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

2016 Quarter 3 Report
September Monthly Report

City of Binghamton
Village of Johnson City
Joint Sewage Board

October 2016

2016 QUARTER 3 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. R7-20110628-59) between the City of Binghamton, Village of Johnson City, the Joint Sewage Board, and the State of New York, the City submits this 2016 Quarter 3 Report. The report summarizes the status and progress of the projects and programs required by the Consent Order from July 2016 to September 2016.

SECTION 1 – FACILITY OPERATIONS

We continue to operate in CEPT mode. Settling Tanks 7,8, 9 and 10 have been taken off line in preparation for work to be completed. Flow has been reduced to receive a minimum of 35 MGD.

See Attachment A for the plant performance during this Quarter.

Background

The Binghamton - Johnson City Joint Sewage Treatment Plant (BJCJSTP) is a 60 million gallon per day (MGD) wastewater treatment facility that 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 by August 1, 2018. To achieve this level of treatment, the reconstruction and testing of the Secondary Treatment Process must be completed as necessary to achieve this treatment to comply with the Consent Order, the sewage treatment plant must then be fully operable by May, 1, 2019, including the remainder of the secondary treatment process. Several interim milestones are included in the Consent Order as reflected in the table below.

The project is being constructed in accordance with Wicks Law, which requires 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 biological filtration filters (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	Status
Contract No. 1	Compost Facility Demolition	Nearing final completion
Contract No. 2	FEMA Mechanical	Substantial Completion Date July 2016 Anticipated Completion Date October 2016
Contract No. 3	BAF Facility Demolition	Nearing final completion
Contract No. 4	MCC HH Emergency Replacement	Substantial completion in September 2016
Contract No. 5	BAF Restoration and Rehabilitation Civil Contract	Notice to Proceed (NTP) Issued May 27, 2016
Contract No. 6	BAF Electrical	NTP Issued May 27, 2016
Contract No. 7	BAF HVAC	NTP Issued May, 27, 2016
Contract No. 8	BAF Plumbing	NTP Issued May 27, 2016
Contract No. 9	Secant Plie Contract	Completion anticipated in November 2016
Contract No. 10 thru 13	Solids Handling Renovation	Currently in design. Anticipated completion of design is the end of 2016.
Floodwall	Floodwall and New Diversion Structure	Currently in construction. Anticipated Completion Date July of 2017

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 clears the way for the construction of a new maintenance facility.

Status: LeChase Construction has completed the work associated with the demolition of the compost facility. The final change order has been approved by the City, and is being reviewed by the EFC for approval. The Notice of Final Completion has been prepared. The Notice of Final Completion will be submitted to the City as soon as the final M/WBE report from LeChase is approved.

3 Month Look Ahead: LeChase has submitted the paperwork for Final Completion of the contract. The EFC review and authorization to close out the contract should be achieved within the next three months.

Contract Status: 99% complete based on expenditures to date. Contract Status: 100% completed by contract duration.

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. Work associated with this contract is being reimbursed by FEMA due to the flood of 2011.

Status: Blue Heron has begun installing valves. Blue Heron should be complete with their work in about 6 weeks. Jacobs is actively managing the construction contract to ensure that the work associated with this contract does not impact Contract #5 work or operations of the plant.

3 Month Look Ahead: Blue Heron should complete the contract work and final completion issued in the next three months.

Contract Status: 15% complete based on expenditures. Contract Status: Change Order being processed to extend the contract duration.

Contract No. 3 - BAF Facility Demolition

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

Status: LeChase is nearing completion on the BAF Facility Demolition contract. The only remaining item for completion is the evaluation and repair of concrete reinforcing steel cut in error by their subcontractor. The scope of work for the contract was increased with four change orders. One modified the contract to demolish and remove the existing Blower Building to improve construction on contracts 5-8 at the C-N cells 1-8. The second demolished the known concrete in the C cell area inside the secant pile area below the elevation 825 (the original limit of demolition indicated on the contract documents.) The third removed the additional concrete pile caps and steel H piles not originally included in the contract documents and backfill from elevation 825 to 831. The fourth and final change order compensated the contractor for demolition of approximately 3600 CY of additional concrete within the secant pile not shown on any existing plans. The necessity to remove the additional concrete also resulted in additional backfill to fill the excavation inside the secant pile perimeter. The City approved the change order for this additional concrete removal and it is being reviewed by the EFC. The removal of the additional

concrete avoided a delay of at least four months on the overall project. It also better identifies the scope of work under the Secant Project resulting in more accurate bids.

3 Month Look Ahead: LeChase will complete repairs of the rebar inadvertently cut during demolition activities for N and D-N Cells. Final completion will be achieved in the next three months.

Contract Status: 98% complete based on expenditures to date. Contract Status: 100% completed by contract duration.

Contract No. 4 - MCC - HH Emergency Replacement

Contract 4 replaces the original existing Motor Control Center (MCC) in the Head House. The MCC is 50 years old. The contract was bid as an emergency contract because the electrical system in the Head House is both critical to keeping the BJCJSTP in service, and because the original MCC was extremely unreliable due to the age and condition of the gear. MCC HH Emergency replacement also replaced the existing raw sewage pump variable frequency drives (VFD) of the 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 were replaced. 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 will be more reliable, more efficient, and will provide better performance of the existing raw sewage pumps.

Status: The new VFD's and MCC HH have been installed. The new MCC has been energized, and loads are being shifted over to the new MCC. The new VFD's will be moved over in October as soon as the pump manufacturer can certify the installation of the new electrical feeders into the pumps are installed properly to maintain the water tight integrity of the pumps. Flyght has been scheduled to certify the pumps the first three weeks in October. It is anticipated that the second feeder will be connected to MCC HH after the pumps and ancillary equipment are refed from the live portion MCC HH. We are recommending the pumps and other ancillary equipment in the Head House not be refed from the new MCC HH until the manufacturers of the equipment have certified proper installation of the new electrical equipment. Substantial Completion is anticipated to be the end of October 2016.

3 Month Look Ahead: MATCO will complete installation of the new MCC H-H and all equipment associated with the contract. They will complete all testing and training for the new electrical equipment. Final completion should be achieved within the next three months for this contract.

Contract Status: 85% complete based on expenditures. Contract Status: 95% completed by contract duration.

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 secondary treatment 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, 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. There will also be a new SCADA system.

Status: The NTP for Contract No. 5 was issued on May 27, 2016, which complied with milestone requirement in the revised Consent Order. Completion of the Critical Path Method (CPM) baseline schedule is nearly complete for the four BAF projects. The contractor has completed the erection of the west tower crane planned for use on the project. Because of the extremely tight site, the Contractor will use at least one tower crane and several mobile cranes to execute the work. Demolition has begun in Primary Clarifiers 7-10 with the contractor removing the chain and flights so that the concrete work can be done to change the direction of flow in Primary Clarifies 7-10. Exploratory work is being performed to determine if the existing sheeting installed on the previous contract can be used for the reduction of water migration under the existing structures. PCC has submitted their proposed temporary piping, temporary electrical feed to Primary Clarifiers 1-6, and their temporary chemical feed systems for review. As soon as submittals are approved, and the systems are installed, the demolition of the existing primary distribution box and existing grit removal systems can begin. When these systems are removed, the excavation for the Head House can begin. The Kruger submittal package was submitted and a meeting is scheduled for the first week in October to allow GHD and Kruger to discuss the submittal. The Kruger submittal includes most of the major equipment required for the project.

