R.M. Clayton WRC *E.Coli* Site Visit Report

Date of Visit: Thursday, March 7, 2024

Inspectors: Eddy Basilio and Reggie Williamson—GA EPD

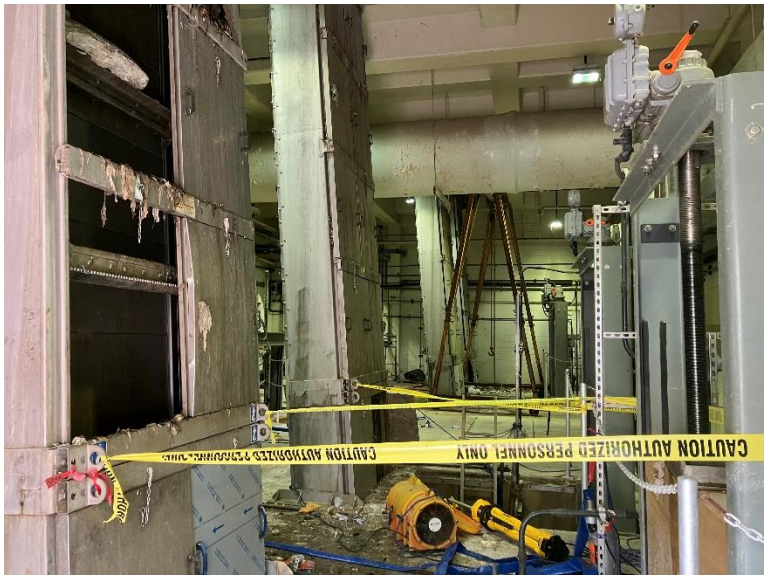
Report prepared by: Eddy Basilio

Purpose of Site Visit: After receiving information from the Chattahoochee Riverkeeper, identifying that they suspected the R.M. Clayton WRC, owned and operated by the City of Atlanta, was the cause of an *E.coli* spike in the Chattahoochee River, EPD began investigating. After reviewing monthly operation reports for January 2024 and reviewing *E.coli* numbers from February 2024, EPD determined a site visit should be conducted to investigate the operation of the plant and attempt to determine the cause of the high *E.coli* in the plant. EPD was already aware of ongoing issues with the secondary clarifiers at the WRC and was aware that the City was making repairs on the units. Due to the concern of from the Riverkeeper, the high *E.coli* values from the WRC's effluent, and the clarifier issues that had been ongoing for months and still under repair, Eddy Basilio and Reggie Williamson went to conduct a site visit on Thursday, March 7, 2024. Below is the information and photographs gathered during the site visit.

Information Gathered

<u>Preliminary Treatment</u>

The WRC has 4 bar screens. At the time of the inspection, 1 of the bar screens was offline and came back online during the visit. The WRC has 3 drum screens. EPD was informed that one of the drum screens had just been refurbished and should be back in operation soon, with the second one to then go through the same process. At the time of the visit, none of the drum screens were operational.



Preliminary Screen Photo 1: Bar Screens

Preliminary Screening Photo 2: Drum Screens

Primary Clarification

The facility has 8 primary clarifiers. At the time of the visit, only 2 primary clarifiers were operational (primary clarifiers #5 and #7), with a third being mixed with a pump so it can be drained a re-filled to put into operation (primary clarifier #8). The repair for the gate on primary clarifier #4 was completed the day of the visit. EPD was informed that the facility was running with no operational primary clarifiers up until about a month prior to the visit.

Primary Clarification Photo 1: Primary Clarifier

Primary Clarification Photo 2: Primary Clarifier being Mixed

Aeration Basins/ Biological Nutrient Reduction

The WRC has 14 biological nutrient reduction (BNR) basins. BNR basins #3 and #9 had been drained to repair the headers and diffusers. BNR basin #14 was actively being drained at the time of the visit for diffuser repairs. EPD noticed large bubbling indicating broken diffusers in 2 BNR basins. When flow is heavy, the plant will run the basins with broken diffuser to help treat more flow.

BNR Photo 1: BNR (1)

BNR Photo 2: BNR (2)

BNR Photo 3: BNR (3)

BNR Photo 4: Solids in a BNR Basin

BNR Photo 5: BNR Basin #14 being drained

BNR Photo 5: BNR Basin (4)

Secondary Clarification

Upon the start of the plant walkthrough, EPD was notified that secondary clarifier #7 had went down that morning because it torqued out and that secondary clarifier #10 was the only secondary clarifier that was operational. Secondary clarifiers #5, #6, and #8 are permanently out-of-service until repairs are made to the units to fix the center spindle. The remaining secondary clarifiers (#1,

#2, #3, #4, and #9) have external pumps to return flow to the system and reduce the amount of flow going to the one operational clarifier. EPD was informed that there is a schedule for the repairs to the clarifiers that are permanently out-of-service.

