

**City of Rocky Mount: Wastewater Systems
Annual Performance Report
(January 2015 - December 2015)**

Tar River Regional Wastewater Treatment Plant and Collection System

I. General Information

Facility/System Name: Tar River Regional Wastewater Treatment Plant

Responsible Entity: City of Rocky Mount
Jonathan L. Boone, Director of Public Works & Water Resources

Persons in Charge: Richard W. Krumreig, Supt. of WWTP, Land Application
Nathaniel Williams, Supt. of Water & Sewer Services

Applicable Permits NPDES Permit #NC0030317
Land Application Permit #WQ0005568
Collection System Permit #WQCS00011

Description of Collection System and Treatment Process:

The City of Rocky Mount maintains 434 miles of wastewater collection lines with 33 sewer lift stations. This collection system receives wastewater from five municipalities and parts of Nash and Edgecombe counties. The collection system discharges to the Tar River Regional Wastewater Treatment Plant. This plant is permitted to treat twenty-one (21) million gallons per day of wastewater by a pure oxygen activated sludge process using the Air Products "A2O OASES" biological nutrient removal process which provides both nitrification (conversion of ammonia to nitrates) and denitrification (conversion of nitrates to gaseous nitrogen). The effluent is filtered and disinfected before being returned to the Tar River. Waste activated sludge is aerobically digested to permitted parameters and recycled through land application.

II. Performance: Summary of performance for reporting period

The Tar River Regional Wastewater Plant treated 4.41 billion gallons of wastewater in 2015.

Removal of CBOD₅ (Carbonaceous Biochemical Oxygen Demand) contaminants was 99.64%, total suspended residue was removed at a rate of 99.31%, and NH₃N (ammonia nitrogen) removal rate was 99.71%.

The table below will serve to exhibit the Wastewater Facility's performance in relationship with our NPDES (National Pollutant Discharge Elimination System) permit limits.

**TAR RIVER REGIONAL WASTEWATER PLANT
EFFLUENT ANALYSIS**

Parameter	Summer (Apr-Oct)		Winter (Jan-Mar & Nov-Dec)	
	NPDES Limits	Actual Values	NPDES Limits	Actual Values
pH	6 to 9	6.2 to 7.2	6 to 9	6.2 to 7.2
Residual Chlorine	0.028 mg/L	0.000376 mg/L	0.028 mg/L	<0.020 mg/L
CBOD ₅	5 mg/L	0.373 mg/L	10.0 mg/L	0.424 mg/L
Ammonia Nitrogen	2 mg/L	0.036 mg/L	4 mg/L	0.021 mg/L
Total Suspended Residue	30 mg/L	0.830 mg/L	30 mg/L	1.14 mg/L
Fecal Coliform	200/100 ml	7.1/100 ml	200/100 ml	3.1/100 ml
Dissolved Oxygen	6.0 mg/L minimum	8.53 mg/L	6.0 mg/L minimum	9.22 mg/L
Flow	21 MGD	9.2 MGD	21 MGD	16.2 MGD

Permit Non Compliance:

The Tar River Regional Wastewater Treatment Facility was in full compliance with all permit limits for the year. The facility had one violation for failing to monitor and report a value for conductivity on January 16, 2015. Conductivity values for the days preceding and following the missed date were normal.

On December 10 and 11, 2015 Water Treatment residuals were mistakenly staged on a field that was not recorded in the land application program. We removed 283 tons of residuals and dirt to completely restore the site by December 14, 2015. There was no run off. A notice of violation was issued by DEQ for this incident and the city responded on January 26, 2016 with a description of the procedures implemented and a training plan to prevent any reoccurrence.

Sanitary Sewer Overflows:

The City of Rocky Mount Water Resources Department has a goal of zero sanitary sewer overflows. Sanitary sewer overflows result from various causes including infiltration and inflow due to high water level, restricted lines from rags, roots, and grease accumulations, broken pipes from corrosion and construction activities, and power failures at sewer pump stations. The City is reducing the potential for overflows by installing back up generators for pump stations, cleaning lines, and working to reduce infiltration and inflow problems. Citizens of Rocky Mount area can help by properly disposing of spent household products and disposing of greases, oils, and food scraps in solid waste; rather than down the drain.

There were eight (8) incidents of Sanitary Sewer Overflows within this report period as follows:

1. 01/12/15 (Nash County) from manhole G-109 on Riverside Dr.
2. 01/18/15 (Nash County) from manhole G-109 on Riverside Dr.
3. 04/20/15 (Nash County) from manhole G-109 on Riverside Dr.
4. 06/16/15 (Nash County) from abandoned headworks of decommissioned WWTP at Stith Park
5. 11/10/15 (Nash County) from manhole at the RR trestle on Kingston Ave.
6. 11/10/15 (Nash County) from manhole G-109 on Riverside Dr.
7. 12/23/15 (Nash County) from manhole G-109 on Riverside Dr.
8. 12/31/15 (Nash County) from manhole G-109 on Riverside Dr.

All included sanitary sewer overflows occurred during heavy sustained rain events as documented by USGS data.

Collection System Improvements:

A supervisory control and data acquisition (SCADA) system now monitors all lift stations through remote monitoring. The sewer lines are inspected and cleaned daily by a full time CCTV crew and sewer jet trucks. 48.1 miles of sewer lines were cleaned to clear built up sediment, grease, debris, and root intrusions. In addition 10.5 Miles of sewer main was video inspected.

In 2015 the city completed in-house repairs for the following,


- Clean out caps (missing or damaged) replaced, 32
- Manholes raised or repaired, 22
- Service laterals repaired, 59
- Damaged mains repaired, 26

III. Notification:

This report has been included on the City of Rocky Mount Water & Sewer web page and published in the Rocky Mount Telegram.

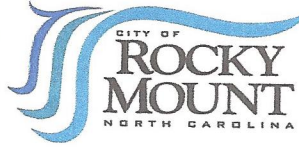
Certification:

I certify under penalty of law that this report is completed 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.



Jonathan L. Boone, P.E.
Director of Public Works & Water Resources
City of Rocky Mount, NC

04 February 2016
Date



February 4, 2016

Attention: Central Files / Permit Issuing Authority
Ms. Deborah Gore, Supervisor of NC PERCS
Division of Water Quality
1617 Mail Service Center
Raleigh, NC 27699-1617

Re: Annual Performance Report – City of Rocky Mount

Dear Ms. Gore:

Please find three (3) copies of the Annual Performance Report for the period January 01, 2015 to December 31, 2015 for the City of Rocky Mount Tar River Regional Wastewater Treatment Plant, collection system, and land application activities enclosed with this letter. This should satisfy the requirement for the submission of an annual report of wastewater and collection system performance.

Please direct questions to Richard Krumreig, WWTP Superintendent, at 252-972-1400 or to Jonathan Boone, Director of Public Works and Water Resources, at 252-972-1299.

Thank you for your help in this matter.

Sincerely,

A handwritten signature in black ink that reads "Richard W. Krumreig".

Richard W. Krumreig
Superintendent of Wastewater Treatment
Rocky Mount Water Resources
PO Box 1180
Rocky Mount, NC 27802

Enclosure