

August 2008

# UNION COUNTY, NORTH CAROLINA

## DEPARTMENT OF PUBLIC WORKS



# WASTEWATER SYSTEM PERFORMANCE SUMMARY

(FISCAL YEAR 2007-2008)

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## 1.0 INTRODUCTION

House Bill 1160, the Clean Water Act of 1999, was ratified by the North Carolina General Assembly on July 20, 1999 and signed into law by the Governor on July 21, 1999. This legislation placed significant reporting requirements on entities that own or operate wastewater systems. This Performance Summary is intended to establish compliance with said rule.

Union County Public Works (UCPW) is charged with the management, operation and maintenance of the County's sanitary sewer system. During the 2007-2008 fiscal year the wastewater system was comprised of 5 active wastewater treatment plants (WWTP), approximately 65 wastewater pumping stations and over 500 miles of pipe with approximately 27,160 accounts. In addition to the 5 WWTP's which have a combined rated treatment capacity of 8.1 million gallons per day (MGD), the County, through contractual agreement, has 2.65 MGD and 1.0 MGD of purchased capacity at the City of Monroe WWTP and Charlotte's McAlpine Creek WWTP respectively. An additional 2.0 MGD is reserved in Charlotte's McAlpine Creek WWTP.

Public Works' Mission Statement is as follows:

*Develop water, sewer and solid waste infrastructure that supports residential, commercial, industrial and agricultural needs while meeting Federal/State regulations and providing our customer base with acceptable levels of service at cost effective rates*

## 2.0 DEFINITIONS

For the purposes of this Performance Report the following definitions apply:

- **Aerobic** – A condition in which atmospheric or dissolved molecular oxygen is present in the aquatic environment.
- **Automatic Telephone Dialer or ATD** – A device connected to the telephone system that will call programmed telephone numbers to alert people of equipment status.
- **Biological Nutrient removal** – The process of removing nitrogen and phosphorus from wastewater using biological processes as opposed to chemical means.
- **Biosolids** – A primarily organic solid product, produced by wastewater treatment processes that can be beneficially recycled. The word *biosolids* replaces the word *sludge*.
- **BOD – Biochemical Oxygen Demand** – The rate at which organisms use the oxygen in water or wastewater while stabilizing decomposable organic matter under aerobic conditions. The BOD Test is a procedure

that measures the rate of oxygen use under controlled conditions of time and temperature. BOD is typically used to express the “strength” of wastewater.

- **CL<sub>2</sub> – Chlorine Residual** – The amount of chlorine present in the final effluent after disinfection. Typically measured in micrograms per liter or milligrams per liter.
- **D.O. – Dissolved Oxygen** – Molecular (atmospheric) oxygen dissolved in a liquid.
- **Effluent** – Treated wastewater flowing from the treatment system.
- **Extended Aeration** – A type of wastewater treatment facility in which the wastewater is retained and treated for a minimum of 24 hours at design flow before discharge occurs.
- **Impeller-** A rotating set of vanes in a pump designed to pump or lift water.
- **Inflow and Infiltration (I&I)** - extraneous water that enters the sanitary sewer system through openings and/or defects in the collection system.
- **Fecal Coliform** – The coliform (bacteria) found in the feces of warm blooded animals. The presence of coliform-group bacteria is an indication of possible pathogenic bacterial contamination.
- **MGD – Million Gallons per Day** – Volumetric measurement of flow converted to millions. Example  $150,000 \text{ gallons per day (gpd)} / 1,000,000 = 0.150 \text{ MGD}$ .
- **NH<sub>3</sub> – Nitrogen as Ammonia** – A compound found naturally in wastewater. The compound is produced by the deamination of organic nitrogen containing compounds.
- **NPDES Permit – National Pollutant Discharge Elimination System - Permits**, required by the Federal Water Pollution Control Act Amendments of 1972, which regulate discharges to surface waters.
- **pH** – The expression of the intensity of the basic or acidic condition of a liquid.
- **Pump Station** – A holding tank with pumps that forces wastewater uphill when flow by gravity is not possible.
- **Reclaimed Water** – Highly treated wastewater that has undergone advanced treatment processes to remove solids, organics, and pathogens meeting the State’s Health and Safety Standards for Beneficial Reuse.
- **SBR – Sequencing Batch Reactor** – A type of wastewater treatment facility that treats and discharges water in batches as opposed to continuous flow.
- **Telemetry** – A system by which information pertaining to remote equipment status is transmitted via radio waves to a central location.
- **TSS – Total Suspended Solids** – Particles suspended in a liquid.
- **Turbidity** – The measurement of the clearness or cloudiness of a liquid.

