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April 26, 2021

**VIA EMAIL & U.S. MAIL**

Maureen Brady, Esq.  
Regional Attorney  
New York State Department  
of Environmental Conservation  
270 Michigan Avenue  
Buffalo, New York 14203

Dear Ms. Brady:

Re: Niagara Falls Water Board  
File No. 08-58 (R920170906-129)  
Our File No.: 2485.21028

Pursuant to Schedule A of the Order on Consent R920170906-129 regarding the waste water treatment plant ("WWTP") of the Niagara Falls Water Board ("NFWB"), enclosed please find:

1. The Original Q1 2021 Quarterly Progress Report dated April 30, 2021 prepared by AECOM; and,
2. The original Certification signed by NFWB Acting Executive Director Sean W. Costello for the Q1 2021 Quarterly Progress Report prepared by AECOM, dated April 22, 2021.

Please retain this document for you records.

Very truly yours,

  
John T. Kolaga

/jtk  
Enclosures

cc: Sean W. Costello (w/enclosures) (Via Email)  
Acting Executive Director  
Niagara Falls Water Board

John Goeddertz, Ph.D (w/enclosures) (Via Email)  
Senior Project Manager  
AECOM



# Q1 2021 Quarterly Progress Report Niagara Falls Water Board Order on Consent R9-20170906-129

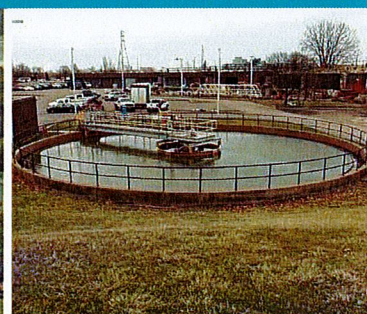
Prepared for submission to:

New York State Department of Environmental Conservation Region 9  
270 Michigan Avenue  
Buffalo, New York 14203

Prepared by:

AECOM  
257 West Genesee Street, Suite 400  
Buffalo, New York 14202

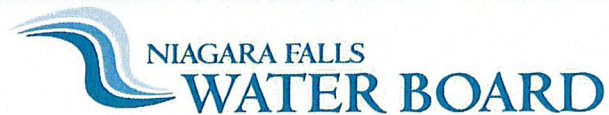
April 30, 2021





## Q1 2021 Quarterly Progress Report

Niagara Falls Water Board Order on Consent R9-20170906-129



Prepared for Submission to:



New York State Department of Environmental Conservation Region 9  
270 Michigan Avenue  
Buffalo, New York 14203

Prepared By:

**AECOM**

AECOM  
257 West Genesee Street Suite 400  
Buffalo, New York 14202

April 30, 2021

**Niagara Falls Water Board Order on Consent R9-20170906-129  
Q1 2021 Quarterly Progress Report**

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**Niagara Falls Water Board Order on Consent R9-20170906-129**  
**Q1 2021 Quarterly Progress Report**

April 30, 2021

**Executive Summary**

This document is the thirteenth (13<sup>th</sup>) quarterly progress report for the Niagara Falls Water Board (NFWB) Order on Consent R9-20170906-129 (Consent Order) as originally required by Schedule A Item 15 of the Consent Order. This progress report covers the period from January 1, 2021 through March 31, 2021.

During the past quarter, the NFWB has properly operated the wastewater treatment plant (WWTP) and has met all State Pollution Discharge Elimination System (SPDES) permit requirements. Solids processing (settling, thickening, dewatering) during this period has functioned as intended. Primary effluent is clean which has allowed the WWTP's activated carbon filters to efficiently process the plant's influent flow. Dewatering throughput during this period has kept up with incoming solids, compared to influent solids loadings. The WWTP was operated free of significant odors during the past quarter.

Maintenance activities during the reporting period have been ongoing, and as of the end of the quarter major treatment systems and components are functional. The WWTP is undertaking a number of capital upgrades and improvements that are within the capability of the WWTP's maintenance staff and/or contractors awarded service contracts. In addition to the projects being undertaken by the WWTP's staff and outside contractors, project planning, design, and construction of \$27 million in major capital upgrades are taking place. Engineering contracts are in place for eight (8) of the nine (9) capital projects (Projects 1, 2, 3, 4, 5, 6, 7 and 9) and one (1) of the capital projects has been completed by plant maintenance staff with assistance from an outside contractor under the mechanical services contract (Project 8). Construction of capital Projects No. 4 (GAC Changeout) and No. 6 (Effluent Disinfection) are complete. Construction is underway on Projects 1, 2, 3, 5, and 7; and will be underway soon on Project 9.

