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

2020 Quarter 2 Report

City of Binghamton
Village of Johnson City
Joint Sewage Board

July 2020

2020 QUARTER 2 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 Second 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 2 Report. The report summarizes the status and progress of the projects and programs required by the Consent Order from March through May 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's 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 not 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.

See Attachment A for the plant performance during this Quarter.

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 required 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 were also several interim milestones included in the Consent Order. We fully complied with the treatment requirements to satisfy the April 1, 2020 SPDES Permit in accordance with the Consent Order. The final A-1 forms have been submitted to satisfy the reporting requirements for all interim milestone requirements with the exception of operation of all Digesters. Due to the current solids loading on the SSTP, there is not sufficient volatile organics to operate more digesters than Digester #3.

The project was 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. Projected Phase 2 Substantial Completion January 1, 2020.	Projected Phase 1 Substantial Completion August 29, 2019 achieved. Phase 2 Substantial Completion July 2020.
Contract No. 6	BAF Electrical	Projected Phase 1 Substantial Completion August 31, 2019. Projected Phase 2 Substantial Completion January 1, 2020.	Projected Phase 1 Substantial Completion August 29, 2019 achieved. Phase 2 Substantial Completion July 2020.
Contract No. 7	BAF HVAC	Projected Phase 1 Substantial Completion August 31, 2019. Projected Phase 2	Projected Phase 1 Substantial Completion August 29, 2019 achieved. Phase 2

		Substantial Completion January 1, 2020.	Substantial Completion July 2020.
Contract No. 8	BAF Plumbing	Projected Phase 1 Substantial Completion August 31, 2019. Projected Phase 2 Substantial Completion January 1, 2020.	Projected Phase 1 Substantial Completion August 29, 2019 achieved. Phase 2 Substantial Completion July2020.
Contract No. 9	Secant Pile Contract	Complete	Complete
Contract No. 10	Solids Handling Renovation Civil Contract	Substantial Completion #1 – June 30, 2020; Substantial Completion #2 – June 30, 2020; Substantial Completion #3 – June 30, 2020; Final Completion - August 30, 2020.	Substantial Completion #1 – Deleted; Substantial Completion #2 – Deleted; 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 CN Cells 1-14, DN Cells. UV, Methanol, and Actiflo. They began the 7-day System Demonstration Test for CN, DN, Methanol, and Actiflow during the quarter. They are still having issues with area velocity flow meters it he 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 to regulate the cells that are online. 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 have lingering issues that need to be completed to achieve Substantial Completion. Renovation of PST 1-6 is complete, with the exception of the final 7-Day Startup Test. The 7-Day Startup Test will be performed while the STP staff operates the PST Facilities. PC finally received the fiberglass troughs and weirs and completed the renovations for all 6 PST's this quarter. Scum Pump Station #3 was completed in April to allow PST's 1, 2, and 6 to be put into service.

PC did not follow their CPM Schedule, and it has consistently had significant errors in the logic that mask the true critical path. It has been necessary for us to supplement PC's lack of proper planning for well over a year.

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 June 2020. PC has completed installing the stairs on the south side of the Blower Building and the west stair tower, but they have not completed installing the stairs on the south side of the west stair tower. This along with other items of incomplete miscellaneous metals work have contributed to the prevention of having a safe site for the STP staff to be able to operate the CN facilities. They also have not completed installing the handrail on the stairs on the east side of the UV area. PC has nearly completed installing the Teflon washers that are preventing some of the stairs from being able to be established as complete. The handrail base plates still do not comply with the requirements of the contract, and must be corrected before we will clear the NCR. Because PC has provided limited access to the new secondary process, 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.

Kruger made the necessary adjustments to the treatment process in March/April to allow the final effluent to improve. The conditions of the Final Effluent have consistently met the SPDES Permit for the three months of this quarter. We are pushing PC to get the protocol for the 30 day performance tests approved for CN/DN as well as Actiflo. After these process units have cleared the 7-day startup test, we can turn them over to the STP staff to operate. We are working with the STP Staff, the City, and the Sewer Board to establish the proper protocol for turn-over of the facilities.

Kruger is nearing completion of the System Demonstration Test for CN and DN Cells, and we anticipate beginning the 7-Day Startup Test in Mid-July. Kruger is preparing the 30-Day Performance Test Protocol with GHD for the CN/DCN Cells and the Actiflo System.

PC completed the last of the renovation work for the Gravity Thickeners this quarter. All three Gravity Thickeners are available for use by the STP Staff. Thickeners #2 and #3 are being used in the automated mode and have proven to be reliable operationally.

PC has performed the System Demonstration Test and Startup Test for the BAF Backwash Treatment Facility. We are currently evaluating the alarms that came up during the Startup Test to determine if the test can be approved.

Contract Status: 98% Complete through Current Time. The Payments do not reflect this status as the withholding of progress payments to protect the Liquidated Damages prevent further payments.

Next Quarter:

PC to complete the remaining site work and miscellaneous metals. The only remaining work items should be correction of defective work such as the concrete repairs and punch list type work. We are anticipating that PC will get the necessary items completed to allow GHD to schedule the substantial completion walk through.

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 quarter the contractor completed electrical work on PST's 1 - 6, and continued ancillary electrical work around the site. They completed the ground rod installation as well as most of the security door hardware connections. They continue to support GHD in testing for SCADA Control. 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 completed site lighting installation around the site. Matco has submitted their revised short circuit and coordination study. We are requesting that GHD expedite the review of the study so the remainder of the testing and training can be completed. 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: 97% Complete through June 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 quarter other than punch list work. They continue to provide supporting information for the development of the CPM schedule.

Contract Status: 100% Complete through June 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.

Danforth worked on punch list work this quarter. No other significant work this month. Substantial Completion has been issued for this contract.

Contract Status: 100% Complete through June 2020

Next Quarter:

Danforth should complete the remaining 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 handlings 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: Quandel completed installing and testing the mechanical thickeners this quarter. They have confirmed that the cooling water piping does not appear to be leaking and we have successfully been able to run 5 microturbines at times. Quandel still needs to complete the repair of the gates at the centrifuges as well as load the specified software for the PLC that controls the microturbines. The software provided will not interface with the SCADA Software. Renovation for the Lab at the Headhouse is complete, and the Town of Vestal has provided a Certificate of Occupancy for the facility as a whole.

Quandel has finally got at least two of the centrifuges reliably operable. They have repaired the defective gate on centrifuge 2, and are in the process of repairing the defective gate for centrifuge

3. After the gate is reinstalled for centrifuge 3, the gate for centrifuge 1 will be removed and repaired.

Digester #3 is fully operational, and Digesters #1 and #2 are complete and ready for service. The STP Staff have been stating recently that they still do not have sufficient sludge to operate any additional digesters. We are no longer seeing an increase in the secondary sludge, and were attempting to prepare for startup of Digester #1, but determined that the sludge volume is inadequate to operate the other two digesters at this time.

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: 98% Complete through June 2020. 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: 98% Complete through June 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: 98% Complete through June 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. We have directed Streeter to remobilize to complete the removal of the causeway outside the floodwall now that the WQIP Contractor is complete with the use of the access road, and based upon the unwillingness of the USACE to approve leaving the access road in place. We have decided to use the concrete crews that Streeter will have on site to complete the remainder of some miscellaneous work rather than having either PC or Quandel do the work at this time. The work would be considered change order and would only serve to make the Owner's defense less clear to the claims by both PC and Quandel that they have been impacted by design changes.

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

Next Quarter:

Streeter should complete the removal of the temporary access road for the floodwall project and any remaining 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 7/16/2020

Item No.	Description	Due Date	Status per Respondent	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 Complete construction of SIPS	April 30, 2019 June 30, 2019	Completed before April 30, 2019. Fully operational August 29, 2019.	5/13/2019 8/5/2019	Accepted 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. 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. Third one by August 30, 2019 Requested variance until March 31, 2020	All items are complete and operational in the mode intended.	Appendix A-1 form submitted to DEC on May 4 with Mayor David's signature. Form with all signatures submitted on May 8, 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 Revised and resubmitted 12/10/19	Accepted
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 Requested a variance for the sludge thickeners as they are part of Phase 2 construction work.	All items are complete and operational.	Completion Appendix A-1 submitted 7-13-2020	PST 1-6 are overdue; only primary clarifiers 7-10 have commenced operation by the August 31, 2019 milestone.

