55	55	Steele Creek	0	11511	Tall Cedar	Ct	Grease
4/25/2009	45	45	Doby Creek Tributary	0	6511	Wild Orchid	Ct	Roots
4/27/2009	85	85	Taggart Creek	0	3934	Hager	Dr	Grease
4/30/2009	46	23	McMullen Creek	0	4940	Broad Hollow	Dr	Roots
<b>29 total spills</b>	<b>27838</b>	<b>25030</b>						

May	Total Estimate	Volume Reaching Surface Water	Surface Water Name	Fish Killed	Block	Street Name and Type	Cause of Spill / Bypass
5/2/2009	64	32	Paw Creek Tributary	0	1035	Tilden Rd	Roots
5/3/2009	2600	650	McAlpine Creek	0	6565	Louglen Cr	Grease

5/3/2009	1325	1325	Irwin Creek Tributary	0	3439	Reid	Av	Grease
5/5/2009	99	49	McMullen Creek	0	1923	East Barden	Rd	Roots
5/5/2009	3475	3475	Little Sugar Creek	0	1701	Jameston	Dr	Severe Natural Condition
5/5/2009	2500	2500	McMullen Creek	0	5701	Charing	Pl	Severe Natural Condition
5/5/2009	3700	3700	Briar Creek	0	325	Meadowbrook	Rd	Severe Natural Condition
5/5/2009	1520	1520	Briar Creek	0	357	Fannie	Cr	Severe Natural Condition
5/10/2009	550	550	Marvin Branch	0	9900	Eden Hall	Ct	Grease
5/10/2009	1800	1800	McAlpine Creek	0	8030	Glencannon	Dr	Grease
5/11/2009	68	68	Little Hope Creek	0	525	Belton	St	Grease
5/11/2009	1495	1495	Mallard Creek	0	2405	Haybrook	Ln	Roots
5/12/2009	1068	1068	Little Sugar Creek	0	1522	Edgewater	Dr	Roots
5/12/2009	220	220	Irwin Creek	0	3000	Wilkinson	Bv	Grease
5/12/2009	10	5	McMullen Creek	0	5901	Donegal	Dr	Roots
5/15/2009	243	243	Old Steele Creek	0	4642	Wilkinson	Bv	Grease
5/15/2009	73	73	Littl Hope Creek	0	634	Archdale	Dr	Grease
5/16/2009	98	98	Four Mile Creek	0	10704	Jordan Rae	Ln	Grease
5/16/2009	940	940	McMullen Creek	0	5900	Sharon Hills	Rd	Other
5/25/2009	240	0	Not Applicable	0	19725	Oak (Cornelius)	St	Grease
5/25/2009	80	0	Not Applicable	0	4010	Tennessee	Av	Roots
5/25/2009	180	0	Not Applicable	0	518	Beatties Ford	Rd	Debris In Line
5/28/2009	48	24	Six Mile Creek	0	17316	Brightstone	Ct	Grease
5/31/2009	1280	1280	Briar Creek	0	3514	Enfield	Rd	Grease
<b>24 total spills</b>	<b>23676</b>	<b>21115</b>						

June	Total Estimate	Volume Reaching Surface Water	Surface Water Name	Fish Killed	Block	Street Name and Type	Cause of Spill / Bypass
6/1/2009	792	792	Clarke Creek Tributary	0	6048	Champions Crest Dr	Grease
6/1/2009	1200	600	Long Creek Tributary	0	6610	Sunman Rd	Grease
6/1/2009	50	50	Little Sugar Creek	0	5159	Park Rd	Pipe Failure [Break]
6/3/2009	192	192	McMullen Creek	0	241	Wonderwood Dr	Grease
6/3/2009	54	27	McAlpine Creek	0	711	Bethune Pl	Roots
6/5/2009	1370	1370	Little Hope Creek	0	1026	Montford Dr	Severe Natural Condition / Other
6/5/2009	800	800	Little Sugar Creek	0	2501	Tryon (North) St	Severe Natural Condition / Debris
6/5/2009	48	48	Irwin Creek	0	2700	Abelwood Rd	Grease
6/8/2009	73	65	Edwards Branch	0	811	Ashmore Dr	Grease
6/9/2009	175	175	Long Creek	0	10311	Hatter Ridge Tr	Grease
6/10/2009	438	394	Coffey Creek	0	5601	Wilkinson Bv	Roots
6/10/2009	390	390	Little Sugar Creek	0	5001	Park Rd	Pipe Failure [Break]
6/11/2009	38	0	Not Applicable	0	2800	Wickersham Rd	Roots
6/16/2009	704	633	Irwin Creek	0	5400	Nations Ford Rd	Roots
6/17/2009	23	0	Not Applicable	0	3400	Tyvola (West) Rd	Other
6/18/2009	4	4	Derita Branch	0	925	Craighead (West) Rd	Other
6/22/2009	60	0	Lake Norman	0	16802	Baywatch (Cornelius) Ct	Pipe Failure [Break]
6/23/2009	46	46	Paw Creek	0	7421	Honey Flower Pl	Grease
6/24/2009	41	20	McAlpine Creek	0	6500	Monroe Rd	Grease
6/25/2009	45	45	Irwin Creek	0	6401	Statesville Rd	Debris In Line
6/25/2009	60	0	Not Applicable	0	8502	Deerwood Rd	Pipe Failure [Break]
6/26/2009	1850	925	Taggart Creek	0	4001	Carlyle Dr	Other
6/27/2009	120			0	10127	Tallent (Huntersville) Ln	Grease
<b>23 total spills</b>	<b>8573</b>	<b>6576</b>					

