

WASTEWATER SYSTEM PERFORMANCE REPORT

January 1, 2024 – December 31, 2024



City of Marion Public Works Department
PO Drawer 700
Marion, NC 28752
(828) 652-4224

Description of Wastewater Treatment System

The City of Marion owns and operates a wastewater treatment system consisting of a wastewater collection system and one wastewater treatment plant. The wastewater collection system consists of the sewer lines, pump stations, and all of the related appurtenances required to convey wastewater from the homes and businesses of customers to the wastewater treatment plant for treatment. All of the wastewater transported by the collection system is treated at the Corpening Creek Wastewater Treatment Plant, located at 3982 Hwy 226 South, Marion, NC, prior to ultimate discharge into receiving water designated as Corpening Creek (Young's Fork Creek) in the Catawba River Basin. This report summarizes the performance of the collection system and Corpening Creek Wastewater Treatment Plant for Calendar year 2024.

Collection System

General Information

Facility/System Name:	City of Marion Wastewater Collection System
Permit Number:	WQCS00075
Operator in Responsible Charge (ORC):	Gary Cook, Utility Maintenance Superintendent
Contact Information for ORC:	828-652-4224 gcook@marionnc.org
Total Miles of Pipe:	Approximately 85 (76 gravity and 9 force main)
Miles of Pipe Cleaned During 2024:	10.44 miles (13.7% of the gravity portion)
Number of Pump Stations:	22

Wastewater Conveyance and Sanitary Sewer Overflows (SSO)

During calendar year 2024, approximately 370.3 million gallons of wastewater were conveyed to the Corpening Creek Wastewater Treatment Plant. Sanitary sewer overflows (SSO) totaling 87,835/ gallons, or 0.0237% of the total gallons conveyed, were reported to the NC Department of Environmental Quality (DEQ). The SSO gallons per month were as follows:

MONTH	NUMBER OF SSOs	TOTAL GALLONS	GALLONS TO SURFACE WATER
January	1	17,350	17,350
February	0	0	0
March	0	0	0
April	0	0	0
May	1	405	405
June	0	0	0
July	0	0	0
August	0	0	0
September	1	6,500	6,500
October	1	63,580	0
November	0	0	0
December	0	0	0

Each SSO is summarized below:

SSO #1

Date: January 9, 2024

Gallons: 17,350

Location: 204 East Court Street, Marion, NC 28752

Surface Water Name: Youngs Fork (Corpening Creek)

Cause of the SSO: Sewer Main was surcharged with flow during a severe natural condition (heavy rain event).

Corrective Actions Taken: Initiated pump and haul operation to stop the SSO until the flow decreased to an acceptable level.

Known Environmental Impact of the SSO: None

SSO #2

Date: May 17, 2024

Gallons: 405

Location: 625 West Henderson Street, Marion, NC 28752

Surface Water Name: Youngs Fork (Corpening Creek)

Cause of the SSO: Pipe Failure (Break)

Corrective Actions Taken: Replaced 10ft section of line with 8" PVC

Known Environmental Impact of the SSO: None

SSO #3

Date: September 26, 2024

Gallons: 6,500

Location: 281 Forsythe St, Marion, NC 28752 (Clinchfield Lift Station)

Surface Water Name: Unnamed Tributary of Lake James in the Catawba River Basin

Cause of the SSO: Excessive Rainfall entering into the collection system.

Corrective Actions Taken: Initiated pump and haul operation to stop the SSO until the flow decreased to an acceptable level.

Known Environmental Impact of the SSO: None

SSO #4

Date: October 1, 2024

Gallons: 63,580

Location: 281 Forsythe Street, Marion, NC 28752 (Clinchfield Pump Station)

Surface Water Name: n/a

Cause of the SSO: Hurricane Helene caused major flooding. The dry well pump area was totally flooded and all pumps were submerged and rendered inoperable.

Corrective Actions Taken: Crews excavated the pump line and installed a tee and valve to set up a pump around operation. After the pumps dried out, they were found to be operable.

Known Environmental Impact: None

Corpening Creek Wastewater Treatment Plant

General Information

Facility Name: Corpening Creek Wastewater Treatment Plant

Permit Number: NC0031879

Operator in Responsible Charge (ORC) Tim Horton, WWTP Superintendent
828-652-8843 thorton@marionnc.org

Total Gallons Treated in 2024: 370.3 MG

Average Monthly Flow: 31.2 MG

Average Daily Flow: 1.0202 MGD

Maximum Daily Flow: 2.5301 MGD

Minimum Daily Flow: 0.4502 MGD

Description of Treatment Processes

The Corpening Creek WWTP has a total capacity of 3.0 MGD and the unit processes include screening, grit removal, primary clarification, aeration, lime addition, secondary clarification, tertiary filters, gravity sludge thickeners, chlorine disinfection, sulfur dioxide dechlorination, and

step aeration. Solids are treated by aerobic digestion before being stored and eventually land applied under permit WQ0019960. Treated wastewater effluent is discharged into Corpenering Creek (Young's Fork Creek) under permit NC0031879.

Summary of NPDES Permit Violations During 2024

A total of five permit violations were reported to the NC Department of Environmental Quality (DEQ) during calendar year 2024. Each violation is summarized below:

Violation #1

Date: January 31, 2024

Type of Violation: Monthly average limit exceeded for Cyanide, Total (as Cn).
Limit Value = 8 ug/L Reported Value = 16 ug/L

Cause of Violation: unknown

Corrective Actions Taken or Being Taken: None

Known Environmental Impact of the Violation: None

Violation #2

Date: September 10, 2024

Type of Violation: Monthly average limit exceeded for Cyanide, Total (as Cn).
Limit Value = 8 ug/L Reported Value = 14 ug/L

Cause of Violation: unknown

Corrective Actions Taken or Being Taken: None

Known Environmental Impact of the Violation: None

Violation #3

Date: October 15, 2024

Type of Violation: Monthly average limit exceeded for Cyanide, Total (as Cn).
Limit Value = 8 ug/L Reported Value = 17 ug/L

Cause of Violation: unknown

Corrective Actions Taken or Being Taken: Scheduled to begin testing Influent for Cyanide, (tested November 2024-January 2025).

Known Environmental Impact of the Violation: None

Violation #4

Date: November 15, 2024

Type of Violation: Monthly average limit exceeded for Cyanide, Total (as Cn).

Limit Value = 8 ug/L Reported Value = 14 ug/L

Cause of Violation: unknown

Corrective Actions Taken or Being Taken: Continued testing Influent for Cyanide. Added Cyanide-specific microbes November 21, 2024 through December 2, 2024.

Known Environmental Impact of Violation: None

Violation #5

Date: December 3, 2024

Type of Violation: Monthly average limit exceeded for Cyanide, Total (as Cn).

Limit Value = 8 ug/L Reported Value = 12 ug/L

Cause of Violation: unknown

Corrective Actions Taken or Being Taken: Continued testing Influent for Cyanide.

Known Environmental Impact of the Violation: None

Public Notification

This report is available for viewing on the City of Marion's website (www.marionnc.org) and at the Public Works Facility (94 Shop Drive). A statement of availability will be mailed to each customer.

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 will be made available to the customers of the named system.



J. Brant Sikes

J. Brant Sikes
Public Works Director
City of Marion Public Works Department

2/18/2025

Date