Because Wicks Law required the contracts to be bid as Multiple Prime Contracts, Jacobs' role as the CM is to manage the coordination between the Multiple Prime Contracts. There are weekly coordination meetings with all four prime contracts and their major subcontractors. There was a preliminary CPM Schedule in mid-September, and we found that the proposed durations for the installation of the electrical components were excessive. Revisions in the electrical components improved the overall CPM schedule completion dates for the project as a whole. The improvements allow the Prime Civil Contractor to comply with all DEC milestones with the exception of the Head Works, the BAF Backwash Treatment Facility, and the sludge thickener rehabilitation. The sludge thickeners will be sufficiently completed to allow the plant to comply

with the DEC Phase 1 Milestone, as will the Head Works and all BAF Systems. The contractor has acknowledged they can complete the construction work within the required DEC Phase 1 and Phase 2 milestone dates.

3 Month Look Ahead: PCC will begin installing the temporary bypass piping for diversion of the primary influent from the head house pumps to primary clarifiers 1-6. They will also install the bypass piping for the Johnson City flow to primary clarifiers 1-6. They will relocate the chemical enhanced primary treatment system to the east side of primary clarifier #5. PCC will relocate the required instrumentation systems such as the pH meter and will also complete installing the temporary electrical feed to the mechanical equipment for primary clarifiers 1-6. After they complete the temporary utility installation PCC can demolish the existing grit removal systems and the primary distribution box. PCC will also complete installing the Johnson City Force Main to the influent channel of primary clarifiers 1-6.

PCC will complete demolition of the mechanical equipment and concrete in primary clarifiers 7-10. PCC will begin concrete work on primary clarifiers 7-10 as well as concrete work for C-N Cells 1-8 and D-N Cells. The new site security system should be fully installed and operational by the middle of November. PCC will continue work on the new administration and maintenance building, as wells as begin working on the new chemical storage building and east scrubber building.

PCC will begin installing the new outfall, the sheeting on the north and west side of the sewage treatment plant, and concrete work for the BAF Backwash Tank. Concrete work for the BAF Backwash Tank will be sequenced concurrently with the ending work for the Secant Pile Contract.

Contract Status: 5% complete based on expenditures. Contract Status: 12% completed by contract duration.

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 was bid and awarded in compliance with the May 27, 2016 milestone for issuing the NTP in the Consent Order. The contractor has mobilized, and is providing input for the Project baseline schedule. The schedule for electrical work is being adjusted in the CPM to better reflect the time and work effort. MATCO is slightly behind in submitting shop drawings, but this is improving. After they respond we will meet with MATCO to discuss the allowable durations for their work activities.

3 Month Look Ahead: MATCO will begin installing the conduit in the new Generator Building as well as supporting the CPM Schedule around the site in the next three months.

Contract Status: 3% complete based on expenditures to date. Contract Status: 12% completed by contract duration.

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 was awarded on May 27, 2016 in compliance with the DEC milestones in the Consent Order. The contractor is mobilizing and has been submitting material submittals for the HVAC Equipment for the projects. They have provided supporting information for development of the CPM Schedule. They have acknowledged they can meet the required milestones in the Consent Order.

3 Month Look Ahead: J&K Plumbing will begin installing the HVAC systems in the Head House as well as supporting the CPM Schedule around the site in the next three months.

Contract Status: 5% complete based on expenditures to date. Contract Status: 12% completed by contract duration.

Contract No. 8- BAF Plumbing

The BAF Plumbing contract supports the BAF General Civil Contract and includes installation of 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 mobilizing and has provided the supporting information for the CPM Schedule. They have confirmed that they can meet the required milestones in the Consent Order. They plan to begin installing the plumbing in the new maintenance building and the east scrubber building in September. They also intend to install the new potable water backflow preventer that will allow the potable water to be used as a backup of the existing non-potable plant water system. Danforth has acknowledged that they can meet the contract completion milestones.

3 Month Look Ahead: JW Danforth will continue plumbing in the new maintenance building, the east scrubber building, and new Chemical Feed Building. They will also continue to support the CPM Schedule around the site in the next three months.

Contract Status: 5% complete based on expenditures. Contract Status: 12% completed by contract duration.

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. The Secant Contract was advanced before the BAF Contract to save a minimum of four months on the overall project.

Status: Construction is complete with the excavation to the elevation of the intermediate wales and strut system. The contractor has completed approximately 50% of the concrete wales and strut system. The contractor should finish the wales and struts by the end of September. After the wales and struts are completed, they will proceed with the excavation below the wales and struts elevation. They have continued to lose ground on their schedule and are now projecting that they are two months behind their original projected completion date shown in the Contractor's base line schedule. This is being addressed to assure this delay doesn't impact the overall project and the NYSDEC Phase I & II milestones.

3 Month Look Ahead: Complete project and contract close out.

Contract Status: 81% complete based on expenditures. Contract Status: 100% completed by contract duration.

Contract No. 10 - 13 -Solids Handling Renovation

Contracts No. 10-13 are intended to renovate and improve the solids handlings systems including the existing digester control building, existing digesters, solids dewatering systems, and all ancillary equipment. The scope will be further developed as the design progresses. We have been told that we will have 60% drawings to review in the middle of October 2016. These projects are scheduled to be bid in January 2017 in order to meet the Consent Order requirements.

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 side of the STP. The project also includes two new pump stations to pump rainwater out of the plant during the storm events that might overwhelm the existing storm drain system. The new flood wall system works in conjunction with new flood wall features included in Contract No.5 BAF General Civil Construction. The flood wall systems are being funded by a FEMA recovery grant.

Status: Construction is proceeding with the continuation of the concrete foundation for the new floodwall. Streeter has begun concrete work for the vertical stem walls, and has cast one of the vertical wall sections to date. They continue to install formwork, rebar, and concrete placement for the footings and wall segments. The temporary haul road between the floodwall and the Susquehanna River is complete, and is being used by Streeter to access their work area. Form

work and rebar installation is progressing on the concrete stem walls at the existing sludge thickeners. The excavations for the two storm water pump stations are complete and Streeter is progressing with concrete work on the two pump stations. Streeter continues to proof the subgrade condition as excavation areas are exposed. All early permit requirements regarding the SEQR and the USACE Permit have been complied with for year one. We are currently projecting the contractor will complete the floodwall within the allowed contract completion date and in the Consent Order milestones. The 36" Binghamton University line relocation is a potential delay to the construction of the diversion manhole outside the floodwall. Revisions for this 36" line are currently being reviewed for the best solutions. Streeter was awarded a change order to begin rehabilitation of digesters 1, 2, and 3. This work is being accelerated to save time on the Solid Handling Renovation Project.

3 Month Look Ahead: Streeter will continue to install the floodwall and the associated structures such as the diversion structure. They will also complete concrete work and backfill of the storm water pump stations. Streeter will also begin rehabilitation of the existing three digesters.

