



Carolina Water Service
of North Carolina™

Wastewater Treatment and Collection Performance Annual Report

Carolina Trace

NPDES: NC0038831
Collection System: WQCS00217

January 1, 2020 - December 31, 2020

P.O. Box 240908
Charlotte, NC 28224

Phone: 800-525-7990
<https://www.myutility.us/carolinawaterservicenc>

I. General Information

Service Area:

Carolina Trace S/D

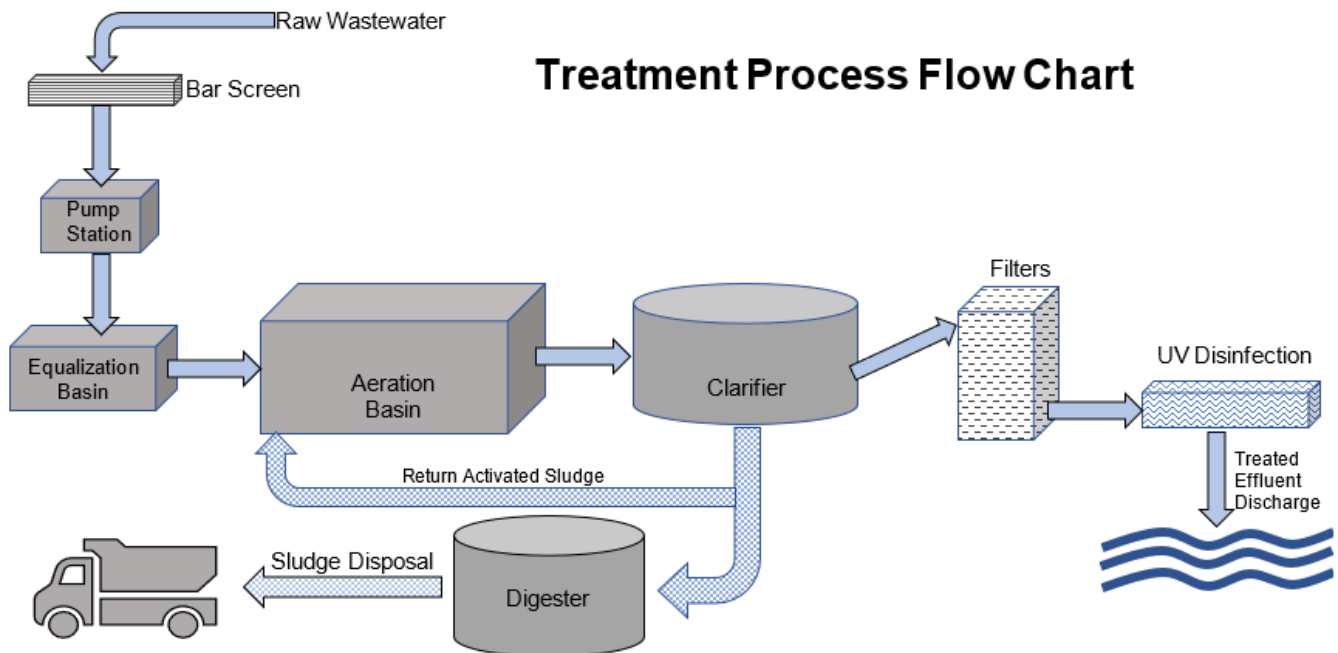
Applicable Permits:

Type	NPDES Permit Number	Area Manager	Phone
Wastewater Treatment Facility	NC0038831	Stephen Harrell	800-525-7990
Collection System	WQCS00217	Stephen Harrell	800-525-7990

Description of Collection and Treatment Systems:

Operation and maintenance of a wastewater collection system consisting of approximately 39.7 miles of gravity sewer, approximately 5.3 miles of force main, 6 duplex pump stations, 7 simplex pump stations, serving 1640 customer connections.

Operation of a 675,000 GPD wastewater treatment facility with the following components: Equalization basin, Circular treatment consisting of aeration chamber and clarifier, Sludge holding, Tertiary filters, UV disinfection, and Flow measuring device.



