Herbert, Rowland & Grubic, Inc.
Engineering & Related Services
AN EMPLOYEE-OWNED COMPANY

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MARCH 2018

CHAPTER 94
WASTELOAD MANAGEMENT REPORT
FOR
CALENDAR YEAR 2017

HALIFAX AREA WATER AND SEWER AUTHORITY
DAUPHIN COUNTY, PENNSYLVANIA

HRG Project No. 001650.0425

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

CHAPTER 94 MUNICIPAL WASTELOAD MANAGEMENT ANNUAL REPORT

For Calendar Year: 2017

☒ Permittee is owner and/or operator of a POTW or other sewage treatment facility
☐ Permittee is owner and/or operator of a collection system tributary to a POTW not owned/operated by permittee

GENERAL INFORMATION			
Permittee Name:	**Halifax Area Water and Sewer Authority**	Permit No.:	**PA0024457**
Mailing Address:	**PO Box 443**	Effective Date:	**May 1, 2017**
City, State, Zip:	**Halifax, PA 17032**	Expiration Date:	**April 30, 2022**
Contact Person:	**Jeffrey Grosser**	Renewal Due Date:	**November 1, 2021**
Title:	**Operator**	Municipality:	**Halifax Borough, Halifax Twp**
Phone:	**717-896-3886**	County:	**Dauphin**
Email:	**jgrosser@hawasaonline.com**	Consultant Name:	**Herbert, Rowland & Grubic, Inc.**

CHAPTER 94 REPORT COMPONENTS

1. Attach to this report a line graph depicting the monthly average flows (expressed in MGD) for each month for the past 5 years and projecting the flows for the next 5 years. The graph must also include a line depicting the hydraulic design capacity per the WQM permit. (25 Pa. Code § 94.12(a)(1))

   Check the appropriate boxes:
   ☒ Line graph for flows attached (**Attachment A**)
   ☒ DEP Chapter 94 Spreadsheet used (**Attachment A**)
   ☐ Section 1 is not applicable (report is for a collection system).

2. Attach to this report a line graph depicting the monthly average organic loads (express as lbs BOD5/day) for each month for the past 5 years and projecting the organic loads for the next 5 years. The graph must also include a line depicting the organic design capacity of the treatment plant per the WQM permit. (25 Pa. Code § 94.12(a)(2))

   Check the appropriate boxes:
   ☒ Line graph for organic loads attached (**Attachment A**)
   ☒ DEP Chapter 94 Spreadsheet used (**Attachment A**)
   ☐ Section 2 is not applicable (report is for a collection system).

3. If the DEP Chapter 94 Spreadsheet was not used to determine projections, discuss the basis for the hydraulic and organic projections. In all cases, include a description of the time needed to expand the plant to meet the load projections, if necessary, and data used to support the projections should be included in an appendix to this report. (25 Pa. Code § 94.12(a)(3))

   Based on the projected hydraulic and organic loadings for the next five years, no overload is expected at the Halifax WWTP.

4. Attach a map showing all sewer extensions constructed within the past calendar year, sewer extensions approved or exempted in the past year in accordance with Act 537 and Chapter 71, but not yet constructed, and all known proposed projects which require public sewers but are in the preliminary planning stages. The map must be accompanied by a list summarizing each extension or project and the population to be served by the extension or project. If a sewer extension approval or proposed project includes schedules describing how the project will be completed over time, the listing should include that information and the effect this build-out-rate will have on populations served. (25 Pa. Code § 94.12(a)(4))

   Check the appropriate boxes:

   ☒ Map showing sewer extensions constructed, approved/exempted but not yet constructed, and proposed projects attached (**Attachment B**)

   ☐ List summarizing each extension or project attached (**Attachment B**)

   ☐ Schedules describing how each project will be completed over time and effects attached (**Attachment B**)

   Comments:

   No new sewer extensions were approved or exempted in 2017. New connections served by the Authority in 2017 include the Mid Penn Bank located at 3583 and 3589 Peters Mountain Road (1 EDU) and a single family dwelling located on Fellowship Drive replacing an on-lot disposal system (1 EDU). In 2018, a planning module exemption was submitted for the proposed Members 1st Federal Credit Union (1 EDU) and for the future development of an adjacent vacant lot (1 EDU) at the intersection of S.R. 225 and S.R. 147. All of the new connections and proposed developments mentioned above are located in Halifax Township and outside of the current connection restriction.

   Halifax Township is currently investigating the preparation of an Act 537 Sewage Facilities Plan for connections of facilities beyond 5 years in the future which will include the extension of sewer.

5. Discuss the permittee's program for sewer system monitoring, maintenance, repair and rehabilitation, including routine and special activities, personnel and equipment used, sampling frequency, quality assurance, data analyses, infiltration/inflow monitoring, and, where applicable, maintenance and control of combined sewer regulators during the past year. Attach a separate sheet if necessary. (25 Pa. Code § 94.12(a)(5))

   Analysis of WWTP influent, effluent and sludge was conducted at minimum permit frequencies through certified lab(s). The plant operator completes the daily samples such as pH, dissolved oxygen and chlorine residual. All other testing is contracted to Microbac Laboratories. Repairs to the system are conducted on an as-needed basis. There are 2 full-time operators of the sewer system, shared with the water system. The collection system maintenance program consists of checks on manholes throughout the collection system. Manhole inserts have been placed in manholes that appear to be affected by inflow. No serious problems have been observed in the collection system. The system is not a combined sewer system and no regulators are present. WWTP Upgrades are currently being evaluated in response to the draft Consent Order and Agreement from PA DEP dated January 10, 2018.

6. Discuss the condition of the sewer system including portions of the system where conveyance capacity is being exceeded or will be exceeded in the next 5 years and portions where rehabilitation or cleaning is needed or is underway to maintain the integrity of the system and prevent or eliminate bypassing, CSOs, SSOs, excessive infiltration and other system problems. Attach a separate sheet if necessary. (25 Pa. Code § 94.12(a)(6))

Check the appropriate boxes:

☐ System experienced capacity-related bypassing, SSOs or surcharging during the report year. On a separate sheet, list the date, location, and reason for each bypass, SSO or surcharge event.

☒ System did not experience capacity-related bypassing, SSOs or surcharging during the report year.

Comments:

No serious conditions were observed in the collection system. Improvements to the Main Pumping Station at the WWTP are being considered as part of the WWTP Upgrade project mentioned below.

Corrective Action Plan (CAP) - Consent Order and Agreement (COA) Update:

HAWASA submitted a revised CAP dated June 20, 2017 to PA DEP. In response to the draft COA dated January 10, 2018 for WWTP effluent violations between March 2013 and September 2017, HAWASA submitted a formal comment letter dated January 31, 2018 requesting revision to the draft COA. HRG is currently preparing the draft Design Engineer's Report and Uniform Environmental Report for the WWTP Upgrade project and have met with equipment manufacturers to review process treatment alternatives for the project. Alternatives under review for the new WWTP process include Main Pumping Station improvements, Screenings addition, Biological Nutrient Removal (BNR) process improvements, Ultraviolet Light (UV) Disinfection, and solids processing – aerobic sludge digestion improvements.