Item No.	Description	Due Date	Status per Respondent	Appendix A-1 Certification Submission Status	Appendix A-1 Certification Approval Status
3m	Substantially complete construction of BAF C/N cells 9-14	January 1, 2020	Requested Variance on 1/9/2020. 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.	Completion Appendix A-1 submitted 7-13-2020	Variance request pending review.
3n	Operate the Facility in compliance with SPDES permit effluent limits	April 1, 2020	Completion Appendix A-1 submitted 7-13-2020	Completion Appendix A-1 submitted 7-13-2020	
4d	Achieve substantial completion of the repair and restoration of Anaerobic Digesters 1-3	June 30, 2019. 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.	Complete and available for operation.	10/10/2019	Accepted
4e	Commence operation of Anaerobic Digesters 1-3	August 31, 2019 On 10/10/2019 requested variance due to insufficient sludge produced to startup Digesters 1 & 2; no new compliance date provided.	As discussed with DEC on April 14, the STP is not producing sufficient sludge to startup a second digester. DEC said they would hold this item open while the remaining consent order items are being completed.	Complete and ready for service when sufficient sludge is available.	Variance request accepted
5b	• Modify the approved interim operating strategy to provide for operation of the new processes coming online by August 31, 2019. • Modify the approved interim operating strategy to provide for operation of the new processes coming online by January 1, 2020.	• July 31, 2019 • December 1, 2019	• Interim Operating Strategy was completed for Phase 1 by July 31, 2019 • Interim Operating Strategy was completed for Phase 1 by Dec 1, 2019	• 8/5/2019 for Phase 1 • 12/10/2019 for Phase 2	• Accepted • Accepted

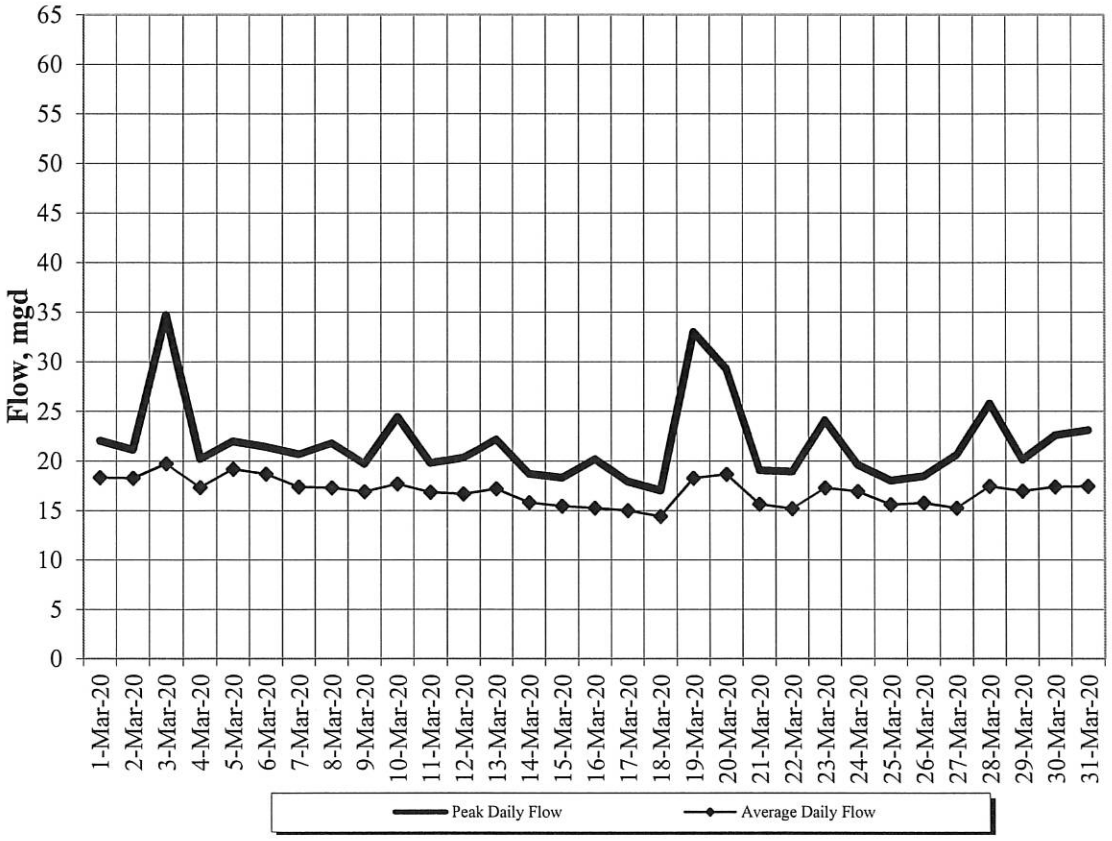
Item No.	Description	Due Date	Status per Respondent	Appendix A-1 Certification Submission Status	Appendix A-1 Certification Approval Status
7	Complete construction on Flood Mitigation Phase II, completion of the flood wall and flood protection system to elevation 845 for the entire Facility	February 28, 2019	Completed March 1, 2019 for use on temporary power 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	Complete	12/11/19	DEC waiting to see December 2019 DMR submittal

