U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION III
CLEAN WATER ACT
COMPLIANCE INSPECTION REPORT

for

Name of Facility: Middletown-East WWTP
Facility Address: 7320 Holter Lane, Middletown, MD 21769
Mailing Address: 31 West Main Street, Middletown, MD 21769

Report Prepared on: June 7, 2021 *Date* By: _____, PG Environmental Scientist (PG Environmental) *Signature*

Report Final as of: 07/26/2021 *Date* By: MARK ZOLANDZ Digitally signed by MARK ZOLANDZ Date: 2021.07.26 10:54:06 -04'00' *Signature*, EPA

General Information

Type of Inspection:	Wastewater Treatment Facility CEI
Owner:	Burgess & Commissioners of Middletown
Operator:	Burgess & Commissioners of Middletown
Permittee:	Burgess & Commissioners of Middletown
NPDES Permit No:	MD0067628
NPDES Permit Effective Date:	January 1, 2017
NPDES Permit Expiration Date:	December 31, 2021
Receiving Water and/or MS4:	Hollow Creek, a tributary of Cone Branch
Latitude and Longitude:	39.43223 N, 77.53409 W

On-Site Facility Inspection Overview

On May 18, 2021, representatives from U.S. Environmental Protection Agency (EPA) Region III and EPA's contract inspector, PG Environmental, (hereinafter referred to the EPA Inspection Team) inspected the Middletown-East Wastewater Treatment Plant (hereinafter, WWTP or Facility) in Middletown, Maryland. At the time of the inspection, the Burgess & Commissioners of Middletown (i.e., the town of Middletown) was identified as the Permittee and operator of the Facility. The EPA Inspection Team was joined on the inspection by a representative from the Maryland Department of the Environment (MDE).

Approximate Entry Time: 9:00 AM (EDT) **Approximate Exit Time:** 11:30 AM (EDT)

Unique Project Identifier (UPI): 3E21WN070A

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Attachment A: Photograph Log
Attachment B: Exhibit Log
- Exhibit 1: EPA ICIS Data (January 1, 2017 through April 30, 2021)
- Exhibit 2: Facility Onsite Process Control and Compliance Data Sheet Example

Attachment C: NPDES Permit No. MD0067628

I. INTRODUCTION

On May 18, 2021, representatives from U.S. Environmental Protection Agency (EPA) Region III and EPA's contract inspector, PG Environmental, (hereinafter referred to as the EPA Inspection Team) inspected the Middletown-East Wastewater Treatment Plant (hereinafter, WWTP or Facility) in Middletown, Maryland. At the time of the inspection, the Burgess & Commissioners of Middletown (i.e., the town of Middletown) was identified as the Permittee and operator of the Facility. The EPA Inspection Team was joined on the inspection by a representative from the Maryland Department of the Environment (MDE). The primary purpose of the inspection was to review the accuracy and reliability of the Discharger's self-monitoring and reporting program as well as the operation and maintenance of the Plant. The weather at the time of the inspection was sunny and warm, with no precipitation.

The town's collection system is broken into three drainage basins which are served by two wastewater treatment plants, the Middletown-East WWTP and the Middletown-West WWTP. The Cone Branch Pump Station, located in Basin 2, is able to direct flow to either plant based on need and capacity. The Middletown-East WWTP (i.e., the one inspected by the EPA Inspection Team), provides primary, secondary (extended aeration and clarification), and tertiary treatment (cloth filters) before wastewater effluent is discharged to Hollow Creek. The Facility also has the ability to discharge effluent to a neighboring golf course irrigation pond during the summer months.

Facility representatives stated that Middletown has had inflow and infiltration (I/I) issues in the past and has completed three major pipe replacement projects in the collection system since 1990 as well as installed remote manhole level sensors at some critical locations. They explained most replacements were made in Basin 2. Facility representatives stated that the collection system still experiences I/I during wet weather, but the plants can handle most peak flows, and the collection system has not had a sanitary sewer overflow in over two years.