### **3.0 SYNOPSIS OF WASTEWATER TREATMENT FACILITIES (Fiscal Year 2007-2008)**

During the 2007-2008 fiscal year, UCPW operated and maintained a total of five (5) active wastewater treatment facilities and maintained one (1) inactive facility. Although each Permit requires facility visitation daily, excluding weekends and holidays, UCPW active wastewater treatment facilities are checked 7 days per week, 365 days per year. All treatment facilities are equipped with emergency back-up power generators. Each treatment facility is equipped with an automated telephone dialer (ATD) and/or telemetry in addition to both audible and visual trouble alarms. Wastewater treatment plant staff rotate "call duty" for after hour situations that may arise.

A brief overview of each facility and a performance summary table for each facility is provided herein.

#### **3.1 Twelve Mile Creek Water Reclamation Facility**

Permit No. NC0085359. Twelve Mile is an extended aeration facility utilizing biological nutrient removal and tertiary filtration. Disinfection is accomplished via UV (ultraviolet light). Twelve Mile effluent is discharged into Twelve Mile Creek, which is part of the Catawba River Basin. The facility was permitted to discharge up to 3.0 MGD of treated wastewater through September 11<sup>th</sup>, 2007; thereafter was permitted to discharge 6.0 MGD following substantial completion of a facility expansion. Operational changes have been implemented and continue to be evaluated to control phosphorous quantities discharged. January 18, 2008, the Twelve Mile facility was permitted to dispense bulk "reclaimed" water to authorized users (Permit No. WQ0032519). Bulk reclaimed water has multiple "Non-potable" uses which can serve to reduce demand upon the potable water supply and distribution system. Twelve Mile Creek WWTP is located at 8299 Kensington Drive and serves Waxhaw as well as portions of Indian Trail, Stallings and Weddington. Please refer to Table 3-1.

#### **3.2 Crooked Creek Water Reclamation Facility**

Permit No. NC0069841. Crooked Creek is an extended aeration facility utilizing tertiary filtration. Disinfection is accomplished via UV (ultraviolet light). Crooked Creek effluent is pumped over 17,000 feet to discharge into the North Fork Crooked Creek which lies in the Yadkin Pee Dee River Basin. This facility is permitted to discharge up to 1.9 MGD of treated wastewater. January 18, 2008, the Crooked Creek facility was permitted to dispense bulk "reclaimed" water to authorized users (Permit No. WQ0032520). Bulk reclaimed water has multiple "Non-potable" uses which can serve to reduce demand upon the potable water supply and distribution system. Crooked Creek is located at 4015 Sardis Church Road

and serves the Indian Trail, Lake Park and Stallings areas. Please refer to Table 3-2.

### **3.3 Hunley Creek Wastewater Treatment Plant**

Permit No. NC0072508. Hunley Creek is a Sequencing Batch Reactor. Disinfection is accomplished via chlorination/dechlorination. Hunley Creek effluent is discharged into Goose Creek, which lies in the Yadkin Pee Dee River Basin. This facility is permitted to discharge up to .231 MGD of treated wastewater. Discharge permit limits changed February 2005. The new limits are more stringent than the design capabilities of the Hunley Creek facility. The facility was taken off-line May 10, 2006 via flow diversion project and remains inactive. Hunley Creek is located at 6913 Stevens Mill Road and serves the subdivisions of Shanamara, Hunley Creek, Willowbrook, and Stevens Mill. Due to "Inactive Status" of the Hunley Creek WWTP, there was no data to report to Table 3-3 for fiscal year 2007-2008.

### **3.4 Olde Sycamore Water Reclamation Facility**

Permit No. WQ0011928. Olde Sycamore is an extended aeration facility with tertiary filtration. Disinfection is accomplished via UV (ultraviolet light). This facility is permitted to discharge up to .150 MGD of treated wastewater. Olde Sycamore serves the Olde Sycamore Golf Community located off Highway 218 and Rock Hill Church Road. Olde Sycamore effluent is discharged to a man-made impoundment from which it is then pumped onto the Olde Sycamore Golf Course as a source of irrigation. Please refer to Table 3-4.