EPD requested copies of the "Secondary Daily & Process Control Reading" sheets from February 1, 2024 until the present day. Using the sheets, EPD reviewed the blanket readings recorded to establish how many clarifiers were working each day. Based on the data in the sheets, in the month of February, the plant operated with one operational clarifier for 8.5 days, two operational clarifiers for 11 days, and three operational clarifiers for 9.5 days. In the month of February, based on the sheets provided, there were never more than 3 secondary clarifiers operational and able to remove solids from the wastewater. For the month of March (March 1-7), the facility operated with two operational clarifiers, with the exception of March 7th when secondary clarifier #7 torqued out.

SC Photo 1: Secondary Clarifier #1

SC Photo 2: Secondary Clarifier #4

SC Photo 3: Secondary Clarifier #3

SC Photo 4: Broken arm on secondary clarifier #3

SC Photo 5: Secondary Clarifier #6

SC Photo 6: Secondary Clarifier #5

SC Photo 7: Secondary Clarifier #7

SC Photo 8: Secondary Clarifier #8

SC Photo 9: Secondary Clarifier #9

SC Photo 10: Secondary Clarifier #10

SC Photo 11: Solids in Secondary Clarifier #10 Effluent

SC Photo 12: Pumps Used to Return Clarifier Flow to System

Tertiary Filtration

The facility has 22 sand filters that serve as tertiary treatment for the system. At the time of the visit, filters #18, #20, and #22 were offline. One filter was backwashing. The remainder of the filters were ponded, with the ponding so high that the filters were not visible.

Tertiary Treatment Photo 1: Sand Filters (1)

Tertiary Treatment Photo 2: Sand Filters (2)

Tertiary Treatment Photo 3: Sand Filters (3)

Tertiary Treatment Photo 4: Sand Filters (4)

Tertiary Treatment Photo 5: Sand Filters Backwashing

Tertiary Treatment Photo 6: Sand Filter Backwash Flow to BNRs

Tertiary Treatment Photo 7: Offline Sand Filters (1)

Tertiary Treatment Photo 8: Offline Sand Filters (2)

Disinfection

There are 4 UV channels to disinfect the effluent before it is discharged to the Chattahoochee River. At the time of the visit, one of the trains was offline. The offline train has lots of plant growth in it. The other 3 UV trains were online. There were visible solids on the side walls where the UV treated effluent was discharged to head to the outfall. The UV treated effluent had a light brown color to it.

Disinfection Photo 1: UV Flow

Disinfection Photo 2: Solids on Walls of UV Treated Effluent (1)

Disinfection Photo 3: Solids on Walls of UV Treated Effluent (2)

Disinfection Photo 4: Solids on Walls of UV Treated Effluent (3)

Disinfection Photo 5: Offline UV Channel

Effluent Discharge from Outfall

At the outfall, there was evidence of high solids in the treated effluent. There was foam exiting the outfall and flowing downstream in the Chattahoochee River. The outfall identification sign was illegible. This was noted in the April 2023 inspection and the sign had not been replaced. As of Friday, March 8th, the outfall identification sign has been replaced at the facility.

Effluent Discharge Photo 1: Effluent from Outfall

Effluent Discharge Photo 2: Effluent Traveling Downstream of the Chattahoochee River (1)

Effluent Discharge Photo 3: Effluent Traveling Downstream of the Chattahoochee River (2)

Effluent Discharge Photo 4: Outfall Identification Sign

Overall Maintenance and Operation

There is a chain surrounding one of the bar screens around an open area. However, the chain is not sufficient to protect plant staff from falling into the open space.

The eye wash station near the primary clarifiers was leaking water. EPD was informed that a new station had been ordered to replace the leaking one, but the station had been leaking water since at least November 2023.

EPD was informed that mixed liquor wells are to receive maintenance once a year, but they had not been cleaned out to remove debris in a couple of years. There is a PM for the cleaning, but there is not an associated date.

O&M Photo 1: Open Space on the Bar Screen

O&M Photo 2: Broken Eyewash Station (1)

O&M Photo 3: Broken Eyewash Station (2)

O&M Photo 4: Mixed Liquor Wells (1)

O&M Photo 5: Mixed Liquor Wells (2)

Final Thoughts

Removal of solids is critical to returning the WRC to permit limits and resolving the high *E.Coli* numbers leaving the plant. In February, the WRC *E.coli* for each day were within weekly limits seven out of the 29 days of the month. From March 1-5, the lowest *E.coli* value recorded was 980 MPN/100mL. EPD asked about chlorination to help decrease *E.coli* numbers. EPD was informed that a work order for chlorine had been entered 2 days prior and that the facility would begin adding bleach before and after the sand filters and dechlorinated before the effluent leaves UV to discharge from the outfall on Friday, March 8th.

Because the secondary clarifier repairs are likely to take months, it is crucial to get other equipment in the plant operational to decrease debris and solids before wastewater reaches the secondary clarifiers.