The NFWB has met all scheduled requirements of the Consent Order as identified in Schedule A of the Consent Order. Specific submissions during the past quarter include:

- The twelfth (12<sup>th</sup>) quarterly report for the fourth quarter of 2020 (Q4 2020) was submitted January 31, 2021 to the New York State Department of Environmental Conservation (NYSDEC) and posted on the NFWB's website (Consent Order Item 15).
- A NYSDEC requested report on the condition and state of the WWTP was submitted by the NFWB on January 31, 2021. The report was submitted in connection with the NFWB's request to eliminate the requirement for an Onsite Environmental Monitor given the NFWB's full compliance with its obligations under the Consent Order and the substantial increase in its operations and maintenance capacities.

The NFWB is committed to working cooperatively and openly with the NYSDEC to improve the Niagara Falls WWTP and operate it to the best of its capability.

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**1. WWTP Performance**

This section discusses the operation of the NFWB WWTP during the reporting period of January 1, 2021 through March 31, 2021. In the following sections, Treatment Plant Operations, Solids Removal Performance, and Treatment Plant Equipment Readiness are discussed.

**1.1 Treatment Plant Operations**

Mr. Robert Dunn serves as the Chief Operator of the wastewater treatment plant. Until such time as Mr. Dunn achieves the necessary operator's license, Mr. Fred Kasper (New York State Grade 4 licensed Operator 12489) is serving as the licensed plant operator. Mr. Kasper spends 4 hours per day on average at the facility on a Monday through Friday basis and assists Mr. Dunn with his duties. During the reporting period there were no reported SPDES permit excursions. This marks a consecutive 37-month period with no SPDES permit excursions. Solids processing has kept up with the incoming solids, and equipment maintenance and repair activities have been conducted as promptly as possible.

During the past quarter automation of the effluent disinfection system installed as part of capital project number 6 was implemented (February 2, 2021). The automated sodium hypochlorite control system is maintaining a more consistent effluent residual chlorine concentration and the visual appearance of the effluent is also more consistent. It is too early to comment on sodium hypochlorite consumption trends, as usage remains high. Adding to the sodium hypochlorite use for effluent disinfection is the continuing practice of chlorinating the plant's primary effluent (carbon filter influent) and dosing all filter backwashes with sodium hypochlorite. The practices of chlorinating the primary effluent and backwashing with sodium hypochlorite has continued to result in longer filter run times, and a reduced number of backwashes compared to historical levels. As a result of the changes that were made to filter operation, all backwash water continues to be directed to the head of the plant, where it is retreated through the sedimentation basins and carbon filters. The plant has operated continuously in this mode without any incidence of 100' weir flow since the practice was initiated on February 3, 2020. Sedimentation Basin No. 5 is currently under construction to install new chain and flight sludge collectors as part of capital project number 1.

**1.2 Solids Removal Performance**

A solids balance for January, February, and March 2021 is presented in Table 1. The data is based upon effluent flow meter measurements and influent/effluent total suspended solids sample results generated by the facility. The data shows that the quantity of solids sent to the landfill has generally met or exceeded the amount of solids removed from the wastewater plus chemical solids added (ferric chloride and lime). Results near or greater than 100% generally indicate the plant is operating as intended. In February 2021 the percentage was reduced to 66% but has since rebounded in March.

**Niagara Falls Water Board Order on Consent R9-20170906-129**  
**Q1 2021 Quarterly Progress Report**

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**1.3 Treatment Plant Equipment Readiness**

During the reporting period there were several treatment plant equipment breakdowns that required maintenance staff to repair or replace equipment. Minor repairs have been made this past quarter for pumps, belt filter presses, and sedimentation basin equipment to address issues that have arisen. Although these repairs may have kept equipment out of service for periods of time during the past quarter, it has not significantly affected the plant performance. In general, a sufficient number of sedimentation basins with fully functional sludge removal equipment have been available to treat all incoming flows. As of the close of Q1 2021, the following can be said regarding treatment equipment operability:

- Four (4) Main Pumps are operational.
- Four (4) Intermediate Pumps are operational.
- Four of the five sedimentation basins are functional, with Sedimentation Basin No. 5 out of service for construction. . During the past quarter, two (2) sedimentation basins have been used for flows up to 40 mgd, three (3) basins used for flows between 40 mgd and 60 mgd, and four (4) basins for flows over 60 mgd.
- Twenty-eight (28) activated carbon filters are functional.
- The filter backwash system is functional including two backwash pumps and two air scour blowers.
- Three (3) belt filter presses and related equipment (sludge and polymer feed pumps) are operational.
- Two (2) pugmills, two (2) lime feed systems, and two (2) lime storage silos are fully functional.

