STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
Johnson City Environmental Field Office
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Johnson City, TN 37601
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February 14, 2022

Mr. Jason Bryant
Chief Operator
e-copy: jasonbutility@gmail.com
Bloomingdale Utility District
571 Nottingham Road
Kingsport, TN 37660

RE: **Compliance Evaluation Inspection (CEI)**
Bloomingdale Utility District Water Treatment Plant
NPDES Permit TN0062235
Sullivan County

Dear Mr. Bryant:

On January 31, 2022, Ms. Brianne Begley of the Tennessee Department of Environment and Conservation (TDEC), Division of Water Resources, performed a routine compliance inspection at the above referenced facility. During the inspection, compliance with General Permit for Filter Backwash and Sedimentation Basin Washout from Water Treatment Plants (WTP) TN0062235 was evaluated. The division thanks you for your time and assistance. Please see the sections below for details regarding the inspection.

I. Permit

General NPDES Permit for Discharges of Filter Backwash and Sedimentation Basin Washout from Water Treatment Plants became effective on September 1, 2020 and will expire on August 31, 2025. Coverage under this permit for the Bloomingdale Utility District WTP became effective October 1, 2020 and shall expire on August 31, 2025. The Bloomingdale Utility District WTP permit authorizes the discharge of filter backwash and sedimentation basin washwater from the facility located at 571 Nottingham Road in Kingsport, TN to receiving waters named Reedy Creek at mile 10.6. A plant walk-through and inspection of the facility grounds was conducted, as well as a review of the permit and supporting documentation. Based on the information discussed and site observations during the inspection, the facility generally appeared to be consistent with the description associated with the permit referenced above. No deficiencies were noted in this program area.

II. Records/Reports

Parts 7.1 – 8.3 of NPDES TN0062235 contain monitoring, reporting, and documentation requirements. Also, records documenting laboratory analyses, including proper quality assurance and quality control (QA/QC) must be maintained to satisfy permit part 7.2. Discharge monitoring reports (DMRs) from January 2019 – December 2021; pH calibration, sample results, and QA/QC records from January 2019 – December 2021; pH and total residual chlorine (TRC) standard operating procedures (SOPs); TRC calibration, sample results, and QA/QC records from September 2019, June 2020, and December 2021; backwash discharge logs from September 2019, June 2020, and December 2021; pH and TRC demonstrations of capability (DOCs) from 2019 – 2021; TRC method detection limit (MDL) records from 2019 – 2021; Pace Analytical reports from September 2019, June 2020, and December 2021; Hach Service Plus field service reports from August 2018 and December 2019; and LabtronX Equipment Test Data Sheets from February 2022 were reviewed during the inspection. Deficiencies pertaining to records are detailed in other pertinent areas of this report.

III. Facility Site Review, Self-Compliance Program, & Operations & Maintenance

The most recent Notice of Intent (NOI) states the Bloomingdale Utility District WTP is a conventional filter plant with a design capacity of 1.84 MGD. The facility utilizes a filter backwash transfer basin and a series of decanting pits to treat the filter backwash. Filter backwash water is released from the settling basin approximately four times per week with a volume of 37,000 gallons per release. When solids are removed from the decant pits, they are land applied onto land adjacent to the WTP facility. TN0062235 part 5.2 requires the permittee to maintain a clean and orderly facility and manage the handling, storage and use of chemicals to prevent release of materials. Additionally, it requires that sludge or any other material removed by the treatment works must be disposed of in a manner which prevents its entrance into or pollution of any surface or subsurface waters. A plant walk-through was performed, and the facility was found to be in a clean and orderly condition. No deficiencies were noted in this program area.

IV. Effluent/Receiving Waters

The facility was not discharging at the time of inspection, but the area of the discharge point from Outfall 001 into Reedy Creek was observed. No solids, oil sheen, or color contrast was visible in the receiving stream around the outfall location. The outfall signage as required by NPDES permit TN0062235 was present and visible to the public from the receiving stream. It should be noted that the actual discharge pipe is obstructed from view due to large rip rap that has shifted on the bank of Reedy Creek as a result of erosion. Bloomingdale Utility District WTP personnel stated they are in the process of receiving approval from TDEC to conduct bank remediation. See section VII. below for more information regarding this approval. No deficiencies were noted in this program area.

V. Laboratory

DMRs from January 2019 – December 2021; pH calibration, results, and QA/QC records from January 2019 – December 2021; pH and TRC SOPs; TRC calibration, results, and QA/QC records from September 2019, June 2020, and December 2021; backwash discharge logs from September 2019, June 2020, and December 2021; pH and TRC DOCs from 2019 – 2021; TRC MDL records from 2019 – 2021;

and Pace Analytical reports from September 2019, June 2020, and December 2021 were reviewed during this inspection. Analyses for pH and TRC are performed in-house, while settleable solids (SS), total suspended solids (TSS), and total aluminum are contracted out to Pace Analytical Services, LLC. Part 7.2 item 2. of NPDES permit TN0062235 requires pollutant analyses be performed in accordance with methods specified in Title 40 CFR Part 136, and permit part 10.5 requires additional laboratory controls and appropriate quality assurance procedures. Revisions to Part 136, effective June 18, 2012, explicitly detail required laboratory quality assurance and quality control components. Additional updates to Part 136 became effective July 19, 2021. See below for deficiencies noted in this program area.