### **3.5 Tallwood Estates Wastewater Treatment Plant**

Permit No. NC0069523. Tallwood is an extended aeration facility with tertiary filtration. Disinfection is accomplished via UV (ultraviolet light). This facility is permitted to discharge up to .05 MGD of treated wastewater. Tallwood is located within and serves the Tallwood Subdivision off Brief Road. Tallwood effluent is discharged to Clear Creek, which lies in the Yadkin Pee Dee River Basin. Please refer to Table 3-5.

### **3.6 Grassy Branch Wastewater Treatment Plant**

Permit No. NC0085812. Grassy Branch is an extended aeration facility with tertiary filtration. Disinfection is accomplished via UV (ultraviolet light). This facility is permitted to discharge up to .05 MGD of treated wastewater. Grassy Branch is located at 1629 Old Fish Road and currently serves the Unionville Elementary, Piedmont Middle and Piedmont High Schools as well as the Loxdale and Smithfield Subdivisions. Grassy Branch effluent is discharged to Crooked Creek which lies in the Yadkin Pee Dee River Basin. Please refer to Table 3-6.

TABLE 3-1

**Twelve Mile Creek Water Reclamation Facility  
NPDES Permit #: NC0085359  
Fiscal Year: 2007-2008 Effluent Limits and Performance**

PARAMETER	LIMIT	JUL '07	AUG '07	SEP '07	OCT '07	NOV '07	DEC '07	JAN '08	FEB '08	MAR '08	APR '08	MAY '08	JUN '08
<b>FLOW (permitted for 6.0 MGD beginning September 11, 2007)</b>	<b>3.0/6.0 MGD</b>	2.52	2.42	2.53	2.40	2.40	2.68	3.23	3.55	3.70	3.61	3.13	2.96
<b>pH</b>	<b>6-9 SU</b>	6.8-7.2	6.8-7.2	6.3-7.1	6.3-7.2	7.0-7.3	7.0-7.3	6.8-7.3	6.7-7.2	6.9-7.2	6.8-7.2	6.9-7.3	6.8-7.3
<b>BOD<sub>5</sub></b> SUMMER (APR.1 - OCT.31)	<b>5 mg/l</b>	0.8	0.6	0.6	0.8						3.1	2.6	0.8
WINTER (NOV.1 - MAR.31)	<b>10 mg/l</b>					2.8	4.0	3.2	2.7	3.3			
<b>AMMONIA NITROGEN</b> SUMMER	<b>1 mg/l</b>	0.0	0.0	0.1	0.1						0.1	0.0	0.0
WINTER	<b>2 mg/l</b>					1.4	2.7 <sup>2</sup>	0.8	0.0	0.0			
<b>TOTAL SUSPENDED RESIDUE</b>	<b>30 mg/l</b>	2.9	0.8	0.3	1.2	1.0	3.3	3.5	3.7	4.0	3.5	2.5	1.3
<b>FECAL COLIFORM</b>	<b>200/100 ml</b>	1	1	1	1	2	2	1	2 <sup>3</sup>	1	1 <sup>4</sup>	1	1
<b>DISSOLVED OXYGEN</b>	<b>≥ 6 mg/l</b>	8.2	7.7	7.8	7.4	8.3	8.4	8.7	8.5	8.8	8.6	8.5	8.2
<b>COPPER</b>	<b>18.5 ug/l</b>	2.3	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
<b>ZINC</b>	<b>172.0 ug/l</b>	96.0	74.0	67.0	69.0	70.0	57.0	68.0	60.0	45.0	77.0	73.0	71.0
<b>TOTAL PHOSPHOROUS</b>	<b>41.7 #/day</b>	10.53 <sup>5</sup>	2.99	4.71	0.72	2.40	7.15	11.90	13.63	25.77	18.37	47.37 <sup>5</sup>	16.67

<sup>1</sup> Monthly Phosphorus compliant; Annual 12-month mass load non-compliant due to results of July and August of 2006

<sup>2</sup> Ammonia Nitrogen exceeded monthly limit due to process upset related to new equipment "start-up"