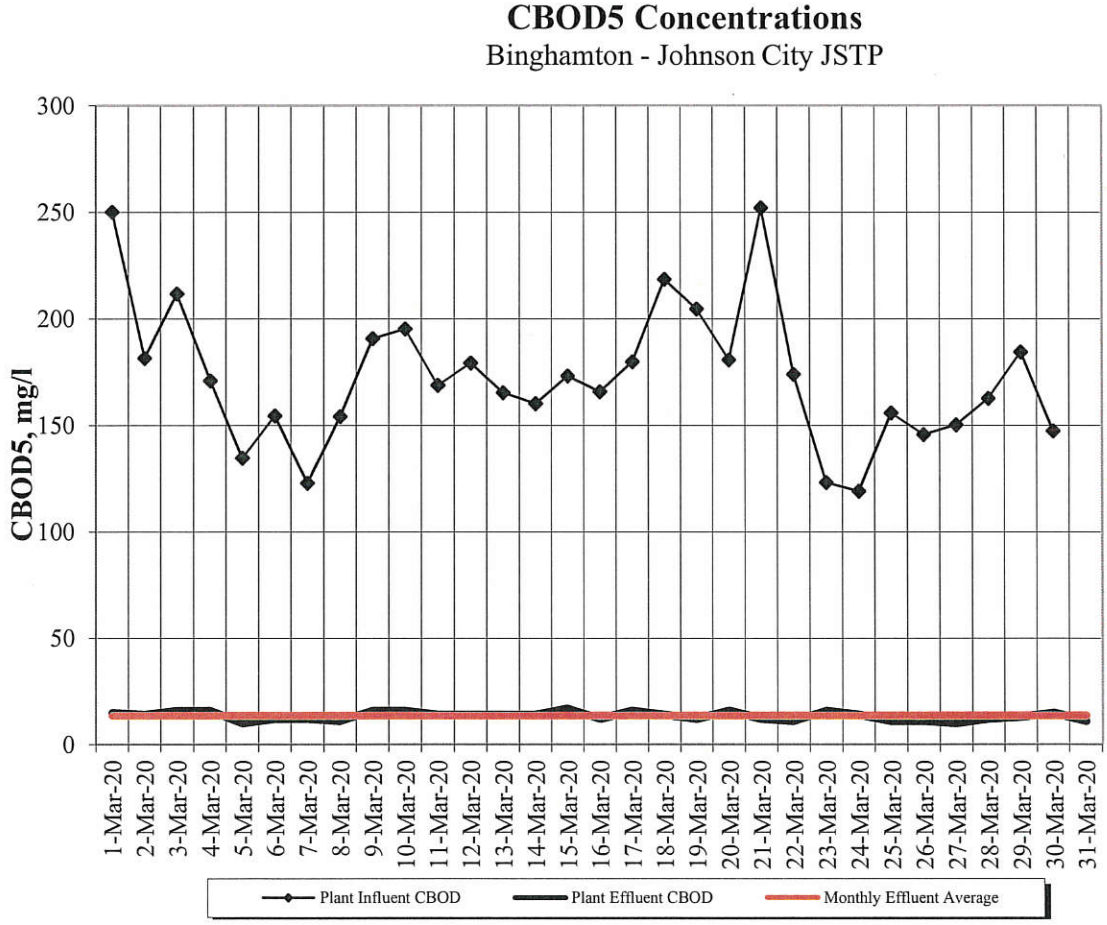
ATTACHMENT A

Facility Operations

Daily Flows

Binghamton - Johnson City JSTP




CBOD5 Concentrations
Binghamton - Johnson City JSTP
CBOD5, mg/l
300
250
200
150
100
50
0
1-Mar-20
2-Mar-20
3-Mar-20
4-Mar-20
5-Mar-20
6-Mar-20
7-Mar-20
8-Mar-20
9-Mar-20
10-Mar-20
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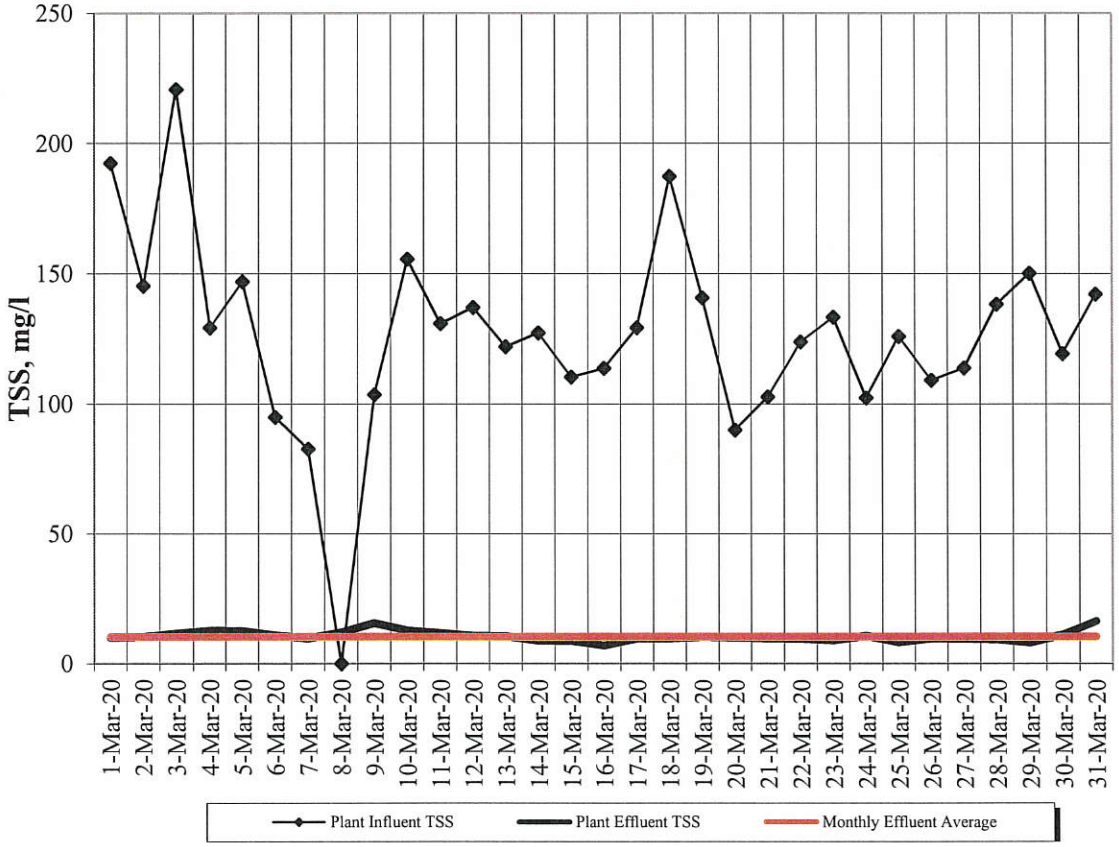
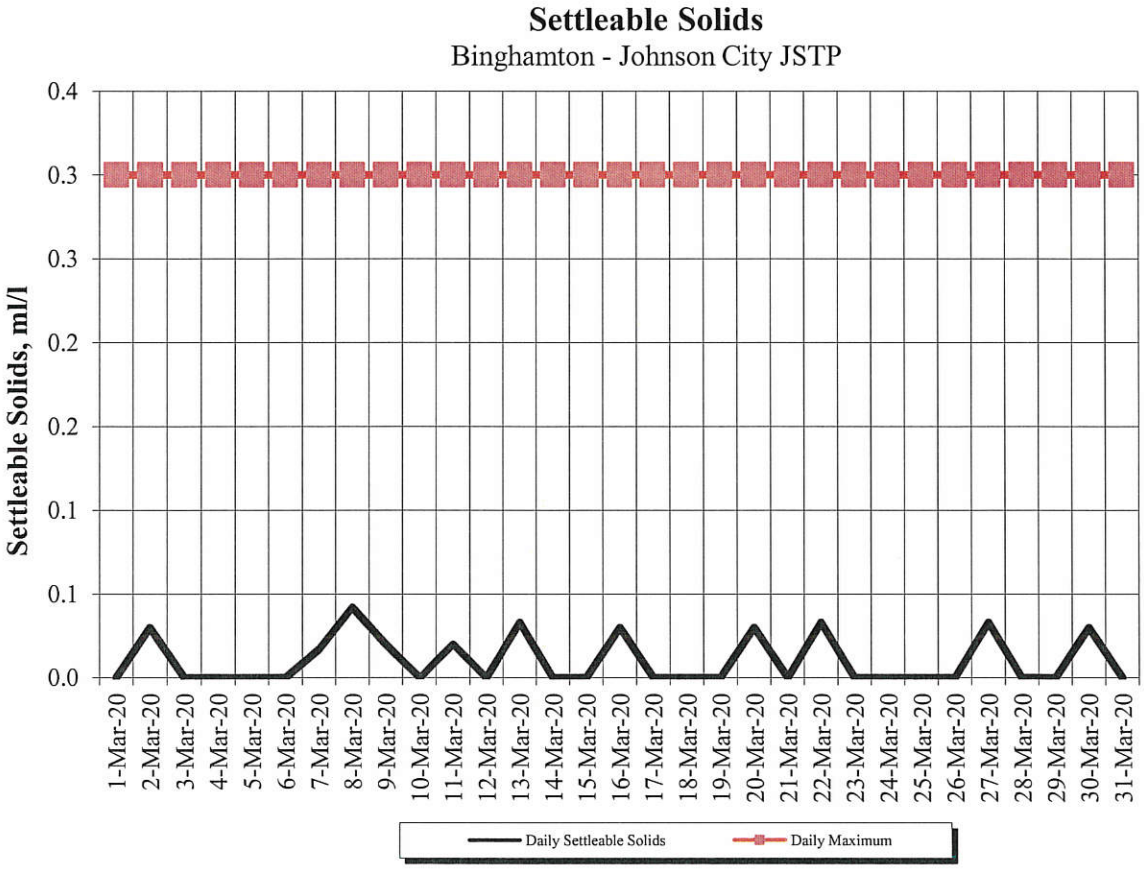
24-Mar-20
25-Mar-20
26-Mar-20
27-Mar-20
28-Mar-20
29-Mar-20
30-Mar-20
31-Mar-20
Plant Influent CBOD
Plant Effluent CBOD
Monthly Effluent Average