Table 1  
NFWB WWTP Solids Balance  
Q1 2021 Progress Report Solids Balance

Month & Year	Average Daily Flow	Average Influent TSS	Average Effluent TSS	TSS Removed (Dry)	Ferric Chloride Added to Wastewater (Dry)	Lime Added to Sludge (Dry)	Total Solids (Dry) (TSS + Lime + Ferric)	Solids Content of Landfilled Sludge	Total Solids (Wet)	Solids Landfilled (DRY)	% Landfilled <sup>1</sup>
	mgd	mg/l	mg/l	Tons/day	Tons/day	Tons/day	Tons/day	%	Tons/day	Tons/day	%
Jan-21	23.1	162	10.4	14.5	1.31	2.15	18.0	28.4%	63.3	16.0	89%
Feb-21	23.6	258	5.4	24.8	1.32	1.53	27.7	27.4%	100.9	18.1	66%
Mar-21	23.9	205	6.4	19.7	1.29	2.64	23.7	26.2%	90.3	24.39	103%

**NOTES:** mgd million gallons per day

TSS Total Suspended Solids

<sup>1</sup> % greater than or equal to 100 indicates all incoming solids plus all chemicals added are removed and sent to landfill.



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**2. Deliverables and Routine Communications**

This section presents a listing and discussion of deliverables prepared by the NFWB for submission to the NYSDEC. In addition, other related written communications between the NYSDEC and the NFWB are also discussed.

**2.1 Deliverables Status**

All deliverables required under the consent order have been submitted to the NYSDEC in accordance with the schedule in the Consent Order. Deliverables submitted during the past quarter are listed in Table 2.

**Table 2**  
**NFWB Submissions to NYSDEC per Schedule A of the Consent Order**

<b>Date</b>	<b>Prepared By</b>	<b>Consent Order Schedule A Items</b>	<b>Comment</b>
January 31, 2021	AECOM	Item 15	The twelfth quarterly progress report for the fourth quarter of 2021 (Q4 2021) was submitted.

In addition, the NYSDEC has advised the NFWB's counsel that the NYSDEC will allow the discontinuance of the NFWB's Consent Order requirement for an Onsite Environmental Monitor at the WWTP following submission of a report on the condition and state of the WWTP. This report, which was prepared by AECOM, was submitted by the NFWB on January 31, 2021.

**2.1.1 Existing WWTP Optimization Efforts**

Work has begun on the procurement and construction of testing equipment for the chlorine dioxide alternative oxidizer/disinfectant study. The study is expected to be performed during the summer of 2021.

**2.2 Deliverables in Next Quarter**

All deliverables required under the Consent Order have been submitted. No deliverables are pending or due in Q2 2021 other than this quarterly report.

**2.3 Routine Communications in Past Quarter**

There have not been any significant correspondence or written communications between the NFWB and the NYSDEC during the reporting period.

**2.4 Unresolved Issues/Delays**

There are no unresolved issues or delays.

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**3. Capital Improvement Program**

In this section, progress on WWTP capital upgrades is discussed. Capital upgrades are proceeding on several fronts. Projects that are within the capability of in-house maintenance staff are being undertaken as quickly as possible. Additionally, outside contractors selected for WWTP work (Mechanical Contractor – Mollenberg Betz, Electrical Contractor – Ferguson Electric) are being utilized for larger projects. Lastly, design and construction are underway to perform a number of capital upgrades that are necessary to stabilize the operation of the existing treatment plant. Each of these items is discussed in this section.

