



*Town of Liberty, NC
Wastewater Treatment Plant
and
Collection System*

2017 Annual Report

Table of Contents

I. General Information

- Name of regulated facility
- Responsible person with contact information
- Listing of applicable permit number
- Description of the collection system and wastewater treatment facility

II. Performance

- Description of overall 12 month performance
- By month, listing of any violations of the permit conditions, such as:
Permit Limit Violations
Monitoring and Reporting Violations
Sanitary Sewer Overflows
- Description of any known environmental impact
- Description of corrective measures taken to address violations or deficiencies

III. Notification

- Statement as to how customers have been provided access to the report

IV. Certification

- Statement by the responsible official certifying the accuracy of the report

I. General Information

The Town of Liberty is permitted through the State of North Carolina to operate a spray irrigation wastewater treatment facility and operate the wastewater collection system. The permit number for the wastewater treatment facility is WQ0003090 and the collection system permit number is WQCS00280.

Elix T. Fike is the treatment plant operator responsible in charge (ORC). Kevin Coble is the collection system operator responsible in charge (ORC).

William Doerfer, Town Manager is the responsible person for the Town of Liberty facilities and can be contacted at (336) 622-4276.

The wastewater treatment facility is a spray irrigation system located at 7178 East Highfill Avenue. The treatment process consists of a manual bar screen, a lagoon, chemical treatment, and effluent pump station. The Town is permitted for 550,000 gallons per day of sewage. The sewage enters the plant and goes through the bar screen which removes all solids. The solids are removed and disposed of by Allied Waste. The flow then proceeds to a three (3) pump influent station that pumps the sewage to the lagoon. The lagoon is a natural occurrence system that separates the remaining solids from the liquid. The solids settle to the bottom of the lagoon with the water staying to the top. After a 45 day detention time, the water is then treated with chlorine to remove all fecal coliform bacteria. The next process is to spray the effluent onto the spray fields. We maintain one hundred eighty (180) acres of spray field. The spray fields are broken down into eight (8) zones. The Town of Liberty contracts the cutting and removal of the fields for hay.

The Town of Liberty collection system consists of approximately 25 miles of sewer lines. The size amounts vary in size from four (4") inch to twelve (12") inch in diameter. The collection system also consists of eight (8) lift stations that carry the wastewater to the treatment facility. Operators make daily checks on the outfall lines and lift stations. The public works crew along with contracted maintenance is responsible for the mowing and clearing of the outfall lines for easy access in case of any emergencies.

II. Performance

The Town had a Compliance Evaluation Inspection of the Wastewater Treatment Plant on June 15, 2017. The inspection mostly reflects compliance with Permit No. WQ0003090; however, the following items were noted to require attention:

1. There is a well supplying water to the on-site restroom facilities and pump room that is within the compliance boundary, and fails to meet the setback to storage and treatment units as required by the applicable permit condition. The WSRO is in discussion with the permit staff in Raleigh to determine potential resolution to achieve permit compliance.
 - a. We hope that permit staff in Raleigh and the WSRO will come to a favorable determination to allow us to maintain this well for non-potable water uses such as toilet and pump cooling if needed.

2. The irrigation fields do not comply with the 150 foot setback. In addition, the lagoon does not meet the 50 foot setback required by the permit.
 - a. We have begun collecting waivers to the setback requirements.
3. The bar screen and influent lift station do not meet the setback requirement from any property line.
 - a. The Town owns all surrounding property to the bar screen and influent lift station, we will have a Non-Discharge Wastewater System Waiver prior to modification or permit renewal.
4. The O&M plan was unavailable for review at inspection.
 - a. This issue has been resolved.
5. Overhanging tree branches impeded the spray pattern
 - a. This issue is being resolved.
6. Irrigation equipment shall be tested and calibrated.
 - a. This issue has been resolved.
7. There was no Residuals Management Plan available for review.
 - a. This issue has been resolved.
8. There have been three reported bypass incidents since July 10, 2013.
 - a. We are diligently working to develop a plan to address the overwhelming inflow and infiltration issues that have plagued our system. In addition to apply for grants, we are placing monies in a capital reserve account to address the hardest impacted areas in a systematic manner.
9. Reports had been submitted in terms of millions of gallons per day as opposed to gallons per day.
 - a. This issue has been resolved.
10. The 2016 annual report was submitted late last year.
 - a. This report will be submitted timely.
11. Monitoring Well 5 (MW-5) had an excessive fecal count.
 - a. We are continuing to monitor this issue closely.