TSS Concentrations

Binghamton - Johnson City JSTP




Settleable Solids
Binghamton - Johnson City JSTP
Settleable Solids, ml/l
0.4
0.3
0.3
0.2
0.2
0.1
0.1
0.0
1-Mar-20
2-Mar-20
3-Mar-20
4-Mar-20
5-Mar-20
6-Mar-20
7-Mar-20
8-Mar-20
9-Mar-20
10-Mar-20
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24-Mar-20
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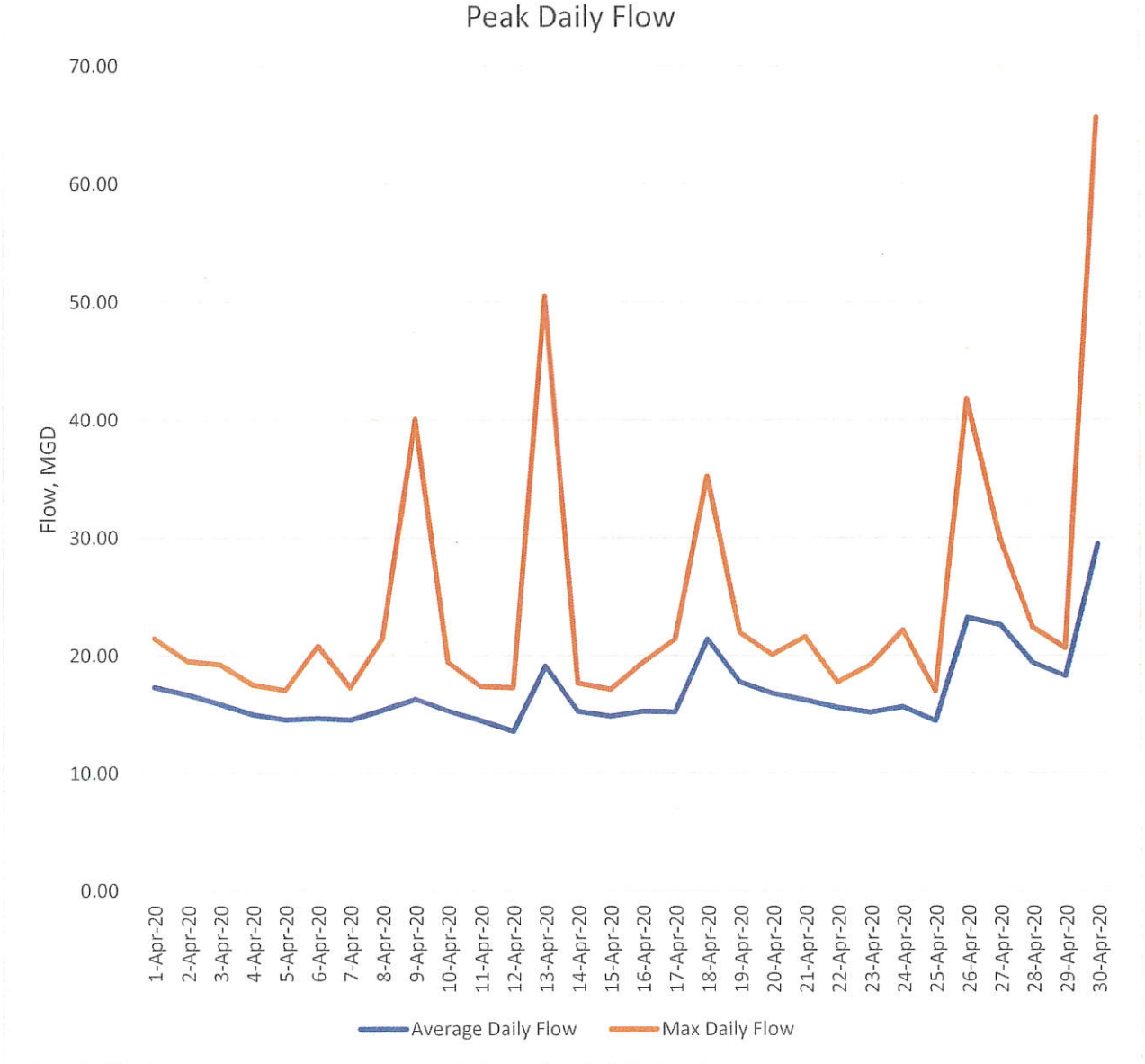
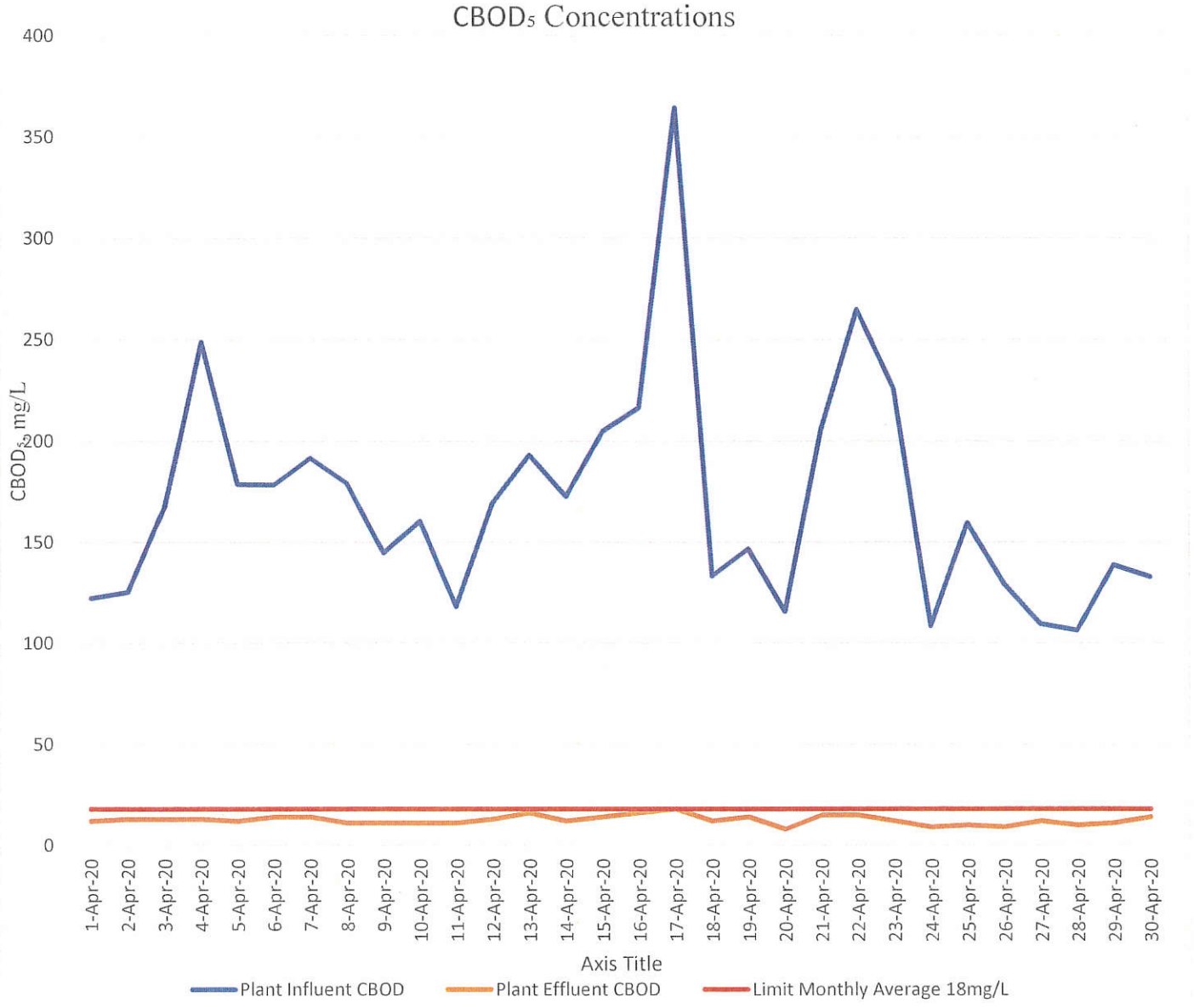
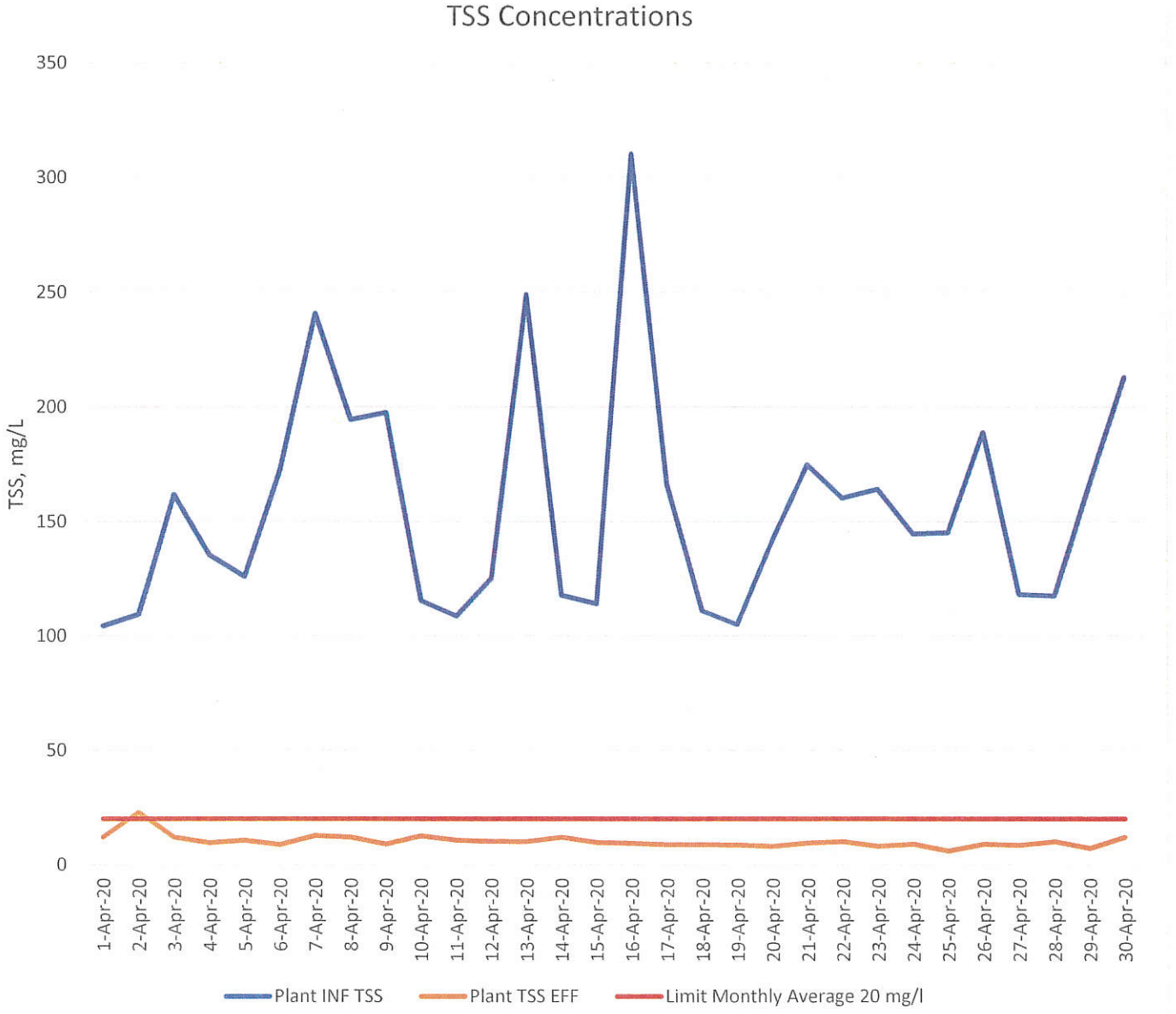
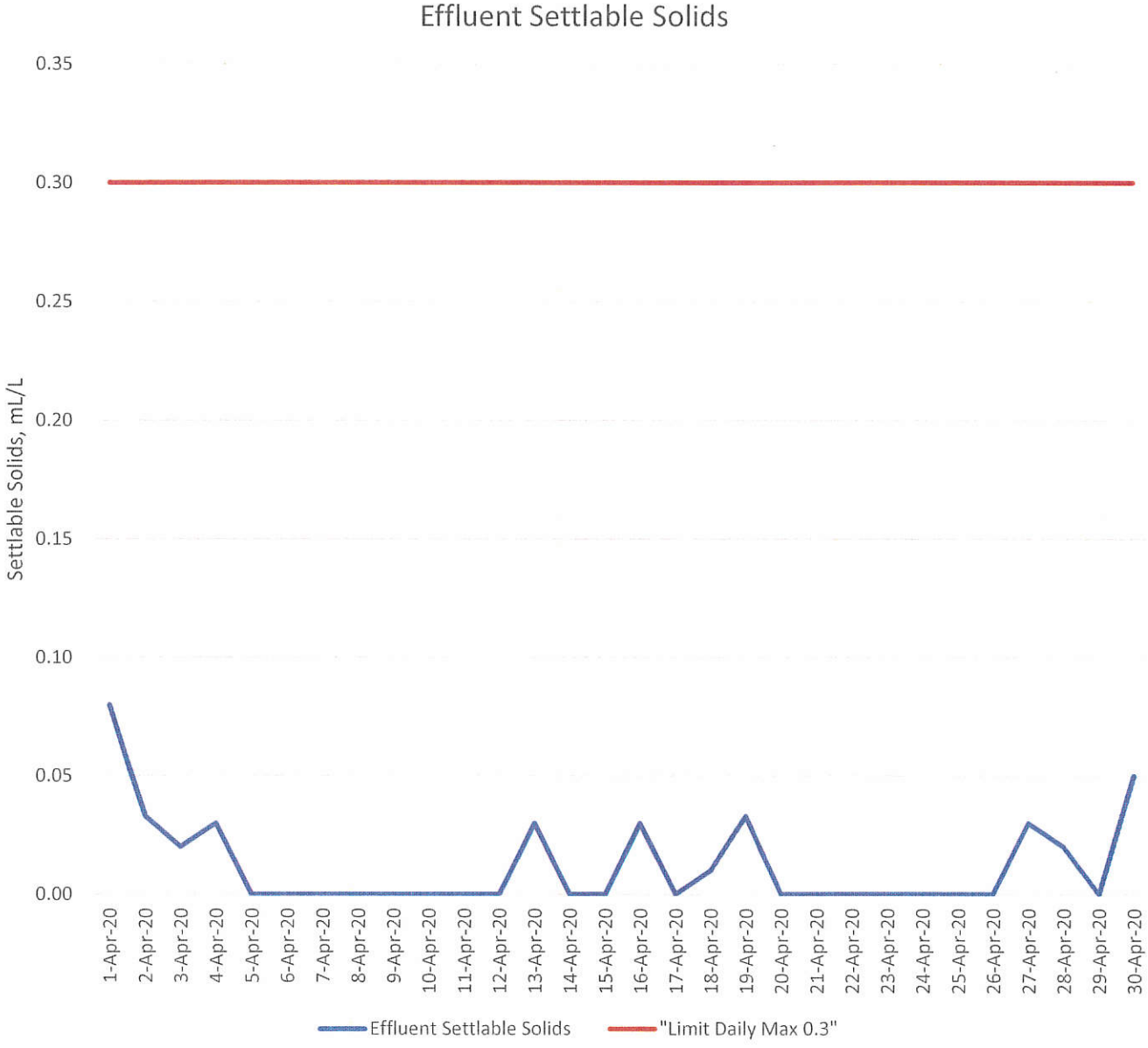
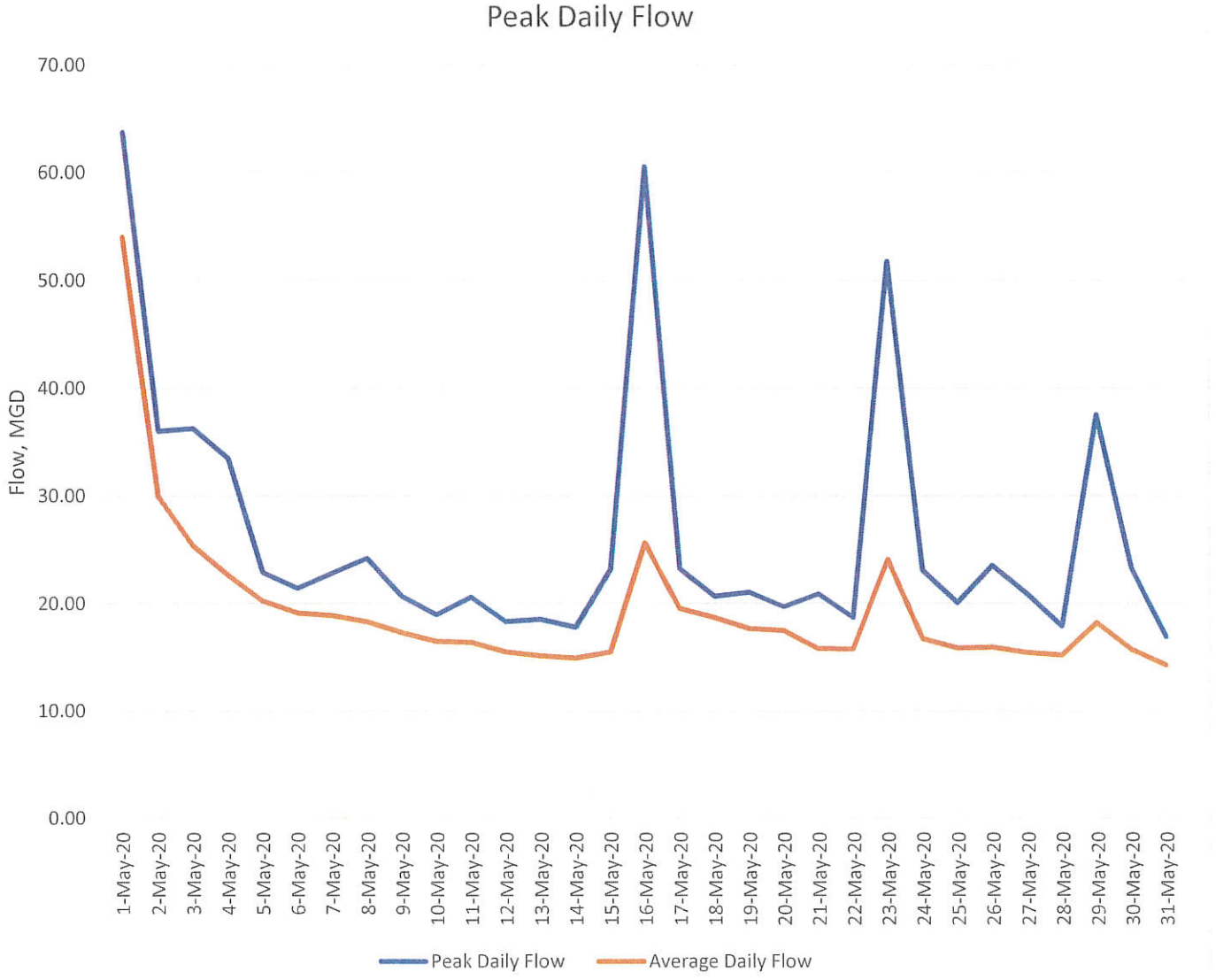
27-Mar-20
28-Mar-20
29-Mar-20
30-Mar-20
31-Mar-20
Daily Settleable Solids
Daily Maximum

