

**Binghamton-Johnson City Joint Sewage  
Treatment Plant Restoration and  
Rehabilitation Project**

**2020 Quarter 1 Report**

*City of Binghamton  
Village of Johnson City  
Joint Sewage Board*



**April 2020**

## **2020 QUARTER 1 REPORT**

### **BINGHAMTON-JOHNSON CITY JOINT SEWAGE TREATMENT PLANT RESTORATION AND REHABILITATION PROJECT CASE NO: R7-20110628-59**

In accordance with Paragraph A-1c. of the Third Modification Consent Order (Case No. 8720110628-59) between the City of Binghamton, Village of Johnson City, the Joint Sewage Board, and the State of New York, the City submits this 2020 Quarter 1 Report. The report summarizes the status and progress of the projects and programs required by the Consent Order from December 2019 through February 2020.

#### **SECTION 1— FACILITY OPERATIONS**

We continue to operate in CEPT mode. Settling Tanks 7, 8, 9 and 10 are operating at full capacity with a maximum flow capacity of 35 MGD. The Headworks Facility is now on line and is providing fine screen and grit removal for all flow going to the primary clarifiers. SIPS is available for operation when the downstream process is complete. Flood protection is complete to elevation 845, and all storm water pump stations are fully operational. The East Scrubber system is in operation. PC continued work on the secondary process train construction this quarter. Flow was diverted through PST 7-10, SIPS, CN Cells 1-8, DN Cells, and UV on August 29, 2019, and Kruger continues to operate their equipment for the secondary process treatment as they continued checking out and verifying the performance of the computerized equipment they provided. The new CEPT was put in September but continued to have process issues until this quarter. All new CEPT systems are now fully operational, and the temporary CEPT has been removed. BAF Backwash Treatment was put into service by Kruger on September 16, 2019, but PC has had operational issues with the Actiflo system that are still ongoing. Kruger is continuing to make operational changes to the Actiflo system to accommodate the flow patterns that are being encountered.

The temporary disinfection in chlorine contact tank #2 is being used for any flows in excess of 35 MGD. Now that the isolation plate at the final effluent channel has been removed, the effluent from Chlorine Tank #2 now combines with the flow coming from the new secondary treatment process at the Final Effluent Channel. The facility is now capable of processing 60 MGD in accordance with the revised temporary operating strategy prepared to comply with the Consent Order.

#### **Background**

The Binghamton - Johnson City Joint Sewage Treatment Plant (BJCJSTP) processes 18 million gallons per day with the capability of processing up to 60 million gallons per day (MGD) of wet weather flow. This plant is jointly owned by the City of Binghamton and the Village of Johnson City and managed by the Binghamton-Johnson City Joint Sewage Board (BJCJSB).

The BJCJSTP has suffered several catastrophic events since 2006. In 2006, the BJCJSTP was flooded by a 500 year flood that affected many of the processes in operation. In May of 2011, a concrete structure suffered structural failure, and in September 2011, the BJCJSTP suffered another 500 year flood that critically damaged equipment and rendered the secondary treatment fundamentally inoperable. The secondary process system is still largely inoperable today. A Consent Order was negotiated between the

City of Binghamton, the Village of Johnson City, the BJCJSB and the NYSDEC to develop a plan to restore treatment operations at the BJCJSTP. The Consent Order requires the BJCJSTP to restore secondary treatment functionality and be able to fully treat 35 MGD of wet weather flow by August 31, 2019. To achieve this level of treatment, the reconstruction and testing of the Secondary Treatment Process must be completed as necessary to achieve treatment of 35 MGD. To comply with the Consent Order, the Sewage Treatment Plant must then be fully operable by April 1, 2010, including the remainder of the secondary treatment process. There are also several interim milestones included in the Consent Order.

The project is being constructed in accordance with Wicks Law, which required the project be bid as multiple prime contracts. More specifically, Wicks Law requires that the bulk of the construction work, consisting of the secondary treatment (BAF), be divided into a General Civil Construction Contract, an Electrical Contract, an HVAC Contract and a Plumbing Contract.

The following projects are either nearing completion, in construction, or in the planning stage.

| Contract No.   | Description                                       | Consent Order Milestone                                                                                                | Status                                                                                                                                  |
|----------------|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Contract No. 1 | Compost Facility Demolition                       | Complete                                                                                                               | Complete                                                                                                                                |
| Contract No. 2 | FEMA Mechanical                                   | Complete                                                                                                               | Complete                                                                                                                                |
| Contract No. 3 | BAF Facility Demolition                           | Complete                                                                                                               | Complete                                                                                                                                |
| Contract No. 4 | MCC HH Emergency Replacement                      | Complete                                                                                                               | Complete                                                                                                                                |
| Contract No. 5 | BAF Restoration and Rehabilitation Civil Contract | Projected Phase 1 Substantial Completion August 31, 2019.<br>Projected Phase 2 Substantial Completion January 1, 2020. | Projected Phase 1 Substantial Completion August 31, 2019 achieved. Projected Phase 2 Substantial Completion January 2020 ongoing.       |
| Contract No. 6 | BAF Electrical                                    | Projected Phase 1 Substantial Completion August 31, 2019.<br>Projected Phase 2 Substantial Completion January 1, 2020. | Projected Phase 1 Substantial Completion August 31, 2019 achieved. Projected Phase 2 Substantial Completion January 2020 still ongoing. |
| Contract No. 7 | BAF HVAC                                          | Projected Phase 1 Substantial Completion August 31, 2019.<br>Projected Phase 2 Substantial Completion January 1, 2020. | Projected Phase 1 Substantial Completion August 31, 2019 achieved. Projected Phase 2 Substantial Completion January 2020 still ongoing. |

|                 |                                           |                                                                                                                                                                            |                                                                                                                                                                            |
|-----------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Contract No. 8  | BAF Plumbing                              | Projected Phase 1 Substantial Completion August 31, 2019.<br>Projected Phase 2 Substantial Completion January 1, 2020.                                                     | Projected Phase 1 Substantial Completion August 31, 2019 achieved. Projected Phase 2 Substantial Completion January 2020 still ongoing.                                    |
| Contract No. 9  | Secant Pile Contract                      | Complete                                                                                                                                                                   | Complete                                                                                                                                                                   |
| Contract No. 10 | Solids Handling Renovation Civil Contract | Substantial Completion #1 – June 30, 2020;<br>Substantial Completion #2 – June 30, 2020;<br>Substantial Completion #3 – June 30, 2020; Final Completion - August 30, 2020. | Substantial Completion #1 – June 30, 2020;<br>Substantial Completion #2 – June 30, 2020;<br>Substantial Completion #3 – June 30, 2020; Final Completion - August 30, 2020. |
| Contract No. 11 | Solids Handling Electrical                | See Contract #10 Completion Dates                                                                                                                                          | See Contract #10 Completion Dates                                                                                                                                          |
| Contract No. 12 | Solids Handling HVAC                      | See Contract #10 Completion Dates                                                                                                                                          | See Contract #10 Completion Dates                                                                                                                                          |
| Contract No. 13 | Solids Handling Plumbing                  | See Contract #10 Completion Dates                                                                                                                                          | See Contract #10 Completion Dates                                                                                                                                          |
| Floodwall       | Floodwall and New Diversion Structure     |                                                                                                                                                                            | Complete March 1, 2019.                                                                                                                                                    |

### **Contract Descriptions**

#### **Contract No. 1 - Compost Facility Demolition**

Demolition of the upper portion of the compost facility was performed to accommodate the construction of the new Administration Building to house the plant staff as well as provide the new control room to operate the new facilities. Demolition of the lower portion of the Compost Building cleared the way for the construction of a new maintenance facility.

**Contract Status: 100% Complete - Contract Closed**

#### **Contract No. 2 - FEMA Mechanical**

The FEMA Mechanical Project replaces valves, equipment and other miscellaneous items damaged in the 2011 flood. It includes equipment in both the East and West Primary Sludge Pumping Stations, valves and equipment located in the Head House, and equipment associated with Sludge Thickener Pumping Station Nos. 1 and 2. The cost of the work associated with this contract is being reimbursed by FEMA due to the flood of 2011.



**Status:** Blue Heron has completed all of the work not deleted by change. The elutriate pumps were deleted from the scope of work and will be performed under Contract #5.

**Contract Status: 100% Complete - Contract Closed**

**Contract No. 3 - BAF Facility Demolition**

The BAF Demolition Contract removed the existing structures and utilities that conflict with the new construction work included in the BAF Rehabilitation and Restoration Project. Demolition efforts included selective demolition in the existing process tanks (C-Filters, N-Filters, and DN-Filters), buildings, mechanical equipment, and piping to ready the site for new construction.

**Contract Status: 100% Complete - Contract Closed**

**Contract No. 4 - MCC - HH Emergency Replacement**

Contract No. 4 replaced the original existing Motor Control Center (MCC) in the Head House (HH). The MCC is 50 years old and is identified as MCC-HH. The contract was bid as an emergency contract because the electrical system in the Head House was both critical to keeping the BJCJSTP in service, and because the original MCC was extremely unreliable due to the age and deteriorated condition of the gear. MCC HH Emergency replacement also replaced the existing raw sewage pump drives of the existing 50 year old equipment including new electrical feeders from the HH to the Johnson City Grit House No. 1, a new feeder from the HH to the Thickened Sludge Pump Station No. 1, and various other panel boards. The emergency work also included replacement of the existing raw sewage variable frequency drives that were located in the existing MCC HH. The new drives installed are more reliable, more efficient, and will provide better performance of the existing raw sewage pumps.

**Status:** All work on the MCC- HH project has been completed.

**Contract Status: 100% Complete**

**Contract No. 5 - BAF Restoration and Rehabilitation Civil Contract**

When combined with the other BAF contracts (Nos. 6, 7 & 8), Contract No. 5, the General Civil Contract, is intended to provide a functioning automated plant using a BIOSTYR system that can be modified to fit current plant configurations. It is also intended to provide functioning automated headworks and primary clarification processes upstream of the BIOSTYR system and solid handling processes downstream of the BIOSTYR system.

Major components of the work under Contract No. 5 include new coarse screens and ancillary equipment, new piping and valves for the influent pumps, new metering equipment, new fine screens and grit removal with ancillary equipment, a new primary distribution box, new mechanical equipment for primary clarifiers 1-10, new chemical equipment for primary treatment, new Chemical Storage Building, modification of the primary clarifier structural components to replace the aged and deteriorated mechanical equipment, new secondary influent pumps for the new BAF

system, a new BAF backwash tank, new CN-BAF and DN-BAF facilities, a new methanol system that will feed the DN-BAF cells, new Ultra Violet Light disinfection system to replace the existing chlorine disinfection system, new sludge thickening equipment and systems, a new Administration Building, new odor control equipment, two new 2MW electric generators, and a new plant outfall to the river.

**Status:** PC continued work on optimizing the Kruger equipment for SIPS, CN Cells 1-14, and DN Cells. They are still having issues with area velocity flow meters in the CN Influent Channel, but GHD has said that the velocity meter is not necessary to complete the testing of CN Cells 1-14. The velocity meter only helps regulate how many cells are online at a given time. Kruger has been able to determine a reliable signal from the SCADA system to work their program with. We continue meeting with PC, Kruger, and Matco weekly to coordinate the work efforts of these multi primes and critical subcontractors as PC continues to lag further and further behind on the PST 1-6 renovation. PC finally received the fiberglass troughs and weirs for the PST's 1, 2, 3, & 4. They anticipate receiving the troughs for PST6 the first week in April. Scum Pump Station #3 is nearing completion. The manufacture has done the preliminary testing for PST's 1, 2, & 6 equipment. Troughs and weirs are complete for PST's 1 & 2.

They are not following their CPM Schedule, and it has been necessary for some time for us to supplement PC's lack of proper planning.

PC also continued to install grating and handrail around the site. PC still does not have all of the grating and handrail to complete this work yet, and their subcontractor Raulli did not provide adequate manpower to complete the miscellaneous metals before the end of March 2020. PC has installed the stairs on the south side of the Blower Building, but they have a noncompliance issue because of their subcontractor failing to install the stairs correctly. Again, this will result in rework. PC has provided limited access to the new secondary process, so they are being required to provide the manpower to operate and access these areas as they cannot be turned over to STP staff to operate until all life safety systems are complete. We will not allow PC to start the turn over process for these systems to operation by the STP staff until the life safety systems are complete.

Conditions of the Final Effluent have been degraded, and Kruger is working to get them into compliance with the permit. The UVT is exceedingly low, but PC had not communicated that to Kruger. We brought this up in our weekly schedule coordination meeting with Kruger and they were completely surprised. They made adjustments to the air and methanol dosing rates and are hoping that this improves the final effluent conditions. April 1, 2020 begins the full compliance requirements for the permit, and Kruger still needs to get the total nitrogen lower than treatment is currently providing.

PC continued working on stairs for CN 9-14 this month. Not having these stairs and grating complete is still holding up Matco and Kruger from working effectively on CN 9-14.

According to Kruger, they are still working on the functional demonstration test for CN 1-14, DN, UV, BAF Backwash Treatment, and BAF Backwash Tanks. PST's 7-10, SIPS, CN Cells 1-14, DN, and UV are capable of running in the automatic mode, and processing 60 MGD. Kruger continues to verify the performance of the system and will be doing so for a few more months to come. Flow is unrestricted through the PST's, SIPS, CN Cells 1-14, DN Cells, and UV.

PC completed work on the thickener distribution box and gravity thickener #2. Gravity thickener #2 was put online on March 31, which met the milestone in the consent order. Thickener #3 will be returned to service by April 3, 2020. This will complete all thickener work. Thickener #3 continued to operate until thickener #2 was brought on line on March 31, 2020.

Headworks continues to operate as intended with the exception of grit accumulation at the fine screens and compactors.

Matco is complete with the electrical work for all process equipment in the PST's and the scum pump stations for the renovation of PST's 1-6. CN, DN, Methanol, and are nearing completion on the first three PST's. They are being held up by PC with their inability to complete the work in PST's 1, 2, & 6 due to the late arrival of their fiberglass troughs. They continue to work on miscellaneous non-process electrical such as receptacles and permanent lighting. DEC continues to assess the stipulate fine for completion of January 1, 2020 milestone for Phase 2, and has confirmed that they will continue the stipulated fines until we complete CN 9-14 in accordance with the consent order milestone. We would likely have completed the CN Cells 9-14 operability requirement in March if PC had been willing to apply the proper resources to the work at the influent channel area. They still have life safety issues, which prevent us from allowing the STP Staff to operate these facilities.