All items continue to be monitored by the ORC.

It is our goal to continue to find ways to improve the operations of the Wastewater Treatment Facility and Collection System as we go forward.

Permit Limit Violations 2017

Month	Violation
January	NONE
February	NONE
March	NONE
April	NONE
May	NONE
June	NONE
July	NONE
August	NONE
September	NONE
October	NONE

November	NONE
December	NONE

Monitoring and Reporting Violations

Violation	Corrective Measures. All measures have been met.
Soil Analysis	The soil analysis for 2017 was completed on October 23, 2017
Effluent Sampling	All required sampling has been met based on the requirements from the North Carolina Division of Water Quality and the EPA

Overflows at the Wastewater Treatment Plant

Date	Amount (gallon)	Cause
04/28/2017	8,400	I/I due to rainfall of 5.0" in 3 days
06/28/2017	1,800	I/I due to rainfall of 4.0" in 1 day

Overflows in the Collection System

Date	Amount (gallons)	Location	Cause
4/24/2017	4,500	Johnson St LS Manhole #300	I/I
4/24/2017	3,000	Starmount Ave Outfall line Manhole #601	I/I
4/24/2017	8,400	Kinro Rd Manhole #500B	I/I
4/25/2017	2,700	W. Kime Ave Manhole #401	I/I
4/25/2017	5,400	W. Kime Ave LS Manhole #400	I/I
6/20/2017	1,800	Starmount Ave Outfall line Manhole #601	I/I and severe natural condition
6/20/2017	3,300	Kinro Rd Manhole #500B	I/I and severe natural condition
6/20/2017	2,700	East Lowe Ave Manhole #506A	I/I and severe natural condition
6/20/2017	3,600	W. Kime Ave Manhole #401	I/I severe natural condition
6/20/2017	9,000	Johnson St LS Manhole #301	I/I severe natural condition

The Town of Liberty has worked hard to resolve the wastewater spills at the treatment plant and in the collection system. The Kinro Lift Station and the Kime Street grids have been the focus of smoke testing in previous years due to the significant overflows at these locations. We have been videoing lines and will continue to smoke test to further detect any signs of I&I in these older lines. Many cleanout caps were replaced after the last round of smoke testing. The Town completed a Water/Sewer Capacity and Leak Detection Study during 2011 and has been working to implement all of those recommendations. We are currently working to map the results of previous smoke tests and design a phased project approach to resolving many of the worst inflow and infiltration issues. The Town has been funding a sewer infrastructure fund in order to address

the worst areas as we are able. In addition, the Town will be designing a project and applying for grant funding this year. Whether or not we receive funding, we are seeking the assistance of an engineering firm to help identify and prioritize repair and rehabilitation projects that will have the most significant impact.

The Town of Liberty is committed to reducing the I&I in our collection system. We are pursuing an active plan to address the issues, as well as seeking help from outside agencies. We have commissioned a rate study that will take into account the additional capital investment in our sewer collection and treatment system. We believe progress is being made in identifying and correcting these problems.

III. Notification

The Town of Liberty will add a notation on the next water bill about the availability of this report. The report will be at Liberty Town Hall for viewing at 239 South Fayetteville St.

The report will also be posted on the Town Website at <http://www.liberty-nc.com>, under Departments, Public Works, Wastewater Department.

IV. Certification

2017 Annual Report Certification Form

System Name: Town of Liberty

Wastewater Permit # WQ0003090

Collection Permit # WQCS00280

Report Year: 2017

Population Served: 2,665

The wastewater system operator named above hereby confirms that all provisions under the House Bill 1160 requiring the development of, distribution of, and notification of an annual report have been executed. Further, the system operator certifies the information contained in the report is correct and consistent with the compliance monitoring data previously submitted to the primacy agency by their NC certified laboratory.

Certified by: Name: William Doerfer **Title:** Town Manager

Signature:  _____

Phone #: (336) 622-4276 **Date:** February 26, 2018