Activities at the site are regulated under National Pollutant Discharge Elimination System (NPDES) Permit No. MD0067628 (hereinafter, Permit), which became effective on January 1, 2017, and is scheduled to expire on December 31, 2021 (refer to Attachment C).

II. INSPECTION PROCESS

Inspection Opening Conference

The EPA Inspection Team arrived at the Facility at 9:00 a.m. (EDT) for the inspection. Jake Albright of PG Environmental displayed his Clean Water Act inspector credential to the Facility representatives at the outset of the inspection and explained that the purpose of the inspection was to observe compliance with the Permit. The EPA Inspection Team explained that any information that the Facility deemed to be confidential business information ("CBI") should be identified to EPA representatives during the inspection and it would be handled as CBI according to EPA's CBI procedures. Table 1 describes the individuals that participated in the inspection.

Table 1: Inspection Attendee List

Name	Affiliation	Telephone	Email
EPA Region III Inspectors and Contractors			
Jake Albright	PG Environmental	(703) 956-1957	Jake.Albright@pgenv.com
Kaitlin McLaughlin	EPA Region III	(215) 814-2393	McLaughlin.Kaitlin@epa.gov
Maryland Department of the Environment			
Kate Ansalvish	MDE	(301) 689-1482	kate.ansalvish1@maryland.gov

Facility Representatives			
Bruce Carbaugh, Director – Department of Public Works	Town of Middletown	(301) 371-6171	bcarbaugh@ci.middletown.md.us
Kurt Miller, Operator	Town of Middletown	-	-
Walt Poffenberger, Operator	Town of Middletown	-	-
Luke Myers, Operator in Training	Town of Middletown	-	-

Facility Site Walk

As part of the process, the EPA Inspection Team visually observed the treatment train and site conditions in the presence of MDE and Facility representatives. The treatment train consists of:

- Headworks building (screening and grit removal);
- Aeration basin;
- Clarifier;
- Chlorine injection;
- Cloth disk filters;
- Effluent flow meter channel;
- Effluent cascade and golf course pumps; and
- Outfall 001 to Hollow Creek

Solids Processing

- Solids waste tank
- Solids reed bed

Wastewater coming into the Facility flows through a headworks with mechanical bar screens (refer to Appendix A, DSCN 4825) and centrifugal grit removal (refer to Appendix A, DSCN 4830). Flow then goes into a splitter box (designed only to split flow if the Facility is expanded in the future) and then to the aeration basin (refer to Appendix A, DSCN 4843 and DCSN 4845). Activated sludge is piped in near this location as well. From the aeration basin, flow is routed to a rectangular integral clarifier for secondary treatment (refer to Appendix A, DSCN 4847 and DCSN 4849). Effluent from the clarifier is chlorinated via sodium hypochlorite (refer to Appendix A, DSCN 4856) before being routed to the tertiary cloth disk filters (refer to Appendix A, DSCN 4860). The tertiary effluent then flows through the final effluent flow meter channel (weir with ultrasonic transducer; refer to Appendix A, DSCN 4865) and is de-chlorinated using sodium bisulfite. Effluent is discharged down a cascade and piped to Outfall 001 at Hollow Creek, approximately 250 yards southwest of the effluent cascade (refer to Appendix A, DSCN 4866 and DCSN 4870).

The Facility is operated 7 days per week (7 a.m.–3p.m. Monday through Friday and for a few hours per day on the weekends). During the summer months, the Facility discharges up to approximately 200,000 gallons per day (GPD) into the irrigation pond at a neighboring golf course (via two pumps, designated Outfall 002A; (refer to Appendix A, DSCN 4867). The Facility was not discharging to the golf course at the time of the inspection.

The permitted capacity of the Facility is 0.250 million gallons per day annual average flow. Facility representatives explained that the Facility has additional capacity, as well as the ability to split flow with the west plant (by diverting flow with the Cone Branch Pump Station), and the Permittee will be requesting an increase of 100,000 GPD (to 0.350 MGD) for the next permitting cycle.