PC has completed the repairs to the defective pipe work at the hydrocyclones for the BAF Backwash Treatment Facility. Now that the work has been completed, Kruger has been able to get the BAF Backwash Treatment System to work reliably without significant loss of sand. When we were able to get the sludge reliable off Actiflo, we notified Contract 10 of their need to schedule the testing of the mechanical thickeners.

Because PC is not following any CPM schedule, we are continuing to have weekly schedule meetings with PC and all of the necessary multi-primers and subcontractors to advance the secondary treatment process. This proved instrumental in achieving the DEC August 31, 2019 milestone, and it appears will be required to complete Phase 2 work. We have notified PC that they are not in compliance with the contract for providing a comprehensive CPM schedule. We have resumed holding progress payments to protect liquidated damages.

As discussed briefly above, PC had a major contractor that caused delay on the renovation of PST's 1, 2, & 6 this month because they do not have the fiberglass troughs and stainless steel weir plates

on site. They failed to order them timely. As stated last month, to minimize the potential of change orders to the coatings, the City agreed to delete the coatings from the remainder of the PST's 1-5. There were some existing conditions that could not have been encountered at the bid time that PC would have alleged delayed the work for Phase 2. PC is solely responsible for the delays to Phase 2.

PC continued preparing for the spring season to resume site paving around the site.

**Contract Status: 95% Complete through November 2019. Payments held beyond November to protect Liquidated Damages.**

**Next Quarter:**

PC should complete the remaining work for having PST's 1, 2, & 6 online. They should also complete renovation of the remaining PST's 3, 4, & 5. PC should complete the remaining site work such as final site paving, miscellaneous metals, and should be well underway with completion of punch list work.

**Contract No. 6 - BAF Electrical**

The BAF Electrical Contract supports the BAF General Civil Contract and includes all electrical and instrumentation associated with the BAF contracts. The components include installation of the new UV disinfection system, installation of the new generators, installation of the electrical feed throughout the plant, as well as installation of the instrumentation and SCADA System throughout the plant.

**Status:** Contract No. 6 Notice to Proceed was issued on May 27, 2016 in compliance with the DEC milestone in the Consent Order.

This month the contractor continued ancillary work around the site and worked extensively on electrical work on PST's 1, 2, and 6 electrical work. They continue miscellaneous site electrical work as well as ancillary electrical work for receptacles and permanent lighting. They continue to support GHD in testing for SCADA Control, and will continue working on the electrical work for PST's this Month. The two new 2MW generators have been tested and are available for use when needed. All process power and control conduit and wire for the CN, DN, Blower Buildings, Methanol, BAF Backwash Tanks, BAF Backwash Treatment and UV have been installed and tested by Matco. They resumed site lighting installation and began installing the chemical ground rods for final completion of their work. We are still waiting on Matco to complete their short circuit and coordination study. This is not holding up PC's work, but it could very well hold up Matco's final completion.

MATCO is providing input for the Project CPM baseline schedule.

**Contract Status: 96% Complete through March 2020**

**Next Quarter:**

Matco should complete the remaining balance of work and punch list work.

**Contract No. 7 - BAF HVAC**

The BAF HVAC contract supports the BAF General Civil Contract and includes installation of all HVAC Systems in all STP Facilities as well as revisions to the odor control systems throughout the plant. The odor control improvements are intended to alleviate the odors that have been prevalent in the past in and around the plant.

**Status:** Contract No. 7, no significant work this month. They continue to provide supporting information for the development of the CPM schedule.

**Contract Status: 100% Complete through March 2020**

**Next Quarter:**

J&K should complete the balance of contract work and all punch list work.

**Contract No. 8 - BAF Plumbing**

The BAF Plumbing contract supports the BAF General Civil Contract and includes installing plumbing systems for the new and existing facilities included in Contract No. 5.

**Status:** Contract No. 8 Notice to Proceed was issued in compliance with the May 27, 2016 milestone for issuing the NTP in the Consent Order. The contractor has continued providing the supporting information for the overall CPM schedule this month, and they have confirmed that they can meet the required milestones of the Consent Order.

No significant work this month.

**Contract Status: 100% Complete through March 2020**

**Next Quarter:**

Danforth should complete the remaining balance of work and punch list work.'

**Contract No. 9 - Secant Pile Contract**

The Secant Pile Contract includes installation of the secant piles that support the excavation for the new BAF Backwash tank as well as supporting the new CN Cells 9-14. Construction also includes



excavation to the final grade for the BAF backwash tank. This project was bid separately from Contracts 5-8. In doing so, a minimum of four months on the critical path schedule was saved.

**Status:** The installation of the secant pile wall is complete. Close out documents have been prepared and are being submitted to close out this project.

**Contract Status: 100% Complete - Contract Closed**

**Contract No. 10 -Solids Handling Renovation Civil**

Contract No. 10 is intended to renovate and improve the solids handling systems including the existing Digester Control Building, existing digesters, solids dewatering systems, and all ancillary equipment. As part of the improvement to the solids handling process, the following components will be constructed or installed. The new structures include a new Solids Handling Building, a new Gas Conditioning Building, and a new Sludge Loading Facility. The new equipment being installed includes new centrifuges, new mechanical thickeners, new gas processing equipment, new microturbines, and new scum screening equipment. The scope was further developed during the design processes to include sludge blend tanks. Additionally, the contract renovates the existing laboratory facilities at the STP. The contract was bid as a multi-prime contract consistent with New York State Construction Contract Requirements.

**Status:** Renovation for the Lab at the Headhouse is complete, and we are working to get the final code inspection to allow the issuance of a final Certificate of Occupancy. We are coordinating with Vestal Code office to get him the requested documentation for the fire alarm tests that have been performed.

Quandel has finally got at least two of the centrifuges reliably operable. They are needing to remove the malfunctioning gate on centrifuge 2 to have it repaired. They are nearing completion on the installation of the mechanical thickener systems at the Headhouse. We have been trying to get them to get their supplier on-site to do the functional testing now that we have Actiflo sludge. We notified Quandel that they needed to have their vendor on-site March 11, 2020 to do their testing, but Quandel did not comply. They are making ridiculous demands that the Owner prove that the sludge meets the 0.5% minimum sludge level the system was designed around before they will mobilize their vendor.

Digester #3 is fully operational, and Digesters #1 and #2 are complete and ready for service. The STP Staff are nearing completion of the replacement of the leaking buried gas line to the existing flare. We had not been able to startup the remaining two digesters because we do not produce sufficient sludge to feed more than Digester #3. We are now seeing an increase in the secondary sludge, and were attempted to prepare for startup of Digester #1, but determined that the gas line to the existing flare was not suitable for service. STP Staff are preparing to replace the buried line as a maintenance item to allow Digesters 1 & 2 to be operable.

We believe that Quandel has numerous contractual obligations that they are refusing to complete and will be arguing these items before the DRB.

**Contract Status: 95% Complete through September 2019. We are holding payments due to the failure of Quandel to complete their contractual obligations.**

**Next Quarter:**

Quandel should complete the remaining balance of work and punch list work.

**Contract No. 11 - Solids Handling - Electrical**

The Solids Handling Electrical Contract supports the Solids Handling General Civil Contract and includes installation of electrical for the new and existing facilities included in Contract No. 10.

**Status:** MATCO is nearing completion on the electrical work on the project.

**Contract Status: 97% Complete through March 2020**

**Next Quarter:**

Matco should complete the remaining balance of work and punch list work.

**Contract No. 12 - Solids Handling - HVAC**

The Solids Handling HVAC Contract supports the Solids Handling General Civil Contract and includes installation of HVAC systems for the new and existing facilities included in Contract No. 10.

**Status:** No significant work this month.

**Contract Status: 100% Complete through March 2020**

**Next Quarter:**

J&K should complete the remaining balance of work and punch list work.

**Contract No. 13 - Solids Handling - Plumbing**

The Solids Handling Plumbing Contract supports the Solids Handling General Civil Contract and includes installation of plumbing systems for the new and existing facilities included in Contract No. 10.

**Status:** No significant work this month. JW Danforth is nearing completion on the Solids Handling Building Contract No. 13. Danforth continues to support the General Civil Contractor's

schedule. Danforth finished supporting the cleaning of the Sludge and Digester Gas Piping in the Digester Control Building.

**Contract Status: 94% Complete through March 2020**

**Next Quarter:**

Danforth should complete the remaining balance of work and punch list work.

**Floodwall**

The new floodwall being constructed at the STP is intended to protect the plant to an elevation 1.5 feet above the 2011 flood level. The floodwall includes concrete walls on the east and north sides of the STP. The project also includes two new pump stations to pump up stream out of the plant during the storm events. The new floodwall system works in conjunction with new floodwall features included in Contract No.5 BAF General Civil Construction. The floodwall systems are being funded by a FEMA recovery grant.

**Status:** No significant work was performed this month.

**Contract Status: 98% Complete through March 2020**

**Next Quarter:**

Streeter should resume work to remove the temporary access road for the floodwall project, and any remaining punch list work, Matco should complete the remaining balance of work and punch list work.

**NOTES:**

1. SWPPP measures continue to be maintained by all contracts. Any deficiencies noted during daily or weekly inspections are promptly remedied.
2. Weekly meetings are held for each contract to discuss the progress of the work and identify and resolve issues and problems. Meetings between contractors on the various contracts are held as necessary to facilitate any concerns and coordinate work between all contracts.

**Third Modification Consent Order**  
**Appendix A Compliance Table as of 3/13/2020**

| Item No. | Description                                                                                                                                                                                                          | Due Date                                                                                                 | Status per Respondent on 10/10/19                                                                                              | Appendix A-1 Certification Submission Status                          | Appendix A-1 Certification Approval Status |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------------|
| 3e       | Complete construction of new backwash waste treatment system                                                                                                                                                         | June 30, 2019                                                                                            | Complete August 31, 2019. The BAF Backwash Treatment Facility was operational on September 16, 2019.                           | 9/6/2019                                                              | Accepted                                   |
| 3f       | Commence start-up of SIPS                                                                                                                                                                                            | April 30, 2019                                                                                           | Completed before April 30, 2019.                                                                                               | 5/13/2019                                                             | Accepted                                   |
|          | Complete construction of SIPS                                                                                                                                                                                        | June 30, 2019                                                                                            | Fully operational August 29, 2019.                                                                                             | 8/5/2019                                                              | Accepted                                   |
| 3g       | Complete construction and commence start-up of the plant headworks, including the new bar screens and grit removal system                                                                                            | August 1, 2019                                                                                           | Completed June 26, 2019                                                                                                        | 8/5/2019                                                              | Accepted                                   |
| 3h       | Complete construction and hydraulic testing of new [BAF] backwash waste tank.                                                                                                                                        | June 30, 2019                                                                                            | June 30, 2019                                                                                                                  | 7/8/2019                                                              | Accepted                                   |
| 3i       | Complete construction and start-up for all work related to PST 7-10                                                                                                                                                  | August 31, 2019                                                                                          | Completed and operating August 29, 2019                                                                                        | 9/6/2019                                                              | Accepted                                   |
| 3j       | Complete construction and retrofit work on two sludge thickeners.<br><br>A third sludge thickener will be kept in use throughout construction, until the other two are put into operation, and shall be retrofitted. | Two by June 30, 2019.<br><br>Third one by August 30, 2019<br><br>Requested variance until March 31, 2020 | Two thickeners are complete, the third should be complete by April 1, 2020. Two thickeners are available for use at all times. | Certification stating compliance should be achieved by April, 1, 2020 | Variance request is accepted.              |
| 3k       | Complete construction and start-up of 'CN' BAFs 1-8 and all 'DN' BAFs                                                                                                                                                | August 31, 2019                                                                                          | Completed and operating August 29, 2019                                                                                        | 9/6/2019<br><br>Revised and resubmitted 12/10/19                      | Accepted                                   |

| Item No. | Description                                                                                                                                                                                                                                                  | Due Date                                                                                                                                                                                                       | Status per Respondent on 10/10/19                                                                                                                                                                                                                                                   | Appendix A-1 Certification Submission Status                                                                  | Appendix A-1 Certification Approval Status                                 |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| 3l       | Commence Operation of BAF CN cells 1-8, BAF DN cells 1-4, backwash tank, [BAF] backwash treatment system, headworks modifications, primary clarifier modifications, permanent CEPT system, UV disinfection, sludge thickeners and all related appurtenances. | August 31, 2019<br><br>Requested a variance for the sludge thickeners as they are part of Phase 2 construction work.                                                                                           | All processes related to primary and secondary treatment are operational sufficiently to process 60MGD peak wet weather flow. PST 1, 2, & 6 are nearing completion.<br><br>Coatings were eliminated in PST's 1-5, after discussion with DEC that they are considered a maintenance. | 10/10/2019                                                                                                    | PST 1-6 are overdue; only primary clarifiers 7-10 have commenced operation |
| 3m       | Substantially complete construction of BAF C/N cells 9-14                                                                                                                                                                                                    | January 1, 2020                                                                                                                                                                                                | Requested Variance on 1/9/2020<br><br>CN Cells 9-14 have been in full service since February 28, 2020 and are in full service and under the control of Kruger during process development.                                                                                           | Kruger making adjustments to optimize performance. A-1 to be submitted after completing agreed list with DEC. | Variance request pending review.                                           |
| 3n       | Operate the Facility in compliance with SPDES permit effluent limits                                                                                                                                                                                         | April 1, 2020                                                                                                                                                                                                  | April 1, 2020                                                                                                                                                                                                                                                                       |                                                                                                               |                                                                            |
| 4d       | Achieve substantial completion of the repair and restoration of Anaerobic Digesters 1-3                                                                                                                                                                      | June 30, 2019.<br><br>Request a variance until September 20, 2019 to allow the expansion tanks and compressors to be installed. Insufficient sludge to start up digester until after BAF is processing sludge. | Construction for Digesters 1-3 are complete. Replacement of the existing Digester gas line between Digesters 1 & 2 to be completed as maintenance.                                                                                                                                  | 10/10/2019                                                                                                    | Accepted                                                                   |