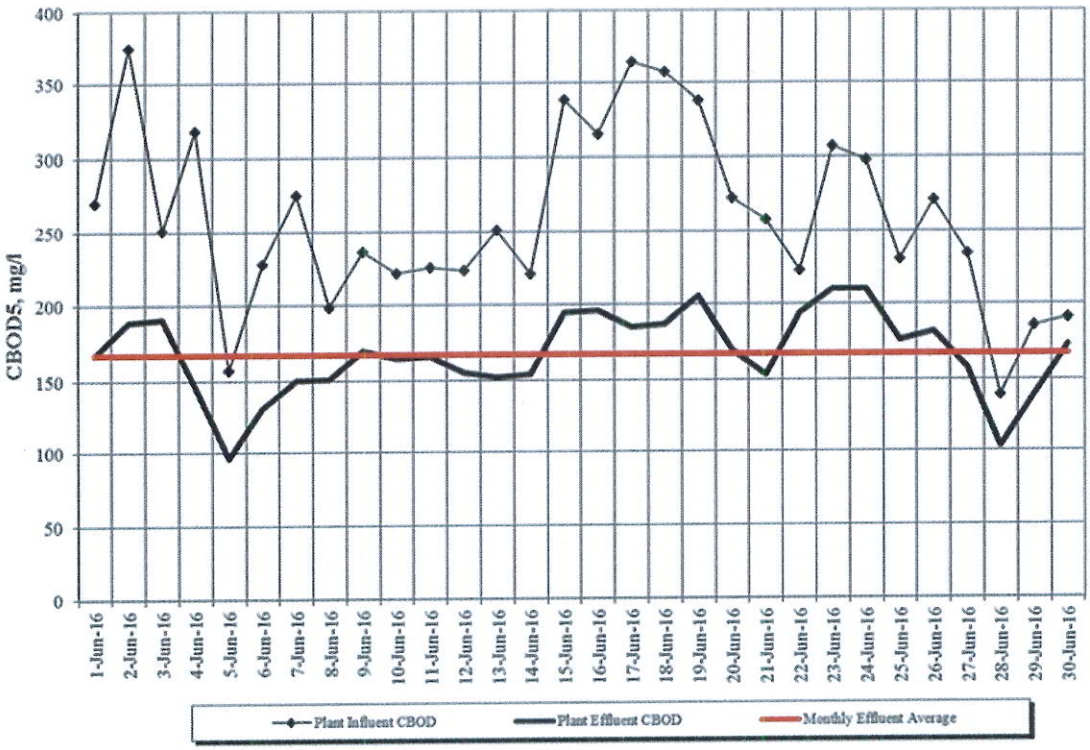
Contract Status: 33% complete based on expenditures. Contract Status: 43% completed by contract duration.