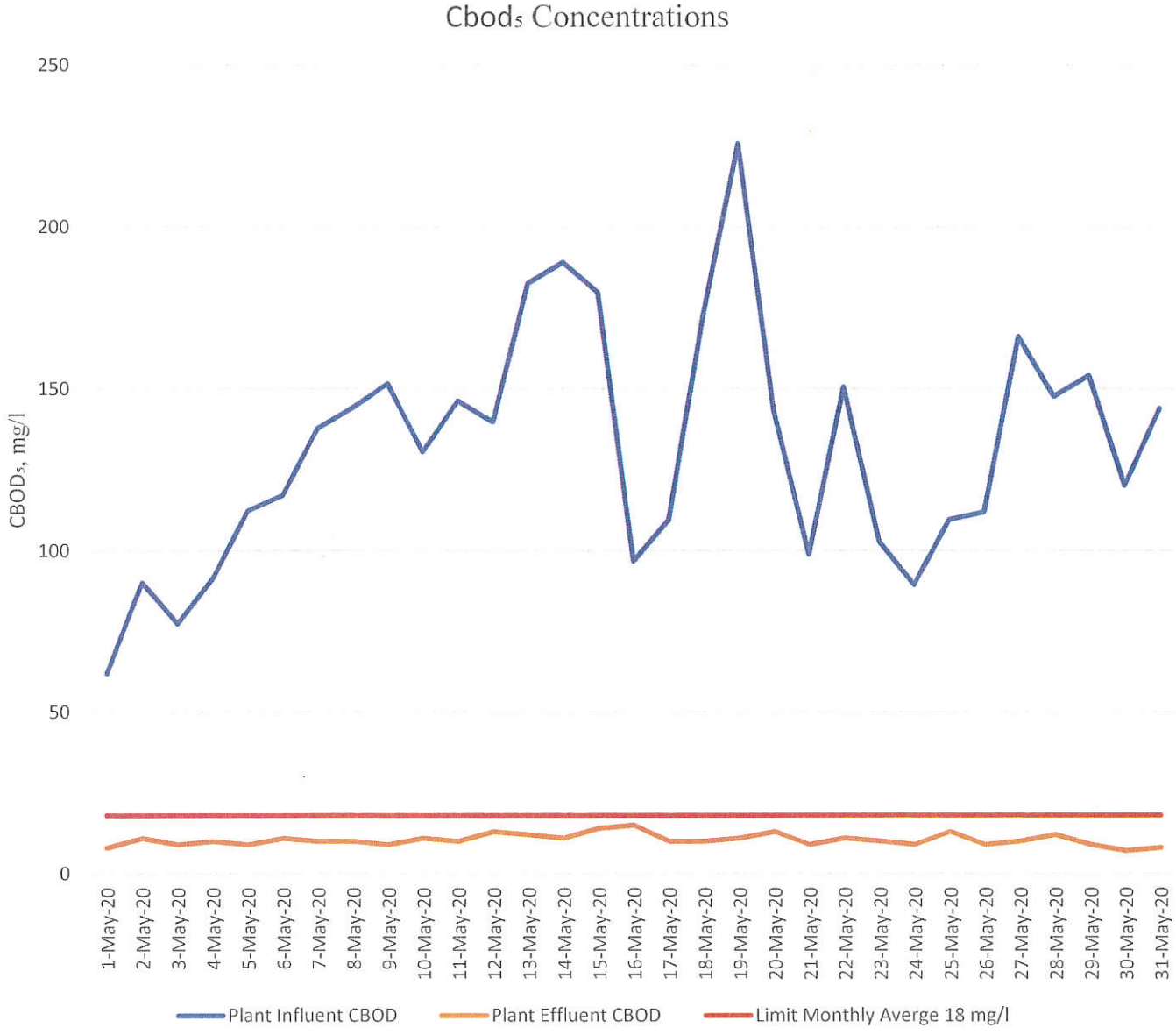

Peak Daily Flow
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
Flow, MGD
1-Apr-20
2-Apr-20
3-Apr-20
4-Apr-20
5-Apr-20
6-Apr-20
7-Apr-20
8-Apr-20
9-Apr-20
10-Apr-20
11-Apr-20
12-Apr-20
13-Apr-20
14-Apr-20
15-Apr-20
16-Apr-20
17-Apr-20
18-Apr-20
19-Apr-20
20-Apr-20
21-Apr-20
22-Apr-20
23-Apr-20
24-Apr-20
25-Apr-20
26-Apr-20
27-Apr-20
28-Apr-20
29-Apr-20
30-Apr-20
Average Daily Flow
Max Daily Flow