<sup>3</sup> One daily Fecal Coliform violation. Dis-infection equipment in good working order. Suspect that sample may have become contaminated prior to analysis

<sup>4</sup> One daily Fecal Coliform violation. Electrical storm damaged dis-infection equipment. Equipment repaired to good working order

<sup>5</sup> Monthly Phosphorus non-compliant. Monthly Annual 12-month mass load Phosphorus average compliant. Consultants engaged to assist with process evaluation

**TABLE 3-2**  
**Crooked Creek Water Reclamation Facility**  
**NPDES Permit #: NC0069841**  
**Fiscal Year: 2007-2008 Effluent Limits and Performance**

PARAMETER	LIMIT	JUL '07	AUG '07	SEP '07	OCT '07	NOV '07	DEC '07	JAN '08	FEB '08	MAR '08	APR '08	MAY '08	JUN '08
<b>FLOW</b>	<b>1.900 MGD</b>	1.318	1.279	1.307	1.357	1.193	1.320	1.035	1.192	1.185	1.160	1.031	0.906
<b>pH</b>	<b>6-9 SU</b>	6.57-7.85	6.56-7.91	6.50-7.57	6.61-7.51	6.73-7.65	7.07-7.94	6.91-7.70	6.86-7.81	6.53-7.75	6.77-7.54	76.65-7.64	6.71-7.74
<b>Cl<sub>2</sub></b>	<b>17 ug/l</b>	–	–	–	–	–	–	–	–	–	–	–	–
<b>BOD<sub>5</sub> SUMMER (APR.1 - OCT.31)</b>	<b>5 mg/l</b>	4.5 <sup>1</sup>	4.01	3.36	2.87						2.19	2.27	2.0
<b>WINTER (NOV.1 - MAR.31)</b>	<b>10 mg/l</b>					3.98	3.52	3.43	3.99	2.59			
<b>AMMONIA NITROGEN SUMMER</b>	<b>2 mg/l</b>	0.1	0.0	0.0	0.1						0.0	0.3	0.0
<b>WINTER</b>	<b>4 mg/l</b>					0.0	0.4	0.2	0.0	0.0			
<b>TOTAL SUSPENDED RESIDUE</b>	<b>30 mg/l</b>	2.1	0.9	3.7	1.7	5.3	3.2	3.4	1.8	0.8	3.5	3.3	0.8
<b>FECAL COLIFORM</b>	<b>200/100 ml</b>	15	13	18	25	83	3	57	7	5	2	3	11
<b>DISSOLVED OXYGEN</b>	<b>≥ 6 mg/l</b>	7.82	7.94	7.90	8.62	9.64	9.76	10.22	10.19	10.15	9.62	9.06	8.00

<sup>1</sup> BOD<sub>5</sub> weekly maximum limit exceeded due to undetermined cause. Monthly BOD<sub>5</sub> was compliant

TABLE 3-3

Hunley Creek Wastewater Treatment Plant  
 NPDES Permit #: NC0072508  
 Fiscal Year: 2007-2008 Effluent Limits and Performance

PARAMETER	LIMIT	JUL '07	AUG '07	SEP '07	OCT '07	NOV '07	DEC '07	JAN '08	FEB '08	MAR '08	APR '08	MAY '08	JUN '08
FLOW	0.231 MGD	<p><b>Hunley Creek WWTP                      is currently not in active service.                      This facility was listed as inactive as of May 2006;                      therefore there is no data reported for this fiscal year</b></p>											
pH	6-9 SU												
Cl <sub>2</sub>	20 ug/l												
BOD <sub>5</sub> SUMMER (APR.1 - OCT.31)	5 mg/l												
WINTER (NOV.1 - MAR.31)	10 mg/l												
AMMONIA NITROGEN SUMMER	2 mg/l												
WINTER	4 mg/l												
TOTAL SUSPENDED RESIDUE	30 mg/l												
FECAL COLIFORM	200/100 ml												
DISSOLVED OXYGEN	≥ 5 mg/l												

No violations for fiscal year

TABLE 3-4

**Olde Sycamore Water Reclamation Facility**  
**NPDES Permit #: WQ0011928**  
**Fiscal Year: 2007-2008 Effluent Limits and Performance**