7. Attach a discussion on the condition of sewage pumping (pump) stations. Include a comparison of the maximum pumping rate with present maximum flows and the projected 2-year maximum flows for each station. (25 Pa. Code § 94.12(a)(7))

Check the appropriate boxes:

☐ The collection system does not contain pump stations

☒ The collection system does contain pump stations (Number – **2**)

☒ Discussion of condition of each pump station attached (**Attachment C**)

8. If the sewage collection system receives industrial wastes (i.e., non-sanitary wastes), attach a report with the information listed below. (25 Pa. Code § 94.12(a)(8))

a. A copy of any ordinance or regulation governing industrial waste discharges to the sewer system or a copy of amendments adopted since the initial submission of the ordinance or regulation under Chapter 94, if it has not previously been submitted.

b. A discussion of the permittee's or municipality's program for surveillance and monitoring of industrial waste discharges into the sewer system during the past year.

c. A discussion of specific problems in the sewer system or at the plant, known or suspected to be caused by industrial waste discharges and a summary of the steps being taken to alleviate or eliminate the problems. The discussion shall include a list of industries known to be discharging wastes which create problems in the plant or in the sewer system and action taken to eliminate the problem or prevent its recurrence. The report may describe pollution prevention techniques in the summary of steps taken to alleviate current problems caused by industrial waste dischargers and in actions taken to eliminate or prevent potential or recurring problems caused by industrial waste dischargers.

Check the appropriate boxes:

☐ Industrial waste report as described in 8 a., b. and c. attached (**Attachment**)

☐ Industrial pretreatment report as required in an NPDES permit attached (**Attachment**)

9. Existing or Projected Overload.

Check the appropriate boxes:

☐ This report demonstrates an existing hydraulic overload condition.
☐ This report demonstrates a projected hydraulic overload condition.
☐ This report demonstrates an existing organic overload condition.
☐ This report demonstrates a projected organic overload condition.

If one or more boxes above have been checked, attach a Corrective Action Plan (CAP) to reduce or eliminate present or projected overloaded conditions under §§ 94.21 and/or 94.22 (relating to existing overload and projected overload). (25 Pa. Code § 94.12(a)(9))

☐ Corrective Action Plan attached (**Attachment**)

10. Where required by the NPDES permit, attach a Sewage Sludge Management inventory that demonstrates a mass balance of solids coming in and leaving the facility over the previous calendar year.

☒ Sewage Sludge Management Inventory attached (**Attachment D**)

11. For facilities with CSOs and where required by the NPDES permit, attach an Annual CSO Report (including satellite combined sewer systems).

☐ Annual CSO Report attached (**Attachment**)

12. For POTWs, attach a calibration report documenting that flow measuring, indicating and recording equipment has been calibrated annually. (25 Pa. Code § 94.13(b))

☒ Flow calibration report attached (**Attachment E**)

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Fred L. Ford, Jr., Chairman	
Name of Responsible Official	Signature
717-896-3886	
Telephone No.	Date

PREPARER CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared by me or otherwise under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Justin J. Mendinsky, P.E.	
Name of Preparer	Signature
717-564-1121	
Telephone No.	Date

ATTACHMENT A

HYDRAULIC AND ORGANIC LOADING DATA AND LINE GRAPHS

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PADEP Chapter 94 Spreads
Sewage Treatment Pl

Reporting Year: 2017

Facility Name: Halifax Wastewater Treatment Plant

Permit No.: PA0024457

Persons/EDU: 3.5

Existing Hydraulic Design Capacity: 0.21 MGD
Upgrade Planned in Next 5 Years? **Year:**
Future Hydraulic Design Capacity: MGD

Existing Organic Design Capacity: 527 lbs BOD5/day
Upgrade Planned in Next 5 Years? **Year:**
Future Organic Design Capacity: lbs BOD5/day

Monthly Average Flows for Past Five Years (MGD)

Month	2013	2014	2015	2016	2017
January	0.098	0.0866	0.0774	0.0902	0.0787
February	0.101	0.0822	0.0691	0.1269	0.0819
March	0.103	0.102	0.0976	0.1153	0.0906
April	0.102	0.1446	0.1123	0.1062	0.122
May	0.105	0.1525	0.121	0.1173	0.1128
June	0.115	0.1541	0.129	0.1239	0.1168
July	0.116	0.1284	0.1264	0.1244	0.1444
August	0.108	0.1155	0.1181	0.1198	0.1456
September	0.104	0.1117	0.11	0.1038	0.122
October	0.109	0.1009	0.0985	0.0915	0.1047
November	0.096	0.0832	0.0924	0.0784	0.0914
December	0.102	0.095	0.0996	0.0765	0.0748
Annual Avg	0.105	0.1131	0.1043	0.1062	0.1071
Max 3-Mo Avg	0.113	0.1504	0.1255	0.1227	0.1373
Max : Avg Ratio	1.08	1.33	1.20	1.16	1.28
Existing EDUs	737.0	739.0	739.0	749.0	751.0
Flow/EDU (GPD)	142.5	153.0	141.1	141.8	142.6
Flow/Capita (GPD)	40.7	43.7	40.3	40.5	40.7
Exist. Overload?	**NO**	**NO**	**NO**	**NO**	**NO**

Monthly Average BOD5 Loads for Past Five Years (lbs/day)

Month	2013	2014	2015	2016	2017
January	90	96	136	380	99
February	163	140	101	325	86
March	105	155	142	253	105
April	166	153	199	190	297
May	133	241	347	262	197
June	15	317	513	303	197
July	179	362	317	328	106
August	181	200	171	208	220
September	157	168	357	152	257
October	158	190	273	466	193
November	185	156	100	175	221
December	157	153	147	148	110
Annual Avg	141	194	234	266	174
Max Mo Avg	185	362	513	466	297
Max : Avg Ratio	1.31	1.86	2.20	1.75	1.71
Existing EDUs	737	739	739	749	751
Load/EDU	0.191	0.263	0.316	0.355	0.232
Load/Capita	0.055	0.075	0.090	0.101	0.066
Exist. Overload?	**NO**	**NO**	**NO**	**NO**	**NO**

Projected Flows for Next Five Years (MGD)

	2018	2019	2020	2021	2022
New EDUs	2.0	2.0	2.0	2.0	2.0
New EDU Flow	0.0003	0.0003	0.0003	0.0003	0.0003
Proj. Annual Avg	0.1074	0.1077	0.108	0.1083	0.1086
Proj. Max 3-Mo Avg	0.1299	0.1302	0.1306	0.131	0.1313
Proj. Overload?	**NO**	**NO**	**NO**	**NO**	**NO**