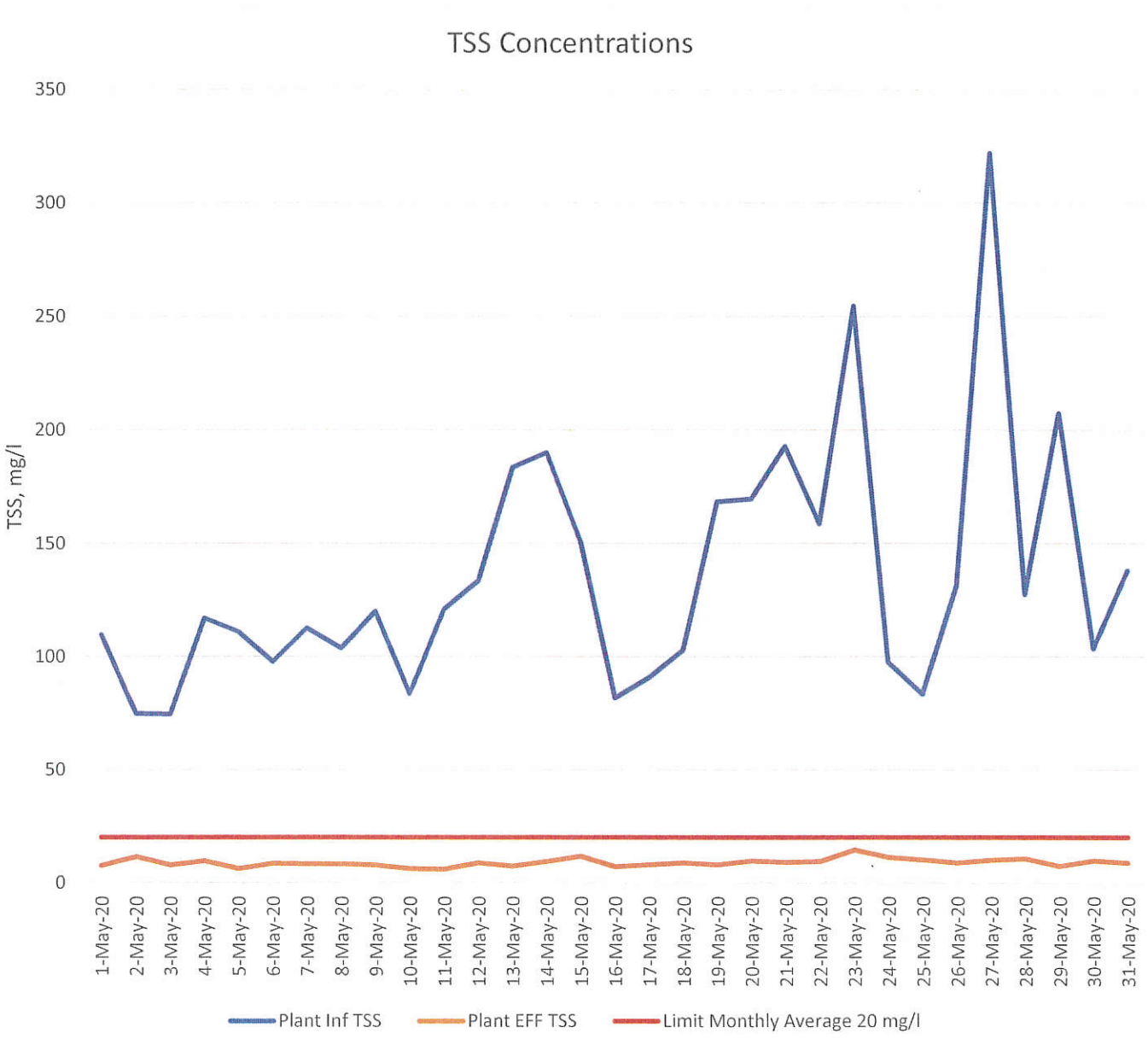

CBOD5 Concentrations
400
350
300
250
200
150
100
50
0
CBOD5 mg/L
1-Apr-20
2-Apr-20
3-Apr-20
4-Apr-20
5-Apr-20
6-Apr-20
7-Apr-20
8-Apr-20
9-Apr-20
10-Apr-20
11-Apr-20
12-Apr-20
13-Apr-20
14-Apr-20
15-Apr-20
16-Apr-20
17-Apr-20
18-Apr-20
19-Apr-20
20-Apr-20
21-Apr-20
22-Apr-20
23-Apr-20
24-Apr-20
25-Apr-20
26-Apr-20
27-Apr-20
28-Apr-20
29-Apr-20
30-Apr-20
Axis Title
Plant Influent CBOD
Plant Effluent CBOD
Limit Monthly Average 18mg/L

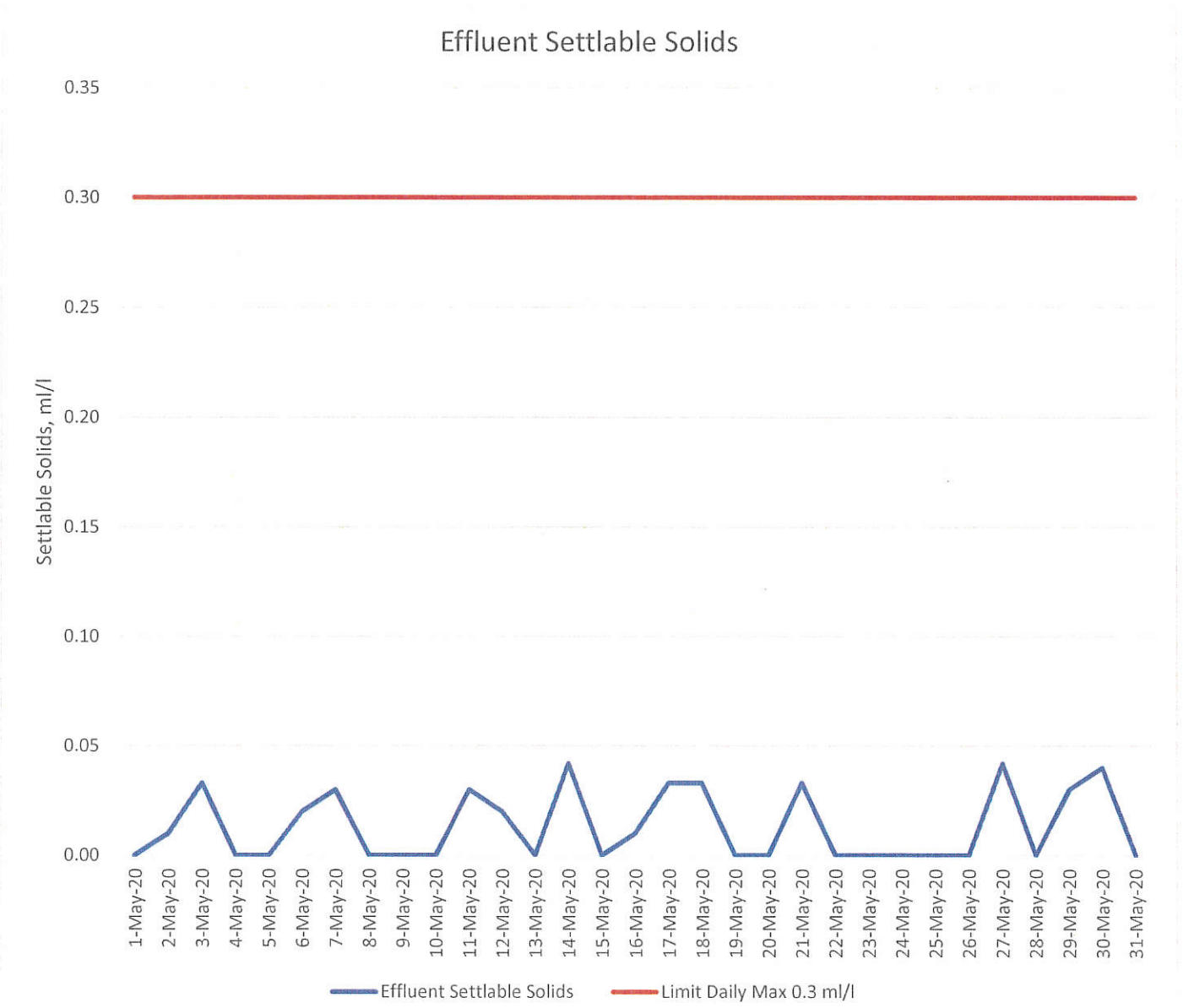

TSS Concentrations
TSS, mg/L
350
300
250
200
150
100
50
0
1-Apr-20
2-Apr-20
3-Apr-20
4-Apr-20
5-Apr-20
6-Apr-20
7-Apr-20
8-Apr-20
9-Apr-20
10-Apr-20
11-Apr-20
12-Apr-20
13-Apr-20
14-Apr-20
15-Apr-20
16-Apr-20
17-Apr-20
18-Apr-20
19-Apr-20
20-Apr-20
21-Apr-20
22-Apr-20
23-Apr-20
24-Apr-20
25-Apr-20
26-Apr-20
27-Apr-20
28-Apr-20
29-Apr-20
30-Apr-20
Plant INF TSS
Plant TSS EFF
Limit Monthly Average 20 mg/l


Effluent Settlable Solids
Settlable Solids, mL/L
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
1-Apr-20
2-Apr-20
3-Apr-20
4-Apr-20
5-Apr-20
6-Apr-20
7-Apr-20
8-Apr-20
9-Apr-20
10-Apr-20
11-Apr-20
12-Apr-20
13-Apr-20
14-Apr-20
15-Apr-20
16-Apr-20
17-Apr-20
18-Apr-20
19-Apr-20
20-Apr-20
21-Apr-20
22-Apr-20
23-Apr-20
24-Apr-20
25-Apr-20
26-Apr-20
27-Apr-20
28-Apr-20
29-Apr-20
30-Apr-20
Effluent Settlable Solids
"Limit Daily Max 0.3"