PARAMETER	LIMIT	JUL '07	AUG '07	SEP '07	OCT '07	NOV '07	DEC '07	JAN '08	FEB '08	MAR '08	APR '08	MAY '08	JUN '08
FLOW	0.150 MGD	0.046	0.028	0.033	0.040	0.040	0.048	0.048	0.056	0.051	0.046	0.039	0.037
pH	6-9 SU	6.42-7.38	6.21-7.02	6.68-7.07	6.27-9.97	6.09-7.35	6.64-7.37	6.83-7.38	7.00-7.39	6.72-7.29	6.54-7.44	6.06-7.34	6.73-7.23
BOD <sub>5</sub>	10 mg/l	0.00	0.00	0.00	0.00	3.52	5.12	0.54	2.10	3.09	1.46	1.20	1.60
AMMONIA NITROGEN	4 mg/l	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.7	2.0	0.0	0.0
TOTAL SUSPENDED RESIDUE	5 mg/l	0.0	0.0	0.0	0.0	2.0	3.8	0.0	1.3	0.0	0.0	0.7	0.9
FECAL COLIFORM	14/100 ml	1	1	1	1	1	1	1	1	1	1	1	1
TURBIDITY	≤ 10 NTU	0.3	0.2	0.4	0.8	2.9	3.5	0.5	1.3	2	0.9	1.1	1.4

<sup>1</sup> Ammonia Nitrogen exceeded daily maximum limit. Monthly Ammonia Nitrogen was compliant

TABLE 3-5

**Tallwood Estates Wastewater Treatment Plant  
NPDES Permit #: NC0069523  
Fiscal Year: 2007-2008 Effluent Limits and Performance**

PARAMETER	LIMIT	JUL '07	AUG '07	SEP '07	OCT '07	NOV '07	DEC '07	JAN '08	FEB '08	MAR '08	APR '08	MAY '08	JUN '08
<b>FLOW</b>	<b>0.050 MGD</b>	0.023	0.022	0.021	0.022	0.021	0.024	0.029	0.035	0.038	0.048	0.029	0.024
<b>pH</b>	<b>6-9 SU</b>	6.84-7.46	6.00-7.29	6.96-7.48	6.77-7.24	6.64-7.34	6.66-7.29	6.88-7.47	6.91-7.37	7.04-7.36	6.88-7.33	7.08-7.36	6.23-7.41
<b>BOD<sub>5</sub></b> SUMMER (APR 1-OCT 31)	<b>5 mg/l</b>	2.96	.69	0.57	0.00						0.60	0.00	0.00
WINTER (NOV.1 - MAR.31)	<b>10 mg/l</b>					0.00	0.00	0.41	0.00	0.00			
<b>AMMONIA NITROGEN</b> SUMMER	<b>2 mg/l</b>	0.0	0.0	0.0	0.0						0.0	0.0	0.0
WINTER	<b>4 mg/l</b>					0.0	0.0	0.0	0.0	0.0			
<b>TOTAL SUSPENDED RESIDUE</b>	<b>30 mg/l</b>	2.2	0.0	0.00	0.00	0.00	1.25	0.00	0.53	0.00	2.04	0.00	0.00
<b>FECAL COLIFORM</b>	<b>200/100 ml</b>	1	1	1	1	1	1	1	1	1	1	1	1
<b>DISSOLVED OXYGEN</b>	<b>≥ 6 mg/l</b>	7.39	6.91	7.48	7.55	7.32	8.31	8.89	8.91	8.55	8.42	8.15	6.8

<sup>1</sup> Dissolved Oxygen (D.O.) was sampled at a flow too low to be representative yielding one weekly sample below 6.0 mg/l. Monthly D.O. was compliant.

TABLE 3-6

**Grassy Branch Wastewater Treatment Plant  
NPDES Permit #: NC0085812  
Fiscal Year: 2007-2008 Effluent Limits and Performance**