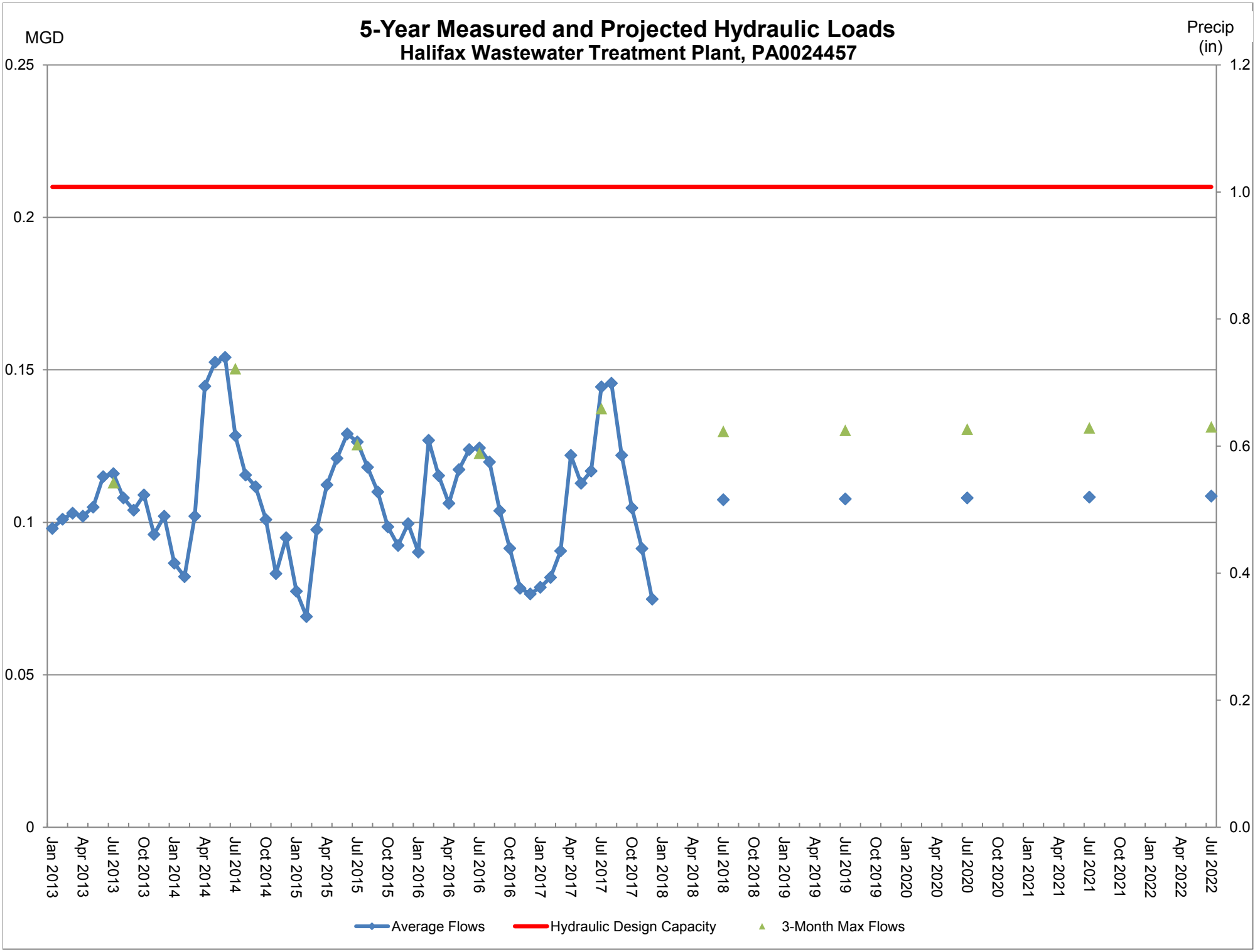
Projected BOD5 Loads for Next Five Years (lbs/day)

	2018	2019	2020	2021	2022
New EDUs	2	2	2	2	2
New EDU Load	0.543	0.543	0.543	0.543	0.543
Proj. Annual Avg	202	203	203	204	204
Proj. Max Avg	357	358	359	360	361
Proj. Overload?	**NO**	**NO**	**NO**	**NO**	**NO**

Show Precipitation Data on Hydraulic Graph?

Total Monthly Precipitation for Past Five Years (Inches)

Month	2013	2014	2015	2016	2017
January				2.0	
February				3.5	
March				1.6	
April				1.7	
May				5.15	
June				2.75	
July				4.8	
August				1.35	
September				2.05	
October				1.5	
November				1.5	
December				3.2	


5-Year Measured and Projected Hydraulic Loads
Halifax Wastewater Treatment Plant, PA0024457
MGD
Precip (in)
0.25
0.2
0.15
0.1
0.05
0
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Jan 2013
Apr 2013
Jul 2013
Oct 2013
Jan 2014
Apr 2014
Jul 2014
Oct 2014
Jan 2015
Apr 2015
Jul 2015
Oct 2015
Jan 2016
Apr 2016
Jul 2016
Oct 2016
Jan 2017
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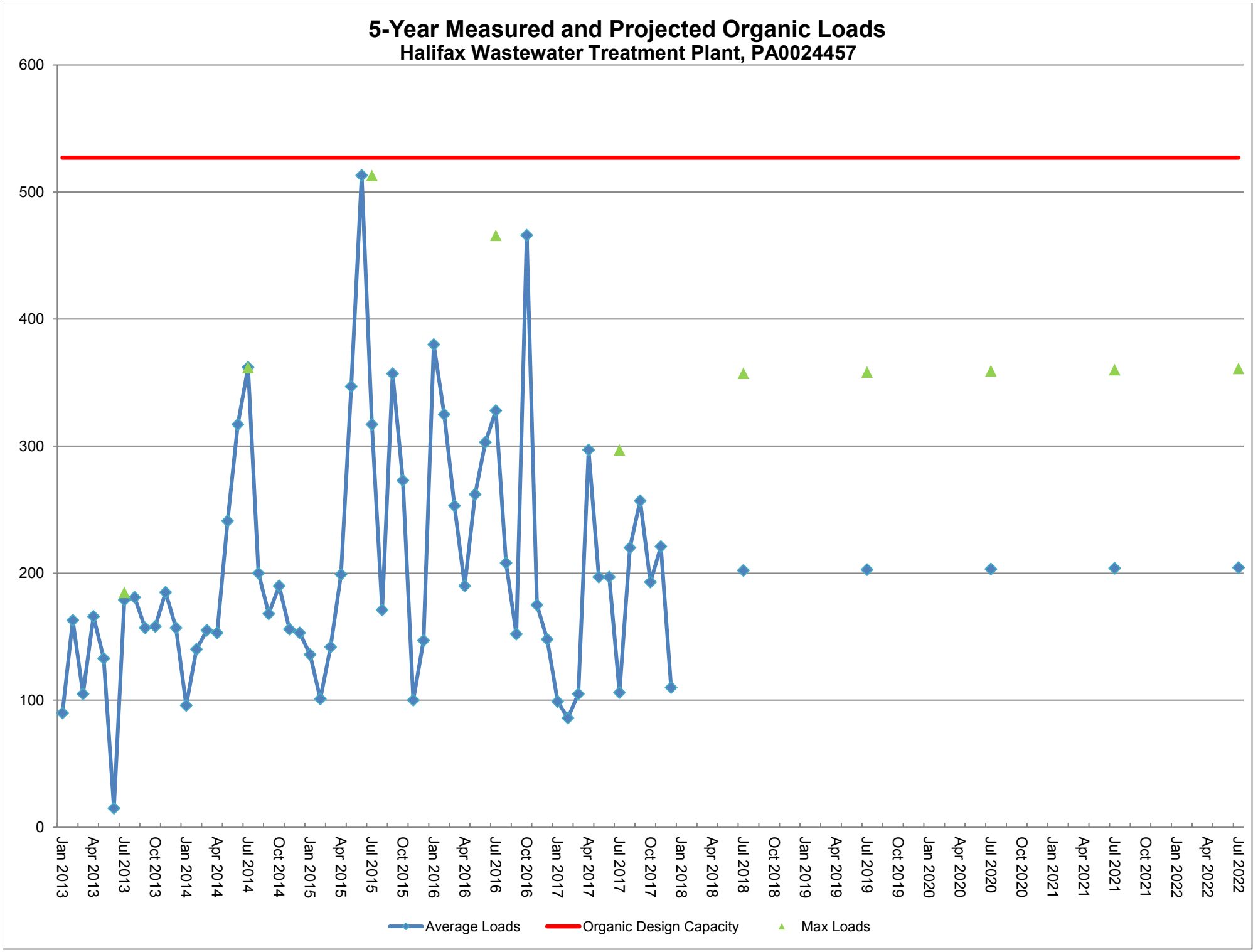
Jul 2020
Oct 2020
Jan 2021
Apr 2021
Jul 2021
Oct 2021
Jan 2022
Apr 2022
Jul 2022
Average Flows
Hydraulic Design Capacity
3-Month Max Flows