1. Pump Station – Pumps all incoming wastewater to the beginning of the treatment plant
2. Bar Screen – Removes larger debris that can potentially damage equipment such as rocks and sticks.
3. Aeration Basin – Air is circulated, and bacteria removes dissolved solids, pollutants, Phosphorus and Nitrogen.
4. Clarifier – Solids are separated from the liquid and piped back to the aeration basins via the return activated sludge piping.
5. Filters – Liquid is filtered to remove any remaining fine particles.
6. Disinfection – Effluent is disinfected by ultraviolet light to inactivate pathogenic organisms.
7. Digester – Treats the solids removed from the wastewater to allow safe and economical disposal.

Summary of Collection System Performance:

During 2020, we collected and treated over 121 million gallons of wastewater. The system experienced two (2) sanitary sewer overflows during 2020.

Key Performance:

- 27,780 feet of sewer main was cleaned in 2020.
- Rehabbed 19 manholes in collection system. No Sewer main replacements.
- Cleared 20525 feet of sewer right of ways.
- There are 6 duplex Lift Stations serving the Carolina Trace Subdivision. Each Duplex Lift Station is checked three times a week with maintenance conducted as needed as well as emergency generator testing, wet well cleanings, and emergency/routine repairs conducted periodically.
- Duplex Lift Stations are continuously monitored using a telemetry system that will notify our staff of any issues 24/7.
- Annually, each Lift Station is inspected using our 56 Point checklist for Safety.
- As part of our Asset Management Program, an Annual Maintenance Checklist is conducted to determine that equipment is performing at peak efficiencies.
- Our staff throughout the year manually conducts manhole inspections and documents deterioration (if any) due to corrosive atmospheric conditions.
- We have instituted an infiltration and inflow (I&I) program. The purpose of the I&I program is to keep unwanted storm water from entering the collection system. Infiltration and inflow is a clear indicator that there could be broken pipes, uncovered sewer laterals, or someone illegally connected to the collection system.
- As a proactive measure, we educate our customers of our concerns of Fats, Oil, and Grease. Your help in what is put down the drain greatly prevents clogs due to grease buildups and improves our overall collection system. These grease buildups can result in SSO's.
- Our staff is continually monitoring and clearing rights of way (ROW's). These ROW's normally are in low lying creeks and wooded areas. ROW's need to be cleared to ensure easy access during emergency situations.

Summary of Wastewater Facility Performance:

It is our goal and standard at Carolina Water Service of North Carolina to meet 100% of our NPDES permit discharge limits. We evaluate our treatment processes daily to ensure that goal is obtained. Our permit requires us to continually monitor the effluent to determine if the treatment processes are working effectively. This monitoring consists of sampling at various points in the treatment process. These samples include: Flow measurement of how much wastewater enters and then is discharged from our plant, Biochemical Oxygen Demand (BOD), Total Chlorine Residual, Fecal Coliform, Total Ammonia, Total Nitrogen, pH, Total Phosphorus, Total Suspended Solids, Dissolved Oxygen, Temperature, and Chronic Toxicity.

Over 1600 compliance samples were taken during the 2020 calendar year. There were two fecal coliform permit limit exceedances that occurred during this timeframe. The first occurred on September 29, 2020 and the second occurred the next day on September 30, 2020. Our staff is committed to a standard of excellence by ensuring a safe and clean facility while maintaining regulatory compliance. No known adverse effects have been noted on the environment or receiving streams.

II. Violation Summary – 2020

January	No violations/deficiencies.
February	No violations/deficiencies.
March	No violations/deficiencies.
April	No violations/deficiencies.
May	Notice of Violation received for the SSO that occurred on 5/21/2020
June	No violations/deficiencies.
July	No violations/deficiencies.
August	No violations/deficiencies.
September	Notice of Violation and Intent to Assess Civil Penalty received for exceeding the fecal coliform limit on 9/29/2020 and 9/30/2020.
October	No violations/deficiencies.
November	Notice of Violation received for the SSO that occurred on 11/14/2020
December	No violations/deficiencies.

III. Notification

Customers will be notified of the availability of this report with a message on their bills and copies will be provided upon request.

IV. Certification

I hereby certify that the information contained in this report is accurate and complete to the best of my knowledge.

Signature: _____ **Date:** 2/3/2021
Name: Dana Hill **Title:** Director of Operations