

**COMPLIANCE EVALUATION INSPECTION REPORT
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 5**

Purpose: Compliance Evaluation Inspection

Facility:

City of Mound City Wastewater Treatment Plant
214 Main Street
Mound City, Illinois 62963
Pulaski County
37.08804, -89.16791

NPDES Permit Number: IL0041891

Date of Inspection: December 19, 2023

EPA Inspectors:

Joan Rogers	312-886-2785
rogers.joan@epa.gov	

Eric Small	312-886-6680
Small.eric@epa.gov	

State Inspectors:

Ingrid Acevedo	618-993-7200
Ingrid.acevedo@illinois.gov	

Oscar J. Gordon	618-993-7200
Oscar.gordon@illinois.gov	

Facility Representatives:

Randy George	618-306-3889
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Jim Warden	618-759-0639
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Travis (TJ) Easley	618-306-1822
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Todd Mowery (on phone)	618-697-2785
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Report Prepared by: Joan Rogers

Inspector Signature/Date: _____	JOAN		Digitally signed by JOAN
	ROGERS		ROGERS
			Date: 2024.01.09
			18:57:36 -06'00'

Approver Name and Title: Ryan Bahr, Supervisor, Section 2, WECAB

Approver Signature/Date: _____

RYAN BAHR

Digitally signed by RYAN
BAHR
Date: 2024.01.10
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1. BACKGROUND

The purpose of this report is to describe, evaluate and document the City of Mound City's compliance with the Clean Water Act (CWA) at its Mound City, Illinois Wastewater Treatment Plant (WWTP) on December 19, 2023. This inspection was performed pursuant to Section 308(a) of the Federal Water Pollution Control Act, as amended.

The City of Mound City is a city in southern Illinois of approximately 700 people. The City operates a covered lagoon system for the wastewater which discharges to the Ohio River. The lagoon system was installed in 2021 and consists of screening for debris, a two-stage lagoon system, chlorine disinfection, and sodium bisulfite dechlorination. The WWTP operates under a National Pollutant Discharge Elimination System Permit (Permit) which was issued on July 24, 2018, and became effective on August 1, 2018. The Permit, number IL0041891, expired on July 31, 2023, but was administratively extended. On September 16, 2022, Illinois Environmental Protection Agency (IEPA) issued a letter to the City to modify the Permit after the City abandoned their former mechanical wastewater treatment plant and installed the lagoon system. The modification changed the influent and effluent monitoring frequency to one day per month now that it was a lagoon system.

IEPA last conducted an inspection on May 11, 2022. While no violations were observed, Ms. Acevedo recommended that the City initiate efforts to reduce inflow and infiltration (I/I), and continue to remove the vegetation that grows on the inner berms of the lagoons.

The joint EPA/IEPA inspection was conducted to identify the causes of ongoing fecal coliform effluent exceedances and a total suspended solids (TSS) effluent exceedance in the most recent quarter.

2. SITE INSPECTION

Site Entry and Opening Conference – September 26, 2023

Arrival Time:	8:30 A.M.	
Presented credentials?	Yes.	
Credentials presented to whom and at what time?	8:39 A.M. to Mr. Warden, Mr. George, and Mr. Easley.	
Was an opening conference held? With whom?	Yes with Mr. Warden, Mr. George, and Mr. Easley.	
If photographs or documents were taken, does the facility consider any to be Confidential Business Information (CBI)?		No
Which information does the facility consider to be CBI?	NA	

Is the EPA vehicle parked in approved location?	Yes.
Location where EPA vehicle was parked?	WWTP Parking Lot.

The inspection team of EPA inspectors, Ms. Rogers and Mr. Small, and the IEPA inspectors, Ms. Acevedo and Mr. Gordon arrived at the City of Mound City WWTP office at 8:30 A.M. At 8:39 A.M. Ms. Rogers presented her credentials and began the opening conference. Ms. Rogers explained the purpose of the inspection was to determine compliance with the facility's Permit.

