



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
COOKEVILLE ENVIRONMENTAL FIELD OFFICE

DIVISION OF WATER RESOURCES

1221 SOUTH WILLOW AVENUE

COOKEVILLE, TN 38506

PHONE 931-520-6688

STATEWIDE 1-888-891-8332

FAX 931-432-6952

Honorable John Martin, Mayor
City of Baxter
200 Main St.
Baxter, TN 38544
E-copy: jbm13131313@yahoo.com

May 20, 2024

RE: Compliance Evaluation Inspection (CEI)

Baxter Sewer Treatment Plant (STP); NPDES Permit: TN0021121

Baxter, Putnam County, Tennessee

Receiving Stream: Mine Lick Creek, 303(d) Listed, Municipal Point Sources

Permit Expiration: June 30, 2027

Dear Mayor Martin:

Division of Water Resources staff wishes to thank you, the City of Baxter wastewater Chief Operator Mr. Tommy Buford, for your time and courtesy during the recent Compliance Evaluation Inspection (CEI) at the Baxter wastewater treatment plant on April 25, 2024. The CEI was performed by Mr. Oakley Hall and Ms. Angelle Conatser to review the treatment processes associated with this NPDES permit requirements. Additionally, we thank you for allowing TDEC personnel to review two recently constructed pump stations.

Permit

The NPDES permit (TN0021121) became effective on July 1, 2022. This permit will expire on June 30, 2027.

Laboratory Analysis

The laboratory was reviewed and found to be clean. The laboratory quality assurance procedures are in good order. An outside lab is used for some tests, e.g., ammonia nitrogen. Incubator temperatures were in good order. The IDEXX unit was in good condition. It may be financially possible to consider the purchase of some new instruments. Suggestions for laboratory instruments include an Oxidation Reduction Potential (ORP) meter. The use of the ORP meter could help in the improvement of nutrient removal and in turn reduce energy costs by reducing blower run times. The Baxter aeration basins' design may lend themselves to this procedure of aeration control.

Facility Site Review

The sewer treatment facility was found to be in good condition. All machinery was in operation, although some noise was heard within the last pump station. It is possible that it was an exhaust fan. It was noted that some vegetation removal was needed around the NPDES discharge sign.

Effluent / Receiving Waters

The effluent was observed and found to be clear. Some minor algae growth was noted at the discharge to the stream. Currently, a portable back-up pump is in use at the banks of the stream. The pump is there to prevent overflows from the last collection system pump station. Hay bales and silt fence were in place to capture solids from this overflow point (adjacent to the effluent discharge). It is important to note that overflow occurrences have declined due to continued collection system work. Camera investigations and pipe bursting continue. This work is especially important with the growth in the Baxter area.

Operations and Maintenance of the Sewer Plant and Collection System

It has been noted that inflow and infiltration (I & I) of stormwater exists within the City of Baxter collection system. This issue has been continually reduced by maintaining an aggressive I & I reduction program. The city has initially implemented this by acquiring the assistance of a professional engineering firm. Improvements in the collection system will allow further connections, (saving capacity) and help to improve the water quality in Mine Lick Creek which is 303(d) listed for municipal point source discharges. It was discussed that an upgrade to the last collection system pump station is in process. It was also discussed that upgrades to the sewer plant are in process. It is realized by the City that capacity needs to be maintained to support business and residential growth.

Records/Reporting

Monthly Operational Reports were reviewed on site. The files were complete and well organized. overflows are reported. The city has now placed a portable diesel pump at this last pump station as a back-up to prevent overflows. Overflows have notably decreased as repairs to the collection system have been pursued to reduce I & I. The Discharge Monitoring Reports were reviewed for the past twelve (12) months. The self-reported violations included overflows and ammonia nitrogen exceedances. To reiterate, Mine Lick Creek is 303(d) listed for municipal point source discharges.

Recommended Actions

It was noted that Mr. Tommy Buford is the only employee at the Baxter Wastewater Treatment Plant. In times of vacation or other absence, it may be difficult for the Chief Operator (Mr. Buford) to complete the NPDES reporting requirements. It is recommended that an additional operator (trainee) be employed full time at the facility. The trainee should be encouraged to obtain his/her wastewater treatment certification.

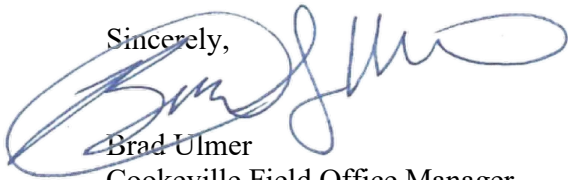
Consider that this sewer plant will be upgraded at some point and additional personnel may be necessary for the new operation. It is noted that a contract operator from the City of Cookeville wastewater facility is employed to fill in for Mr. Buford during scheduled absences.

- Consider the purchase of a bio-solids hauling truck and installing the associated plumbing to load the vehicle. This will assist with over the road hauling to different sites that may be needed in the future.
- Continue repairs of the city's sewer collection system.
- Work to prevent violations of the effluent ammonia nitrogen limit(s).

Again, the Division of Water Resources staff wishes to thank you, and the City of Baxter wastewater Chief Operator Mr. Tommy Buford, for your time and courtesy during this Compliance Evaluation Inspection (CEI) at the Baxter wastewater treatment plant and collection system.

If you have any questions, you may contact Oakley Hall in Cookeville by way of telephone at (931) 520-6677 or toll free at 1-(888)-891-8332. You may also use electronic mail at: Oakley.Hall@tn.gov.

Sincerely,



Brad Ulmer
Cookeville Field Office Manager
Division of Water Resources
Cookeville Environmental Field Office

Enclosures: Site Photographs

Cc: CK-EFO, City of Baxter STP, DWR NPDES File: TN0021121



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Digital Photos Recorded: April 25, 2024

Baxter Sewer Treatment Plant (STP) and Collection system, Putnam County, TN0021121



Baxter should consider the purchase of a new waste hauling truck along with upgrades to the off-loading plumbing that fills the truck. The current arrangement does not allow for over the road travel. This would open more areas for beneficial use. Photo By: Oakley Hall, April 25, 2024



The grounds were clean and well maintained. A tractor is used to pull this liquid biosolids trailer across the surface of an adjacent field. Mechanical problems have recently occurred with the trailer and have been corrected. Photo By: Oakley Hall, April 25, 2024



The Chlorine Contact Chamber is pictured. The chamber needs some block work improvements, to reduce short circuiting across the surface.
Photo By: Oakley Hall, April 25, 2024



The effluent discharge at the stream was clear. Some algae growth was observed below the discharge pipe. The stream was at low flow conditions.
Photo By: Oakley Hall, April 25, 2024



Two new lift stations were visited during the inspection. This one is located adjacent to I-40, on the south side. Note the green slats woven in the chain-link fence.

Photo By: Oakley Hall, April 25, 2024



Security at the two pump stations was discussed. A chain should be added at this gate to reduce the possibility of unauthorized entry. Photo By: Oakley Hall, April 25, 2024



Security at the two pump stations was discussed. A chain should be added at this gate in order to reduce the possibility of unauthorized entry. The pump station was clean and is lit at night.

Photo By: Oakley Hall, April 25, 2024