City of Conover

2024 Annual Wastewater Report

This report is created and made available to you in compliance with House Bill 1160, The Clean Water Act of 1999. The City of Conover operates a collection system (WQCS00088), as well as the Northeast Wastewater Treatment Plant operated under the NPDES permit NC0024252. In total, Conover treated approximately 187 million gallons of wastewater in 2024. Both the collection system and treatment facility operate with environmental protection as the top priority.

This report will demonstrate our commitment to finding problems, as well as mitigation, and resolving issues. If you have any questions or further concerns, please contact Eric Williams, Assistant Public Utilities Director, at (828)464-4808.

Northeast Wastewater Treatment Plant

3680 Hillview Dr, Conover

(828)465-2279

NPDES Permit #NC0024252

ORC- Andrew Evans

City of Conover's NEWWTP is permitted for 1.5 million gallons per day of wastewater treatment and has a present average daily flow of 0.509 MGD. The plant has mechanical grit and rag removal. This headworks facility is currently being rehabilitated and will be back online by March 2025. The biological treatment is accomplished with four sequencing batch reactor basins. The plant has shallow bed sand filters and has hypochlorite disinfection and bisulfite dechlorination. Five personnel are based out of the Northeast Wastewater Treatment Plant. The plant discharges into Lyle Creek in the Catawba River Basin.

The City of Conover's Northeast Wastewater Treatment Plant (NEWWTP) is permitted to treat up to 1.5 million gallons per day (MGD), with a current average daily flow of 0.509 MGD. The facility includes mechanical grit and rag removal at the headworks, which is undergoing rehabilitation and expected to return to service by March 2025. Biological treatment is provided by four sequencing batch reactor (SBR) basins. Final treatment includes shallow bed sand filtration, hypochlorite disinfection, and bisulfite dechlorination. Five personnel operate the NEWWTP, which is discharged into Lyle Creek, part of the Catawba River Basin.

The plant continuously manages challenges associated with aging infrastructure. Currently, we are under contract for $7,000,000 in upgrades to the existing facility. These improvements are intended to ensure compliance with permit limits while also enhancing energy efficiency and promoting environmentally sustainable operations. However, we recognize that during the construction period, certain treatment processes may experience temporary fluctuations in performance.

The plant continues to face challenges related to aging infrastructure. To address this, a $7 million upgrade is currently underway. These improvements are designed to maintain permit compliance, increase energy efficiency, and support environmentally sustainable operations. Temporary fluctuations in treatment performance may occur during construction.

The increase in Notices of Violation (NOVs) since 2023 underscores the timely need for these upgrades. Plant personnel are diligently working to maintain discharge levels within the limits established by the North Carolina Department of Environmental Quality (NC DEQ). While the upgrade process is complex and time-intensive, it is essential for maintaining compliance and proactively addressing regulatory requirements for 2025 and beyond.

The rise in Notices of Violation (NOVs) since 2023 highlights the urgent need for facility upgrades. Plant personnel continue working diligently to keep discharge levels within NC DEQ permit limits. Though the upgrade process is complex and time-consuming, it is critical for ensuring long-term compliance and meeting evolving regulatory requirements through 2025 and beyond.

Monitored Parameters	Permit Limits			Monthly Averages											
	Monthly	Weekly	Daily	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Flow (MGD)	1.5 MGD			0.66	0.49	0.63	0.45	0.59	0.39	0.43	0.64	0.57	0.38	0.35	0.41
BOD (Summer)	8.0 mg/L	12.0 mg/L					11.2	13.6	9.6	4.2	2.2	1.3	3.2		
BOD (Winter)	16.0 mg/L	24.0 mg/L		8.8	7.9	8.5								2.8	1.7
NH3-N (Summer)	2.0 mg/L	6.0mg/L					3	3.1	2.2	1.9	1.3	2.2	1.3		
NH3-N (Winter)	4.0mg/L	12.0 mg/L		2.2	2.6	2.8								0.9	1.4
TSS	30.0 mg/L	45.0 mg/L		0.4	0.3	0.3	1.9	3.9	3.5	3.9	0.8	0.4	0.8	2.9	4.4
pH	Between 6.0 and 9.0			7.5	7.6	7.5	7.5	7.4	7.5	7.4	7.3	7.4	7.3	7.2	7.1
Fecal Coliform	200/100 mL	400/100 mL		46.8	47.7	35.9	32.2	39.9	38.3	25.5	20.2	24.3	28.4	29.6	20.9
Total Residual Chlorine			28 µg/L	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
Chronic Toxicity	Pass or Fail			Pass			Pass			Pass			Pass		