5-Year Measured and Projected Organic Loads
Halifax Wastewater Treatment Plant, PA0024457
600
500
400
300
200
100
0
Jan 2013
Apr 2013
Jul 2013
Oct 2013
Jan 2014
Apr 2014
Jul 2014
Oct 2014
Jan 2015
Apr 2015
Jul 2015
Oct 2015
Jan 2016
Apr 2016
Jul 2016
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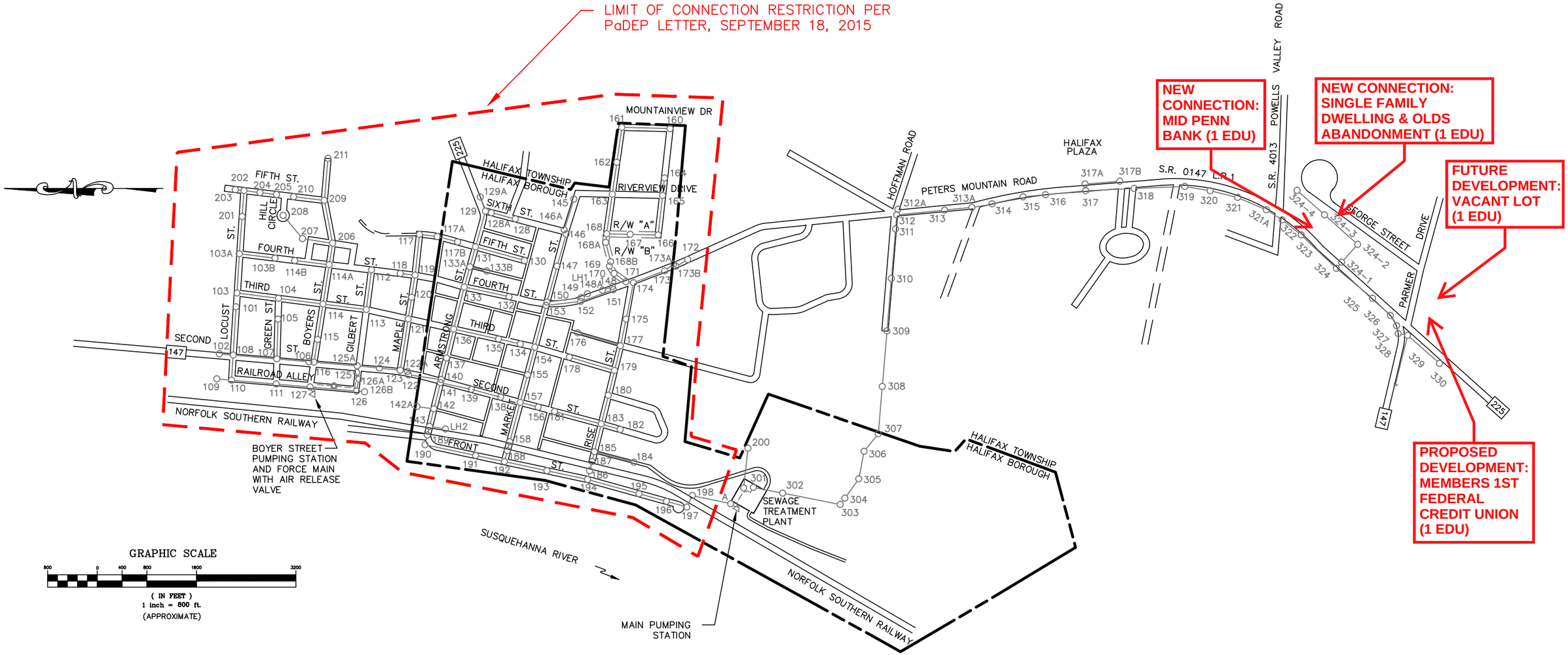
Jan 2019
Apr 2019
Jul 2019
Oct 2019
Jan 2020
Apr 2020
Jul 2020
Oct 2020
Jan 2021
Apr 2021
Jul 2021
Oct 2021
Jan 2022
Apr 2022
Jul 2022
Average Loads
Organic Design Capacity
Max Loads

ATTACHMENT B

GENERAL PLAN/SEWER EXTENSIONS



COMPUTER DRAWING FILE NAME:
S-GENPLAN - CAP.DWG

HALIFAX AREA WATER AND SEWER AUTHORITY
DAUPHIN COUNTY, PENNSYLVANIA

GENERAL PLAN OF
SANITARY SEWERAGE FACILITIES
FOR CORRECTIVE ACTION PLAN

SCALE	DATE	FILE CODE	PLAN NO.
1"=800'	OCT., 2015	6071502	3

GLACE ASSOCIATES, INC., CAMP HILL, PA.

O:\CAD DRAWINGS\607\6071502\S-GENPLAN - CAP.DWG, 10/2/2015 9:23 AM

ATTACHMENT C

CONDITION OF PUMP STATIONS

CONDITION OF THE PUMP STATIONS

HAWSA utilizes two (2) pump stations throughout the sanitary sewer system. The pump stations are maintained and inspected by the operators on a regular basis. Cleaning, repairs, and routine maintenance items are performed as needed.

Boyer Street Pumping Station - Location: Boyer Street, Halifax Township

Design Capacity:	50 gpm (1 pump basis)
Present Flows:	Average: 0.6 gpm Maximum (Peak Hourly Flow estimated): 50 gpm Projected two-year maximum peak hourly flow estimated: 50 gpm (design basis of new Boyer Street Pump Station for maintaining velocity in 4-inch force main)

The Boyer Street Pump Station was upgraded to submersible pumps at the end of 2014 and began operations in 2015. The single phase pumps run full speed. Attached runtime records indicate total runtime for the station is typically around 2 hours per week, usually divided equally between the pumps.

Main Pumping Station - Location: At the Treatment Plant, conveying all flow from the Borough and the northern Halifax Township service area (including flows from Boyer Street Pumping Station).

There are two (2) suction lift pumps with separate 4-inch suction lines, discharging into a single 4-inch force main. The pumps are variable speed based on use of variable frequency drives, so only maximum flows can be estimated based on runtime. Due to the small size of the force main, 2 pumps on represents a much lower flow rate than twice one-pump flow.

The recorded pump hours attached indicate an overloaded pump station condition. In accordance with the existing Corrective Action Plan (CAP) and draft Consent Order and Agreement (COA) developed for the WWTP, improvements to the Main Pumping Station are currently being evaluated and will be addressed as part of the WWTP Upgrade project.

Design Capacity:	175 gpm (1 pump basis)
Present Flows:	Average: 70 gpm (estimated based on plant flow) Maximum (Peak Hourly Flow estimated): 240 gpm Projected two-year maximum peak hourly flow estimated: 240 gpm (based on effective capacity of 2 pumps together into small 4-inch force main) *As noted plant return flows are included.*

Wastewater from the Halifax School and southern Halifax Township service area flows directly to the headworks. The Peak Hourly Flow at the WWTP is determined to be 360 gpm based on analysis of effluent WWTP flow meter charts for this flow-through treatment plant.

PUMP HOURS

BOYER STREET PUMPING STATION

BOYER STREET PUMP STATION

DATE:	TIME:	PUMP #1	HOURS	PUMP #2	HOURS	TOTAL
10-10-16	1100	615.4	.5	375.4	.6	1.1
10-19-16	1030	616.1	.7	376.2	.8	1.5
10-12-16	0945	616.6	.5	376.7	.5	1.0
10-21-16	1030	617.4	.8	377.4	.7	1.5
10-24-16	1010	617.9	.5	378	.6	1.1
10-31-16	1035	619.1	1.2	379.1	1.1	2.3
11-4-16	10:45	619.7	.6	379.8	.7	1.3
11-7-16	1030	620.2	.5	380.3	.5	1.0
11-11-16	09 55	620.8	.6	380.9	.6	1.2
11-21-16	10:05	622.7	1.9	382.6	1.7	3.6
11-26-16	1000	623.5	.8	383.5	.9	1.7
12-1-16	1005	624.7	1.2	384.6	1.1	2.3
12-5-16	1035	625.2	.5	385.2	.6	1.1
12-9-16	1100	625.9	.7	385.9	.7	1.4
12-19-16	1000	627.5	1.6	387.7	1.8	3.4
12-23-16	1000	628.2	.7	388.6	.9	1.6
12-28-16	0645	629	.8	389.5	.9	1.7
1-6-17	1010	630.6	1.6	391.3	1.8	3.4
1-12-17	1015	631.6	1.0	392.6	1.3	2.3
1-19-17	1025	632.8	1.2	394	1.4	2.6
1-23-17	1040	633.5	.7	395	1.0	1.7
1-27-17	0835	634.3	.8	396.4	1.4	2.2
1-30-17	1000	634.9	.6	397.2	.8	1.4
2-6-17	0815	636.4	1.5	398.9	1.7	3.2
2-13-17	1045	638	1.6	400.4	1.5	3.1
2-20-17	1020	639.5	1.5	402	1.6	3.1
2-24-17	1100	640.5	1.0	402.9	.9	1.9
2-27-17	1020	641.2	.7	403.6	.7	1.4