The discussion began with an overview of the changes to the wastewater system over the past few years. The City previously had a mechanical WWTP, but it was in disrepair. Parts were expensive or not manufactured anymore. So, the City purchased a covered lagoon system and had it installed. The old mechanical plant was torn down and closed. Additionally, the previous contract operator needed to be replaced. The City hired Mr. Todd Mowery, a Class 4 operator, to operate the system. Mr. Mowery began working as the contract operator on October 1, 2023.

The City's Permit requires a Class 2 operator (Special Condition 2), but Ms. Acevedo believes that is a typo. She stated that she would check with IEPA's Permits section for the operator level required for Mound City.

Facility personnel stated that they have found the new covered lagoon system to be easy to operate. The main maintenance issue to date is keeping vegetation from on top of the cover. Ms. Rogers asked about the ongoing fecal coliform exceedances and the recent TSS effluent exceedance. Neither Mr. Warden nor Mr. George knew anything about them because they are not the operators of the system.

Ms. Rogers asked if any I/I efforts had been initiated. Mr. George stated that the City has received cost estimates for smoke testing and the City hoped to begin I/I investigation in 2024.

The discussion then turned to the wastewater treatment process. Mr. George stated that the treatment process begins with an automatic bar screen in the influent flow. The collected debris is compressed and drops into a garbage can from an auger. A manual bar screen is also in the influent channel, and it would be used instead of the automatic bar screen if the power fails, or if the automatic bar screen is turned off in very cold weather. A level sensor in the influent channel is used to measure flow.

The wastewater then flows to the first stage lagoon. Aeration is provided to this lagoon and there is a cover over the wastewater. According to the manufacturer, the City has 10-15 years before it needs to remove sludge from the lagoon.

The first stage lagoon overflows into the second stage lagoon, which is also covered. From there, wastewater flows to the effluent chamber where it is chlorinated with liquid chlorine at the beginning of the chamber and dechlorinated with sodium bisulfite at the end of the chamber. A level sensor in the effluent channel is used to measure flow.

The effluent flows to an effluent wet well where it is then pumped into an underground pipe which goes to Outfall 001 on the bank of the Ohio River. The Permit lists an Outfall 002, but Mr. George stated that there is no Outfall 002.

There is no SCADA system, but there are alarms that call to City personnel's cell phones for security breaches and power failures. The City also owns a backup generator that can power the whole plant. The backup generator is tested weekly for 30 minutes under full load.

The plant grounds are protected by a gate which is kept locked when no one is present. The office building on the plant grounds is also locked when not being used. The WWTP also has security cameras.

Mr. Warden and Mr. George provide maintenance for the WWTP and in July, Mr. Easley joined the team. Both Mr. Warden and Mr. George are part-time City employees. The contract operator, Mr. Mowery, visits the City once per month to take samples. The City does not have formal SOPs on the operation of the WWTP, but Mr. Warden stated that he has begun writing down some procedures.

Mr. Small called Mr. Mowery to ask him some questions about sampling and the effluent exceedances but had to leave a voicemail.

Facility Tour

See Attachment A for the photolog of the photos taken during the facility tour.

At 9:20 A.M., the inspection team followed the facility personnel to the yard to observe the WWTP. EPA observed the automatic bar screen and manual bar screen, the influent chamber with the level sensor, and the covered lagoons. EPA observed that there was a leak in the cover on the first stage lagoon, but also observed that there was no vegetation on the covers on the day of the inspection. Mr. George stated that they put on rubber boots and walk onto the cover to remove vegetation. He did not know how to fix the leak in the cover. Ms. Rogers suggested contacting the supplier.

EPA then observed the blower units for the aeration system and the second stage covered lagoon. EPA inspectors then observed the effluent chamber and the chlorine and dechlorination feeds to the effluent. The chlorine enters the wastewater at the head of the effluent chamber. The wastewater flows through the chamber for contact time, and then over a v-notch weir at the end. A level sensor is used for flow measurement in the pool of water before the weir. The dechlorination chemical is added after the weir.