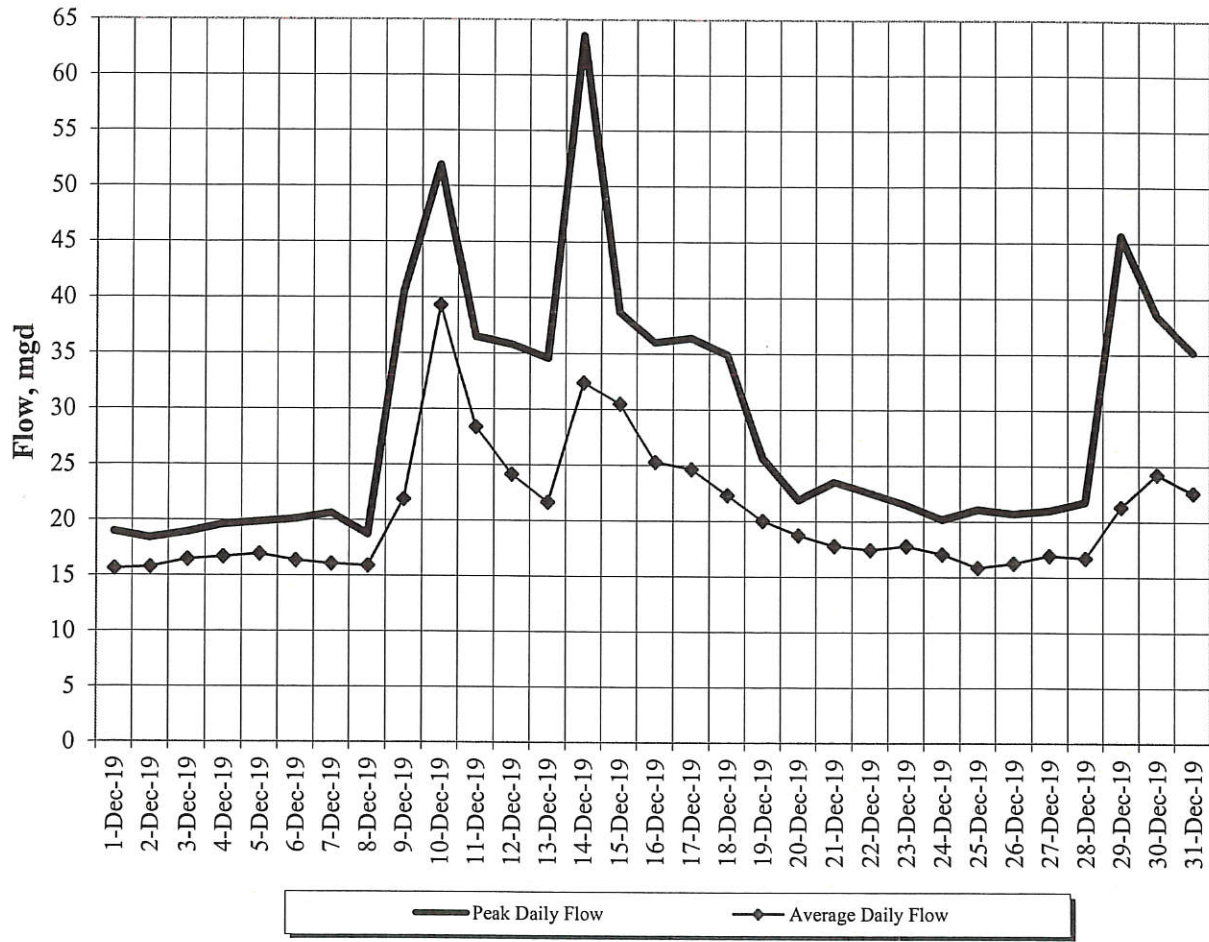
| Item No. | Description                                                                                                                                                                                                                                                                                                                  | Due Date                                                                                                                                                 | Status per Respondent on 10/10/19                                                                                                                                                                        | Appendix A-1 Certification Submission Status                                                               | Appendix A-1 Certification Approval Status                                       |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| 4e       | Commence operation of Anaerobic Digesters 1-3                                                                                                                                                                                                                                                                                | August 31, 2019<br><br>On 10/10/2019 requested variance due to insufficient sludge produced to startup Digesters 1 & 2; no new compliance date provided. | Sludge volume is increasing. Digester 1 & 2 will start operation when the gas line repair is complete and after the thickener distribution box goes online at the end of March.                          | Complete pending maintenance repair of existing gas line.                                                  | Variance request accepted                                                        |
| 5b       | <ul style="list-style-type: none"> <li>• Modify the approved interim operating strategy to provide for operation of the new processes coming online by August 31, 2019.</li> <li>• Modify the approved interim operating strategy to provide for operation of the new processes coming online by January 1, 2020.</li> </ul> | <ul style="list-style-type: none"> <li>• July 31, 2019</li> <li>• December 1, 2019</li> </ul>                                                            | <ul style="list-style-type: none"> <li>• Interim Operating Strategy was completed for Phase 1 by July 31, 2019</li> <li>• Interim Operating Strategy was completed for Phase 1 by Dec 1, 2019</li> </ul> | <ul style="list-style-type: none"> <li>• 8/5/2019 for Phase 1</li> <li>• 12/10/2019 for Phase 2</li> </ul> | <ul style="list-style-type: none"> <li>• Accepted</li> <li>• Accepted</li> </ul> |
| 7        | Complete construction on Flood Mitigation Phase II, completion of the flood wall and flood protection system to elevation 845 for the entire Facility                                                                                                                                                                        | February 28, 2019                                                                                                                                        | Completed March 1, 2019 for use on temporary power<br><br>Completed April 19, 2019 for use on permanent power                                                                                            | 11/7/19                                                                                                    | Accepted                                                                         |
| Sch. B-2 | Compliance with Interim Permit Limits, Levels and Monitoring                                                                                                                                                                                                                                                                 | Effective September 1, 2019                                                                                                                              | On 8/30/2019, requested extension of Schedule B-1 Interim Permit Limits until November 30, 2019 and start of Schedule B-2 on December 2, 2019                                                            | 12/11/19                                                                                                   | DEC waiting to see December 2019 DMR submittal                                   |