GEN. - 1020 - RUN

BOYER STREET PUMP STATION

DATE:	TIME:	PUMP #1	HOURS		PUMP #2	HOURS		TOTAL	
2-28-17	0930	641.5	.3		403.9	.3		.6	
3-6-17	1030	643	1.5		405.5	1.6		3.1	
3-13-17	1030	644.9	1.9		407.1	1.6		3.4	
3-20-17	1045	646.9	2.1		409.1	2.0		4.1	
3-27-17	1045	649	2.1		411.4	2.3		4.4	
3-30-17	10:05	649.8	.8		412.1	.7		1.5	
4-5-17	0950	651.5	1.7	ALARM LIGHT	413.6	1.5	ON	3.2	
4-6-17	1000	651.8	.3		413.8	.2		.5	
4-7-17	1005	652.4	.6		414.4	.6		1.2	
4-10-17	1030	653.3	.9		415.5	1.1		2.0	
4-17-17	1030	655.3	2		417.9	2.4		4.4	
4-18-17	1045	655.6	.3		418.2	.3		.6	
4-21-17	0950	656.5	.9		419.1	.9		1.8	
5-1-17	1030	659.5	3		422.5	3.4		6.4	
5-4-17	1020	660.4	.9		423.6	1.1		2.0	
5-9-17	1050	661.7	1.3		425.1	1.5		2.8	
5-12-17	0940	662.9	1.2		426.5	1.4		2.6	
5-15-17	1015	663.9	1.0		427.5	1.0		2.0	
5-22-17	1030	665.9	2.0		429.6	2.1		4.1	
5-30-17	1020	667.8	1.9		431.8	2.2		4.1	
6-5-17	1035	669.2	1.4		433.7	1.9		3.3	
6-12-17	1030	670.6	1.4		435.6	1.9		3.3	
6-16-17	1030	671.3	.7		436.6	1		1.7	
6-19-17	1045	672.1	.8		437.3	.7		1.5	SET Gen Exerc 1045
6-26-17	1030	674.2	2.1		439.5	2.2		4.3	SET 1030
7-3-17	0845	676.2	2.0		441.5	2.0		4.0	
7-10-17	1030	678.0	1.8		443.9	2.4		4.2	
7-17-17	1030	678.9	.9		444.8	.9		1.8	

BOYER STREET PUMP STATION

DATE:	TIME:	PUMP #1	HOURS	PUMP #2	HOURS	TOTAL
7-24-17	1030	680.5	1.6	496.3	1.5	3.1
7-28-17	0840	681.8	1.3	447.4	1.1	2.4
7-31-17	1020	682.6	.8	448.2	.8	1.6
8-4-17	1005	683.5	.9	449.2	1.0	1.9
8-7-17	0940	684.4	.9	449.9	.7	1.6
		686.8	2.4	452.5	2.6	5.0
8-21-17	1015	689.2	2.4	454.6	2.1	4.5
8-25-17	1030	690.4	1.2	455.8	1.2	2.4
8-28-17	1015	691.4	1.0	456.7	.9	1.9
9-1-17	1050	692.5	1.1	457.8	1.1	2.2
9-5-17	1045	693.7	1.2	458.9	1.1	2.3
9-8-17	1050	694.6	.9	459.7	.8	1.7
9-11-17	1030	695.5	.9	460.5	.8	1.7
9-15-17	1050	696.7	1.2	461.5	1.0	2.2
9-21-17	1020	698.6	1.9	463.1	1.6	3.5
9-29-17	0930	700.4	1.8	464.5	1.4	3.2
10-2-17	1045	701.1	.7	465.3	.8	1.5
10-6-17	1015	702	.9	466.2	.9	1.8
10-13-17	1025	703.7	1.7	467.8	1.6	3.3
10-20-17	1030	705.3	1.6	469.3	1.5	3.1
10-27-17	1015	707	1.7	471	1.7	3.4
11-3-17	1040	709.1	2.1	472.8	1.8	3.9
11-10-17	1045	711.1	2.0	474.4	1.6	3.6
11-17-17	0945	713.1	2.0	476.0	1.6	3.6
11-24-17	1025	715.2	2.1	477.7	1.7	3.8
12-1-17	0930	717.2	2.0	479.4	1.7	3.7
12-8-17	1055	719.7	2.5	481.0	1.6	4.1
12-15-17	0930	722.1	2.4	483.0	2	4.4
12-22-17	1025	724	1.9	485.1	2.1	4.0
12-29-17	1030	725.8	1.8	487.2	2.1	3.9
1-8-19	1030	729	2.2	489.5	2.3	4.5
1-19-19	0955	730.8	2.8	492.0	2.5	5.3

10:30 set Gen Run

PUMP HOURS

MAIN PUMPING STATION

JANUARY 2017

PUMP RUN TIMES

DATE:	#1 PUMP	RUN TIME	#2 PUMP	RUN TIME
JAN. 1	00109.6	0	01339.2	24
2	00109.6	0	01363.2	24
3	00109.6	0	01387	23.8
4	00109.6	0	01411.1	24.1
5	00109.6	0	01435	23.9
6	00109.6	0	01459.1	24.1
7	00109.6	0	01483.1	24
8	00109.6	0	01508.1	24
9	00109.6	0	01531.1	23
10	00109.6	0	01555.1	24
11	00109.6	0	01578.9	23.8
12	00110.7	1.1	01603.1	24.2
13	00110.7	0	01627.2	24.1
14	00110.7	0	01649.9	22.7
15	00110.7	0	01674.7	24.8
16	00110.7	0	01699.5	24.8
17	00110.7	0	01723.0	23.5
18	00112	1.3	01746.9	23.9
19	00112.3	.3	01770.9	24
20	00112.3	0	01794.9	24
21	00112.3	0	01818.1	23.2
22	00112.3	0	01844.7	26.6
23	00112.3	0	01867	22.3
24	00112.3	0	01891	24
25	00112.3	0	01915	24

JANUARY 2017

PUMP RUN TIMES

DATE:	#1 PUMP	RUN TIME	#2 PUMP	RUN TIME
JAN. 26	00112.3	0	01939	24
27	00112.3	0	01963	24
28	00112.3	0	01987	24
29	00112.3	0	02011	24
30	00113.4	1.1	02035	24
31	00113.4	0	02059	24

DATE:	#1 PUMP	RUN TIME	#2 PUMP	RUN TIME
FEB. 1	00115	1.6	02083	24
2	00121.3	6.3	02106.5	23.5
3	00122.8	1.5	02130.4	23.9
4	00137.0	14.2	02140.9	10.5
5	00147.6	10.6	02170.5	29.6
6	00166.2	18.6	02180.2	9.7
7	00175.1	8.9	02204.2	24
8	—	—	—	—
9	00204.7	14.8	02228.6	12.2
10	00206.4	1.7	02252.5	23.9
11	00209.3	2.9	02276.5	24
12	00211.3	2	02300.5	24
13	00212.3	1	02324.5	24
14	00213.3	1	02348.5	24

PUMP TANK #2 DOWN 11 11

PANEL MALFUNCTIONS

EST. →

← EST.

