

**Town of Forest City**  
**2021 System Performance Annual Report (SPAR)**  
**January 1, 2021 to December 31, 2021**

**I. General Information**

- **Name of regulated entity:** Town of Forest City
- **County:** Rutherford County
- **Responsible persons:** Steve Holland, Mayor  
Janet Mason, City Manager

**Mailing address:** PO Box 728; Forest City, NC 28043-0728  
**Physical address Public Works:** 132 Wilkie Street, Forest City 28043  
**Physical address Forest City WWTP:** 397 Riverside Drive, Forest City 28043  
**Physical address Riverstone WWTP:** 219 Broad River Blvd, Forest City 28043

**Phone numbers:**

828-245-4747	Janet Mason	City Manager
828-245-0149	Barry Spurlin	Public Works Director
828-248-5217	Jacob Hodge	WWTP Chief Plant Operator/ORC
828-248-5217	Sonny Penson	WWTP Plant Superintendent/Back-up ORC
828-245-0149	John Hardin	Water and Sewer Superintendent
828-245-0149	Reid Guffey	Collections ORC

- **Listing of applicable permits:**

**Collection System:** WQCS00050  
**Wastewater Treatment Plants:** NC0025984 Forest City WWTP – Riverside Drive  
NC0087084 Riverstone Industrial Park WWTP  
NC0083275 DRG Harris WWTP

- **Description of sewer collection system and wastewater treatment systems or processes:**

**Collection System: WQCS00050**

The Town of Forest City maintains and operates 27 lift stations (19 in Forest City, 6 in Ellenboro, 1 at Riverstone Industrial Park, and 1 on site at American Zinc Products.) There are ~ 95 miles of gravity sewer and ~13.6 miles of force main. Chase Middle School makes up 2.4 miles of this force main and Chase High School makes up another 1.5 miles of this force main. The Riverstone Industrial Park makes up 0.7 miles of the gravity sewer total and 390.8 feet of force main. The Hicks Grove station serving AZP (American Zinc Products) has 1.1 miles of force main contributing to the above total. Riverstone's lift station and the Hicks Grove (AZP) station are pumped to the Riverstone WWTP headworks located at 219 Broad River Blvd.

The Town of Forest City also maintains the Town of Ellenboro's sewer collection system. This system has ~ 6.2 miles of gravity sewer, 7.4 miles of force main and four pump stations (with telemetry and dual high water alarms). Ellenboro Elementary School and East High School each have lift stations that pump into Ellenboro's collection system and are maintained by the Town of Forest City.

## **Pretreatment Program:**

There are 4 significant industrial users which contribute flow to the collection system and Forest City wastewater treatment plant: Everest Textiles, Danfoss, Westrock and Parker Hannifin. Riverstone WWTP has one IUP issued to AZP (American Zinc Products.)

## **Wastewater Treatment Plants (WWTP) / Water Reclamation Facility (WRF):**

**NC0025984** Wastewater Treatment Plant located at 397 Riverside Drive in Forest City is a 4.95 MGD plant consisting of the following units:

- Influent mechanical step/bar screen and manual bypass screen.
- Aerated traveling bridge grit chamber and grease removal.
- 5 smaller first stage aeration tanks with floating aerators (currently not operating.)
- Second stage aeration basin with floating aerators (3.99 MG capacity.)
- Dual secondary clarifiers (75 ft. diameter.)
- Chlorine contact chamber and step aeration.
- Chlorine gas feed equipment
- Sulfur Dioxide gas feed equipment for dechlorination.
- Aerobic Digester with diffused air system (approximately 0.450 MG capacity.)
- Aerobic Digester with floating aerator (approximately 0.230 MG capacity.)
- (2) WAS pumps approximately 500 gpm direct to digester, and 375 gpm to thickener.
- JWC Monster drum thickener IFT Series Rotary Screen.
- Enviroquip 2.0 meter belt filter press (14% - 17% solids.)
- Class B sludge cake is hauled to permitted fields under Southern Soil Builders permit (WQ0010926.)
- Average flow is approximately 1.25 MGD.

## **NC0087084 Riverstone WWTP**

Located at 219 Broad River Blvd in the Riverstone Industrial Park. The Plant is a 0.05 MGD SBR plant consisting of:

- Influent mechanical step/bar screen and manual bypass screen.
- Pre EQ basin with maximum capacity of 0.017 MG and max design flow rate of 138.9 gpm.
- SBR basin with minimum capacity of 0.043 MG and maximum capacity of 0.063 MG. Decant flow rate (average high to low) 313 gpm. Sludge waste rate 100 gpm.
- Post SBR EQ basin maximum volume 0.0156 MG. Flow control valve feeds chlorine contact chamber at a rate of 0 – 313 gpm.
- Chlorine contact chamber with tablet feeders for chlorination and dechlorination
- Aerobic digester with maximum volume of 0.033 MG.

The SBR has a default program for permitted flow rate of 5 cycles/24 hour day:

1. Mixed-fill            35 minutes (anoxic condition)
2. React-fill            109 minutes (blowers running with floating mixer)
3. React phase        35 minutes (influent pumps are locked out)
4. Settle                45 minutes
5. Decant                64 minutes

6. Idle 64 minutes (integral with decant)
7. Sludge waste 2 minutes (integral with decant)

The cycles have programmability built in by PLC. These have been adjusted as needed to accommodate the small flow rate currently received by the plant. Sludge waste is conducted manually as needed. Riverstone WWTP flow is approximately 3,000 to 5,000 gallons per day average.