Solids are wasted into a waste tank daily and eventually spread over a three cell biological reed bed. Excess solids are pumped out of the tank and hauled off by a contractor every Tuesday (refer to Appendix A, DSCN 4843, DSCN 4854 and DCSN 4872).

At the time of the inspection, the Facility had a backup generator onsite, which was being exercised weekly (refer to Appendix A, DSCN 4883).

Records Review

The EPA Inspection Team also conducted a records review to further evaluate the Permittee's compliance with the Permit. Most of the records and reports required by the Permit were available for review onsite. The daily handwritten operational datasheets were reviewed onsite during the inspection. The Facility's electronic discharge monitoring reports (eDMRs) were provided electronically and reviewed offsite after the onsite inspection. The following documents were reviewed:

- EPA Integrated Compliance Information System (ICIS) data during the period from January 1, 2017 (Permit effective date through April 30, 2021);
- Daily operational data log (e.g., totalizer readings; January 1, 2021 to date of inspection);
- Process control and onsite compliance data log (January 1, 2021 to date of inspection);
- DMR-Monthly Operating Report (MOR) log sheets (January 2021 to March 2021);
- Records of field pH meter calibration (January 1, 2021 to date of inspection); and
- Facility Operation and Maintenance Manuals and Plant Engineering Drawings.

III. SUMMARY OF OBSERVATIONS

The following section summarizes the EPA Inspection Team's observations relative to the Discharger's Permit requirements, including the status of certain treatment units, operation and maintenance practices, and monitoring and reporting documentation.

Permit Status and Effluent Exceedances

Part II.A of the Permit defines effluent limitations and monitoring requirements for Outfall 001A discharges.

Observation 1. According to EPA's ICIS database, the Facility experienced 22 effluent limit exceedances from Outfall 001A between January 1, 2017 and April 30, 2021 (refer to Attachment B, Exhibit 1).

EPA's Enforcement and Compliance History Online (ECHO) Database indicates the Facility was in a state of significant noncompliance (SNC) during the third quarter of 2020 for ammonia Permit limit exceedances. Facility representatives attributed this to widespread filamentous bacteria growth at the Facility during the summer of 2020. They also explained that the Facility had undergone staff turnover the last few years, resulting in some instances of less-than-optimal operating conditions, most notably high mixed liquor-suspended solids (MLSS) conditions. Facility representatives explained that they were able to mitigate the filamentous problem by adding hypochlorite to the return activated sludge (RAS) line and adjusting wasting rates to achieve more optimal MLSS concentrations. No violation was reported in the fourth quarter of 2020.

Table 2. Summary of Effluent Exceedances at Outfall 001A (January 1, 2017 through April 30, 2021)

Permit #	Monitoring Period End Date	Parameter Name	DMR Value	Permit Limit	Units	Limit Type
MD0067628	5/31/2020	BOD	42.6	28	lbs/day	Weekly Average
MD0067628	5/31/2020	BOD	10.8	9.0	mg/L	Monthly Average
MD0067628	5/31/2020	BOD	20	14	mg/L	Weekly Average
MD0067628	5/31/2019	BOD	44.9	28	lbs/day	Weekly Average
MD0067628	7/31/2020	Nitrogen, ammonia total	12.35	3.8	lbs/day	Monthly Average
MD0067628	7/31/2020	Nitrogen, ammonia total	27.5	23	lbs/day	Daily Average
MD0067628	7/31/2020	Nitrogen, ammonia total	7.95	1.8	mg/L	Monthly Average
MD0067628	7/31/2020	Nitrogen, ammonia total	14	11	mg/L	Daily Average
MD0067628	6/30/2020	Nitrogen, ammonia total	12.99	3.8	lbs/day	Monthly Average
MD0067628	6/30/2020	Nitrogen, ammonia total	9.08	1.8	mg/L	Monthly Average
MD0067628	6/30/2020	Nitrogen, ammonia total	14	11	mg/L	Daily Average
MD0067628	7/31/2019	Nitrogen, ammonia total	2.3	1.8	mg/L	Monthly Average
MD0067628	6/30/2019	Nitrogen, ammonia total	13.9	3.8	lbs/day	Monthly Average
MD0067628	6/30/2019	Nitrogen, ammonia total	8.23	1.8	mg/L	Monthly Average
MD0067628	6/30/2019	Nitrogen, ammonia total	13	11	mg/L	Daily Average
MD0067628	12/31/2017	Nitrogen, ammonia total	9.81	9.8	lbs/day	Monthly Average
MD0067628	12/31/2017	Nitrogen, ammonia total	5.83	4.7	mg/L	Monthly Average
MD0067628	12/31/2017	Nitrogen, ammonia total	14	13	mg/L	Daily Average