# APPENDIX A

## Facility Operations

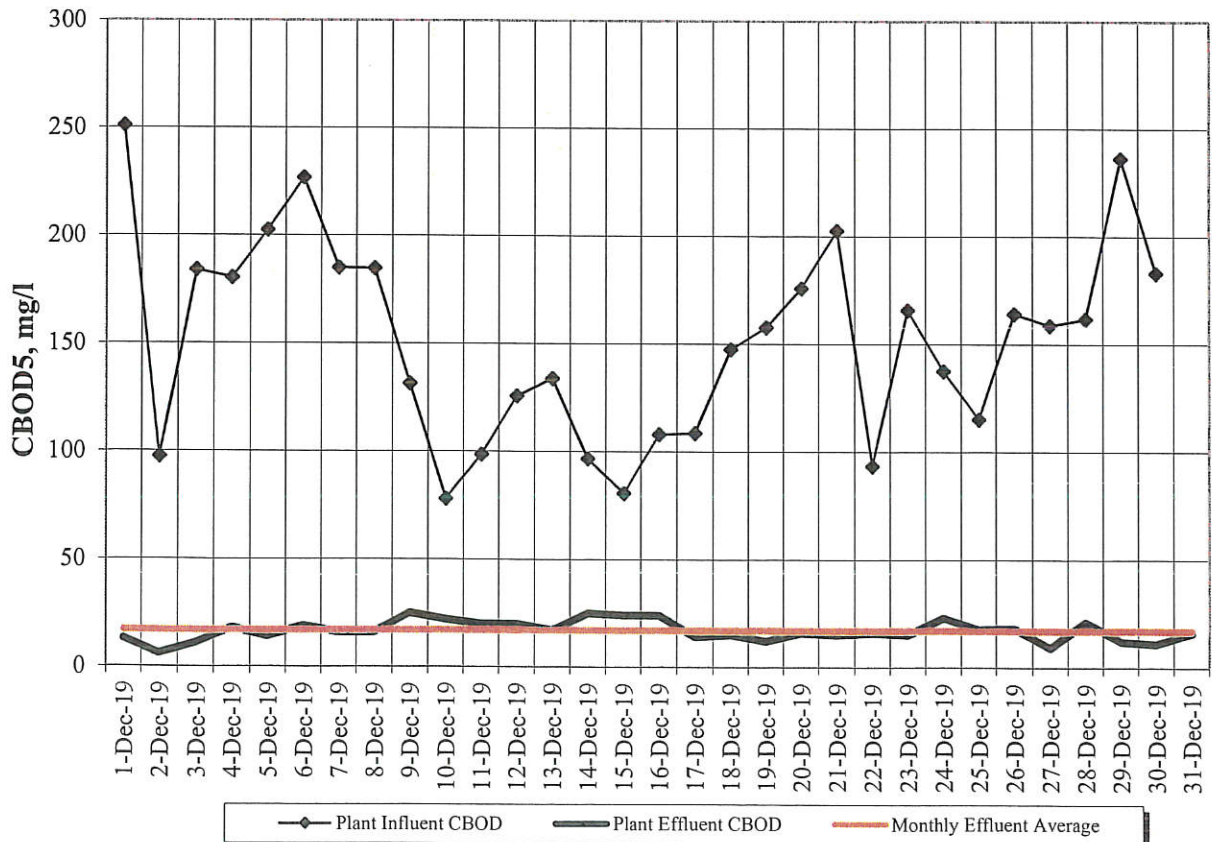
## Daily Flows

### Binghamton - Johnson City JSTP



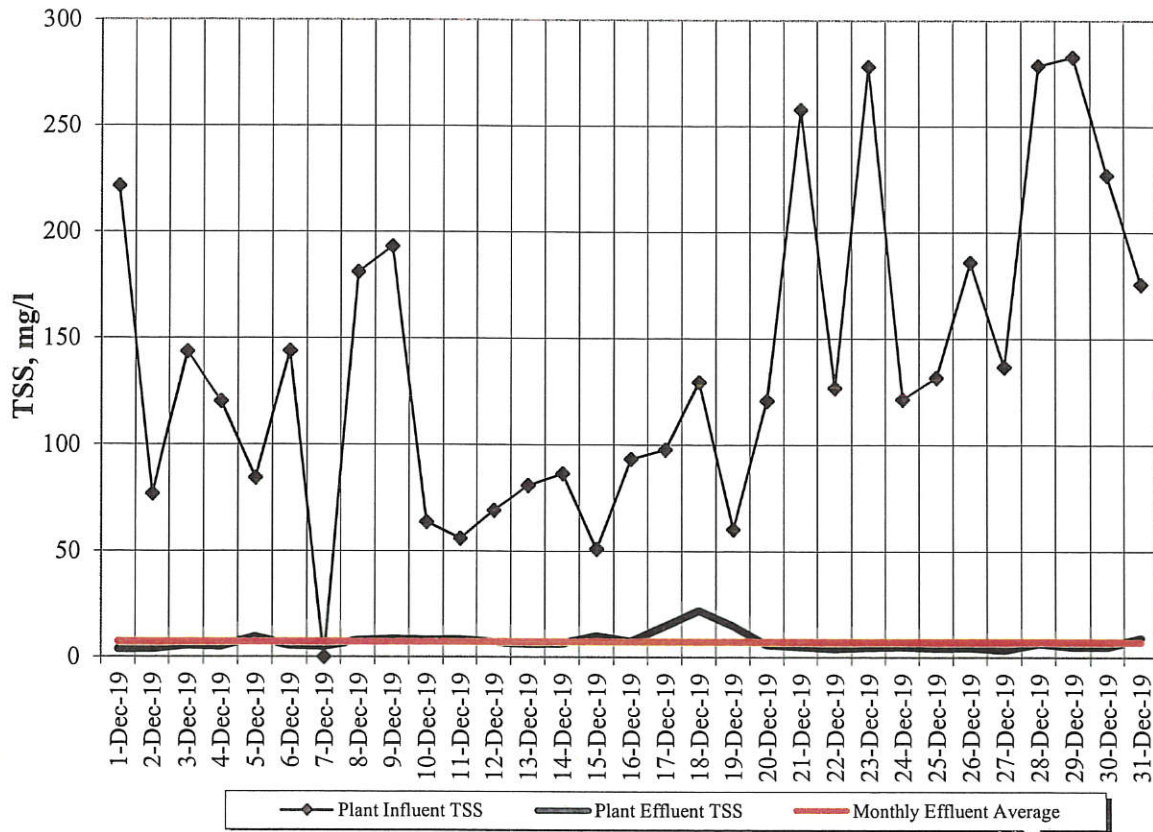
## CBOD5 Concentrations

### Binghamton - Johnson City JSTP



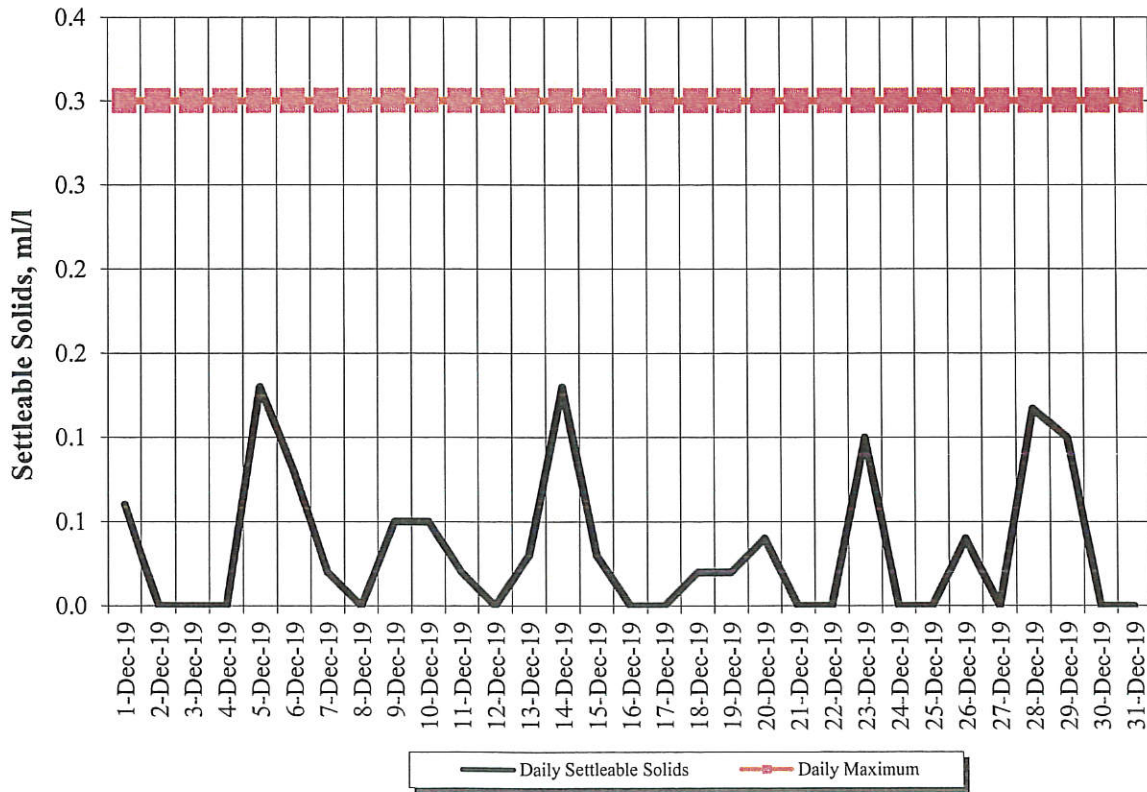
## TSS Concentrations

### Binghamton - Johnson City JSTP



## Settleable Solids

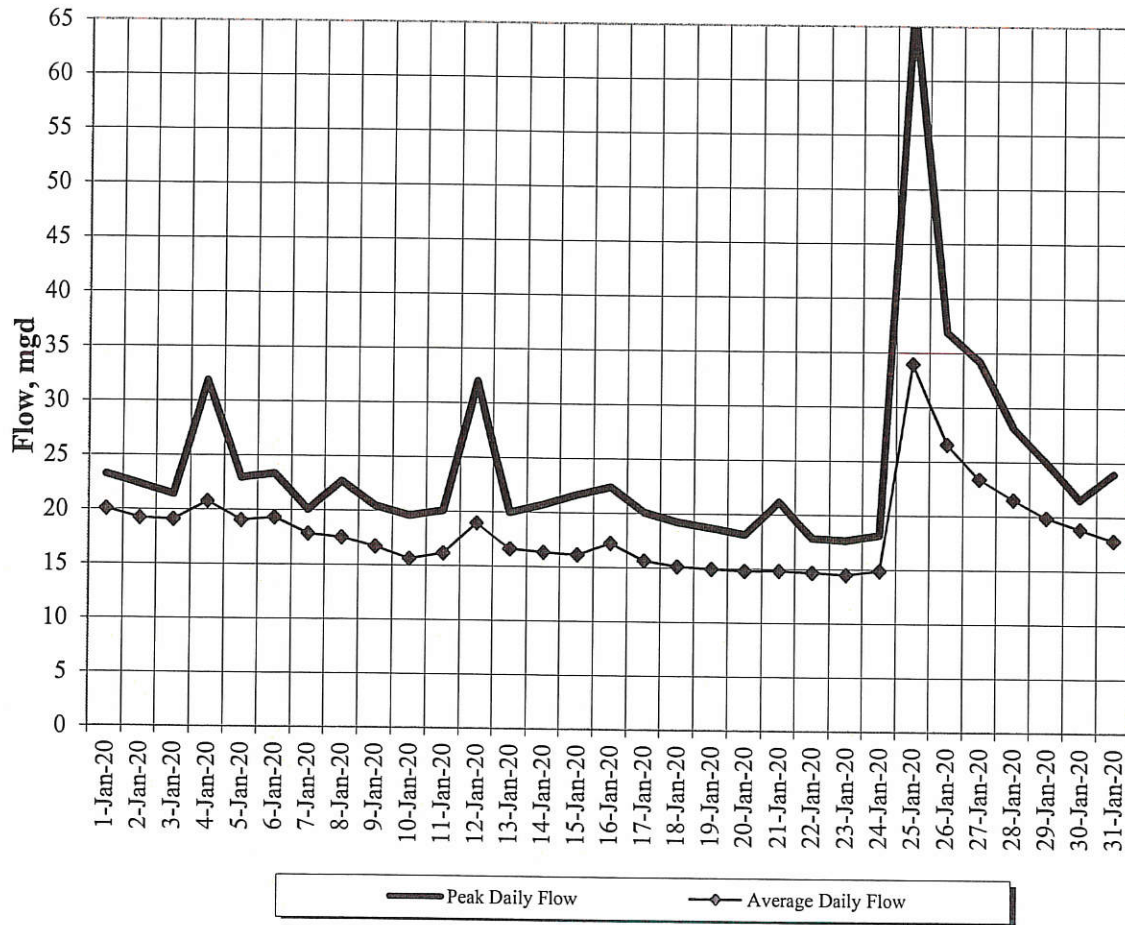
### Binghamton - Johnson City JSTP





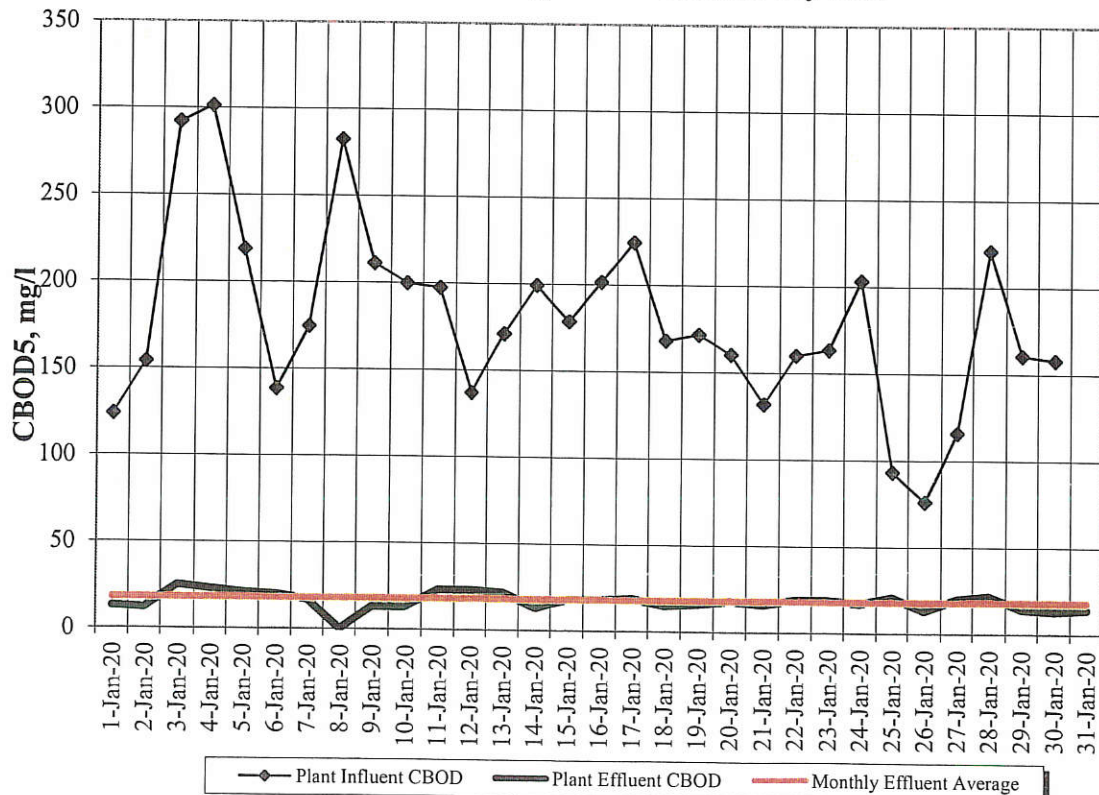
## Daily Flows

### Binghamton - Johnson City JSTP



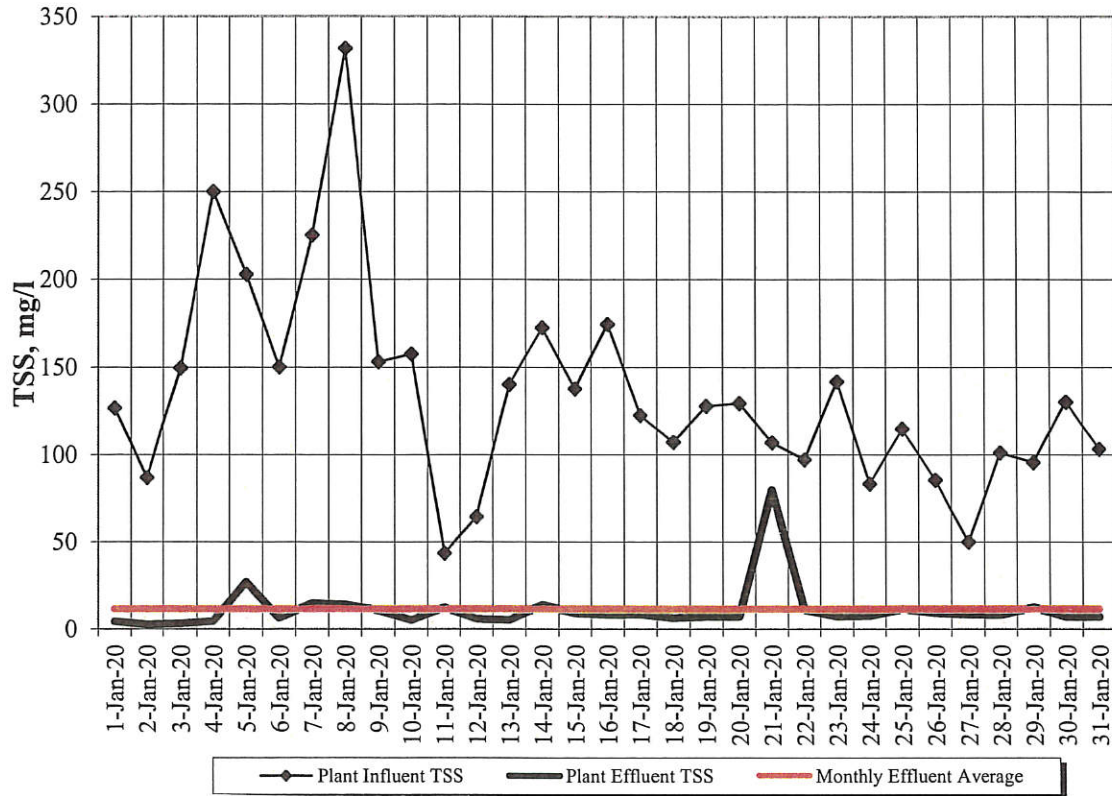
## CBOD5 Concentrations

### Binghamton - Johnson City JSTP

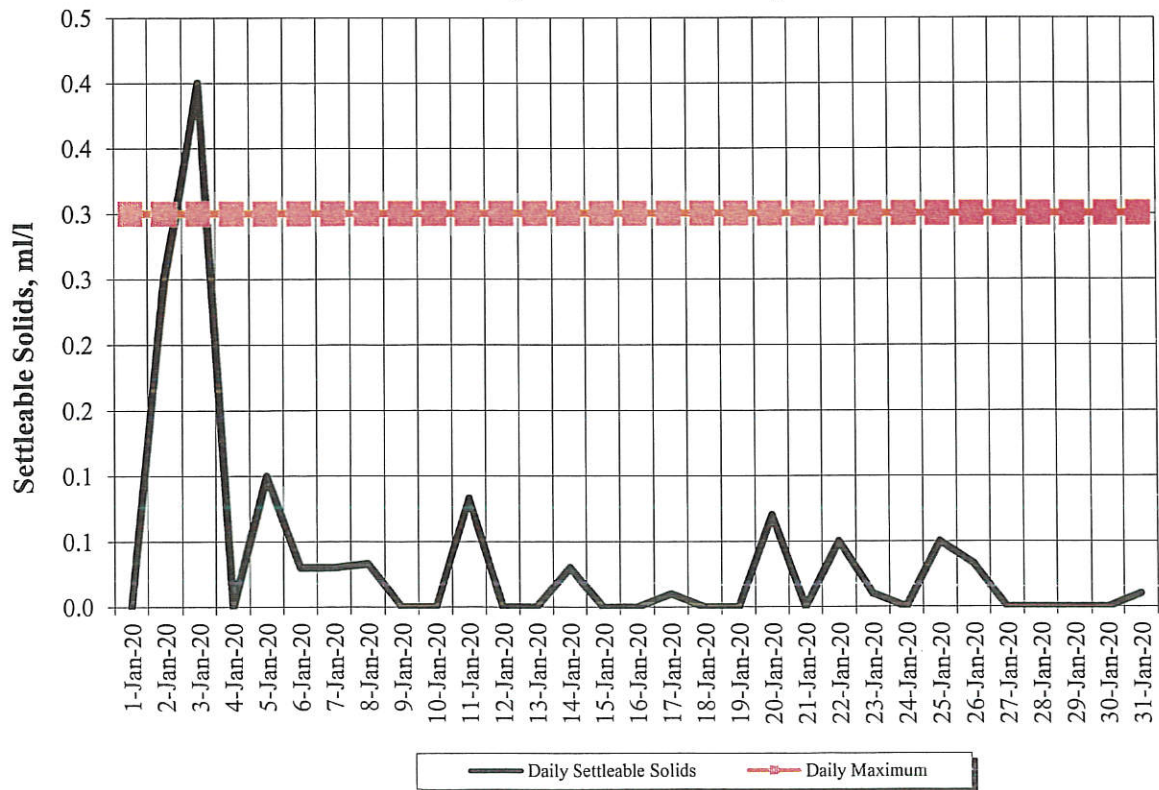




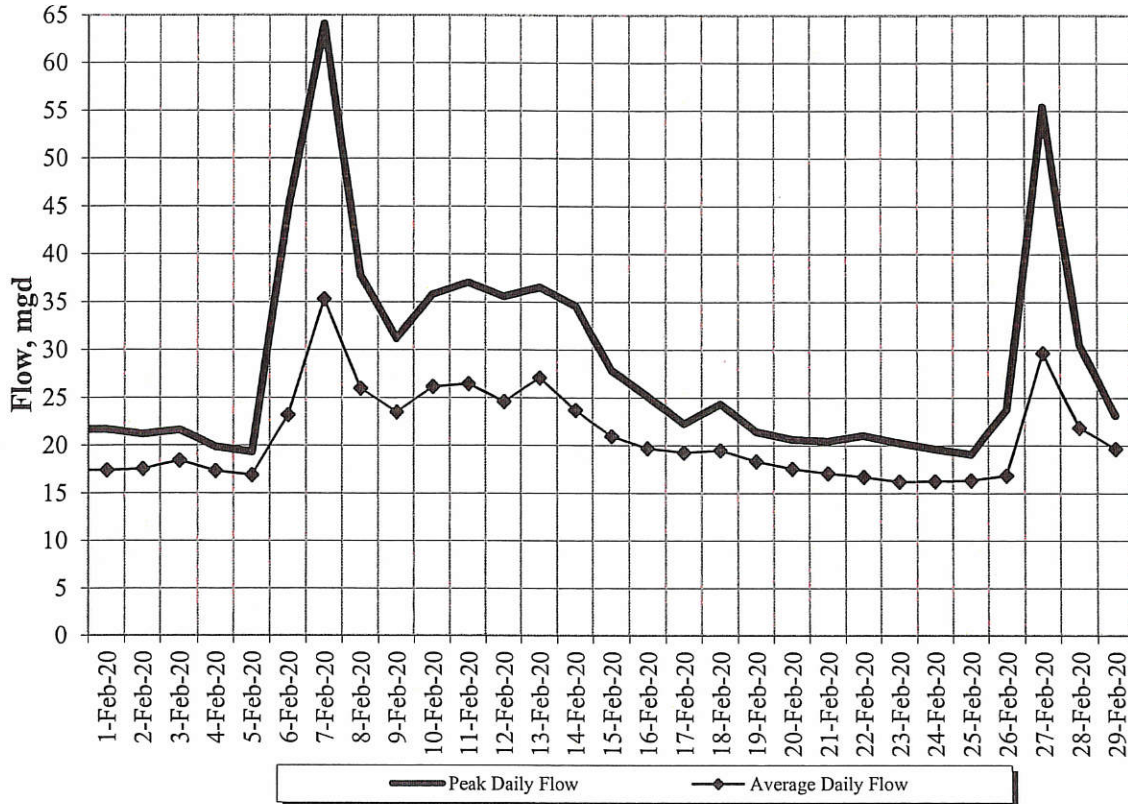
### TSS Concentrations Binghamton - Johnson City JSTP