DRAFT

ATTACHMENT A

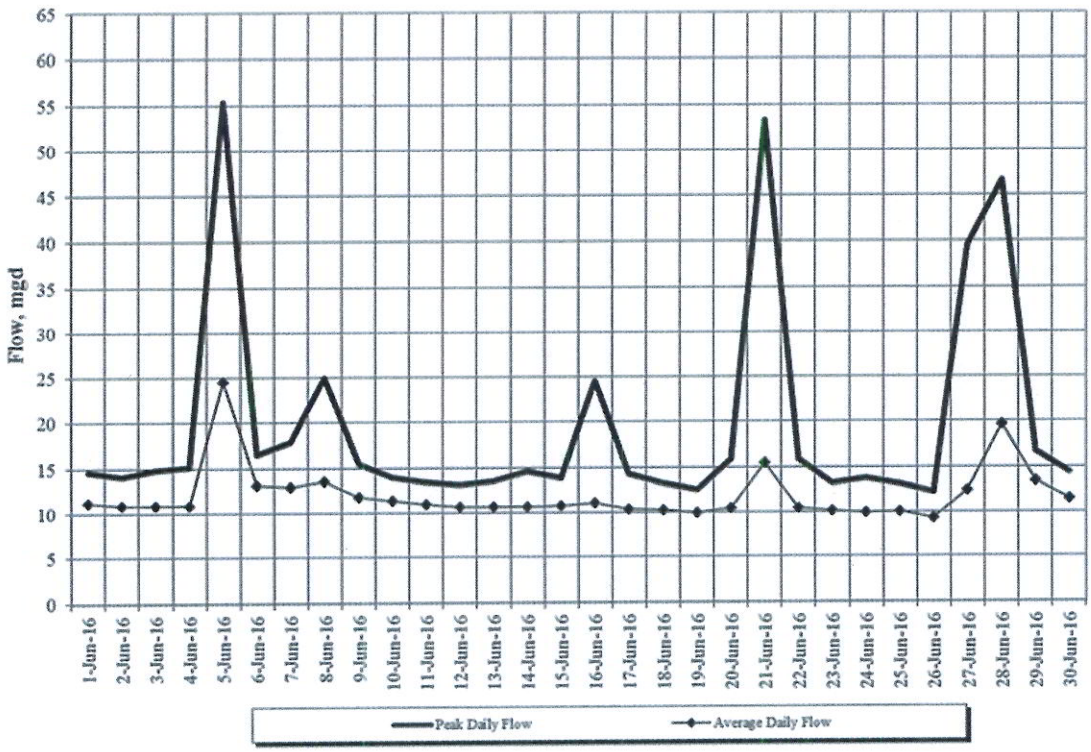
FACILITY OPERATIONS

CBOD5 Concentrations
Binghamton - Johnson City JSTP



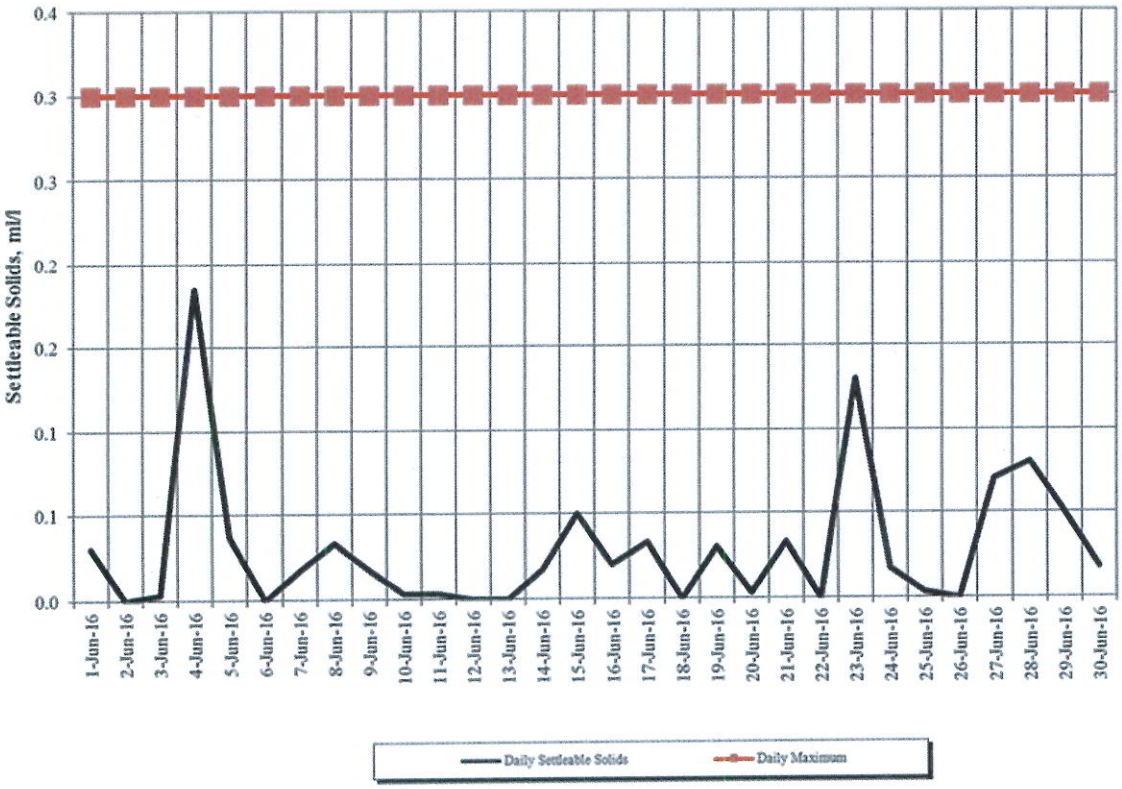
Daily Flows

Binghamton - Johnson City JSTP



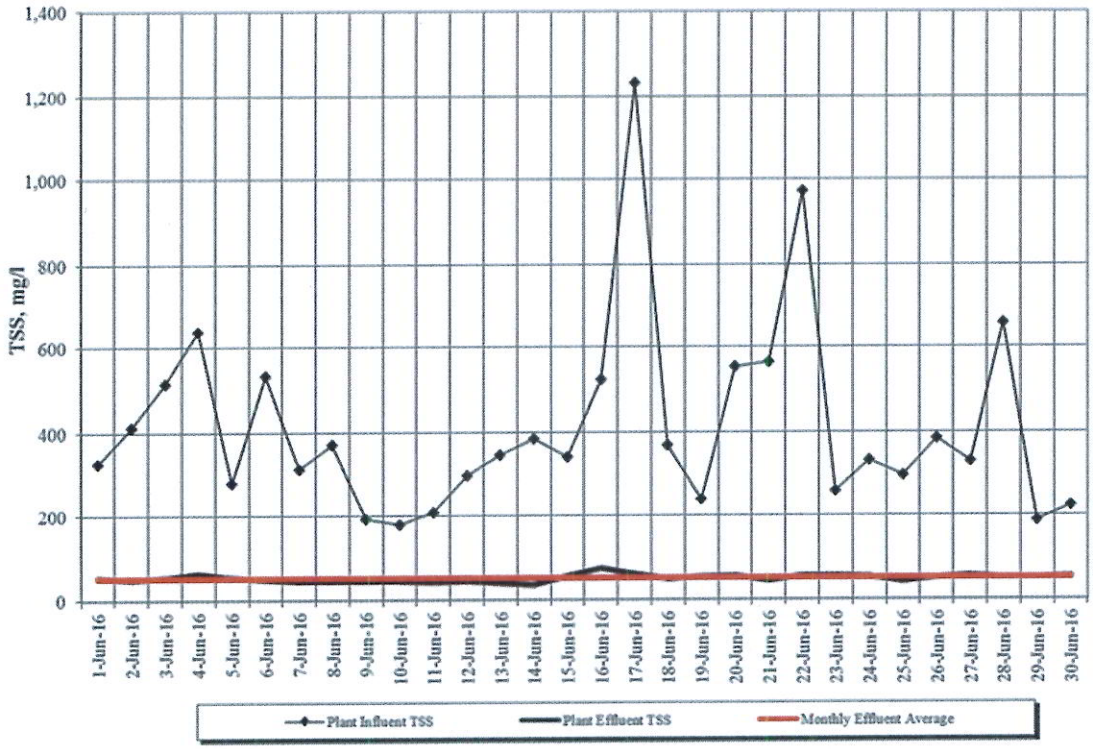
Settleable Solids

Binghamton - Johnson City JSTP



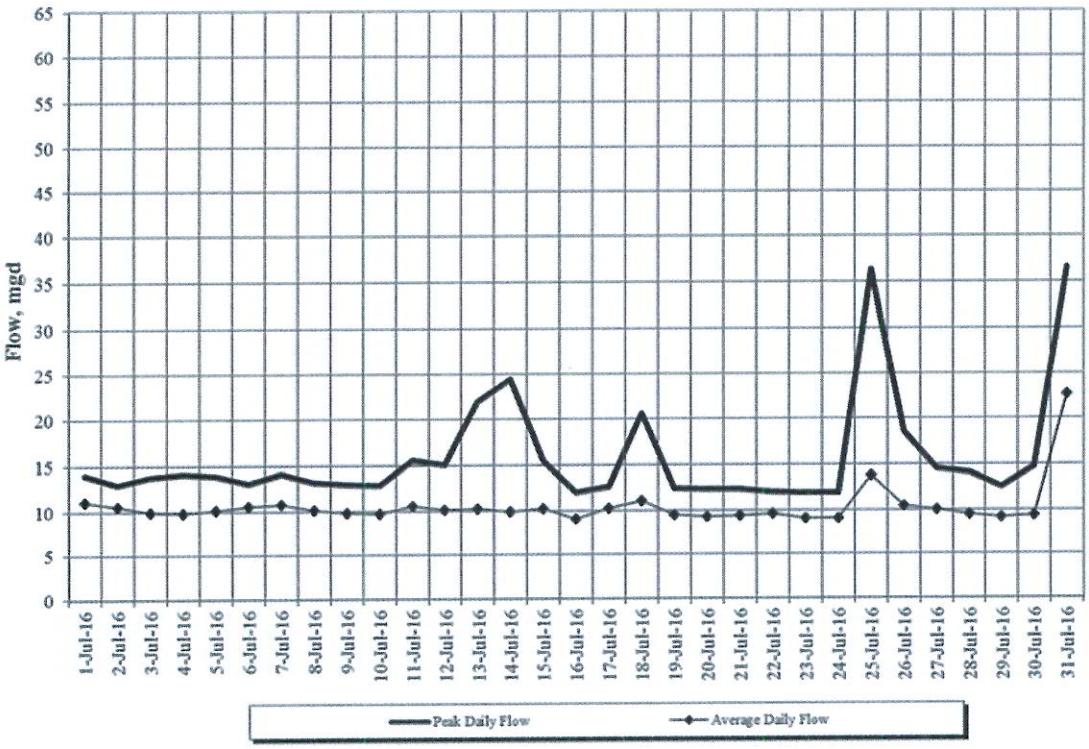
TSS Concentrations

Binghamton - Johnson City JSTP



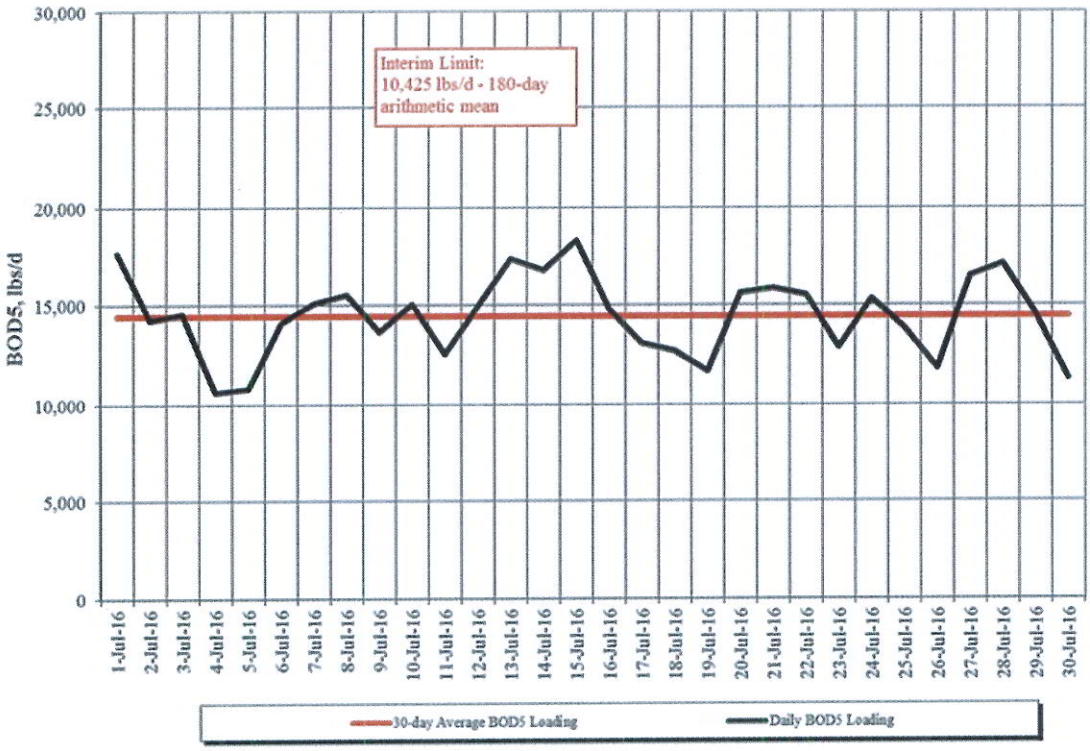
Daily Flows

Binghamton - Johnson City JSTP

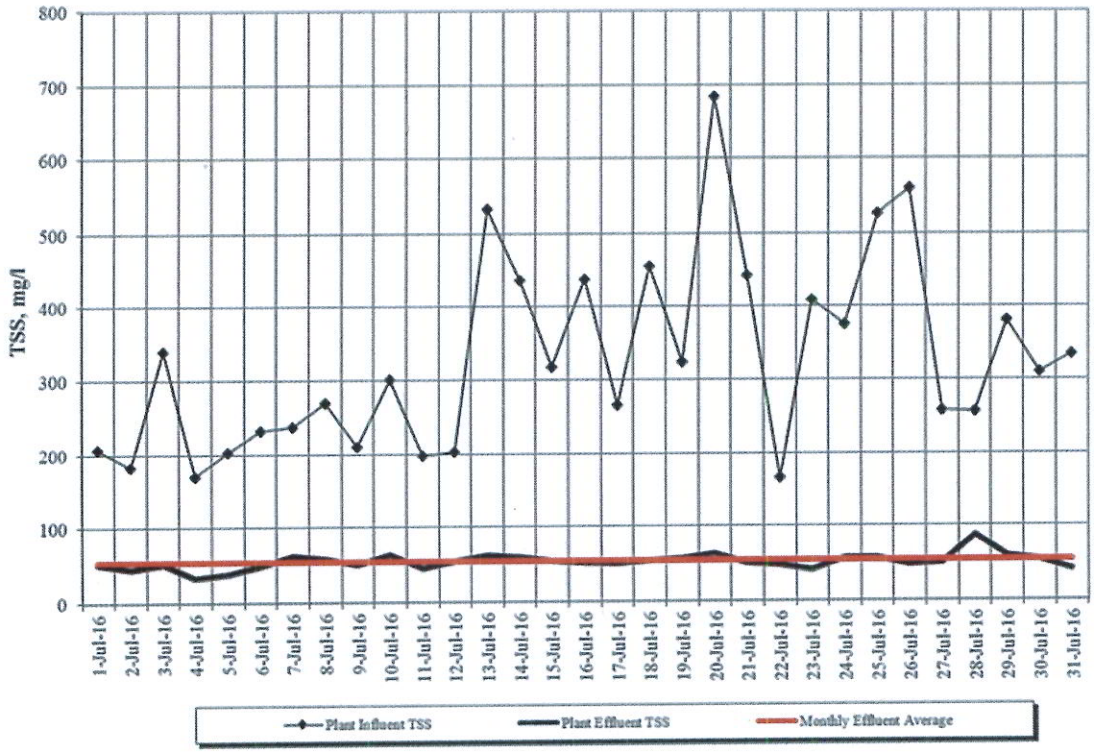


Effluent BOD5 Loadings

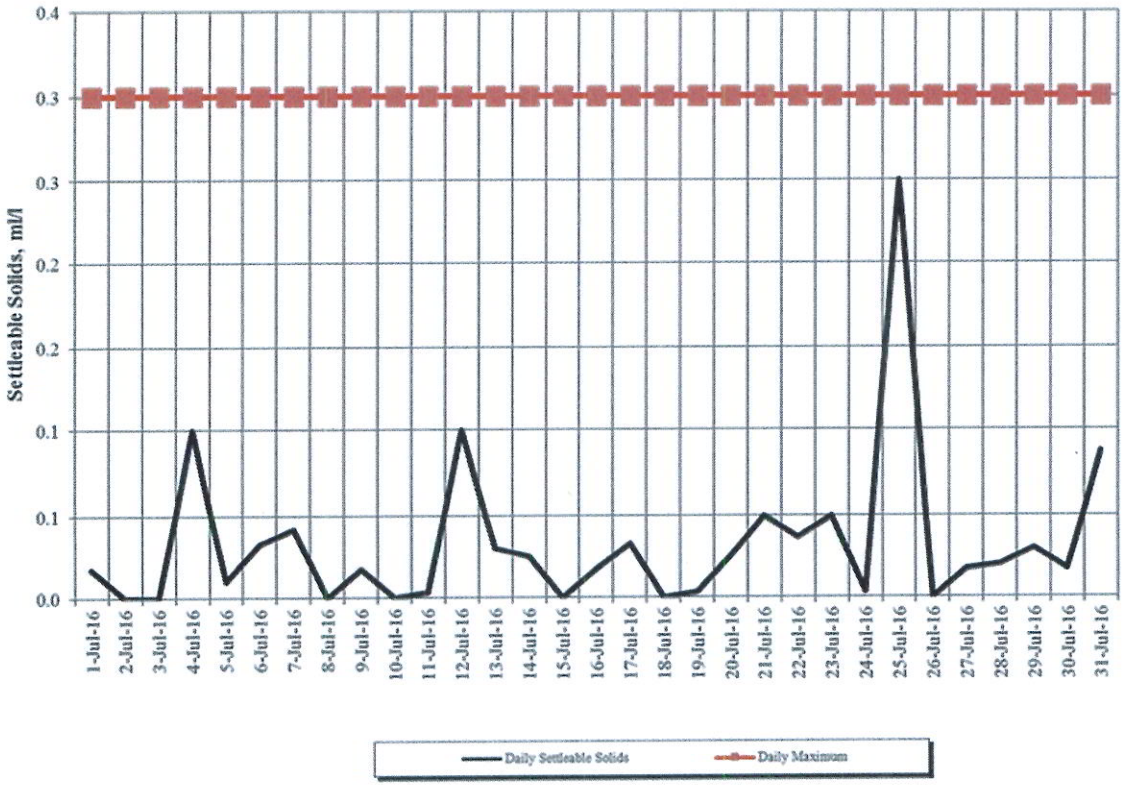
Binghamton - Johnson City JSTP



TSS Concentrations
Binghamton - Johnson City JSTP

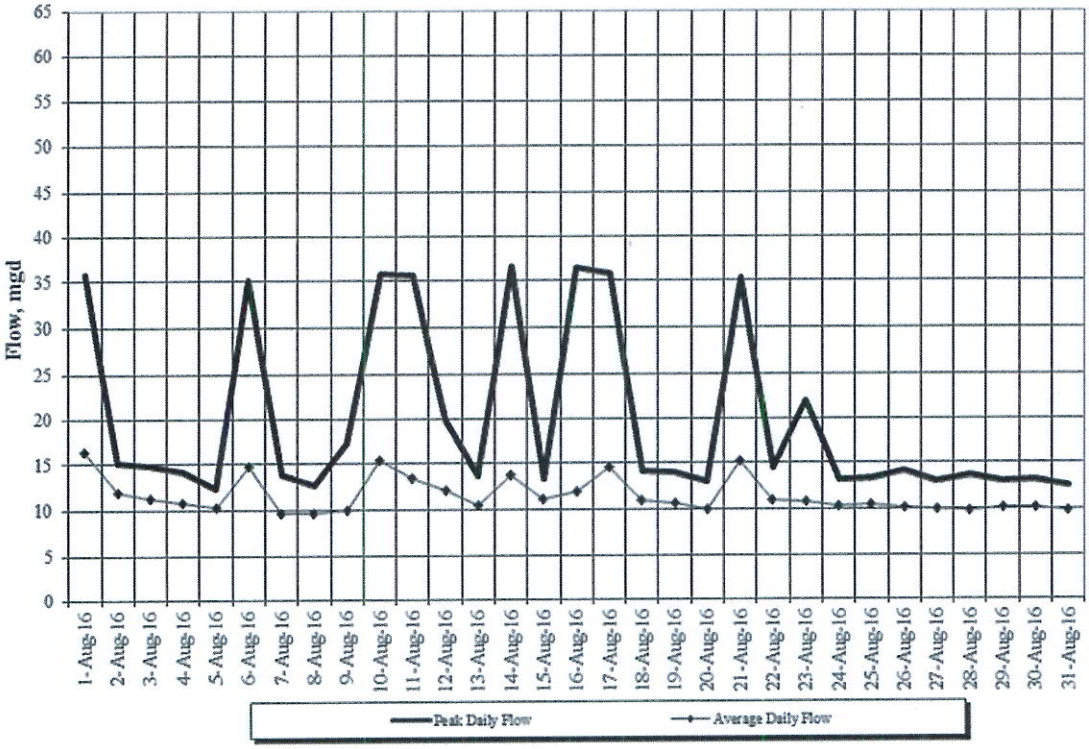


Settleable Solids
Binghamton - Johnson City JSTP



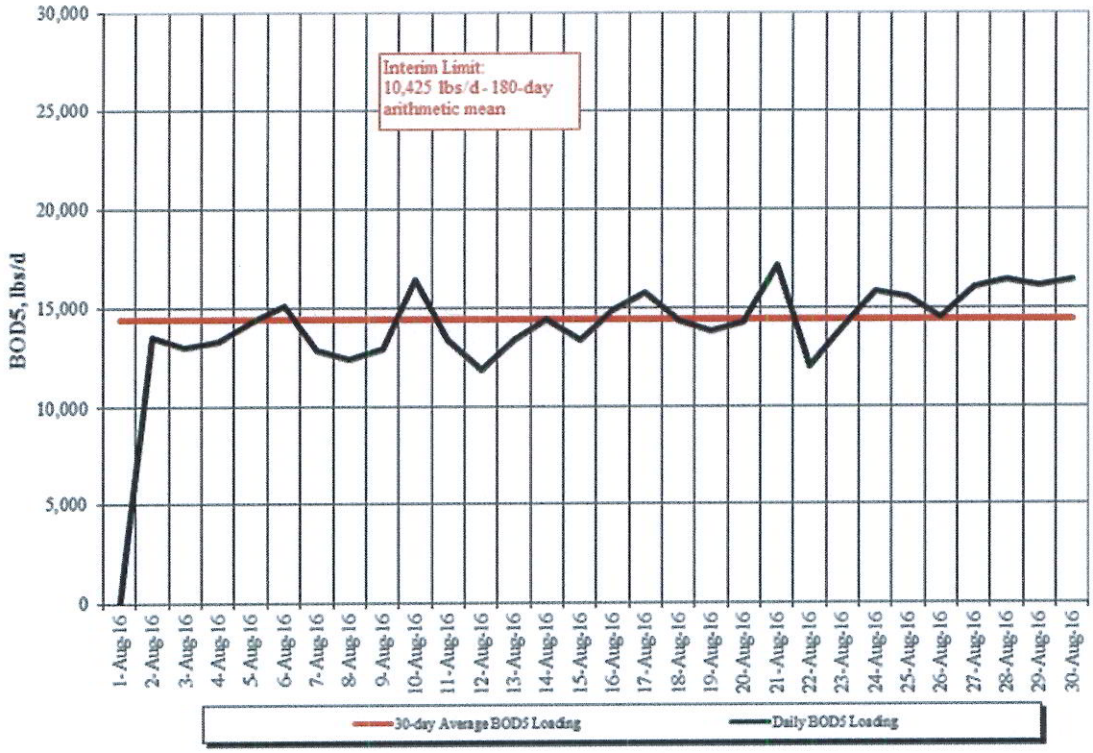
Daily Flows

Binghamton - Johnson City JSTP



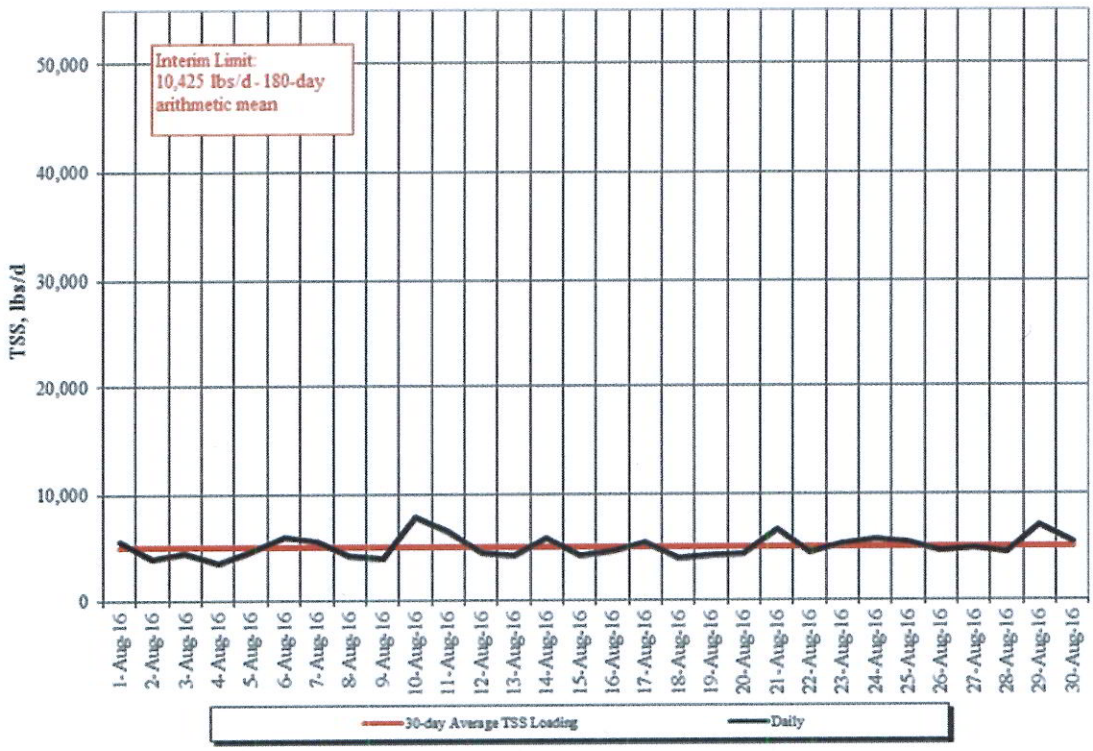
Effluent BOD5 Loadings

Binghamton - Johnson City JSTP

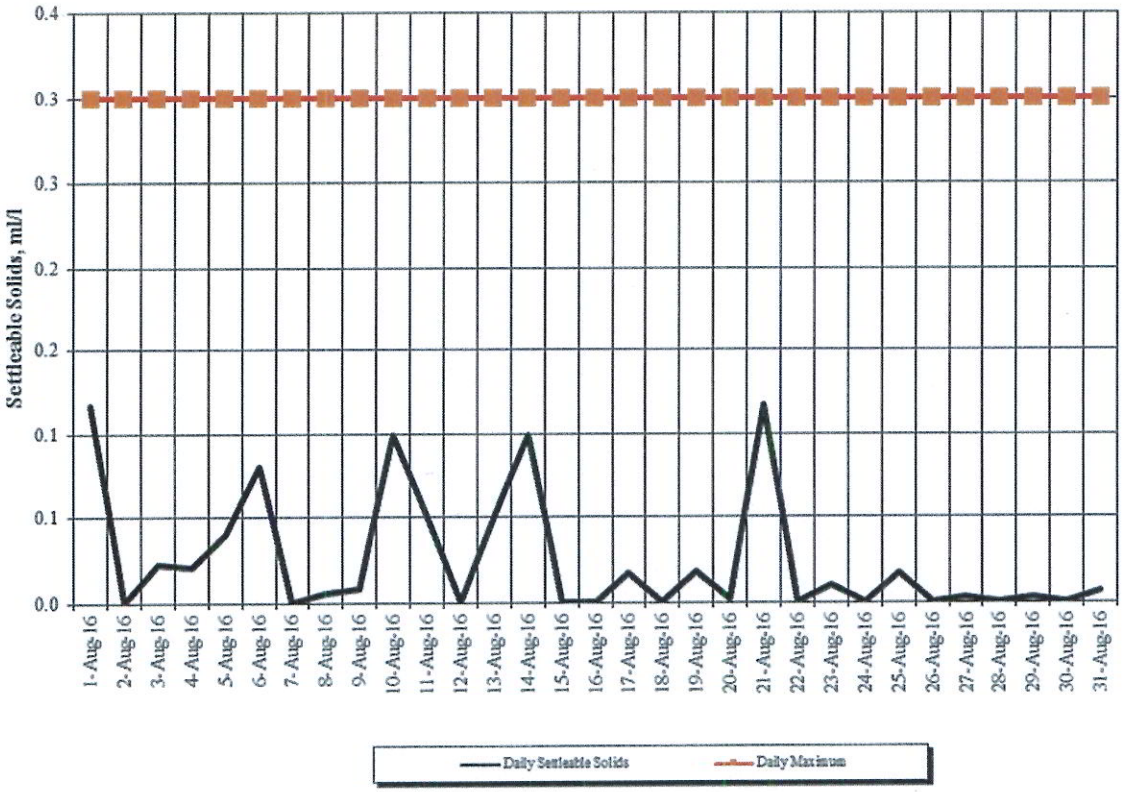


Effluent TSS Loadings

Binghamton - Johnson City JSTP



Settleable Solids
Binghamton - Johnson City JSTP

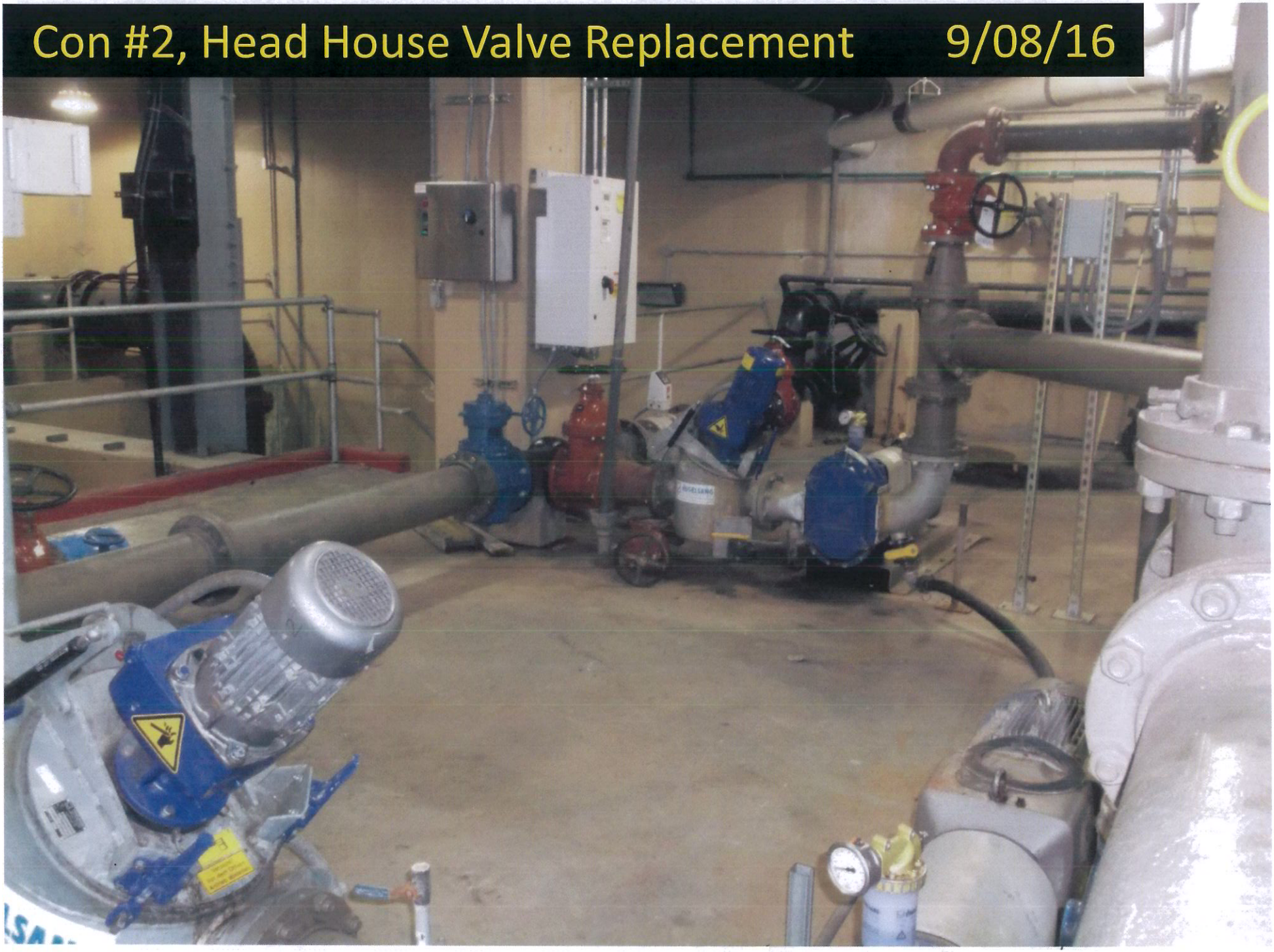


DATE	Final Eff Amm. Avg	Final Eff TKN	CL 2 AVG	Fecal Coli mg/l	FW Phos. Avg	Eff. Total Iron	Daily Total Q	Iron (Fe) lbs/day