FEBRUARY 2017
PUMP RUN TIMES

	DATE:	#1 PUMP	RUN TIME	#2 PUMP	RUN TIME
	FEB. 15	00213.3	Ø	02372.5	24
	16	00213.3	Ø	02396.5	24
	17	00213.9	0.6	02420.4	23.9
	18	00214.1	0.2	02444.4	24
SWITCH	PUMPS 19	00232.1	18	02468	24
	20	00256.1	24	02472.7	4.7
	21	00278.8	23.7	02472.7	Ø
	22	00303.8	24	02472.7	Ø
	23	00327.5	23.7	02472.7	Ø
	24	00351.4	23.9	02473.1	.4
	25	00351.8	.4	02497.1	24
	26	00355.9	4	02520.7	23.6
	27	00378.8	23	02530.7	10
DECANT	28	00402.5	23.7	02530.7	Ø

	DATE:	#1 PUMP	RUN TIME	#2 PUMP	RUN TIME
DECANT	MARCH 1	00426.5	24	02534.8	4.1
	2	00450.6	24.1	02534.8	Ø
	3	00474.3	23.7	02534.8	Ø
	4	00498.1	23.8	02534.8	Ø
	5	00523.0	24.9	02535.5	.7
	6	00546.5	22.5	02538.2	2.7

MARCH 2017

PUMP RUN TIMES

	DATE:	#1 PUMP	RUN TIME	#2 PUMP	RUN TIME
DECANT	MARCH 7	570.5	24	2538.4	.2
DECANT	8	00590.4	19.9	2552	13.6
	9	00614.3	23.9	2552	0
	10	00638.2	23.9	2552	0
	11	00661.3	23.1	2552	0
	12	00685	23.7	2552	0
	13	00709	24	2552	0
	14	00733	24	2552	0
	15	00757	24	2552	0
	16	00781.0	24	2552	0
	17	00805.3	24.3	2552	0
	18	00829.2	23.9	02552	0
	19	00853.1	23.9	02560	8
	20	00877.1	24	02570	10
	21	00901	23.9	02572	2
	22	00925	24	02577.3	5.3
DECANT	23	00949	24	02579	1.7
DECANT	24	00973	24	02581	2
	25	00997	24	02591	10
	26	01021	24	02603	12
	27	01045	24	02604.9	1.4
	28	01069	24	02604.4	0
	29	01093	24	02604.4	0
	30	01117	24	02604.4	0
	31	01141	24	02604.4	0

APRIL 2017

PUMP RUN TIMES

DATE:		#1 PUMP	RUN TIME	#2 PUMP	RUN TIME
APRIL	1	01165.0	24	02614.9	10.5
	2	01189.0	24	02621.4	6.5
	3	012130	24	02624.4	3
	4	1237.1	24.1	2628.4	4
	5	01261	23.9	02629.7	1.3
	6	01284.9	23.9	02630.1	.4
#2 LOST PRIME	7	01308.9	24	02649.7	19.6
	8	01332.9	24	02673.7	24
	9	01356.9	24	02697.7	24
	10	01380.8	23.9	02706.1	8.4
	11	01404.8	24	02714.6	8.5
	12	01428.8	24	02718.6	4
	13	01450.8	22	02720.6	2
	14	01472.8	22	02722.6	2
	15	01496.8	24	02726.6	4
	16	01520.8	24	02731.6	5
	17	01544.8	24	02735.8	4.2
	18	01560.8	24	02736.4	.6
	19	01592.7	23.9	02736.4	0
	20	01616.7	24	02736.4	0
	21	01641.0	24.3	02742.0	5.6
	22	01664.8	23.8	02747	5
	23	01688.8	24	02752	5
	24	01712.8	24	02752.3	.3
	25	01736.7	23.9	02752.3	0

APRIL 2017

PUMP RUN TIMES

DATE:	#1 PUMP	RUN TIME	#2 PUMP	RUN TIME
APRIL 26	01760.7	24	02752.3	0
27	01784.8	24.1	02752.3	0
28	01808.5	23.7	02752.3	0
29	01832.5	24	02758.3	6
30	01856.5	24	02764.3	6

DATE:	#1 PUMP	RUN TIME	#2 PUMP	RUN TIME
MAY 1	01880.6	24.1	02766.3	2
CLEAN - CONTACT TANK 2	01904.4	23.8	02767.4	1.1
3	01928.3	23.9	02768.2	.8
DECANT 4	01951.7	23.4	02768.9	.7
5	01975.9	24.2	02769.6	.7
6	01999.9	24	02773.6	4
7	02023.9	24	02775.7	2.1
8	02047.8	23.9	02775.7	0
TRANSFERING 9	02071.9	24.1	02775.7	0
TRANSFERING 10	02095.8	23.9	02775.7	0
TRANSFERING 11	02119.6	23.8	02776.1	.4
TRANSFERING 12	02143.6	24	02778	1.9
13	02167.6	24	02780	2
14	02191.6	24	02780.3	.3
DECANT 15	02215.6	24	02780.3	0
DECANT 16	02239.6	24	02783.4	3.1

MAY 2017

PUMP RUN TIMES

DATE:	#1 PUMP	RUN TIME	#2 PUMP	RUN TIME
MAY 17	02263.5	23.9	02783.4	Ø
BLOCKED 18	2287.4	23.9	2783.4	0
DRAIN TANK #2 19	2311.1	23.7	2784.0	.6
20	02334.6	23.5	02784.3	.3
21	02358	23.4	02784.3	Ø
22	02382	24	02784.3	Ø
23	02406	24	02784.3	Ø
24	02430	24	02784.3	Ø
25	02453.8	23.8	02784.3	Ø
26	2478.1	24.3	2784.3	0
27	2503.3	25.2	2784.3	0.0
28	2527.4	24.1	2784.3	0.0
29	2549.3	21.9	2784.3	0
30	02573.8	24.5	02784.3	Ø
31	02597.8	24	02784.3	Ø

JUNE

DATE:	#1 PUMP	RUN TIME	#2 PUMP	RUN TIME
CLEAN Clg - TANK JUNE 1	2621.6	23.8	2785.9	1.6
2	2645.5	23.9	2786.5	.6
3	02669.5	24	02786.5	Ø
4	02693.4	23.9	02786.5	Ø
5	02716.4	23	02786.5	Ø
6	02740.3	23.9	02786.5	Ø
	63.5	-		

JUNE 2017
PUMP RUN TIMES

DATE:	#1 PUMP	RUN TIME	#2 PUMP	RUN TIME
JUNE 7	02763.5	23.2	02786.5	Ø
8	02787.2	23.7	02786.5	Ø
9	02810.7	23.5	02786.5	Ø
10	2832.3	21.6	2786.5	0
11	2859.6	27.3	2786.5	0
12	02881.7	22.1	02786.5	
13	02905.1	23.4	02789.6	3.1
14	02929.1	24	02789.6	Ø
15	02952.7	23.6	02790.1	0.5
16	02976.1	23.4	02790.1	Ø
17	02999.6	23.5	02790.1	Ø
18	03023.2	23.6	02790.1	Ø
19	03047.3	25.1	02790.5	.4
20	03070.4	23.1	02792.3	1.8
21	03094.4	24	02792.3	Ø
22	03118.1	23.7	02792.3	Ø
DECANT 23	03142.1	24	02793.8	1.5
24	03166.1	24	02800.3	6.5
25	03190.1	24	02803.4	3.1
26	03214	23.9	02803.5	.1
27	03238	24	02803.5	Ø
28	03261.9	23.9	02805.3	1.8
29	03286	24.1	02805.3	Ø
30	03310.1	24.1	02806.2	.9