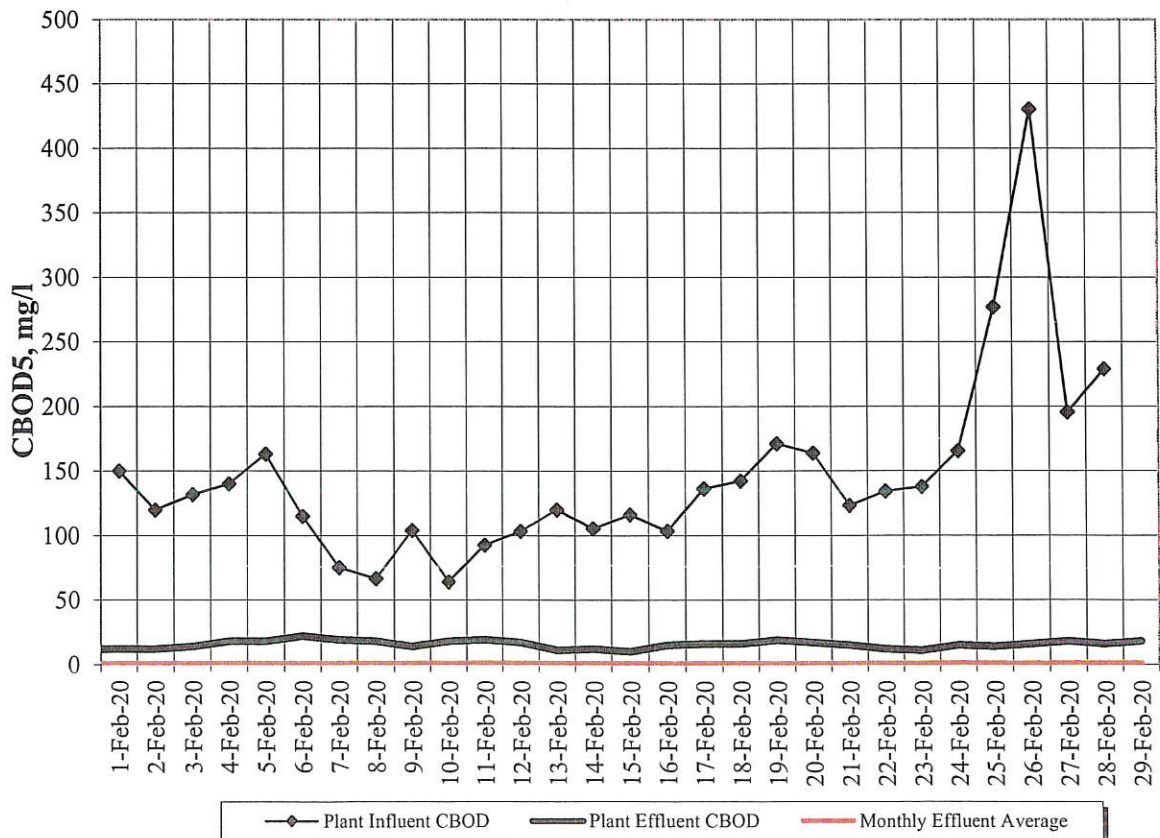
### Settleable Solids Binghamton - Johnson City JSTP



### Daily Flows Binghamton - Johnson City JSTP

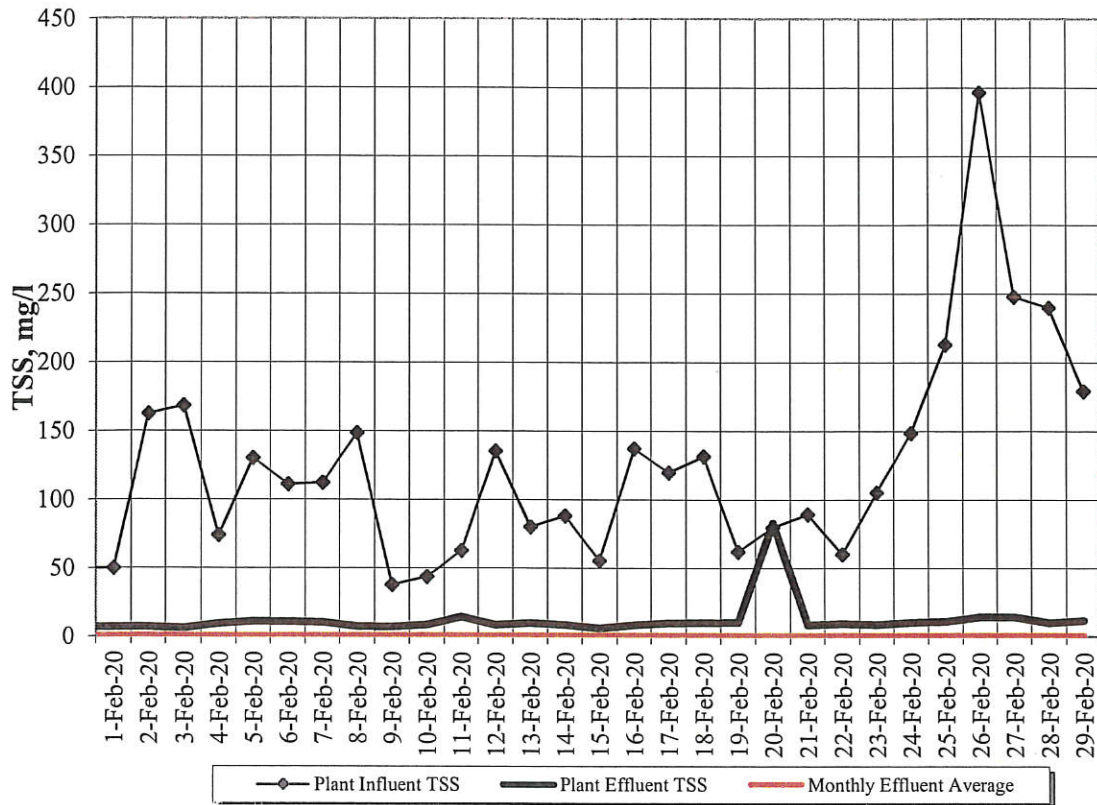


### CBOD5 Concentrations Binghamton - Johnson City JSTP



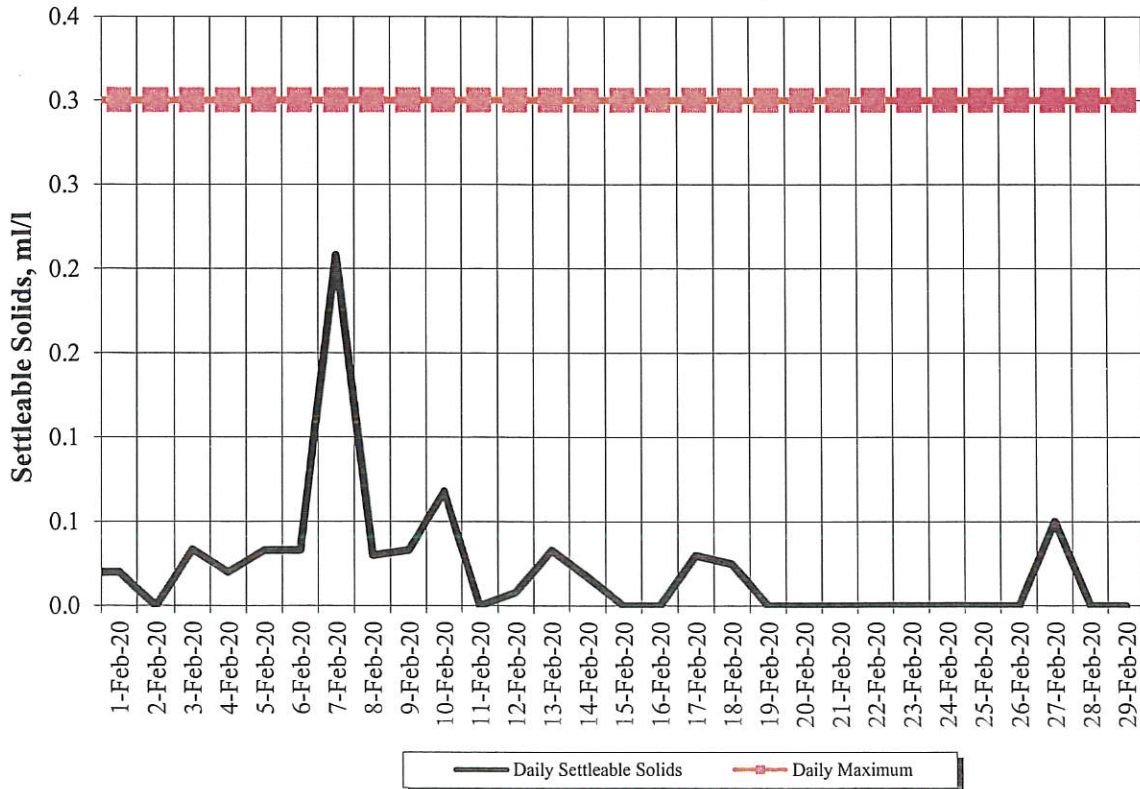
## TSS Concentrations

### Binghamton - Johnson City JSTP



## Settleable Solids

### Binghamton - Johnson City JSTP





| DATE      | TOTAL FLOW        | Final Eff Amm. Avg              | FW Amm. Avg             | Final Eff TKN        | FW TKN        | CL 2 AVG        | Fecal Coli mg/l    | Eff. Phos.        | FW Phos. Avg    | Eff. Total Iron        | Daily Total Q        | Iron (Fe) lbs/day             |
|-----------|-------------------|---------------------------------|-------------------------|----------------------|---------------|-----------------|--------------------|-------------------|-----------------|------------------------|----------------------|-------------------------------|
| 1-Dec-19  | 15.63             |                                 |                         | 1.3                  | 20.5          | 0.01            | 1                  |                   |                 |                        |                      | 0                             |
| 2-Dec-19  | 15.75             |                                 |                         | 1.9                  | 15.6          | 0.01            | 1                  |                   |                 |                        |                      | 0                             |
| 3-Dec-19  | 16.47             | 0.53                            | 15.4                    | 1.5                  | 26.4          | 0.01            | 2                  | 0.3               | 3.20            | 0.34                   | 16.47                | 47                            |
| 4-Dec-19  | 16.70             |                                 |                         | 1.9                  | 24.7          | 0.01            | 2                  |                   |                 |                        |                      | 0                             |
| 5-Dec-19  | 16.95             |                                 |                         | 1.9                  | 23.9          | 0               | 5                  |                   |                 | 0.84                   | 16.95                | 119                           |
| 6-Dec-19  | 16.38             |                                 |                         | 2.5                  | 24.5          | 0.09            | 12                 |                   |                 |                        |                      | 0                             |
| 7-Dec-19  | 16.09             |                                 |                         | 3.5                  | 23.3          | 0.01            | 35                 |                   |                 |                        |                      | 0                             |
| 8-Dec-19  | 15.91             |                                 |                         | 2.6                  | 21.4          | 0               | 10                 |                   |                 |                        |                      | 0                             |
| 9-Dec-19  | 21.88             |                                 |                         | 3.0                  | 17.8          | 0               | 28                 |                   |                 |                        |                      | 0                             |
| 10-Dec-19 | 39.30             | 1.0                             | 5.0                     | 2.3                  | 9.8           | 0               | 20                 | 0.3               | 1.43            | 0.58                   | 39.30                | 191                           |
| 11-Dec-19 | 28.41             |                                 |                         | 3.5                  | 14.8          | 0               | 130                |                   |                 |                        |                      | 0                             |
| 12-Dec-19 | 24.16             |                                 |                         | 3.8                  | 16.1          | 0               | 25                 |                   |                 | 0.53                   | 24.16                | 106                           |
| 13-Dec-19 | 21.67             |                                 |                         | 4.1                  | 18.6          | 0.01            | 9                  |                   |                 |                        |                      | 0                             |
| 14-Dec-19 | 32.38             |                                 |                         | 2.6                  | 10.7          | 0.01            | 2                  |                   |                 |                        |                      | 0                             |
| 15-Dec-19 | 30.50             |                                 |                         | 3.5                  | 10.2          | 0.01            | 1                  |                   |                 |                        |                      | 0                             |
| 16-Dec-19 | 25.29             |                                 |                         | 3.4                  | 13.2          | 0               | 1                  |                   |                 |                        |                      | 0                             |
| 17-Dec-19 | 24.66             | 1.8                             | 7.5                     | 3.4                  | 14.6          | 0.01            | 28                 | 0.3               | 2.26            | 0.68                   | 24.66                | 139                           |
| 18-Dec-19 | 22.33             |                                 |                         | 3.0                  | 15.6          | 0               | 10                 |                   |                 |                        |                      | 0                             |
| 19-Dec-19 | 20.03             |                                 |                         | 2.7                  | 18.3          | 0.01            | 5                  |                   |                 | 0.47                   | 20.03                | 79                            |
| 20-Dec-19 | 18.75             |                                 |                         | 1.7                  | 17.9          | 0.01            | 6                  |                   |                 |                        |                      | 0                             |
| 21-Dec-19 | 17.80             |                                 |                         | 2.6                  | 19.1          | 0               | 29                 |                   |                 |                        |                      | 0                             |
| 22-Dec-19 | 17.45             |                                 |                         | 2.8                  | 14.7          | 0.01            | 133                |                   |                 |                        |                      | 0                             |
| 23-Dec-19 | 17.79             |                                 |                         | 4.5                  | 19.8          | 0.01            | 2                  |                   |                 |                        |                      | 0                             |
| 24-Dec-19 | 17.07             | 1.5                             | 8.4                     | 2.5                  | 19.1          | 0.01            | 3                  | 0.2               | 3.66            | 0.65                   | 17.07                | 93                            |
| 25-Dec-19 | 15.85             |                                 |                         | 3.2                  | 19.5          | 0.01            | 4                  |                   |                 |                        |                      | 0                             |
| 26-Dec-19 | 16.25             |                                 |                         | 3.7                  | 20.8          | 0.01            | 1                  |                   |                 | 0.37                   | 16.25                | 50                            |
| 27-Dec-19 | 16.96             |                                 |                         | 2.2                  | 23.3          | 0.01            | 8                  |                   |                 |                        |                      | 0                             |
| 28-Dec-19 | 16.71             |                                 |                         | 5.0                  | 21.6          | 0.01            | 1                  |                   |                 |                        |                      | 0                             |
| 29-Dec-19 | 21.31             |                                 |                         | 3.1                  | 61.1          | 0.01            | 2                  |                   |                 |                        |                      | 0                             |
| 30-Dec-19 | 24.26             |                                 |                         | 3.7                  | 34.6          | 0.01            | 1                  |                   |                 |                        |                      | 0                             |
| 31-Dec-19 | 22.60             | 2.2                             | 8.56                    | 4                    | 21.0          | 0               | 1                  | 0.32              | 3.61            | 0.74                   | 22.6                 | 139                           |
|           | <b>20.75</b>      | <b>1.41</b>                     | <b>8.95</b>             | <b>2.95</b>          | <b>20.4</b>   | <b>0.09</b>     | <b>5</b>           | <b>0.30</b>       | <b>2.83</b>     | <b>0.58</b>            | <b>21.94</b>         | <b>106</b>                    |
|           | <b>TOTAL FLOW</b> | <b>Final Eff. Avg as N mg/l</b> | <b>FW Avg as N mg/l</b> | <b>Final Eff TKN</b> | <b>FW TKN</b> | <b>CL 2 Max</b> | <b>30 Day MEAN</b> | <b>EFF. PHOS.</b> | <b>FW PHOS.</b> | <b>Eff. Total Iron</b> | <b>Daily Total Q</b> | <b>Mthly Avg Iron lbs/day</b> |