1-Jun-16		25.5	1.153	2				0
2-Jun-16		21.7	1.119	23		4.85	10.87	440
3-Jun-16		21.7	1.15	111				0
4-Jun-16		19.2	1.08	2				0
5-Jun-16		11.4	1.3	2				0
6-Jun-16		15.9	1.1	7				0
7-Jun-16	15.9	25.1	1.24	56	2.4	4.69	12.96	507
8-Jun-16		16.8	1.18	3				0
9-Jun-16		17.9	1.08	520		3.72	11.81	366
10-Jun-16		16.3	1.32	89				0
11-Jun-16		17.7	1.34	4				0
12-Jun-16		22	0.89	2				0
13-Jun-16		21.4	1.21	35				0
14-Jun-16	18.6	24.4	1.04	7	2.9	4.06	10.69	362
15-Jun-16		21.2	0.97	40				0
16-Jun-16		21.2	0.91	2		5.37	11.06	495
17-Jun-16		24.6	1.2	2				0
18-Jun-16		19.2	0.92	2				0
19-Jun-16		20.5	1.05	2				0
20-Jun-16		19.8	1.04	193				0
21-Jun-16	14.3	18.1	1.13	18	2.8	5.03	15.47	649
22-Jun-16		24.3	1.028	2				0
23-Jun-16		26.5	0.99	416				0
24-Jun-16		25.2	1.14	2				0
25-Jun-16		22.3	1.068	2				0
26-Jun-16		20.5	1.143	2				0
27-Jun-16		19.5	1.013	27		4.31	12.42	446
28-Jun-16	17.6	15.2	1.323	2	1.8	3.7	19.58	604
29-Jun-16		17.1	1.34	31				0
30-Jun-16		22.5	1.223	2		5.21	11.52	501
	16.60	20.49	1.34	#REF!	2.47	4.55	12.93	491
	Final Eff.		CL 2	30 Day	FW	Eff. Total	Daily	Mthly Avg
	Ave as N	TKN	Max	MEAN	PHOS.	Iron	Total Q	Iron lbs/day

DATE	Final Eff	FW	Final Eff	FW	CL 2	Fecal	FW	Eff. Total	Daily	Iron (Fe)