#### **NC0083272 DRG Harris Plant**

**A 0.91 MGD WWTP which is inoperative & currently inactive.**

#### **WWTP Sludge Management:**

##### **WQ0037135 Class B land application US Biosolids Incorporated**

US Biosolids Incorporated applies Class B cake sludge to sites they have permitted under permit number WQ0037135. 161.7 dry tons were bulk land applied using pathogen reduction option: Class B Alternative 1 - Fecal Coliform Geometric Mean and vector attraction reduction options: Bench-Scale Volatile Solids Reduction (Aerobic Bench Test w/ Percent Solids – 2% or Less.) US Biosolids submits the NC DEQ report for this permit. EPA online submission was uploaded on 02/11/2022 for the 2021 year

## **II. Performance**

### **• Description of overall 12 month performance, noting highlights and deficiencies.**

The Forest City WWTP and Collection System performed adequately during calendar year 2021. The staff of the WWTP, Collection System, and Pump Maintenance departments continuously look for ways to minimize or eliminate heavy flow conditions associated with I&I.

The Forest City WWTP installed a new Vulcan influent mechanical step/bar screen and had the old one rebuilt for a backup if needed. FCWWTP had a polymer pump that feed our belt press go out of service, which halted the ability to press sludge. The plant saw a slight increase in Biological Oxygen Demand (BOD), Total Suspended Solids (TSS) and Ammonia, however, the plant remained in full compliance. The Riverstone WWTP had a violation for failed Toxicity and 1 weekly violation for TSS in December 2021. The violations were due to over wasting of the sludge. The plant was reseeded, and toxicity was passed in January 2022 and no further issues have occurred.

The bid was just awarded for a new Dogwood lift station to be built. The construction should start the second quarter of 2022.

### **• By month, list of the number and type of any violations of permit conditions, environmental regulations or environmental laws, including (but not limited to):**

#### **Permit Limit Violations, Monitoring and Reporting Violations:**

**NC0025984 Forest City WWTP: No violations for calendar year 2021**

**NC0087084 Riverstone WWTP:**

- 12/2021 fail to pass toxicity
- 12/11/2021 Notice of Violation (NOV) Total Suspended Solids (TSS) exceeded weekly average. Limit 45 mg/L, Reported 50mg/L

**SSOs or Bypasses of treatment facilities.** None

**Collection System SSOs:** None

**Corrective Measures**

Collection System: During 2021 the Town of Forest City had 38,618 feet of sewer line cleaned and 27,645 feet of sewer treated for root control. Camera inspection consisted of 22,993 feet.

The Town of Ellenboro collection system is maintained by Forest City. A total of 8369 feet of cleaning to the Ellenboro collection system took place in 2021.

• **Description of any known environmental impact of violations:** None

• **Description of corrective measures taken to address violations or deficiencies at WWTP:** The violations at Riverstone WWTP were due to over wasting of the sludge. The plant was reseeded, and toxicity was passed in January 2022 and no further issues have occurred.

**Sewer Collection System Infiltration and Inflow (I&I) Rehabilitation Projects:**

The Town will actively pursue grants and repair/rehabilitate lines where possible.

**III. Notification**

Notification of the Town's System Performance Annual Report shall be conveyed to Town customers by a statement printed on monthly billing. The report will be available on the Town's website and shall be made available as "hard copy" upon request from the following locations:

- Forest City Town Hall, located at 128 N Powell Street,
- Public Works Department located at 132 Wilkie Street,
- Forest City Wastewater Treatment Plant located at 397 Riverside Drive.

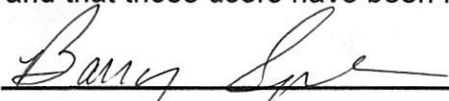
**IV. Certification**

North Carolina Certified Operators in Responsible Charge (ORC) and backups:

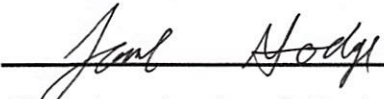
WWTP ORC:	Jacob Hodge	WW IV Cert. # 1002138
WWTP Back-up ORC(s):	(Sonny) Barnard N. Penson, Jr.	WW IV Cert. # 22338
Collections ORC(s):	Brian Reid Guffey	CS 4 Cert. # 1000714
Collections Backup ORC(s)	Temporarily Vacant	

• **Statement by responsible officials certifying the report is accurate and complete.**


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.

 \_\_\_\_\_ 2-16-22


**Signature by Barry Spurlin**                      **Public Works Director**                      **Date**

 \_\_\_\_\_ 2-16-22

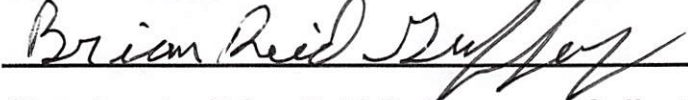
**Signature by Jacob Hodge**                      **Chief Plant Operator/ORC**                      **Date**

 \_\_\_\_\_ 2/16/2022

**Signature by Barnard N Penson Jr**                      **WWTP Plant Superintendent/backup ORC**                      **Date**

 \_\_\_\_\_ 02-16-22

**Signature by John Hardin**                      **Water and Sewer Superintendent**                      **Date**

 \_\_\_\_\_ 2-16-22

**Signature by Brian Reid Guffey**                      **Collections System ORC**                      **Date**

Note: Annual reports (SPAR) must be submitted **within 60 days of the end of the applicable 12-month review period.**

To satisfy the Departmental reporting requirement, **three copies** of the annual report (SPAR) should be submitted to the following address:

**System Performance Annual Report  
North Carolina Division of Water Quality  
1617 Mail Service Center  
Raleigh, NC 27699-1617**