Peak Daily Flow
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
Flow, MGD
1-May-20
2-May-20
3-May-20
4-May-20
5-May-20
6-May-20
7-May-20
8-May-20
9-May-20
10-May-20
11-May-20
12-May-20
13-May-20
14-May-20
15-May-20
16-May-20
17-May-20
18-May-20
19-May-20
20-May-20
21-May-20
22-May-20
23-May-20
24-May-20
25-May-20
26-May-20
27-May-20
28-May-20
29-May-20
30-May-20
31-May-20
Peak Daily Flow
Average Daily Flow


Cbod5 Concentrations
250
200
150
100
50
0
CBOD5, mg/l
1-May-20
2-May-20
3-May-20
4-May-20
5-May-20
6-May-20
7-May-20
8-May-20
9-May-20
10-May-20
11-May-20
12-May-20
13-May-20
14-May-20
15-May-20
16-May-20
17-May-20
18-May-20
19-May-20
20-May-20
21-May-20
22-May-20
23-May-20
24-May-20
25-May-20
26-May-20
27-May-20
28-May-20
29-May-20
30-May-20
31-May-20
Plant Influent CBOD
Plant Effluent CBOD
Limit Monthly Averge 18 mg/l


TSS Concentrations
TSS, mg/l
350
300
250
200
150
100
50
0
1-May-20
2-May-20
3-May-20
4-May-20
5-May-20
6-May-20
7-May-20
8-May-20
9-May-20
10-May-20
11-May-20
12-May-20
13-May-20
14-May-20
15-May-20
16-May-20
17-May-20
18-May-20
19-May-20
20-May-20
21-May-20
22-May-20
23-May-20
24-May-20
25-May-20
26-May-20
27-May-20
28-May-20
29-May-20
30-May-20
31-May-20
Plant Inf TSS
Plant EFF TSS
Limit Monthly Average 20 mg/l


Effluent Settlable Solids
Settlable Solids, ml/l
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
1-May-20
2-May-20
3-May-20
4-May-20
5-May-20
6-May-20
7-May-20
8-May-20
9-May-20
10-May-20
11-May-20
12-May-20
13-May-20
14-May-20
15-May-20
16-May-20
17-May-20
18-May-20
19-May-20
20-May-20
21-May-20
22-May-20
23-May-20
24-May-20
25-May-20
26-May-20
27-May-20
28-May-20
29-May-20
30-May-20
31-May-20
Effluent Settlable Solids
Limit Daily Max 0.3 ml/l

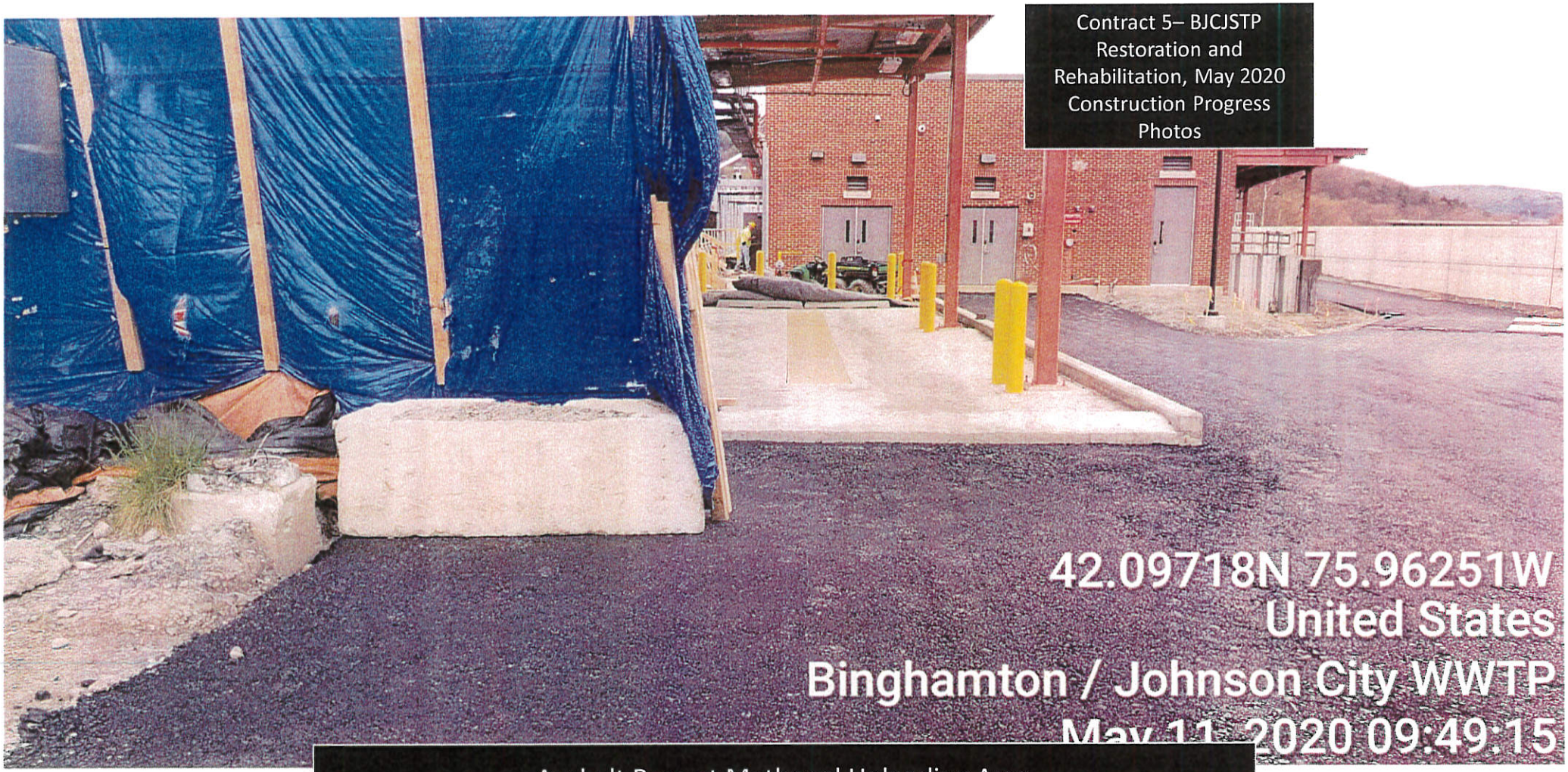
DATE	TOTAL FLOW	Final Eff Amm. Avg	FW Amm. Avg	Final Eff TKN	FW TKN	CL 2 AVG	Fecal Coli mg/l	Eff. Phos.	FW Phos. Avg	Eff. Total Iron	Daily Total Q	Iron (Fe) lbs/day
1-Mar-20	18.33			6.60	21.50	0.01	1				18.33	
2-Mar-20	18.27			8.60	21.35	0.06	1				18.27	
3-Mar-20	19.71	6.1	11.80	7.80	22.77	0.00	1	0.96	3.70	0.867	19.71	143
4-Mar-20	17.34			7.00	16.08	0.00	6				17.34	
5-Mar-20	19.17			7.10	25.71	0.00	6			0.835	19.17	133
6-Mar-20	18.69			7.00	18.79	0.00	2				18.69	
7-Mar-20	17.39			6.80	26.82	0.00	5				17.39	
8-Mar-20	17.30			5.60	21.81	0.02	2				17.30	
9-Mar-20	16.90			8.20	22.60	0.00	10				16.90	
10-Mar-20	17.68	6.9	13.06	8.80	25.17	0.00	5	1.5	3.77	0.748	17.68	110
11-Mar-20	16.85			9.10	23.66	0.00	11				16.85	
12-Mar-20	16.67			7.00	21.80	0.00	8			0.822	16.67	114
13-Mar-20	17.20			9.60	18.30	0.00	26				17.20	
14-Mar-20	15.80			8.10	28.63	0.00	29				15.80	
15-Mar-20	15.45			8.10	23.50	0.00	36				15.45	
16-Mar-20	15.24			9.50	21.44	0.01	62				15.24	
17-Mar-20	14.98	6.7	13.82	9.10	25.68	0.01	16	1	3.65	0.687	14.98	86
18-Mar-20	14.41			8.70	25.34	0.00	34				14.41	
19-Mar-20	18.27			6.00	22.21	0.01	214			0.746	18.27	114
20-Mar-20	18.64			4.60	23.83	0.01	57				18.64	
21-Mar-20	15.65			3.30	37.07	0.00	3				15.65	
22-Mar-20	15.17			4.00	21.57	0.01	1				15.17	
23-Mar-20	17.30			4.40	19.30	0.00	1				17.30	
24-Mar-20	16.93	0.23	9.80	2.60	19.01	0.00	2	0.48	2.63	0.544	16.93	77
25-Mar-20	15.60			2.70	22.40	0.00	14				15.60	
26-Mar-20	15.77			2.40	19.49	0.00	10			0.543	15.77	71
27-Mar-20	15.24			2.40	23.12	0.01	4				15.24	
28-Mar-20	17.46			3.50	19.15	0.01	4				17.46	
29-Mar-20	16.97			2.70	21.01	0.00	1				16.97	
30-Mar-20	17.38			3.20	18.78	0.01	1				17.38	
31-Mar-20	17.44	0.1	9.97	2.80	21.49	0.01	1	0.51	2.77	0.541	17.44	79
	16.94	***4.01***	***11.69***	***6.04***	***22.6***	***0.06***	***6***	***0.89***	***3.31***	***0.70***	***16.94***	***99***
	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-Apr-20	17.33			2.50	19.17		2				17.33	
2-Apr-20	16.67			3.10	18.99		8				16.67	
3-Apr-20	15.88			4.00	19.04		225				15.88	
4-Apr-20	15.00			2.20	13.80		3				15.00	
5-Apr-20	14.55			2.50	26.11		1				14.55	
6-Apr-20	14.68			3.10	22.24		6				14.68	
7-Apr-20	14.53	0.41	10.72	3.40	20.03		1	0.57	2.86		14.53	
8-Apr-20	15.37			2.60	20.71		3				15.37	
9-Apr-20	16.30			3.20	19.12		1				16.30	
10-Apr-20	15.28			2.90	20.24		1				15.28	
11-Apr-20	14.48			2.20	18.09		1				14.48	
12-Apr-20	13.56			1.80	18.46		1				13.56	
13-Apr-20	19.12			3.10	15.96		1				19.12	
14-Apr-20	15.27	0.10	13.25	2.50	19.63		1	0.48	3.20	0.364	15.27	46
15-Apr-20	14.85			2.00	22.82		1				14.85	
16-Apr-20	15.26			2.40	22.21		2				15.26	
17-Apr-20	15.20			2.00	19.15		1				15.20	
18-Apr-20	21.40			2.20	14.73		3				21.40	
19-Apr-20	17.73			2.30	15.08		1				17.73	
20-Apr-20	16.77			2.10	17.38		1				16.77	
21-Apr-20	16.21	0.10	10.68	2.30	20.39		1	0.47	3.21		16.21	
22-Apr-20	15.57			2.30	23.68		1				15.57	
23-Apr-20	15.16			1.90	20.04		1				15.16	
24-Apr-20	15.62			2.10	18.22		7				15.62	
25-Apr-20	14.43			1.70	18.97		2				14.43	
26-Apr-20	23.21			1.90	16.10		4				23.21	
27-Apr-20	22.60			1.80	13.03		1				22.60	
28-Apr-20	19.38	0.10	9.56	2.20	14.42		14	0.45	2.67		19.38	
29-Apr-20	18.25			1.70	16.11		194				18.25	
30-Apr-20	29.49			2.10	13.88		1				29.49	
	16.97	***0.18***	***11.05***	***2.40***	***18.6***	***0.00***	***2***	***0.49***	***2.98***	***0.364***	***16.97***	***46***
	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**

