



# ANNUAL WASTEWATER COLLECTION AND TREATMENT SYSTEM REPORT

**CITY OF ROXBORO**

July 1, 2024- June 30, 2025

The City of Roxboro is pleased to provide this annual report on the operation of its Wastewater Treatment Plant and Collection System.

<p><b>Roxboro Wastewater Treatment Plant</b></p>	<p>The Wastewater Treatment Plant is designed to treat 5 million gallons per day. For the fiscal year 2024-2025 the average daily flow was 1.83 million gallons per day. The City of Roxboro's Wastewater Treatment Plant provides biochemical oxygen demand (BOD), suspended solids removal, and converts organic and inorganic nitrogen to the nitrate form. The Roxboro WWTP is an advanced secondary treatment plant that was upgraded this spring when the new multi ring oxidation ditch was brought online. Waste activated sludge/biosolids are further stabilized in two aerobic digesters. After digestion, waste activated sludge/biosolids enter a dewatering facility that utilizes centrifuge technology. Finally, the class B sludge/biosolids are safely land applied to permitted land according to the requirements set forth by the North Carolina Division of Water Quality. The City of Roxboro is currently under contract with Synagro Inc. to land apply its sludge/biosolids.</p>
<p><b>Roxboro Wastewater System</b></p>	<p>The Collection System, consist of approximately 100 miles of sewer lines, manholes, thirteen lift stations and the Wastewater Treatment Plant. The Wastewater Treatment Plant has been in operation since 1965, it was upgraded in the mid-1980's with the latest upgrade beginning in July of 2018. The Wastewater Treatment Plant is located at 902 Cavel-Chub Lake Road and is regulated by the Environmental Protection Agency's National Pollutant Discharge Elimination System (NPDES) permit # NC0021024. North Carolina Stormwater General Permit No. NCG110000, North Carolina Collection System Permit No. WQCS00048 and Land Application of Residual Solids Permit No. WQ0021826. The Wastewater Treatment Plant and the Collection System are part of the City's Public Services Department. Bryan Garrett is the Public Services Director and can be reached at 336-599-5658.</p>

The City of Roxboro's Public Services Department is committed to providing the citizens of Roxboro with the highest level of service while protecting the environment.

# PERFORMANCE

## Collection System

The City of Roxboro Public Utilities Department continue to inspect, rod and clean manholes, mow and patrol right-of-ways, and identify inflow and infiltration problems. Maintenance, repairs, hydrant replacements and line replacements are ongoing. We have recently met with our Engineer to discuss the rehabilitation plan for the Marlowe's Creek I&I. This assessment has brought several I&I issues to our attention. The City firmly believes that this work is critical and staff will continue to work diligently for improvement.

The Western Sewer is underway. As of right now 14% of the job is complete. This project is estimated for completion by spring of 2027.

March 25, 2025- Sanitary Sewer Overflow: We had a force main leaking on a 12" cast iron pipe that required a 12" repair clamp. The overflow was reported due to noticeable sewer odors. We flushed the overflow with water and pumped until reaching a safe reading with the dissolved oxygen sensor to confirm readings above 7.5 ppm. Only a small amount of sewer overflowed and we tested, so we are confident it was safely removed.

## Wastewater Treatment Plant (WWTP)

The City of Roxboro National Pollution Discharge Elimination System (NPDES) Permit No. NC0021024 to operate its Wastewater Treatment Plant was renewed and became effective on 11/1/2023. The City of Roxboro WWTP General Stormwater Permit No. NCG110000 was renewed and became effective 3/1/2024.

The following Inflow & Infiltration compliance-related issues were addressed by WWTP staff to the appropriate NCDEQ officials as required by it's NPDES. On 7/7/25, there was an unanticipated bypass at the Roxboro WWTP due to heavy rain from tropical storm Chantal, and I&I in the collection system. NCDEQ was notified on 7/7/25. Bypass was estimated at 990 gallons.

NCDEQ Raleigh Regional Office, completed a Compliance Evaluation Inspection of the Roxboro WWTP Biosolids Facility on 6/25/25. No violations were noted in his follow-up inspection report.

Phase I of the Roxboro WWTP upgrade is complete, all biological treatment was transferred from the existing activated sludge basins into the new Oxidation Ditch the week of 5/20/2024. The Oxidation Ditch is now running as should be and is maintaining a healthy microbial population.

The Roxboro WWTP is currently running the centrifuge at an estimated 50 hours per week to keep up with the aggressive wasting that is required to maintain a healthy microbial population. The centrifuge uses force to separate solids and liquids, by adding a chemical called polymer to the process, it turns the biosolids into a cake, which is later land applied by Synagro as a Class B biosolid.

The Roxboro WWTP Stormwater Permit NCG110000 became effective on 3/1/2024 and will expire on 2/28/2029. This permit includes numerous changes that will require sampling/analysis at each of the Roxboro WWTP stormwater outfalls. Gates were installed at all Stormwater outfalls for easy and safe access. Sampling has begun on all stormwater outfalls and will continue to meet permit requirements.

## Pollution Prevention at Home

## Fats, Oils and Grease (FOG) Pollution Prevention at Home

Not everything you may pour down the drain will make it to the Wastewater Treatment Plant. Fats, Oils and Grease, also known as FOG, can stick to your home's sewer pipe eventually blocking the pipe and causing a household sewage backup as well as overflows and high costs to the homeowner for cleanup and restoration work.