Part II.A Footnote (2) of the Permit states, “There shall be no discharge of floating solids or visible foam in other than trace amounts.”

Observation 2. The EPA Inspection Team observed foaming at Outfall 001A where it discharges into Hollow Creek (refer to Appendix A, DSCN 4870). The foam had a soap-like smell to it. Facility representatives were unsure why the foam was present and stated they had not observed it before.

Proper Operation and Maintenance

Permit Part III.A.3 requires analytical and sampling methods to conform to test procedures for the analysis of pollutants as identified in 40 CFR Part 136 - "Guidelines Establishing Test Procedures for the Analysis of Pollutants."

Observation 3. The EPA Inspection Team observed that analysis times were not documented for pH measurements on the Facility’s onsite process control and compliance monitoring data sheet (refer to Attachment B, Exhibit 2). Specifically, the EPA Inspection Team could not verify that analyses for effluent chlorine residual were being conducted within the required 15-minute holding time.

Observation 4. The EPA Inspection Team observed food and beverages intended for personal consumption were being stored in the onsite laboratory’s sample refrigerator (refer to Appendix A, DSCN 4821). Facility representatives stated that the items would be moved.

Permit Part III.B.3.a, Facility Operation and Quality Control requires that "All waste collection, control, treatment and disposal facilities shall be operated in a manner consistent with the following:

a. Facilities shall be operated efficiently to minimize upsets and discharges of excessive pollutants."

Observation 5. The EPA Inspection Team observed floating scum and solids in the clarifier chamber as well as in the tertiary disk filter chamber (refer to Appendix A, DSCN 4847, DSCN 4849, and DSCN 4860). The Director of Public Works stated that the level of solids observed in the clarifier was common; however, the scum observed on the water's surface in the tertiary filter chamber was not. He stated that the tertiary filter chamber does not typically get skimmed or cleaned out. The EPA Inspection Team did not observe any of the solids or scum at the effluent cascade or at Outfall 001A.

Permit Part III.B.3.b requires the Permittee to provide an adequate operating staff qualified to carry out operation, maintenance and testing functions required to ensure compliance with this permit. Superintendents and operators must be certified by the Board of Waterworks and Waste Systems Operators located at Montgomery Park Business Center, 1800 Washington Boulevard, STE- 410, Baltimore, Maryland 21230 in accordance with Title 12 of Environmental Article, Annotated Code of Maryland, and Section 26.06.01 of the COMAR.

Observation 6. Records of operator certification were not kept at the Facility. Facility representatives stated that the records were kept on file at the town administrative building. They stated that they would post copies at the WWTP following the EPA inspection. The Facility has two Maryland Class V operators and an operator in training (OIT).

Closing Conference

After the Facility site walk, the EPA Inspection Team met with the Director of Public Works for a closing conference and shared preliminary observations. The EPA Inspection Team reiterated that all preliminary observations discussed were not compliance determinations. Any and all preliminary observations shared were subject to further investigation by the EPA Inspection Team upon the additional review of records and documentation. Additional observations may be contained in this inspection report that were not identified at the time of the closing conference after the additional review of materials following the inspection.

The inspection concluded at approximately 11:30 AM (EDT).