| DATE      | TOTAL FLOW | Final Eff Amm. Avg       | FW Amm. Avg      | Final Eff TKN | FW TKN | CL 2 AVG | Fecal Coli mg/l | Eff. Phos. | FW Phos. Avg | Eff. Total Iron | Daily Total Q | Iron (Fe) lbs/day      |
|-----------|------------|--------------------------|------------------|---------------|--------|----------|-----------------|------------|--------------|-----------------|---------------|------------------------|
| 1-Jan-20  | 20.05      |                          |                  | 2.5           | 15.1   | 0        | 1               |            |              |                 |               | 0                      |
| 2-Jan-20  | 19.22      |                          |                  | 3.2           | 16.7   | 0.01     | 1               |            |              | 0.328           | 19.22         | 53                     |
| 3-Jan-20  | 19.10      |                          |                  | 3.2           | 22.2   | 0        | 1               |            |              |                 |               | 0                      |
| 4-Jan-20  | 20.77      |                          |                  | 2.9           | 24.0   | 0        | 3               |            |              |                 |               | 0                      |
| 5-Jan-20  | 19.03      |                          |                  | 3.5           | 20.5   | 0.02     | 1               |            |              |                 |               | 0                      |
| 6-Jan-20  | 19.30      |                          |                  | 4.1           | 19.1   | 0.01     | 1               |            |              |                 |               | 0                      |
| 7-Jan-20  | 17.86      | 2.2                      | 11.25            | 5.3           | 21.9   | 0.01     | 1               | 0.33       | 3.66         | 0.552           | 17.86         | 82                     |
| 8-Jan-20  | 17.51      |                          |                  | 7.9           | 24.6   | 0.01     | 1               |            |              |                 |               | 0                      |
| 9-Jan-20  | 16.73      |                          |                  | 7.8           | 26.7   | 0        | 1               |            |              | 0.735           | 16.73         | 103                    |
| 10-Jan-20 | 15.63      |                          |                  | 4.5           | 22.8   | 0        | 1               |            |              |                 |               | 0                      |
| 11-Jan-20 | 16.14      |                          |                  | 6             | 20.1   | 0.01     | 1               |            |              |                 |               | 0                      |
| 12-Jan-20 | 18.95      |                          |                  | 4.8           | 15.2   | 0.01     | 2420            |            |              |                 |               | 0                      |
| 13-Jan-20 | 16.61      |                          |                  | 4.3           | 19.3   | 0.01     | 1               |            |              |                 |               | 0                      |
| 14-Jan-20 | 16.33      | 0.44                     | 10.63            | 1.9           | 21.0   | 0.01     | 1               | 0.38       | 3.26         | 0.456           | 16.33         | 62                     |
| 15-Jan-20 | 16.13      |                          |                  | 1.5           | 25.1   | 0.01     | 1               |            |              |                 |               | 0                      |
| 16-Jan-20 | 17.22      |                          |                  | 3.9           | 22.0   | 0        | 1               |            |              | 0.725           | 17.22         | 104                    |
| 17-Jan-20 | 15.66      |                          |                  | 5             | 25.5   | 0.01     | 1               |            |              |                 |               | 0                      |
| 18-Jan-20 | 15.14      |                          |                  | 4.2           | 25.3   | 0.01     | 3               |            |              |                 |               | 0                      |
| 19-Jan-20 | 14.92      |                          |                  | 4.2           | 22.1   | 0.01     | 1               |            |              |                 |               | 0                      |
| 20-Jan-20 | 14.79      |                          |                  | 3.4           | 23.8   | 0.29     | 1               |            |              |                 |               | 0                      |
| 21-Jan-20 | 14.82      | 4.5                      | 17.44            | 6.7           | 25.8   | 0.01     | 1               | 0.91       | 3.59         | 0.376           | 14.82         | 46                     |
| 22-Jan-20 | 14.67      |                          |                  | 5.1           | 26.4   | 0.02     | 2               |            |              |                 |               | 0                      |
| 23-Jan-20 | 14.49      |                          |                  | 4.7           | 25.9   | 0.01     | 1               |            |              | 0.671           | 14.49         | 81                     |
| 24-Jan-20 | 14.88      |                          |                  | 4.1           | 26.1   | 0        | 1               |            |              |                 |               | 0                      |
| 25-Jan-20 | 33.96      |                          |                  | 2.8           | 11.9   | 0.13     | 1               |            |              |                 |               | 0                      |
| 26-Jan-20 | 26.56      |                          |                  | 3.1           | 12.4   | 0.08     | 1               |            |              |                 |               | 0                      |
| 27-Jan-20 | 23.39      |                          |                  | 3.7           | 15.3   | 0        | 1               |            |              |                 |               | 0                      |
| 28-Jan-20 | 21.50      | 2.2                      | 8.00             | 9.6           | 16.6   | 0        | 4               | 0.32       | 2.45         |                 |               | 0                      |
| 29-Jan-20 | 19.86      |                          |                  | 3.3           | 18.3   | 0.01     | 1               |            |              | 0.587           | 19.86         | 97                     |
| 30-Jan-20 | 18.84      |                          |                  | 4.9           | 20.9   | 0        | 5               |            |              | 0.607           | 18.84         | 95                     |
| 31-Jan-20 | 17.80      |                          |                  | 4.70          | 21.7   | 0.00     | 3               |            |              |                 |               | 0                      |
|           | 18.32      | 2.34                     | 11.83            | 4.41          | 21.1   | 0.29     | 2               | 0.49       | 3.24         | 0.560           | 17.26         | 81                     |
|           | TOTAL FLOW | Final Eff. Avg as N mg/l | FW Avg as N mg/l | Final Eff TKN | FW TKN | CL 2 Max | 30 Day MEAN     | EFF. PHOS. | FW PHOS.     | Eff. Total Iron | Daily Total Q | Mthly Avg Iron lbs/day |