Blockages in your sewer may also cause raw sewage to discharge onto your property, your neighbor's property or into your home. This can be a serious health hazard to the occupants of the home and may be a very costly problem. Currently, within the City of Roxboro and Person County, the occurrence of grease build-up within our sewers has become an increasingly costly and time-consuming problem.

Where does household grease come from?	What are results of a sewer blockage in your home?
<p>Most people know that household grease is a by-product of cooking. Grease is generated from such things as:</p> <ul style="list-style-type: none"> <li>● Meats</li> <li>● Dairy products</li> <li>● Sauces</li> <li>● Butter/margarine</li> <li>● Cooking oils and greases</li> <li>● Shortening/lard</li> <li>● Food scraps</li> </ul> <p>Most of the grease is disposed of down the sink drain during food preparation and after meal clean up. The grease enters the sewer pipes and sticks to the sides and roof of the pipes. Over time the grease builds up to a point in which the pipe is entirely blocked off resulting in sewage backups and overflows onto your property or into your home.</p> <p>If you have garbage disposal you should also know they do not eliminate grease from entering and accumulating in the sewers. These units only break up and introduce smaller particles of waste material into the sewer system. Likewise, commercial additives and detergents that claim they dissolve grease may only pass FOG further down the system where it will cause problems in other areas of the sewer system. There is an increase operational and maintenance cost for the City, which causes higher sewer bills to customers.</p>	<p>A sewer blockage caused by an accumulation of grease from your home may result in:</p> <ul style="list-style-type: none"> <li>● Raw sewage overflowing into your home or a neighbor's home, over your property, your neighbor's properties, streets, local parks and into local water bodies.</li> <li>● The cleanup of a sewage overflow can be expensive and unpleasant and often the cleanup must be paid by the owner.</li> <li>● There is a potential for contact with disease causing bacteria.</li> </ul> <p><b>Tips To Reduce FOG:</b></p> <p>Never pour grease down the sink drains or toilets.</p> <ul style="list-style-type: none"> <li>● Scrape grease and food scraps off your plates, utensils, pots, pans, food preparation area, and cooking areas and place them in the garbage can or compost pile.</li> <li>● Place a drain screen in your sink to catch food scraps and dispose of grease and food scraps in your green bin or compost pile.</li> <li>● Use disposable paper towels to wipe up grease and dispose of the paper towel in the garbage can or compost pile.</li> <li>● Be consumer wise when using a commercial cleaner or detergent which claims to dissolve grease as they may only transport the problem further down the sewer system.</li> </ul> <p>Should you have any questions or comments, please direct inquiries to the Wastewater Treatment Plant at 599-8232.</p>

## City of Roxboro Mercury Minimization Plan (MMP)

The City of Roxboro's NPDES permit was renewed and became effective on 11/1/2018, this renewal included a requirement to develop and implement a Mercury Minimization Plan (MMP).

Although 98% of the mercury in North Carolina waters comes from atmospheric sources where the vast majority are located out of state, the North Carolina Department of Environment and Natural Resources, Division of Water Quality issued a statewide total maximum daily load (TMDL) for mercury.

The MMP approach is intended as a reasonable, low-cost approach toward making some progress in managing the two percent loading statewide from point sources.

Unlike other sources, local governments are already reducing mercury loadings by first filtering mercury out in the treatment of public drinking water and again when wastewater is treated.

<p><b>MMP Reduction Efforts</b></p>	<p>City WWTP staff MMP reduction efforts during the current reporting period included Long Term Monitoring Plan (LTMP) at our influent and Effluent Sample points for low level mercury.</p>
<p><b>MMP Outreach and Education</b></p>	<p>Recycling CFL's and other fluorescent bulbs prevents the release of mercury into the environment. Additionally, virtually all the components of a fluorescent bulb can be recycled. Store fluorescent light bulbs in containers that prevent them from being broken, such as their original boxes or boxes from replacement bulbs. Located at 741 Martin St. Roxboro NC, the Person County Recycling Center gates open each Monday at 7:30am. until Saturday at 4 pm. Gates are closed from Saturday at 4 pm until Monday at 7:30 am. The recycle center <b>accepts unbroken bulbs</b> at 40 cents per bulb and also accepts residential electronic devices: tv's are \$10 each, and monitors are \$5 each. For more information contact the Person County Recycling Center at 336-597-4437.</p>

## What the City of Roxboro is Doing

The City of Roxboro is committed to providing the citizens of Roxboro with the highest level of service while protecting the environment.

- City Council approved \$34,211 for a Stormwater updates required by the permit at the WWTP.
- City Council approved \$25,000 for repairs to the East Clarifier at the WWTP.
- City Council approved \$48,925.80 for scum pump replacement at the WWTP.
- City Council approved \$13,231.52 for influent flow circular chart recorders at the WWTP.
- City Council approved approx. \$5,750 for the purchase of office equipment in the Public Utilities Dept.
- City Council approved approx. \$1,425 to purchase a Stihl TS420-1 Concrete Pipe Saw for the Public Utilities Dept.
- City Council approved approx. \$3,300 to purchase a 3 inch trash pump for the Public Utilities Dept.
- In FYE 2025, the City completed our Lead and Copper Inventory, which periodically owned led pipes. The City will be performing an annual update this fall.
- City Council increased Water/Sewer rates to fund a fire hydrant replacement program and additional funding for proactive/planned water line replacements.