**TOTAL NUMBER OF FY09 COLLECTION SYSTEM SPILLS: 358**

**VOLUME SAFELY COLLECTED, TREATED & DISCHARGED: 29,689,180,400 GALLONS**  
**TOTAL VOLUME OF FY09 SPILLED: 383,859 GALLONS**  
**TOTAL VOLUME OF FY09 THAT REACHED SURFACE WATERS: 303,287 GALLONS**

**PERCENTAGE OF WASTEWATER SAFELY COLLECTED, TREATED AND RELEASED DURING**      **FY09: more than 99.9987%**  
**FY08: more than 99.9982%**  
**FY07: more than 99.9948%**  
**FY06: more than 99.9988%**  
**FY05: more than 99.993%**

**SECTION IIB. Permit Compliance and Reporting Violations, by plant**

**Irwin Creek WWTP -- NPDES Permit #NC0024945**

<b>MONTH</b>	<b>PERMIT LIMIT COMPLIANCE</b>	<b>REPORTING REQUIREMENT COMPLIANCE</b>
July, 2008	None	None
August, 2008	None	None
September, 2008	Daily maximum fecal coliform violation occurred on 9/3/09 due to equipment malfunction.	None
October, 2008	None	None
November, 2008	None	None
December, 2008	None	None
January, 2009	None	None
February, 2009	None	None
March, 2009	None	None
April, 2009	None	None
May, 2009	None	None
June, 2009	None	None

**Mallard Creek WRF -- NPDES Permit #NC0030210**

<b>MONTH</b>	<b>PERMIT LIMIT COMPLIANCE</b>	<b>REPORTING REQUIREMENT COMPLIANCE</b>
July, 2008	None	None
August, 2008	None	None
September, 2008	None	None
October, 2008	None	None
November, 2008	None	None
December, 2008	None	None
January, 2009	None	None
February, 2009	None	None
March, 2009	None	None
April, 2009	None	None
May, 2009	None	None
June, 2009	None	None

**Mallard Creek WRF Re-Use Discharge -- NPDES Permit #NC0013252**

<b>MONTH</b>	<b>PERMIT LIMIT COMPLIANCE</b>	<b>REPORTING REQUIREMENT COMPLIANCE</b>
July, 2008	None	None
August, 2008	None	None
September, 2008	None	None
October, 2008	None	None
November, 2008	None	None
December, 2008	None	None
January, 2009	None	None
February, 2009	None	None
March, 2009	None	None
April, 2009	None	None
May, 2009	None	None
June, 2009	None	None

**McAlpine Creek WWTF -- NPDES Permit #NC0024970**

<b>MONTH</b>	<b>PERMIT LIMIT COMPLIANCE</b>	<b>REPORTING REQUIREMENT COMPLIANCE</b>
July, 2008	None	None
August, 2008	None	None
September, 2008	None	None
October, 2008	None	None
November, 2008	None	None
December, 2008	None	None
January, 2009	None	None
February, 2009	None	None
March, 2009	None	None
April, 2009	None	None
May, 2009	None	None
June, 2009	None	None

**McDowell Creek WWTP -- NPDES Permit #NC0036277**

<b>MONTH</b>	<b>PERMIT LIMIT COMPLIANCE</b>	<b>REPORTING REQUIREMENT COMPLIANCE</b>
July, 2008	None	None
August, 2008	None	None
September, 2008	None	None
October, 2008	None	None
November, 2008	None	None
December, 2008	None	None
January, 2009	None	None
February, 2009	None	None
March, 2009	None	None
April, 2009	None	None
May, 2009	None	None
June, 2009	None	None

**Sugar Creek WWTP -- NPDES Permit #NC0024937**

<b>MONTH</b>	<b>PERMIT LIMIT COMPLIANCE</b>	<b>REPORTING REQUIREMENT COMPLIANCE</b>
July, 2008	None	None
August, 2008	None	None
September, 2008	None	None
October, 2008	None	None
November, 2008	None	None
December, 2008	None	None
January, 2009	Three daily maximum fecal violations occurred on 1/22, 1/23, and 1/29. The Weekly geometric mean for fecal coliform was also exceeded the week of the January 18th through the 24th. The fecal coliform violations this month were due to plant solids issues and issues with the Ultra Violet (UV) disinfection system.	None
February, 2009	None	None
March, 2009	None	None
April, 2009	None	None
May, 2009	None	None
June, 2009	None	None