Notice Of Violations					
Date	Reason	Limit	Actual	Reason	Environmental Impact
4/6/2024	BOD Weekly	12.0mg/L	16.03mg/L	High ambient temperature= Low Dissolved oxygen which inhibits nitrification	None
4/30/2024	BOD Monthly	8.0mg/L	11.19mg/L	High ambient temperature= Low Dissolved oxygen which inhibits nitrification	None
4/30/2024	NH3-N Monthly	2.0mg/L	2.95mg/L	High ambient temperature= Low Dissolved oxygen which inhibits nitrification	None
5/4/2024	BOD Weekly	12.0mg/L	12.13mg/L	High ambient temperature= Low Dissolved oxygen which inhibits nitrification	None
5/18/2024	BOD Weekly	12.0mg/L	15.00mg/L	High ambient temperature= Low Dissolved oxygen which inhibits nitrification	None
5/25/2024	BOD Weekly	12.0mg/L	14.73mg/L	High ambient temperature= Low Dissolved oxygen which inhibits nitrification	None
5/31/2024	BOD Monthly	8.0mg/L	13.56mg/L	High ambient temperature= Low Dissolved oxygen which inhibits nitrification	None

5/31/2024	NH3-N Monthly	2.0mg/L	3.1mg/L	High ambient temperature= Low Dissolved oxygen which inhibits nitrification	None
6/1/2024	BOD Weekly	12.0mg/L	18.13mg/L	High ambient temperature= Low Dissolved oxygen which inhibits nitrification	None
6/15/2024	BOD Weekly	12.0mg/L	13.1mg/L	High ambient temperature= Low Dissolved oxygen which inhibits nitrification	None
6/30/2024	BOD Monthly	8.0mg/L	9.6mg/L	High ambient temperature= Low Dissolved oxygen which inhibits nitrification	None
6/30/2024	NH3-N Monthly	2.0mg/L	2.17mg/L	High ambient temperature= Low Dissolved oxygen which inhibits nitrification	None

City of Conover Sanitary Sewer Collection System

ORC- Thomas J. Miller Jr.

(828)464-4808

The City of Conover's collection system consist of 126 miles of sewer line, 2,855 manholes, with six (6) sewer lift stations. The collection system transports wastewater to the City of Conover's Northeast Wastewater Treatment Plant, and a portion to the City of Newton's Clark Creek Regional Wastewater Treatment Plant. The collection system serves homes, business, and industry alike. With our unwavering standards of service, we make sure each customer is treated equally when dealing with the sewer discharge. In 2024, our collections staff visited each pump station at a minimum of 1 time per week, with most weeks getting 2 visits. Each sewer aerial across a creek or body of water gets inspected at a minimum of twice per year. Our staff will inspect more after storms and adverse weather conditions.

In 2024 we flushed and used CCTV to inspect 78,516 feet of our sewer system. These two combined bring the total to 15.16 miles of line for a total of 14.87% of our collection system inspected. In 2024 we had 14 Sanitary Sewer Overflows, shown in the graph below.

Looking forward to 2025, we will embark on a new project to mitigate sewer overflows along Lyle Creek behind 3rd Ave NE. This will be a major project spanning multiple years. We will be asking for citizen involvement during this time. We appreciate everyone's patience and understanding during this venture.

2024 Sanitary Sewer Overflows					
Date	Location	Gallons Spilled	Cause	Impact	Fish Kill
1/5/2024	2009 Keisler Dairy RD	150	Pump Station Equipment Failure	25 Gallons spilled to Mclin Creek	No
1/9/2024	2006 Pump Station RD	230,000	6 Inch rain caused flooding	230,000 Gallons spilled to Mull Creek	No
3/9/2024	404 3rd Ave NE	600	Heavy rain causing I&I	600 Gallons spilled to Lyle Creek	No
4/7/2024	413 6th Ave SW	50	Grease caused blockage	50 Gallons Spilled to Cline Creek	No
5/1/2024	1930 Emmanuel Church Rd	250	Root ball	250 Gallons Spilled to Mclin Creek	No
5/15/2024	404 3rd Ave NE	2,000	Heavy rain causing I&I	2000 Gallons Spilled to Lyle Creek	No
7/29/2024	408 3rd Ave NE	100	Heavy rain causing I&I	75 Gallons spilled to Lyle Creek	No
8/8/2024	408 3rd Ave NE	9,900	Heavy rain causing I&I	9,900 Gallons spilled to Lyle Creek	No
8/9/2024	408 3rd Ave NE	900	Heavy rain causing I&I	900 Gallons Spilled to Lyle Creek	No
8/13/2024	408 3rd Ave NE	975	Heavy rain causing I&I	975 Gallons Spilled to Lyle Creek	No
9/26/2024	408 3rd Ave NE	46,260	Hurricane flooding	46,260 Gallons Spilled to Lyle Creek	No
9/26/2024	2006 Pump Station RD	8,000	Hurricane flooding	8,000 Gallons Spilled to Mull Creek	No
9/27/2024	2006 Pump Station RD	2,520	Hurricane flooding	2,250 Gallons Spilled to Mull Creek	No

9/27/2024	806 3rd St Place SW	150	Hurricane flooding	150 Gallons Spilled to Cline Creek	No
10/17/2024	506 1st St W	300	Grease caused blockage	300 Gallons Spilled to Lyle Creek	