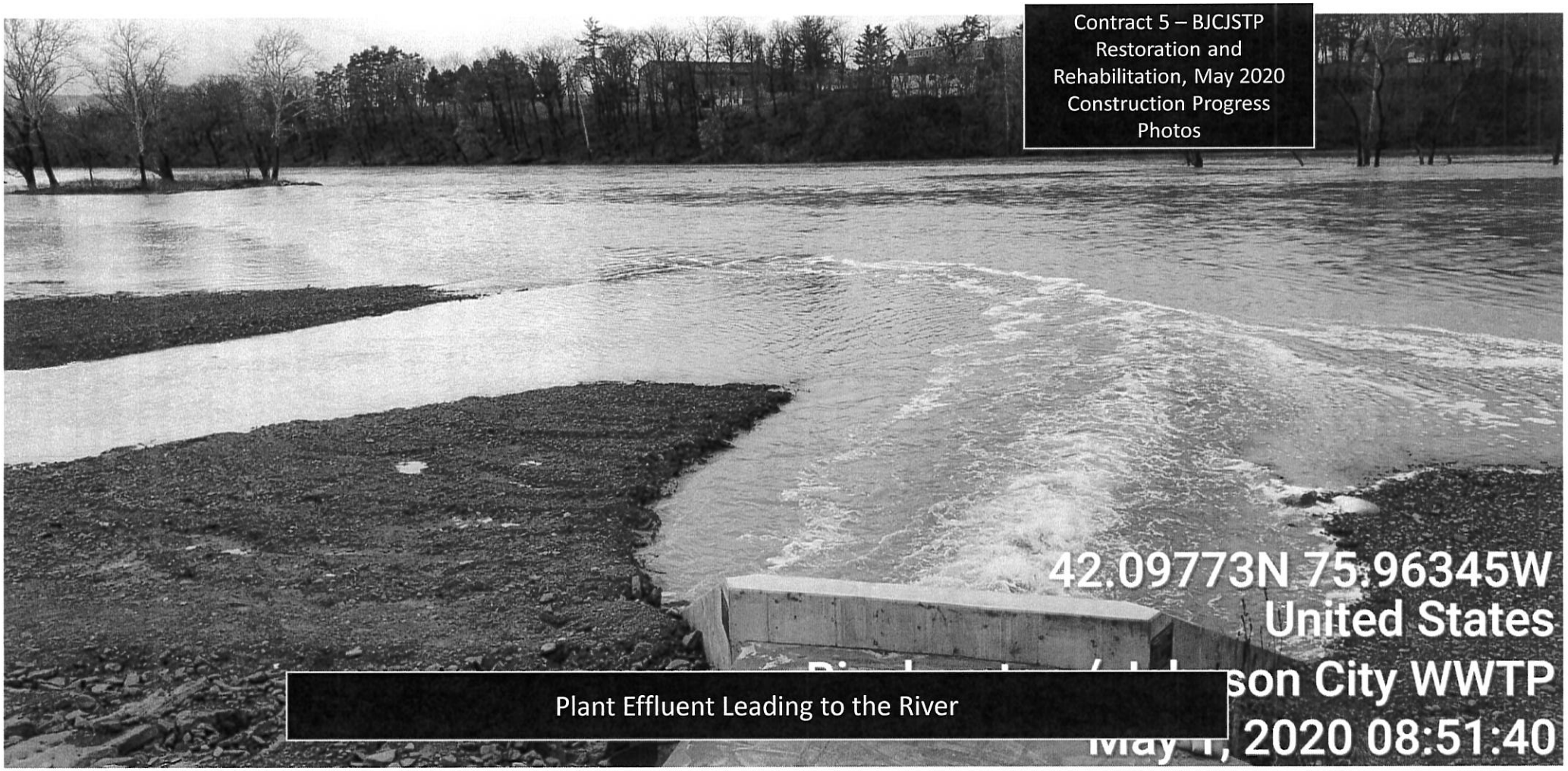
DATE	TOTAL FLOW	Final Eff Amm. Avg	FW Amm. Avg	Final Eff TKN	FW TKN	CL 2 AVG	Fecal Coli mg/l	Eff. Phos.	FW Phos. Avg	Eff. Total Iron	Daily Total Q	Iron (Fe) lbs/day
1-May-20	54.03			1.7	7.3		24				54.03	
2-May-20	29.97			2.0	8.2		5				29.97	
3-May-20	25.39			1.6	10.8		1				25.39	
4-May-20	22.62			1.7	13.2		3				22.62	
5-May-20	20.22	0.10	8.09	2.2	13.8		3	0.42	2.29		20.22	
6-May-20	19.12			2.2	16.7		3				19.12	
7-May-20	18.87			2.1	17.5		5				18.87	
8-May-20	18.28			2.6	16.7		1				18.28	
9-May-20	17.30			2.2	19.2		1				17.30	
10-May-20	16.48			1.7	16.1		1				16.48	
11-May-20	16.38			2.5	20.1		1				16.38	
12-May-20	15.49	0.10	11.84	3.1	20.5		1	0.57	2.66		15.49	
13-May-20	15.12			1.9	21.3		3				15.12	
14-May-20	14.90			2.5	22.0		3				14.90	
15-May-20	15.46			2.4	15.5		1				15.46	
16-May-20	25.64			1.3	12.8		2				25.64	
17-May-20	19.53			1.1	14.5		3				19.53	
18-May-20	18.69			2.2	16.1		13				18.69	
19-May-20	17.67	0.10	9.55	2.8	17.9		1	0.27	2.90	0.30	17.67	44
20-May-20	17.46			1.6	19.0		9				17.46	
21-May-20	15.78			2.2	20.0		1				15.78	
22-May-20	15.76			1.7	19.6		1				15.76	
23-May-20	24.08			1.5	15.2		6				24.08	
24-May-20	16.70			1.9	13.3		5				16.70	
25-May-20	15.83			1.6	14.5		2				15.83	
26-May-20	15.90	0.10	10.91	2.1	18.8		1	0.69	2.95		15.90	
27-May-20	15.42			2.7	22.6		1				15.42	
28-May-20	15.17			3.3	22.0		2				15.17	
29-May-20	18.18			2.8	21.5		4				18.18	
30-May-20	15.71			2.3	18.5		10				15.71	
31-May-20	14.25			1.7	18.5		1				14.25	
	19.40	***0.10***	***10.10***	***2.10***	***16.89***	***0.00***	***2***	***0.49***	***2.70***	***0.30***	***19.40***	***44***
	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**

ATTACHMENT B

Photos



Asphalt Base at Methanol Unloading Area



Plant Effluent Leading to the River

Contract 5 – BJCJSTP Restoration and Rehabilitation, April 2020 Construction Progress Photos

PST #2 Scum Skimmer

Contract 5 – BJCJSTP Restoration and Rehabilitation, April 2020 Construction Progress Photos

Sludge Thickener Distribution Box Online

Contract 5 – BJCJSTP Restoration and Rehabilitation, June 2020 Construction Progress Photos

Headworks Distribution Box new Grating for Slide Gates

Contract 5– BJCJSTP Restoration and Rehabilitation, June 2020 Construction Progress Photos

PST #3 Cross Collector