N7584

MANILA

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

N758440932

FACILITY: DETROIT WATER & SEWERAGE		SRN / ID: N7584
LOCATION: 9543 DIX AVE, DEARBORN		DISTRICT: Detroit
CITY: DEARBORN		COUNTY: WAYNE
CONTACT:		ACTIVITY DATE: 08/02/2017
STAFF: Stephen Weis	COMPLIANCE STATUS: Compliance	SOURCE CLASS: Minor
SUBJECT: Compliance inspection of the Great Lakes Water Authority Baby Creek CSO facility in Dearborn. The Baby Creek facility is scheduled for inspection in FY 2017.		
RESOLVED COMPLAINTS:		

Location:
Great Lakes Water Authority (formerly Detroit Water and Sewerage Department)
Baby Creek Screening and Disinfection Facility (SRN N7584)
9543 Dix Avenue
Dearborn

Date of Activity:
Wednesday, August 2, 2017

Personnel Present:

Steve Weis, DEQ-AQD Detroit Office
Luther Blackburn, GLWA
David McCord, GLWA
Vijay Valecha, GLWA

Purpose of Activity

A self-initiated inspection of the Great Lakes Water Authority (GLWA) Baby Creek Screening and Disinfection facility (hereinafter "Baby Creek") was conducted on Wednesday, August 2, 2017. The Baby Creek facility is on my list of sources targeted for an inspection during FY 2017. The purpose of this inspection was to determine compliance of operations at the Baby Creek facility with applicable rules, regulations and standards as promulgated by Public Act 451 of 1994 (NREPA, Part 55 Air Pollution Control), applicable Federal standards, and any applicable permits and orders.

Facility Description

The Baby Creek facility is located between Dix Avenue and West Vernor Hwy., west of and adjacent to Patton Park on the Dearborn-Detroit border. The areas on all sides of the facility are primarily residential neighborhoods. Patton Park and the Patton Recreation Center are located to the east/northeast of the facility. Woodmere Cemetery is located on the south side of West Vernor, and there is a commercial district where Dix and Vernor come together about ¼ mile to the southwest of the facility. The nearest residences to the Baby Creek facility are part of the Pablo Davis Elder Living Center, located at 9200 West Vernor, which backs up to the Baby Creek facility. The corner of the residences that is closest to the Baby Creek facility is about 200 feet away.

The Baby Creek facility operates as part of the Great Lakes Water Authority's sewerage system. The system was formerly owned and operated by the Detroit Water and Sewerage Department (DWSD), but GLWA began a 40 year lease with the City of Detroit that provided for GLWA's operation of the regional water and sewerage system on January 1, 2016. The most recent updates to the Baby Creek facility were constructed in 2006. I was told during the site visit that the Woodmere Pump Station used to operate exclusively at this site, and that it was joined by the Baby Creek facility.

There are 18 CSO facilities in the GLWA's regional sewer system in Wayne, Oakland and Macomb Counties. According to the GLWA website (www.glwater.org), the CSO-RTB facilities are part of a four-part strategy to address combined sewer overflows:

- Source reduction – reduce the amount of storm water flow that enters the wastewater system;
- In-system storage – maximize the use of existing storage space in the sewer system during storms;
- Wastewater treatment plant expansion – expand the capacity of primary treatment from 1.5 billion to 1.7 billion gallons per day to treat more flows during storms;
- End-of-pipe treatment – construct facilities to store and treat the combined sewage, preventing it from entering area waterways unless it is treated and disinfected.

The following description of a GLWA screening and disinfection facility is taken from the GLWA website:

"A CSO screening and disinfection facility treats combined sewage without ever storing it. Called flow-through facilities, they use fine screens to remove solids and sanitary trash from the combined sewage. Flows are injected with a disinfectant to kill bacteria before it is discharged to the river. Materials removed by the screens are sent to the WWTP for disposal."

The Baby Creek facility is designed to receive 5,100 cubic feet per second of influent into the facility. I was told during the site visit that there are 23 million gallons of storage capacity in tunnels adjacent to the facility. Influent wastewater enters the facility from 4 sources – the Woodmere Pump Station, the Elmer Ternes Sewer, and Baby Creek Barrel Flow East and West. The influent enters the facility, and is held behind a weir wall. When the weir is crested, flow enters the Baby Creek for treatment, which consists of screening for fine materials, and disinfection with sodium hypochlorite. The treated effluent from the facility is discharged to the Oakwood Interceptor, which flows to the GLWA WRRF.

The facility is heated with unit heaters. I was told that there are no boilers at this facility.

Facility Operating Schedule

The Baby Creek facility typically operates a day shift Monday through Friday, but the facility will operate 24 hours a day during a wet weather event.

Inspection Narrative

I arrived at the facility at 12:15pm. I was met by Luther, David and Vijay, as well as several other GLWA staff from the Baby Creek facility. We walked to the scrubber system, and I discussed the permit conditions with GLWA staff.