1. The pH and TRC bench sheets and SOPs provided for review either had no method number or included outdated method numbers that are not currently approved in Title 40 CFR 136. Bloomingdale Utility District WTP personnel added currently approved method numbers onto the bench sheets and SOPs and submitted them to the division for review. This deficiency was corrected prior to issuance of this report.

2. At the time of inspection, the TRC MDL study was conducted following Revision 1 procedures, however, the 2016 revision of the MDL procedure (Revision 2) became effective September 27, 2017. Please see 40 CFR 136 Appendix B *EPA Definition and Procedure for the Determination of the Method Detection Limit* – Revision 2 for current MDL procedure requirements. The TRC QA/QC SOP must also be updated to incorporate these procedural changes. Bloomingdale Utility District WTP staff have been in communication with the division and are in the process of implementing procedural changes to reflect Revision 2; an updated TRC QA/QC bench sheet was submitted to the division prior to issuance of this report.

3. During the inspection, it was discovered that Bloomingdale Utility District WTP personnel were utilizing a Hach Free Chlorine Reagent Dispenser and Reagent when conducting monthly TRC QA/QC procedures. TN0062235 requires effluent monitoring for TRC, therefore only DPD TRC reagent should be used following approved 40 CFR Part 136 methods.

4. The Hach Service Plus field service reports from August 2018 and December 2019 did not include information on the lab equipment that is used to conduct NPDES monitoring. Bloomingdale Utility District WTP staff stated that Hach did not fulfill its contract with the facility and as a result, they are now in contract with LabtronX to perform equipment calibrations. TN0062235 part 10.5 requires proper operation and maintenance of all facilities and systems (and related equipment and systems) which are used to achieve compliance with the terms of the permit, and states "Proper operation and maintenance also includes adequate laboratory and process controls and appropriate quality assurance procedures." The LabtronX Equipment Test Data Sheets from February 2022 did include the Hach DR3900 spectrophotometer and Hach Sension pH meter that are utilized during NPDES monitoring.

VI. Sludge Handling/Disposal

As mentioned in section III above, NPDES permit TN0062235 part 5.2 requires sludge or any other material removed by the treatment works must be disposed of in a manner which prevents its entrance into or pollution of any surface or subsurface waters. Additionally, the disposal of such sludge or other material must be in compliance with the Tennessee Solid Waste Disposal Act, T.C.A. 68-31-101 et seq. and the Tennessee Hazardous Waste Management Act, T.C.A. 68-46-101 et seq. During the inspection,

WTP personnel stated that the last time the decant pit was drained and scraped, and solids land applied on the WTP property, was in 2018. There are no immediate plans to drain and scrape the decant. Please see section VII. below for additional information regarding future land application. No deficiencies were noted in this program area.

VII. Additional Comments and Recommendations

Additional comments and recommendations noted during the inspection are detailed below.

1. As stated in section IV. above, Bloomingdale Utility District WTP is planning to remediate the bank of Reedy Creek that has degraded over time due to erosion. TDEC issued Bloomingdale Utility District WTP an Aquatic Resource Alteration General Permit for Bank Armoring and Vegetative Stabilization (ARAP -NR2106.056) that became effective October 8, 2021 and shall expire April 7, 2025. For more information regarding this permit, please contact Tina Robinson via telephone at 423-268-0134 or via email at tina.a.robinson@tn.gov.

2. The SOPs provided for review included a section titled "SOP Historical Record" with lines for revision dates, revision descriptions, and reviewer signatures. The revision dates and descriptions had been documented, however they had not been signed. The division recommends all SOPs to be reviewed on an annual basis and revised as needed; and they should be signed and dated at the time of each review and/or revision.

3. Please be advised that prior to any future land application of WTP sludge, the Bloomingdale Utility District WTP must submit to the division a new request for Guidance of Land Application of Water Treatment Plant Sludge and will subsequently be required to submit soil sample analyses to be reviewed by the division.

VIII. Conclusion

Compliance with TN0062235 requirements helps ensure discharges that are protective of downstream fish and aquatic life and water quality. The division requests that you develop and submit, by March 14, 2022, a detailed action plan and proposed implementation schedule addressing the numbered points discussed in section V. above. Thank you for your efforts to ensure permit compliance and to protect state water quality. If I may be of assistance in matters concerning this report, please contact me via telephone at 423-268-4770 or via email at Brianne.Begley@tn.gov.

Sincerely,

J. Brianne Begley

J. Brianne Begley
Environmental Scientist
Division of Water Resources
Johnson City Environmental Field Office

cc: Mr. Joshua Boggan, DWR Program Coordinator, Johnson City EFO (via email)
Ms. Tina Robinson, DWR Program Coordinator, Johnson City EFO (via email)
Ms. Shannon McClellan, DWR Water-Based Systems Unit, Nashville (via email)
Ms. Sarah Elias, DWR Compliance and Enforcement Unit, Nashville (via email)
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