	Amm. Avg	Amm. Avg	TKN	TKN	AVG	Coli mg/l	Phos. Avg	Iron	Total Q	lbs/day
1-Jul-16			23.2	27.3	1.02	84				0
2-Jul-16			20.1	27.2	1.166	2				0
3-Jul-16			22	30.2	0.85	2				0
4-Jul-16			18.6	25.0	1.39	17				0
5-Jul-16	19.6	17.9	22	27.5	1.01	74	2.3	3.48	10.15	295
6-Jul-16			21.2	25.7	1.19	120				0
7-Jul-16			20.2	25.6	0.93	22		6.18	10.82	558
8-Jul-16			23.4	30.8	1.248	24				0
9-Jul-16			19.6	25.5	1.018	2				0
10-Jul-16			24.3	29.8	0.913	2				0
11-Jul-16			19.6	23.2	1.177	614				0
12-Jul-16	20.7	20.7	22.6	31.9	0.98	142	2.6	6.11	10.14	517
13-Jul-16			23.7	32.4	0.82	1027				0
14-Jul-16			23.7	26.4	1	58		5.01	9.99	417
15-Jul-16			22.1	26.7	1.18	2				0
16-Jul-16			24	26.0	0.92	2				0
17-Jul-16			20.2	25.7	1.06	18				0
18-Jul-16			21.9	30.8	1.17	4				0
19-Jul-16	20.7	21.7	21.5	31.2	1.13	102	2.4	4.87	9.52	387
20-Jul-16			29.2	30.1	1.02	478				0
21-Jul-16			22.9	32.7	0.77	27		4.45	9.37	348
22-Jul-16			27.4	24.6	1.08	2				0
23-Jul-16			20.9	34.1	1.08	2				0
24-Jul-16			23.1	32.1	1	22				0
25-Jul-16			9.7	23.0	1.22	1225				0
26-Jul-16	18.7	20.2	10.5	29.3	1.05	145	2.9	3.84	10.47	335
27-Jul-16			20.6	24.7	1.05	46				0
28-Jul-16			21.9	22.4	0.96	12		5.99	9.50	475
29-Jul-16			18.7	31.1	0.94	111				0
30-Jul-16			23.8	16.4	0.99	6				0
31-Jul-16			11	15.3	1.16	18				0