I inquired of the GLWA staff about the monitoring of air flow across the scrubber; the facility's DEQ-AQD permit requires that the facility maintain air flow of the scrubber while it is operating, maintain and operate a device to monitor the air flow through the scrubber, and keep records of air flow on a weekly basis when the unit is operating. I was told that this is not being done. The facility has an Operation and Maintenance (O&M) plan, and monthly preventative maintenance is performed on the scrubber unit is accordance with the O&M plan. The manufacturer information for the scrubber provides a proper range of pressure drops across the scrubber, and the scrubber is equipped with a pressure drop gage that is monitored by facility staff. I advised that, by a literal reading of the permit, not monitoring the air flow through the scrubber is a violation of the permit.

We then went to the facility's control room, and staff explained the operation of the facility to me.

I left the facility at 12:45pm.

Permits/Regulations/Orders/

Permits

The facility currently has one active air permit, PTI No. 69-06. This permit addresses the odor control

system that is used to control odors from the combined sewer overflow facility. This PTI was issued on June 1. 2006.

The compliance status of the Baby Creek facility with the requirements of PTI No. 69-06 is summarized, as follows.

Special Condition 1.1a (Emission Limits)– This condition limits the hydrogen sulfide emission rate to 0.04 pounds per hour. There is a requirement to perform a compliance stack test to determine H2S emissions from the scrubber, but only if requested by DEQ-AQD. The primary compliance method is to monitor that the scrubber is operating properly by monitoring the air flow through the carbon reactor system.

Special Condition 1.2 (Process/Operational Limits) – The facility is in compliance with this condition. I was told that the odor control system is placed in operation when the pump station is operating. GLWAs follows the O&M plan to address any maintenance and repairs to the odor control system.

Special Condition 1.3 (Process/Operational Limits) – GLWA had not been monitoring the air flow of the scrubber at the time of my site visit. A Violation Notice (VN) was sent, and the issue was resolved by GLWA. See the discussion at the end of this section. Compliance.

Special Condition 1.4 (Process/Operational Limits) – Compliance. There is a O&M plan in place for the facility that GLWA staff follow.

Special Condition 1.5 (Equipment) – The scrubber was not equipped with a device to determine the air flow through the carbon reactor system of the scrubber during the time of my visit. A VN was sent, and the issue was resolved. See the discussion at the end of this section. Compliance.

Special Condition 1.6 (Testing) – The facility has not been required to test the odor control system for hydrogen sulfide emissions by DEQ-AQD.

Special Condition 1.7 (Testing) – GLWA was not calibrating, maintaining and operating devices to monitor the air flow through the carbon reactor system of the scrubber at the time of my site visit. A VN was sent, and the issue was resolved. See the discussion at the end of this section. Compliance

Special Condition 1.8 (Recordkeeping/reporting/Notification) – Compliance. GLWA was not maintaining records of the air flow through the scrubber. A VN was sent, and the issue was resolved. See the discussion at the end of this section.

Special Condition 1.9 (Stack/Vent Restrictions) – The stack information was not verified during this site visit.

A Violation Notice (VN) was issued to GLWA dated August 14, 2017 to address the non-compliance issues related to air flow monitoring. Prior to sending the VN, I received an e-mail message from Luther Blackburn of GLWA on August 11 informing me that, as of that day, the Baby Creek facility has the capability to monitor and record the air flow through the carbon system. The information is monitored via GLWA's SCADA software operation monitoring system. Luther also provided me with a screen shot from SCADA that shows how the odor control system air flow is now being monitored. I have attached a copy of the e-mail and screen shot to this report for reference. There is mention of generators in the e-mail message; this relates to another GLWA facility.

In addition, GLWA submitted a response to the VN dated August 31, 2017 in which they provided that the existing parametric monitoring system at the facility that monitors the differential pressure drop across the scrubber was connected to the SCADA system. SCADA calculates and air flow measurement through the carbon reactor. The work was completed on August 11, 2017, and GLWA stated that they will calibrate, maintain and operate the flow measuring device in a satisfactory manner on a continuous basis. A copy of GLWA's response to the VN is attached to this report for reference.

Compliance Determination

Based upon the results of the August 2, 2017 site visit and subsequent records review and

correspondence with GLWA, the Baby Creek facility appears to be complying with all applicable rules, regulations and permits. The non-compliance issue related to the monitoring of air flow through the scrubber appears to have been satisfactorily resolved.

Attachments to this report: a copy of the e-mail sent by GLWA regarding the commencement of air flow monitoring that includes a screen shot of the monitoring screen; a copy of GLWA's response to the Violation Notice that was issued by DEQ-AQD on August 14, 2017.

NAME Nick Wen DATE 9/22/17 SUPERVISOR JK