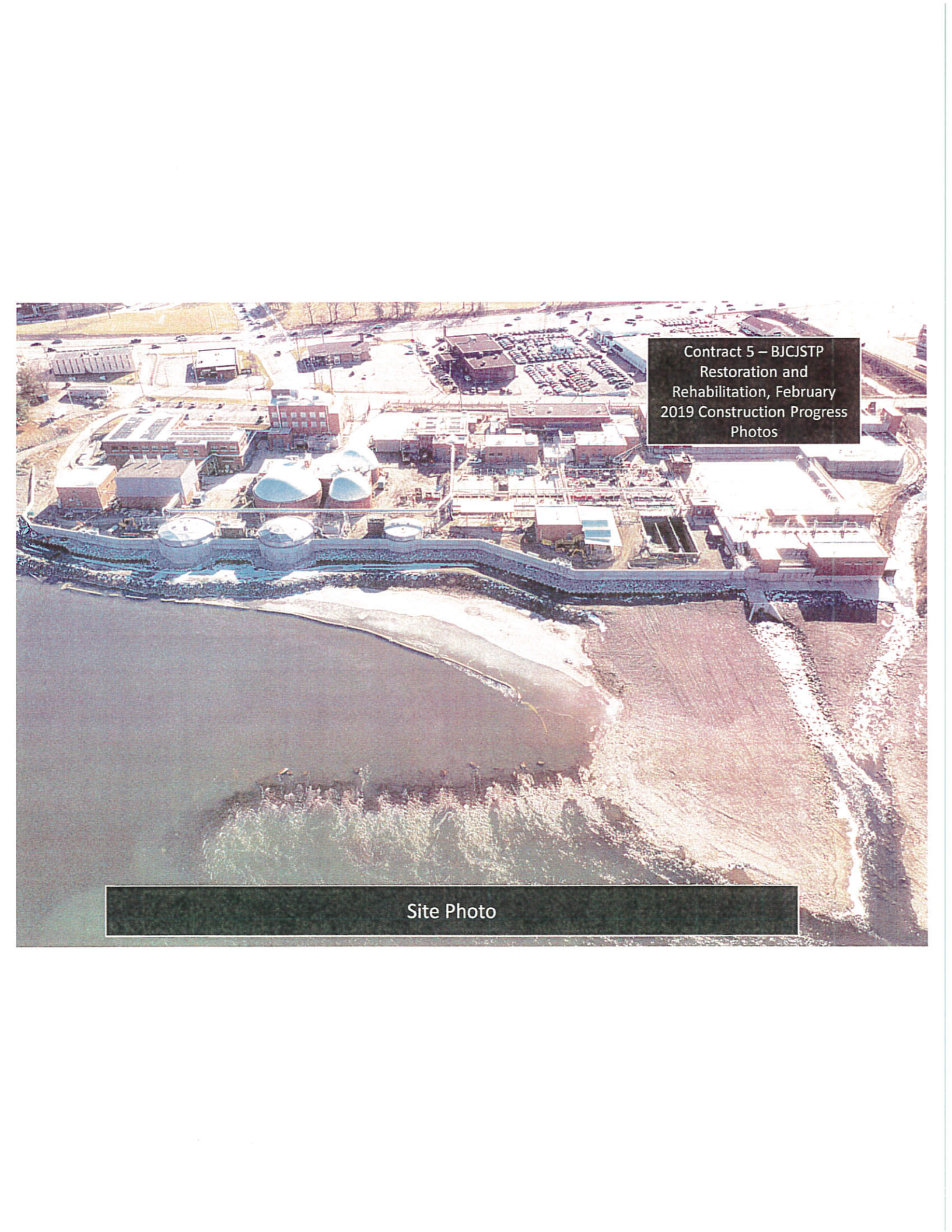


| DATE      | TOTAL FLOW        | Final Eff Amm. Avg              | FW Amm. Avg             | Final Eff TKN        | FW TKN        | CL 2 AVG        | Fecal Coli mg/l    | Eff. Phos.        | FW Phos. Avg    | Eff. Total Iron        | Daily Total Q        | Iron (Fe) lbs/day             |
|-----------|-------------------|---------------------------------|-------------------------|----------------------|---------------|-----------------|--------------------|-------------------|-----------------|------------------------|----------------------|-------------------------------|
| 1-Feb-20  | 17.39             |                                 |                         | 5.9                  | 22.86         | 0.01            | 1                  |                   |                 |                        |                      | 0                             |
| 2-Feb-20  | 17.55             |                                 |                         | 5                    | 21.96         | 0.01            | 1                  |                   |                 |                        |                      | 0                             |
| 3-Feb-20  | 18.43             |                                 |                         | 5.3                  | 21.28         | 0.01            | 2                  |                   |                 |                        |                      | 0                             |
| 4-Feb-20  | 17.32             | 2.8                             | 14.0                    | 5.6                  | 24.08         | 0               | 1                  | 0.52              | 3.00            | 0.540                  | 17.32                | 78                            |
| 5-Feb-20  | 16.90             |                                 |                         | 4.9                  | 22.82         | 0               | 1                  |                   |                 |                        |                      | 0                             |
| 6-Feb-20  | 23.20             |                                 |                         | 4.9                  | 19.21         | 0               | 2                  |                   |                 | 0.646                  | 23.20                | 125                           |
| 7-Feb-20  | 35.31             |                                 |                         | 1.7                  | 10.37         | 0.39            | 9                  |                   |                 |                        |                      | 0                             |
| 8-Feb-20  | 25.99             |                                 |                         | 3.2                  | 10.10         | 0               | 1                  |                   |                 |                        |                      | 0                             |
| 9-Feb-20  | 23.51             |                                 |                         | 3.3                  | 12.19         | 0               | 1                  |                   |                 |                        |                      | 0                             |
| 10-Feb-20 | 26.15             |                                 |                         | 4.3                  | 11.04         | 0.01            | 2                  |                   |                 |                        |                      | 0                             |
| 11-Feb-20 | 26.44             | 2.3                             | 8.7                     | 5.2                  | 13.89         | 0               | 1                  | 0.4               | 2.00            | 0.627                  | 26.44                | 138                           |
| 12-Feb-20 | 24.58             |                                 |                         | 5.4                  | 20.64         | 0.01            | 1                  |                   |                 |                        |                      | 0                             |
| 13-Feb-20 | 27.10             |                                 |                         | 5                    | 18.37         | 0.05            | 8                  |                   |                 | 0.638                  | 27.10                | 144                           |
| 14-Feb-20 | 23.71             |                                 |                         | 6.1                  | 19.39         | 0.02            | 2                  |                   |                 |                        |                      | 0                             |
| 15-Feb-20 | 20.95             |                                 |                         | 5.2                  | 21.51         | 0               | 2                  |                   |                 |                        |                      | 0                             |
| 16-Feb-20 | 19.71             |                                 |                         | 4                    | 24.48         | 0               | 35                 |                   |                 |                        |                      | 0                             |
| 17-Feb-20 | 19.26             |                                 |                         | 5.9                  | 22.46         | 0.01            | 2                  |                   |                 |                        |                      | 0                             |
| 18-Feb-20 | 19.51             | 3.3                             | 11.8                    | 6                    | 22.01         | 0.01            | 5                  | 0.71              | 3.00            |                        |                      | 0                             |
| 19-Feb-20 | 18.35             |                                 |                         | 5.9                  | 20.93         | 0               | 4                  |                   |                 |                        |                      | 0                             |
| 20-Feb-20 | 17.56             |                                 |                         | 6.9                  | 20.75         | 0               | 1                  |                   |                 | 0.641                  | 17.56                | 94                            |
| 21-Feb-20 | 17.09             |                                 |                         | 16.4                 | 18.43         | 0.01            | 6                  |                   |                 |                        |                      | 0                             |
| 22-Feb-20 | 16.72             |                                 |                         | 4.9                  | 27.47         | 0.01            | 1                  |                   |                 |                        |                      | 0                             |
| 23-Feb-20 | 16.21             |                                 |                         | 5.2                  | 19.94         | 0.01            | 3                  |                   |                 |                        |                      | 0                             |
| 24-Feb-20 | 16.25             |                                 |                         | 6                    | 22.09         | 0.01            | 1                  |                   |                 |                        |                      | 0                             |
| 25-Feb-20 | 16.36             | 3.2                             | 12.9                    | 5.1                  | 28.78         | 0.01            | 2                  | 0.78              | 5.00            |                        |                      | 0                             |
| 26-Feb-20 | 16.84             |                                 |                         | 6.6                  | 35.06         | 0               | 1                  |                   |                 | 0.626                  | 16.84                | 88                            |
| 27-Feb-20 | 29.66             |                                 |                         | 5.4                  | 20.84         | 0.01            | 2420               |                   |                 | 0.994                  | 29.66                | 246                           |
| 28-Feb-20 | 21.87             |                                 |                         | 5.2                  | 20.00         | 0               | 3                  |                   |                 |                        |                      | 0                             |
| 29-Feb-20 | 19.67             |                                 |                         | 6.5                  | 17.21         | 0               | 17                 |                   |                 |                        |                      | 0                             |
|           | <b>21.02</b>      | <b>2.90</b>                     | <b>11.87</b>            | <b>5.55</b>          | <b>20.35</b>  | <b>0.39</b>     | <b>3</b>           | <b>0.60</b>       | <b>3.27</b>     | <b>0.673</b>           | <b>22.59</b>         | <b>127</b>                    |
|           | <b>TOTAL FLOW</b> | <b>Final Eff. Avg as N mg/l</b> | <b>FW Avg as N mg/l</b> | <b>Final Eff TKN</b> | <b>FW TKN</b> | <b>CL 2 Max</b> | <b>30 Day MEAN</b> | <b>EFF. PHOS.</b> | <b>FW PHOS.</b> | <b>Eff. Total Iron</b> | <b>Daily Total Q</b> | <b>Mthly Avg Iron lbs/day</b> |

# APPENDIX B

## Photos

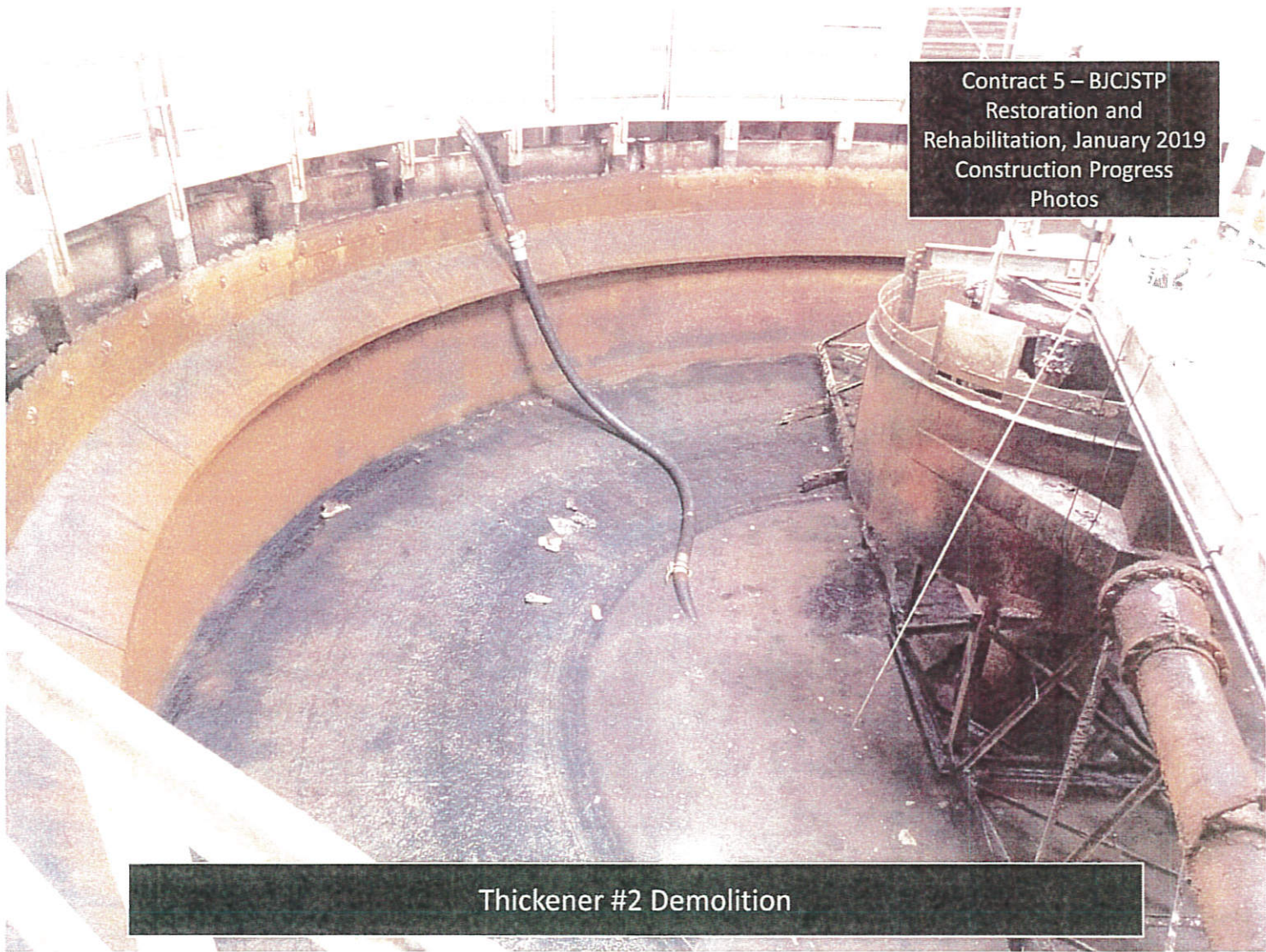


An aerial photograph of a wastewater treatment plant (WWT) facility during winter construction. The facility is situated along a body of water, with a stone-lined embankment separating the land from the water. Several large, circular concrete tanks are visible, some with snow on their roofs. A network of pipes and walkways connects the various structures. In the background, there are several industrial buildings and a large parking lot filled with cars. The ground is covered in snow, and the sky is overcast. A black text box in the upper right corner provides context for the photo.

Contract 5 – BJCSTP  
Restoration and  
Rehabilitation, February  
2019 Construction Progress  
Photos

Site Photo





Contract 5 – BJCISTP  
Restoration and  
Rehabilitation, January 2019  
Construction Progress  
Photos

Thickener #2 Demolition



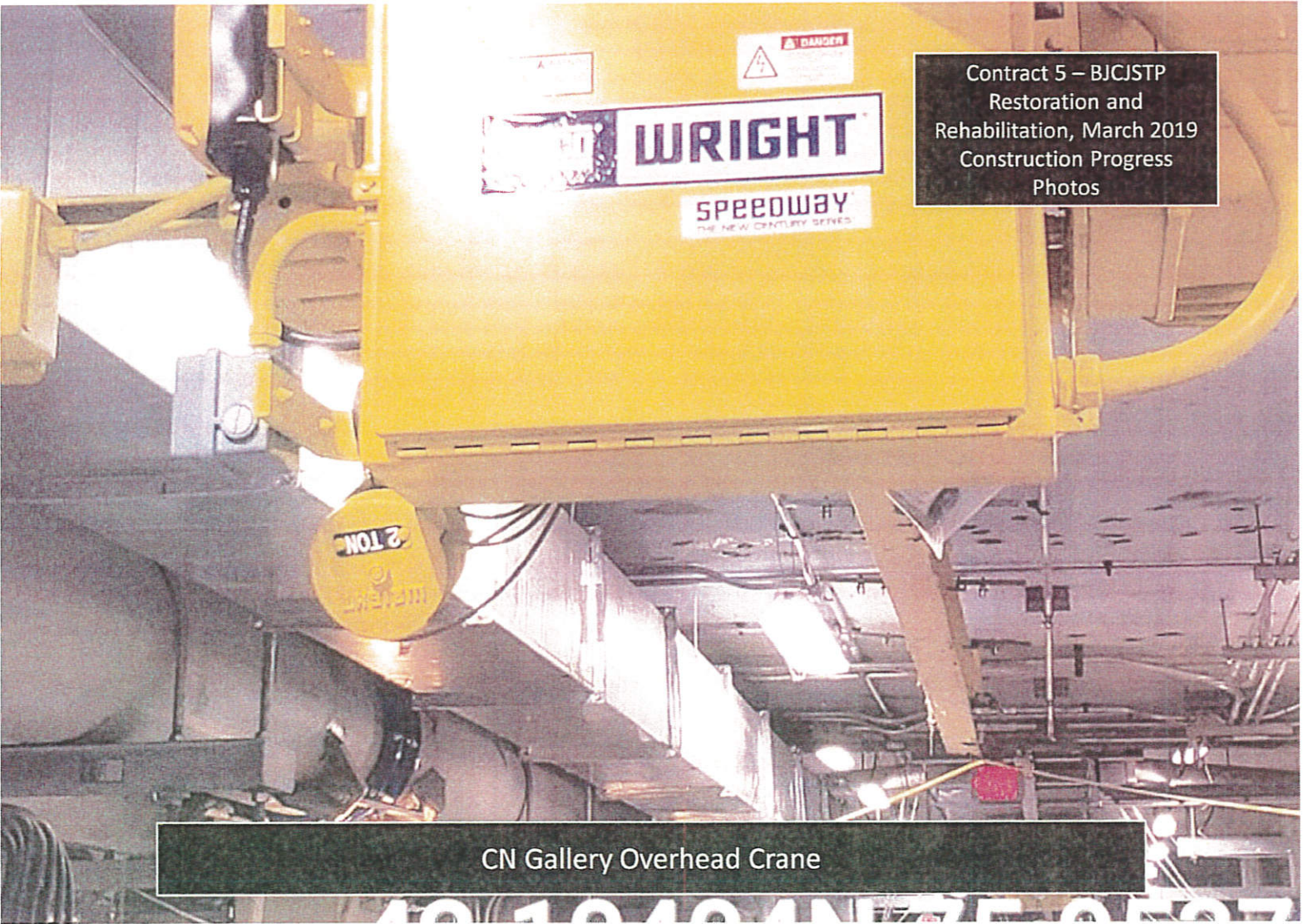
Contract 5 – BJCISTP  
Restoration and  
Rehabilitation, February  
2019 Construction Progress  
Photos



42.09710N 75.9  
United  
Binghamton / Johnson City  
Feb 3 2020

Demo in Thickener #2

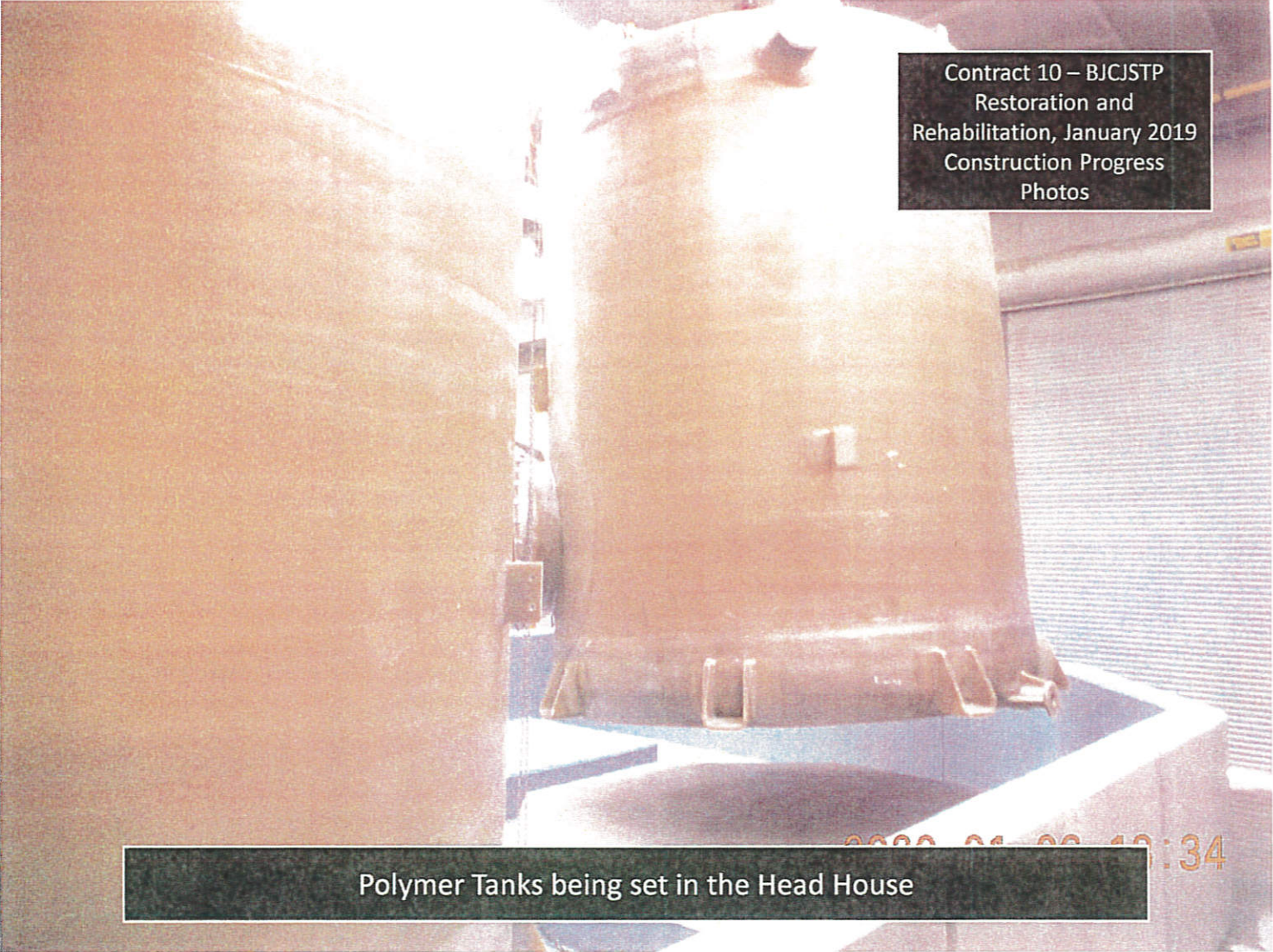




Contract 5 – BJCSTP  
Restoration and  
Rehabilitation, March 2019  
Construction Progress  
Photos