PARAMETER	LIMIT	JUL '07	AUG '07	SEP '07	OCT '07	NOV '07	DEC '07	JAN '08	FEB '08	MAR '08	APR '08	MAY '08	JUN '08
<b>FLOW</b>	<b>0.050 MGD</b>	0.017	0.016	0.013	0.013	0.010	0.016	0.017	0.025	0.025	0.025	0.016	0.011
<b>pH</b>	<b>6-9 SU</b>	7.18-7.65	6.82-8.02	7.27-7.36	6.81-7.20	6.61-7.55	6.87-7.58	6.24-7.39	6.78-7.37	6.53-7.50	6.60-7.21	6.51-7.38	6.81-7.33
<b>Cl<sub>2</sub></b>	<b>17 ug/l</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>BOD<sub>5</sub></b>	<b>5 mg/l</b>	0.00	1.30	0.71	1.77						3.07	4.96	0.00
	<b>10 mg/l</b>					3.20	2.55	2.44	2.25	2.47			
<b>AMMONIA NITROGEN</b>	<b>2 mg/l</b>	0.0	1.1	0.0	0.0						0.0	1.5	0.0
	<b>4 mg/l</b>					0.0	1.1	0.0	0.0	0.3			
<b>TOTAL SUSPENDED RESIDUE</b>	<b>30 mg/l</b>	0.0	0.7	0.9	1.1	3.3	0.6	2.1	0.0	0.0	4.5	5.5	0.0
<b>FECAL COLIFORM</b>	<b>200/100 ml</b>	2	7	6	11	39	2	3	2	1	1	7	1
<b>DISSOLVED OXYGEN</b>	<b>≥ 6 mg/l</b>	7.40	7.03	7.30	7.60	7.02	7.74	9.06	9.42	8.49	8.37	7.93	7.70

No violations for fiscal year

#### 4.0 BIOSOLIDS MANAGEMENT

Biosolids are managed and disposed of in accordance with Permit No. WQ0007486 issued by the North Carolina Department of Environment and Natural Resources. Biosolids are stored at both the Crooked Creek and Twelve Mile Creek WWTPs. The solids are aerobically digested and then applied as “fertilizer” to permitted sites. The solids are considered stabilized, and thus suitable for land application, when the volatile solids content is reduced by 38%. If this 38% volatile solids reduction can not be achieved, then alkaline stabilization, injection or incorporation is employed to ensure Permit compliance.

#### 5.0 SYNOPSIS OF WASTEWATER COLLECTION SYSTEM (Fiscal Year 2007-2008)

UCPW currently operates and maintains approximately 65 wastewater pump stations and over 500 miles of sewer lines that serve approximately 27,160 accounts throughout the county. These pump stations are equipped with audible and visual alarms as well as an automated telephone dialer (**ATD**) or telemetry. Inspection of all stations meets or exceeds State requirements. All pump stations are checked a minimum of twice weekly and many are checked daily to ensure proper maintenance and operation. Emergency back up power is provided to all stations via portable or permanent generators. Wastewater personnel are on a call rotation allowing assistance 24 hours per day, 7 days per week, 365 days a year.

Public Works maintains emergency response equipment in a ready state at all times. This emergency equipment varies in nature from spare electrical parts and plumbing supplies to vacuum trucks and backhoes. Workers’ safety is of utmost importance. Safety equipment such as night lighting, gas monitors, and reflective cones/signs are also readily available.

Public Works has ongoing programs to identify and correct deficiencies associated with the wastewater collection system. The programs are listed below with results of this year’s efforts to maintain the collection system.

<b>LINE MAINTENANCE (min. 10%)</b>	<b>FEET</b>	<b>MILES</b>
<b>SEWER LINES CLEANED</b>	<b>250,578</b>	<b>47</b>
<b>CCTV MAIN LINE</b>	<b>90,040</b>	<b>17</b>
<b>SMOKE TESTS</b>	<b>179,975</b>	<b>34</b>

<b>PRO-ACTIVE MAINTENANCE INSPECTIONS</b>	<b>INSPECTED</b>	<b>REPAIRED</b>
<b>AIR RELIEF VALVES (FORCE MAINS)</b>	<b>76</b>	<b>13</b>
<b>GRAY WATER TANKS</b>	<b>187</b>	<b>117</b>

INFLOW/INFILTRATION (I & I)	REPAIRS	EXTRANEOUS FLOW ELIMINATED	
		GPM	MGD
POINT REPAIRS (MANHOLES, LATERALS, ETC.)	844	700	1
MANHOLE FULL REHAB	37	NA	NA

OTHER	
SEWER BLOCKAGES/ODOR	132
MANHOLES INSPECTED (GIS MAP)	880

Another important program is the **FOG** program (Fats, Oils, and Grease). This program is aimed at reducing back-ups and overflows by educating the public of the hazards associated with the disposal of cooking grease into the wastewater system. A grease trap inspection program provides data to better ensure that restaurants and other food preparation facilities properly maintain grease traps and interceptors.