	19.93	20.1	21.08	27.3	1.39	25.00	2.53	4.99	10.00	416
	Final Eff. Avg as N mg/l	FW Avg as N mg/l	Final Eff TKN	FW TKN	CL 2 Max	30 Day MEAN	FW PHOS.	Eff. Total Iron	Daily Total Q	Mthly Avg Iron lbs/day

DATE	Final Eff	FW	Final Eff	FW	CL 2	Fecal	FW	Eff. Total	Daily	Iron (Fe)
	Amm. Avg	Amm. Avg	TKN	TKN	AVG	Coli mg/l	Phos. Avg	Iron	Total Q	lbs/day
1-Aug-16			12.1	16.4	1.21	960				0
2-Aug-16	14.8	15.6	15.1	19.0	1.29	120	2.1	4.49	11.99	449
3-Aug-16			21.1	19.1	1.21	96				0
4-Aug-16			17.4	23.0	0.96	5		2.74	10.85	248
5-Aug-16			18.7	26.1	0.897	21				0
6-Aug-16			14.5	18.6	1.148	202				0
7-Aug-16			17.3	21.3	0.93	340				0
8-Aug-16			20	27.1	1.26	980				0
9-Aug-16	21.4	18.5	18	22.2	0.85	912	2.2	3.04	10.04	255
10-Aug-16			16.1	18.6	0.97	49				0
11-Aug-16			19.2	20.3	1.21	124		2.22	13.50	250
12-Aug-16			14.8	16.8	1.04	101				0
13-Aug-16			19.1	23.6	1.09	22				0
14-Aug-16			16.9	24.2	1.28	72				0
15-Aug-16			16.8	22.6	1.18	124				0
16-Aug-16	13.1	12.4	14.8	18.1	1.07	198	1.7	3.01	12.05	302
17-Aug-16			20.4	25.8	0.91	35				0
18-Aug-16			23.7	18.7	1.09	488				0
19-Aug-16			23	21.8	1.26	18				0
20-Aug-16			22.5	28.8	1.08	22				0
21-Aug-16			16.8	23.3	1.03	5				0
22-Aug-16			20.4	25.1	1.24	321		2.8	11.02	257
23-Aug-16	17	21.8	25.7	33.4	1.06	214	2.6	3.07	10.90	279