CN Gallery Overhead Crane



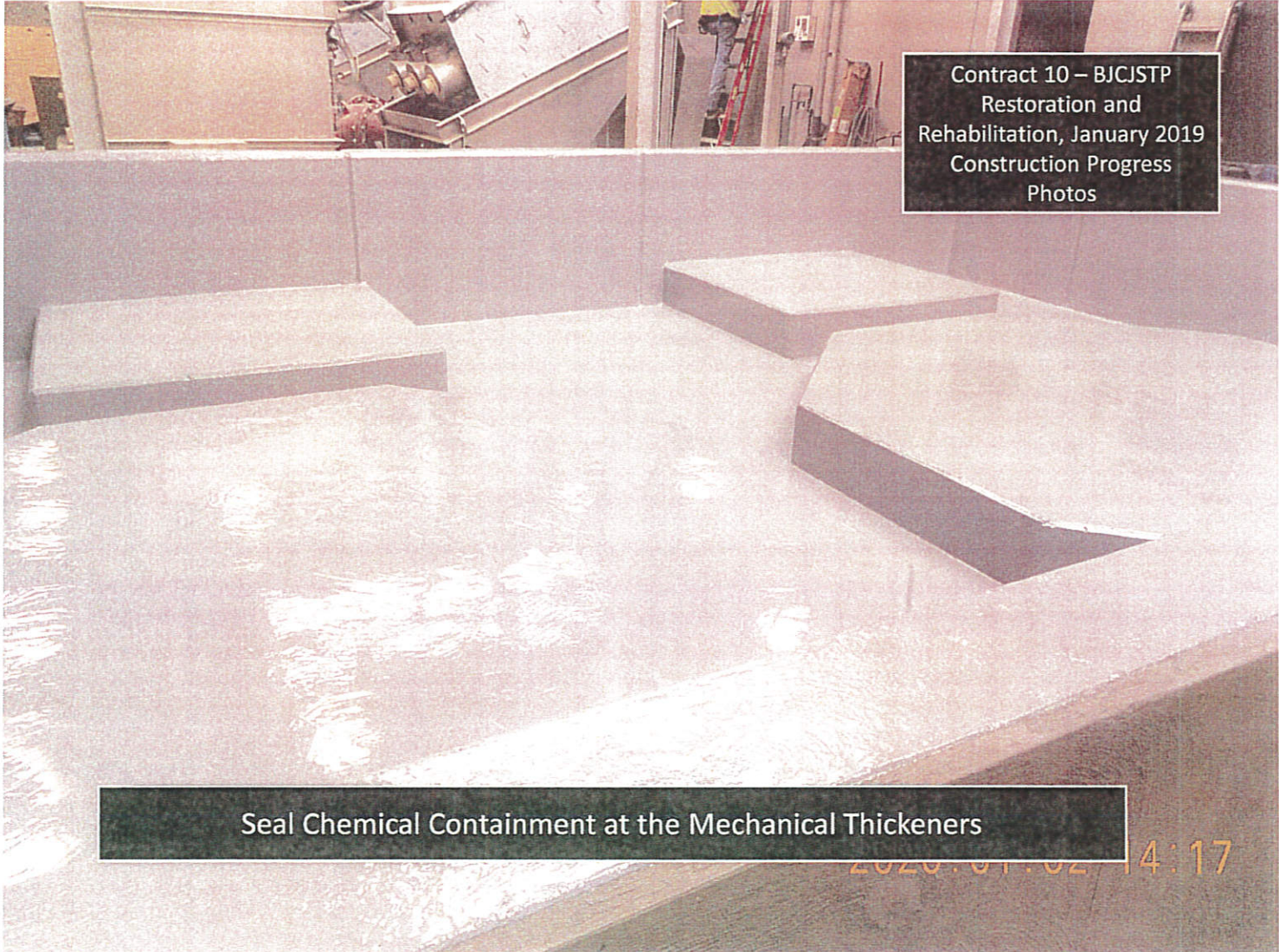


Contract 10 – BJCJSTP  
Restoration and  
Rehabilitation, January 2019  
Construction Progress  
Photos

2000 01 06 10:34

Polymer Tanks being set in the Head House





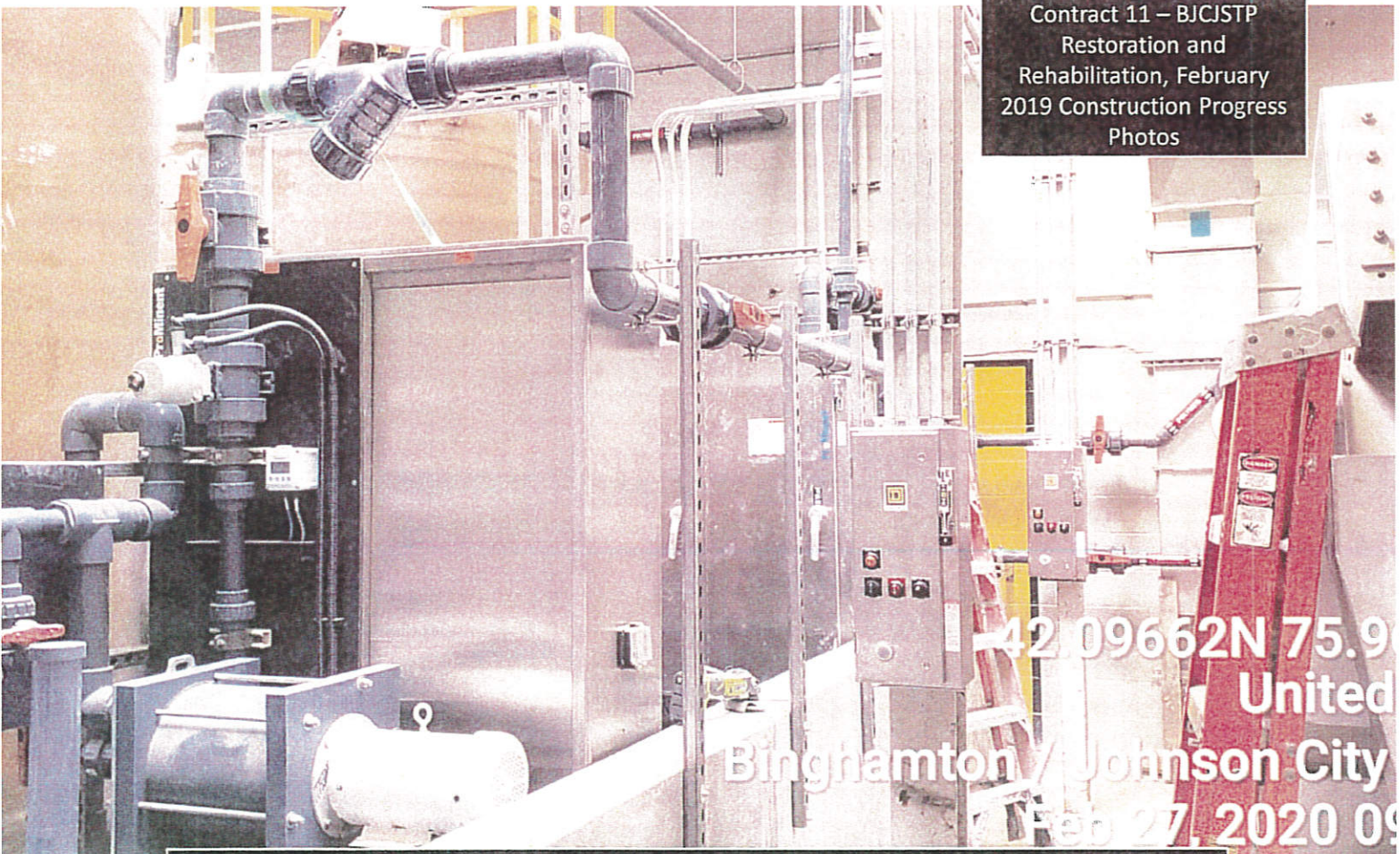
Contract 10 – BJCJSTP  
Restoration and  
Rehabilitation, January 2019  
Construction Progress  
Photos

Seal Chemical Containment at the Mechanical Thickeners

2020.01.02 14:17



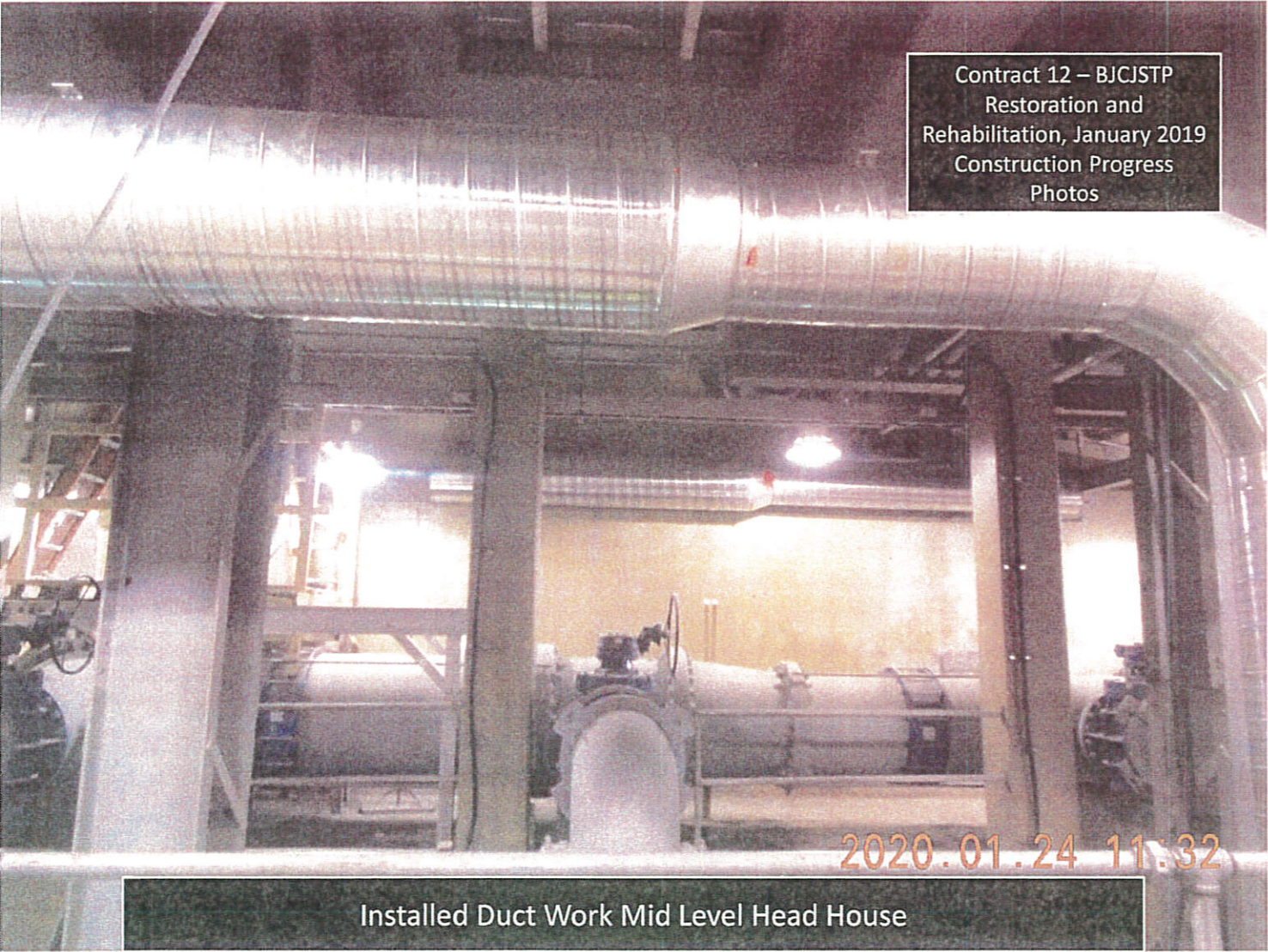
Contract 11 – BJCSTP  
Restoration and  
Rehabilitation, February  
2019 Construction Progress  
Photos



42.09662N 75.9  
United  
Binghamton / Johnson City  
Feb 27, 2020 09

Starter in for Poly Mixers




A photograph of an industrial facility, likely a head house, showing large, insulated ductwork and machinery. The scene is dimly lit, with a bright light source in the background illuminating the area. The ductwork is wrapped in a reflective, metallic insulation. The machinery in the background includes large cylindrical tanks and various pipes.

Contract 12 – BJCISTP  
Restoration and  
Rehabilitation, January 2019  
Construction Progress  
Photos

2020.01.24 11:32

Installed Duct Work Mid Level Head House





Contract 13 – BJCJSTP  
Restoration and  
Rehabilitation, February  
2019 Construction Progress  
Photos

2020.02.11 14:49

Installation of Plant Water Piping to Mechanical Thickeners