JULY 2017

PUMP RUN TIMES

DATE:		#1 PUMP	RUN TIME	#2 PUMP	RUN TIME	
JULY	1	3334.7	24.6	2806.2	0	
	2	3358.3	24.1	2806.2	0	
	3	3381.1	22.3	2807.2	1.0	
	4	3406.3	25.2	2807.2	0	
	5	3429.8	23.5	2807.4	.2	
	6	03453.5	23.7	02807.4	~~0~~	
2" RAIN	7	03477.3	23.8	02811.3	3.9	
	8	03501.5	24.2	02913.9	2.6	
	9	0325.5	24	02914.9	1.0	
	10	03549.5	24	02814.9	~~0~~	
	11	03573.5	24	02814.9	~~0~~	
	12	03597.5	24	02814.9	~~0~~	
	13	03621.5	24	02814.9	~~0~~	
	14	03645.5	24	02814.9	~~0~~	
	15	03669.1	23.6	02814.9	0	
	16	03697.6	28.5	02814.9	~~0~~	
	17	03717.5	19.9	02814.9	~~0~~	
	18	03741.5	24	02816.3	1.4	
	19	03765.5	24	02817.3	1	
	20	03789.5	24	02817.3	~~0~~	
DECANT	21	03813.5	24	02819.4	2.1	
	22	03837.3	23.8	02820	.6	
	23	03861.3	24	02822.5	2.5	
	24	03885.3	24	02824.7	2.2	
	25	03909.3	24	028353	10.6	

JULY 2017

PUMP RUN TIMES

DATE:	#1 PUMP	RUN TIMES	#2 PUMP	RUN TIME
JULY 26	03933.3	24	02836.3	1
27	03957.4	24.1	02836.8	.5
28	03981.3	23.9	02838.3	1.5
29	04005.3	24	02848.9	10.6
30	04029.3	24	02852.9	4
31	04053.4	24.1	02855.9	3

DATE:	#1 Pump	RUN TIME	#2 PUMP	RUN TIME
AUG. 1	04077.4	24	02856.6	.7
2	04101.3	23.9	02857.4	.8
3	04125.4	24.1	02857.8	.4
4	04149.5	24.1	02862.9	5.1
5	04173.5	24.0	02864.0	1.1
6	04200.1	26.6	02866.2	2.2
7	04221.2	21.1	02870.8	4.6
8	04245.2	24	02878.2	7.4
9	04269.2	24	02881.9	3.7
10	04293.2	24	02882.5	.6
11	04317.5	24.3	02883.8	1.3
12	04341.1	23.6	02894.0	10.2
13	04366.4	25.3	02897.0	3.0
14	04389.2	22.8	02908.6	11.6
15	04413.2	24.0	02918.3	9.7

AUGUST 2017
PUMP RUN TIMES

DATE:	#1 PUMP	RUN TIMES	#2 PUMP	RUN TIMES
AUG. 16	04437.2	24	02923	4.7
17	04461.2	24	02924.9	1.9
18	04485.2	24	02925.3	0.4
19	04508.7	23.5	02926.1	0.8
20	04532.7	24	02928.5	2.4
21	04557.1	24.4	02929.5	1.0
22	04581.1	24	02930.6	1.1
23	04605.2	24.1	02934.6	4
24	04629.2	24	02936.1	1.5
25	04653.2	24	02936.5	.4
26	04677.3	24.1	02937.2	.7
27	04701.3	24	02940.5	3.3
28	04725.2	23.9	02944.2	3.7
29	04749.2	24	02945	.8
30	04773	23.8	02945.6	.6
31	04797.2	24.2	02948.1	2.5

DATE:	#1 PUMP	RUN TIMES	#2 PUMP	RUN TIMES
SEPT. 1	04821.1	23.9	02948.1	0
2	04845.1	24	02950.1	2
3	04869.1	24	02954.2	4.1
4	04889.5	20.4	02955.4	1.2
EARLY 5	04917	27.5	02958.9	3.5

SEPTEMBER 2017

PUMP RUN TIMES

DATE:	#1 PUMP	RUN TIME	#2 PUMP	RUN TIME
SEPT. 6	04940.9	23.9	02962.7	3.8
7	04964.8	23.9	02967.8	5.1
8	04988.9	24	02967.8	0
9	05012.7	23.9	02968.3	0.5
10	05036.8	24.1	02970.9	2.6
11	05060.9	24.1	02971.9	1.0
12	05084.9	24	02972.6	.7
13	05108.9	24	02973.6	1.0
14	05132.8	23.9	02974	.4
15	05156.8	24	02974.2	.2
16	05180.8	24	02974.7	.5
17	05204.6	23.8	02975.2	.5
18	05228.5	23.9	02975.3	.1
19	05252.5	24	02976.3	1.0
20	05276.5	24	02977.5	1.2
21	05300.5	24	02978.3	.8
22	05324.7	24.2	02979.8	1.5
23	05348.6	23.9	02980.9	1.1
24	05372.6	24	02980.9	0
25	05396.4	23.8	02983.2	2.3
26	05420.5	24.1	02983.7	.5
27	05444.5	24	02984.3	.6
28	05468.4	23.9	02984.3	0
29	05492.4	24	02984.3	0
30	05516.5	24.1	02984.3	0

OCTOBER 2017

PUMP RUN TIMES

DATE:	#1 PUMP	RUN TIME	#2 PUMP	RUN TIME
OCT. 1	05540.5	24	02984.3	Ø
2	05569.1	23.6	02984.3	Ø
3	05598.1	24	02986	1.7
4	05612	23.9	02987.2	1.2
5	05635.8	23.8	02987.2	Ø
6	05660.3	24.5	02987.4	.2
7	5683.9	23.6	02987.4	0
8	05707.5	23.6	02987.5	.1
9	05731.1	23.6	02988.5	1.0
10	05755.1	24	02991.5	3
11	05779.1	24	02994.5	3
12	05802.7	23.6	02996.9	2.4
13	05826.6	23.9	02996.9	Ø
14	05850.2	23.6	02997.1	.2
15	05874	23.8	02997.1	Ø
16	05897.8	23.8	02997.1	Ø
17	05921.5	23.7	02997.1	Ø
18	05945.6	24.1	02997.1	Ø
19	05969.2	23.6	02997.1	Ø
20	05993.4	24.2	02997.1	Ø
21	06017.1	23.7	02997.1	Ø
22	06040.6	23.5	02997.1	Ø
23	06064.1	23.5	02997.1	Ø
24	06088.1	24	02999.7	2.6
25	06111.9	23.8	02999.7	0

OCTOBER 2017

PUMP RUN TIMES

CLEAN-OUT DEEP WELL

DATE:	#1 PUMP	RUN TIME	#2 PUMP	RUN TIME
OCT. 26	06135.6	23.7	03001.2	1.5
27	06159.7	23.1	03001.4	.2
28	06182.6	23.9	03001.8	.4
29	06206.7	24.1	03002.3	.5
30	06230.5	23.8	03019	16.7
31	06254.5	24.0	03024.7	5.7

NOVEMBER

DATE:	#1 PUMP	RUN TIME	#2 PUMP	RUN TIME
NOV. 1	06279.5	24	03026.1	1.4
2	06302.9	24.4	03030.9	4.8
3	06326.6	23.7	03033.4	2.5
4	06350.6	24	03036.3	2.9
5	06374.6	24	03038.3	2
6	06399.6	25	03040.3	2
7	06423.4	23.8	03040.6	.3
8	06447.7	24.3	03042.9	2.3
9	06471.5	23.8	03042.9	0
10	06495.4	23.9	03043.4	.5
11	06519.9	24	03046.7	3.3
12	06543.6	24.2	03046.7	0
13	06567.5	23.9	03047.2	.5
14	06591.4	23.9	03047.7	.5