24-Aug-16			19.4	27.7	1.14	425				0
25-Aug-16			26.6	38.0	1.02	79		2.6	10.48	227
26-Aug-16			21.9	27.5	1.03	100				0
27-Aug-16			24.1	25.8	1.162	2				0
28-Aug-16			12.4	27.2	1.083	60				0
29-Aug-16			21.3	24.4	0.96	463				0
30-Aug-16	18.8	22.7	24.6	26.6	1.067	263	5.0	4.06	10.20	345
31-Aug-16			23.8	36.7	0.95	455				0
	17.02	18.2	19.31	24.1	1.29	99.60	2.73	3.11	11.23	292
	Final Eff.	FW	Final Eff	FW	CL 2	30 Day	FW	Eff. Total	Daily	Mthly Avg
	Avg as N mg/l	Avg as N mg/l	TKN	TKN	Max	MEAN	PHOS.	Iron	Total Q	Iron lbs/day

Con #2, Head House Valve Replacement 9/08/16



Con #4, MCC- HH in place and energized from 1 of the two available sources the second source will be transferred early October, all building loads are energized from this MCC and the Influent pumps will be transferred over the next 3 weeks

Con #5, Layout for Administrations Building 9/7/16

Con #5, PST #7 Demo Begins 9/27/16

Con #9, General Site Overview 9/6/16

Con #9, Concrete Pour Four 9/9/16

Con #9, Final Pour South End 9/22/16

Con #FW, Stay in Place Forms and Sludge Thickener Tank 2
9/8/16

Con #FW, Stay in Place Forms section #18 9/8/16

Con #FW, Underpinning Complete at Sludge Thickener
Tank no. 1 9/9/16

Con #FW, Area Between Sludge Thickeners Tanks 1 & 2