#### Major system improvements during fiscal year 2007-2008 include:

- ✓ The continued development of a comprehensive electronic sewer map. This map will help Public Works better track problematic areas as well as track scheduled maintenance, improvements, and repairs throughout the service area.
- ✓ Pumping capacity was increased at the Twelve Mile WWTP influent pump station. The increase in pumping capacity significantly reduced surcharging and overflows associated with I & I occurring in close proximity to the WWTP.

During the Fiscal Year 2007-2008, the County's wastewater system collected nearly 2.305 billion gallons. There were twenty-five (25) sewer overflows with a combined volume of nearly 53,410 gallons that occurred within the system. These overflows are equal to 0.002% of the total flow conveyance with a ratio of 1:20 (overflow:mile of pipe). A brief description of each spill is presented below.

DATE	LOCATION	CAUSE	SURFACE WATER	VOLUME (GALLONS)
6/3/2007	12 MILE OUTFALL	DEBRIS	NONE	90
8/1/2007	WESLEY OAKS MH #1727	DEBRIS	UN-NAMED TRIBUTARY 12 MILE CREEK	1200
8/8/2007	FOREST PARK PUMP STATION	LIFT STATION	NONE	100
8/24/2007	POPLIN RD. PUMP STATION	POWER FAILURE	N. FORK CROOKED CREEK	900
8/26/2007	MH #2646 (PS #3)	I & I	NEW SALEM BRANCH	1800
11/2/2007	ARV – POPLIN PS	DEBRIS	NONE	80
12/20/2007	STREAMLET WAY MH # 8445	VANDALISM	UN-NAMED TRIBUTARY 12 MILE CREEK	1350
12/31/2007	MH #2646 (PS #3)	I & I	NEW SALEM BRANCH	2700
12/31/2007	MH #2700 (PS #2)	I & I	MEADOWS BRANCH	5400
12/31/2007	MH #2706	I&I, PUMP FAILURE	RAYS BRANCH	27360

<u>DATE</u>	<u>LOCATION</u>	<u>CAUSE</u>	<u>SURFACE WATER</u>	<u>VOLUME (GALLONS)</u>
2/1/2008	MH #5223, 5224, 5226, 5231	I & I	CROOKED CREEK	4140
2/9/2008	MH #11592	OTHER, PLUG	BULL BRANCH VIA NATURE POND	600
3/1/2008	MH #12740	DEBRIS	TARKILL BRANCH	80
3/5/2008	MH #2706	ELECTRICAL EQUIPMENT FAILURE	RAYS FORK BRANCH	2250
3/26/2008	ARV-ES3-41	ARV FAILURE	DRAINAGE DITCH	300
3/26/2008	MH #2018	DEBRIS	12 MILE CREEK	375
3/26/2008	3624 MONROE ANSONVILLE RD	FORCE MAIN BREAK	PRIVATE POND	180
3/26/2008	MH #2700 (PS #2)	FORCE MAIN BREAK	MEADOWS BRANCH	600
4/28/2008	MH #5231	I & I	CROOKED CREEK	480
4/28/2008	ANNISTON GROVE MH #10563	OTHER, PLUG	UN-NAMED TRIBUTARY 12 MILE CREEK	650
5/2/2008	WOODFERN PL.	FORCE MAIN BREAK	NONE	40
5/2/2008	LAWSON MH #10656	DEBRIS	NONE	60
5/9/2008	GREEN MEADOWS PS	LIFT STATION	NONE	100
5/19/2008	OLD SYCAMORE PS #3	FORCE MAIN BREAK	TRIBUTARY IN DUCK BASIN	975
6/24/2008	MARVIN CREEK MH # 11773	DEBRIS	McBRIDE BRANCH	1600

For questions concerning this Wastewater System Performance Summary or additional information please contact UCPW:

(704) 296-4210

or write to:

Union County Public Works  
500 North Main Street, Suite 500  
Monroe, NC 28112-4730

This document can be viewed at:

<http://UCPW.co.union.nc.us>