EPA inspectors observed the effluent wet well, located north of the WWTP office and the backup generator on the south side of the WWTP office. Mr. George stated that the generator contractor inspects the generator every year, but by the date listed on the service tag, the generator had not been inspected in 2023.

During the facility tour, Mr. Mowery returned the phone call and Ms. Rogers requested to call him back after the field observations at the WWTP were complete. Mr. Mowery agreed.

The field observations at the WWTP concluded at 10:02 A.M. and the inspection team followed the facility personnel to the office. In the office, Mr. Small called Mr. Mowery again.

Ms. Rogers asked about Mr. Mowery's wastewater certification. Mr. Mowery stated that he was a Class 4 operator and was told by IEPA that this was sufficient. He stated that IEPA said they would update the Permit.

Mr. Mowery stated that he comes to the facility one time per month to sample. He completes chain of custody forms and sends the samples to an independent lab. He takes the effluent samples from the effluent wet well north of the WWTP office. His sampling for October and November has shown less than 1 coliform unit per 100 ml. Mr. Mowery does not know about the effluent non-compliance before October as he was not the contract operator then.

Mr. George provided a copy of the draft permit. In it, the operator certification level was changed to a Class 3 operator. The mention of Outfall 002 was removed from the draft permit.

The inspection team then traveled to Outfall 001 along the bank of the Ohio River. EPA observed effluent flowing from the outfall, and it was clear and free of solids. The pathway leading from the concrete outfall structure to the Ohio River was overrun with vegetation and a dead animal. Special Condition 15 of the Permit requires the City to place a sign at the outfall stating that it is a combined sewer outfall. There was no signage at the outfall.

The inspection team then followed the facility personnel to Village Hall, where the City Clerk had gathered all the documents that Ms. Rogers had requested prior to the inspection.

At Village Hall, Ms. Rogers observed the Permit Application for the new permit and an Assessment of Vulnerability Waiver for Ohio River effluent. Ms. Rogers also observed the Discharge Monitoring Reports from January 2022 through August 2023, and the percent removal calculations for TSS and BOD for the same time frame. Only in August 2023 was the percent removal for TSS below 85% (the Permit requirement). In August 2023, the percent removal for TSS was 45%. All the other percent removals for TSS and all the percent removals for BOD were over 85%.

Additional documents observed were the Compliance Commitment Agreement to IEPA following an NOV by the state in 2020, Sludge Management Reports from 2011-2023, Fiscal Report Forms for the past two years, and a Chain of Custody form from sampling in August 2023.

Additionally, the City Clerk provided the New Operator Certification for Todd Mowery for January 2024 through December 2024 and the Temporary Operator Certification for Todd Mowery from October 1, 2023, through December 31, 2023.

Closing Conference

EPA provided a closing conference to the facility personnel at 11:15 A.M. with these areas of concern, and noted that the list might not be complete:

- a. There was a leak in the cover for the first stage lagoon.
- b. There was no signage at the outfall as required by Special Condition 15 of the Permit.
- c. The generator had not been serviced this year.

EPA exited the facility at 12:00 P.M.

3. DOCUMENTS AND INFORMATION RECEIVED FROM FACILITY

On January 4, 2024, EPA received an email with a photo of the signage posted at the outfall as required by Special Condition 15 of the Permit.

4. AREAS OF CONCERN

EPA has these areas of concern from the inspection:

- a. There was a leak in the cover for the first stage lagoon.
- b. The generator had not been serviced this year.
- c. There had been ongoing fecal coliform effluent exceedances every quarter since 2020. The previous contract operator never communicated these exceedances to City personnel and City personnel were unaware of the exceedances.
- d. The current NPDES Permit states that the City needs to have a Class 2 operator, but the current contract operator only holds a Class 4 certification. There is no documentation from IEPA that the certification requirement was changed when the system changed from a mechanical WWTP to a lagoon system.
- e. The draft NPDES Permit requires the city to have a Class 3 operator, but the current contract operator only holds a Class 4 certification. If the draft NPDES Permit becomes the new Permit unchanged, the City will be out of compliance with the operator requirement.

5. LIST OF ATTACHMENTS

A) Photolog