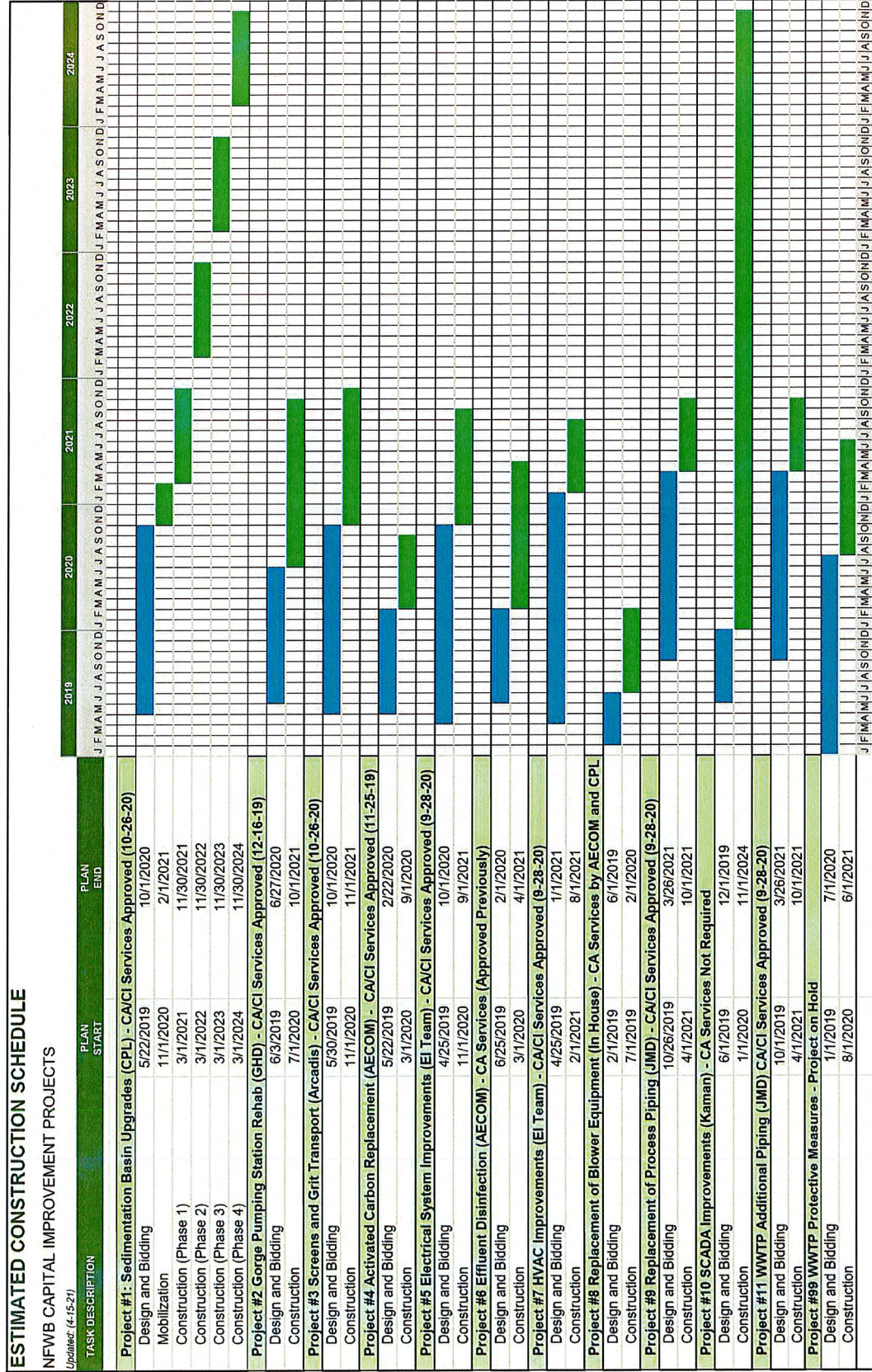
**3.1 In-House Capital Upgrades Completed/Underway**

This category of projects includes work being undertaken by plant maintenance staff or outside contractors without the need for extensive design and engineering documents. This work is generally considered repair and/or replace in kind and therefore NYSDEC approval is not generally required prior to performing the work. At this time all work slated to be performed in-house has been performed.

**3.2 Capital Improvement Projects**

A schedule for the ongoing capital projects is shown in Figure 1. Capital Project 6 (effluent disinfection) was completed during Q1 2021.

Figure 1  
 Capital Projects Estimated Construction Schedule










I certify under penalty of law that the letter from John T. Kolaga, Esq., Rupp Baase Pfalzgraf Cunningham LLC, and the enclosed Q1 2021 Quarterly Progress Report, Niagara Falls Water Board Order on Consent R9-20170906-129 prepared by AECOM; dated April 30, 2021, was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Niagara Falls Water Board



Name (Printed): Sean W. Costello

Title: Acting Executive Director

Date: April 22, 2021