NOVEMBER 2017
PUMP RUN TIMES

DATE:	#1 PUMP	RUN TIME	#2 PUMP	RUN TIME
NOV. 15	066153	23.9	03048	.3
16	066394	24.1	03048.2	.2
17	066634	24	03048.7	.5
18	06736.3	23.9	03052.9	4.2
19	06760.3	24	03052.9	Ø
20	06736.3	????	03052.9	Ø
21	06754.4	23.1	03052.9	Ø
22	06783.4	24.0	03052.9	Ø
23	06807.4	24	03053.6	.7
24	06831	23.6	03056.3	2.7
25	06855	24	03056.4	0.1
26	06879.2	24.2	03056.4	Ø
27	06903.5	23.3	03056.4	Ø
28	06926.2	23.7	03056.4	Ø
29	06949.5	23.3	03056.4	Ø
30	06973.7	24.2	03056.4	Ø

DECEMBER

DATE:	#1 PUMP	RUN TIME	#2 PUMP	RUN TIME
DEC. 1	06997.7	24.0	03056.4	Ø
2	07021.5	23.8	03057	.6
3	07045.2	23.7	03057.4	.4
4	07068.9	23.7	03057.9	.5

DECEMBER 2017

PUMP RUN TIMES

DATE:	#1 PUMP	RUN TIME	#2 PUMP	RUN TIME
DEC. 5	07092.7	23.8	03057.9	0
6	07116.6	29.9	03061.2	3.3
7	07140	23.4	03061.2	0
8	07164.9	24.9	03061.2	0
9	07188.0	23.1	03061.2	0
10	07212.3	24.3	03065.3	4.1
11	07236.3	24	03067.3	2.
12	07260.1	23.8	03072.8	5.5
13	07284.1	24	03072.8	0
14	07308	23.9	03072.8	0
15	07332.1	24.1	03072.8	0
16	07355.9	23.8	03072.8	0
17	07379.7	23.8	03072.8	0
18	07403.7	24	03072.8	0
19	07427.5	23.8	03074.5	1.7
20	07451.3	23.8	03074.5	0
21	07475	23.7	03074.5	0
22	07498.9	23.9	03074.5	0
23	07523.0	24.1	03078.2	3.7
24	07550.0	27.0	03085.4	7.2
25	07570.3	20.3	03085.9	.5
26	07594.6	24.3	03085.9	0
27	07618.6	24	03085.9	0
28	07642.3	23.7	03089.5	3.6
29	07666.1	23.8	03089.5	0

DECEMBER 2017
PUMP RUN TIMES

DATE:	#1 PUMP	RUN TIME	#2 PUMP	RUN TIME
DEC. 30	07690	23.9	03089.5	.0
31	07714.1	24.1	03091.7	2.2

ATTACHMENT D

SEWAGE SLUDGE MANAGEMENT INVENTORY

SLUDGE GENERATION CALCULATION

Facility Name: Halifax Wastewater Treatment Plant
Permit Number: PA0024457
Date of Calculation: 2/22/2018

Required Information For Calculation

Average Daily Flow (mgd):	0.1071	Digester Capacity (gal):	42000
Influent BOD (mg/l):	200	%Solids of Outgoing Sludge:	1.9
Effluent BOD (mg/l):	8.4	Monitoring Period (days):	365

Wastewater Treatment Processes

Place an "X" in the box beside the corresponding treatment process. Select a maximum of Primary Clarification and one other treatment process.

Primary Clarification		Contact Stabilization		RBC	
Conventional Activated Sludge		SBR		ABF	
Extended Aeration	X	Trickling Filter		Small Plant with low SOR (<500 gpd/sq ft)	

Operational Information

BOD Removed (lbs/day):	171	TSS Removed (lbs/day):	111

Digester Information

Type of Digester

Place an "X" in the box beside the corresponding treatment process.

Aerobic Digestion	X	Anaerobic Digestion		None	

Sludge Feed Rate to Digesters (gpd):	1778.4312
Digester Hydraulic Detention Time (days):	24
Estimated Total Solids Reduction (%):	0.35

Sludge Generation

dry lbs/day	72	wet lbs/day	3806
dry tons/monitoring period	13	wet tons/monitoring period	695
gal/day	456	gal/monitoring period	166552

Amount of Sludge Reported as Being Generated by the Facility

wet tons/monitoring period: 0

OR

dry tons/monitoring period: 6.857

Enter only one of the above values. The remaining value should be "0".

Is the amount reported by the generator within 15% of the calculated value? NO

NO explanation: LESS THAN 15% RANGE

What type of information was used to calculate the above information: 2017 DMR Supplemental Reports

Dates used: 1.1.2017 TO 12.31.2017

Name of person performing the calculation: Jeffrey J. Harman Jr., E.I.T.

ATTACHMENT E

FLOW METER CALIBRATION REPORT

WG Malden
P.O. BOX 196, EAST EARL, PA 17519
PHONE: (717) 768-0800 FAX: (717) 768-0802

*** SERVICE REPORT ***

HALIFAX MUNICIPAL AUTHORITY
P.O. BOX 443
HALIFAX, PA 17032

SERVICE DATE: DECEMBER 20, 2017
METER#: C8201 AA
LOCATION: WASTEWATER - EFFLUENT
SERIAL #: 12286/9404-31238-B02
MANUFACTURER: BADGER/CHESSELL
RECORDER: 392
TRANSMITTER: 2210
PRIMARY: WEIR V-NOTCH 90°
MAXIMUM CAPACITY: 347.2 GPM
SERVICE CONTRACT: ANNUAL

*** WORK PERFORMED ***

TRANSMITTER CALIBRATION
LEVEL MEASUREMENTS AND FLOW CHECKS
ERROR: 0.29% **TOLERANCE:** ±1%

RECORDER CALIBRATION
CHECKED AT: 0, 50, 100% **ERROR:** 0,0,0% **TOLERANCE:** ±1%

TOTALIZER CALIBRATION
CHECKED AT: 0, 50, 100% **ERROR:** 0,0,0% **TOLERANCE:** ±1%

*** TECHNICIAN COMMENTS ***

PERFORMED ANNUAL CALIBRATION
CLEANED PRIMARY
ADJUSTED METER
LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE(S): JOE LATRELL

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services
AN EMPLOYEE-OWNED COMPANY

369 East Park Drive
Harrisburg, PA 17111
717.564.1121
(FAX) 717.564.1158
www.hrg-inc.com

March 27, 2018

Clean Water Program
PA Department of Environmental Protection
Southcentral Regional Office
909 Elmerton Avenue
Harrisburg, Pennsylvania 17110-8200

Re: NPDES Permit No. PA0024457
Corrective Action Plan Update: Semi-Annual Report
Main Pumping Station and Wastewater Treatment Plant
Halifax Area Water and Sewer Authority

Dear Clean Water Program:

On behalf of the Halifax Area Water and Sewer Authority (HAWASA), Herbert, Rowland & Grubic, Inc. (HRG) hereby submits this Corrective Action Plan (CAP) Update Report in accordance with the Semi-Annual Reporting requirements outlined in the June 20, 2017 CAP submitted by HAWASA and approved by the Department via letter dated August 8, 2017. This CAP Update Report will be included as Attachment F to the HAWASA Chapter 94 Wasteload Management Report for Calendar Year 2017.

The Main Pumping Station located at the HAWASA Wastewater Treatment Plant (WWTP) is considered to be hydraulically overloaded in accordance with 25 Pa. Code § 94.12. As required by 25 Pa. Code § 94.21, HAWASA submitted the approved CAP to reduce the overload condition at the Main Pumping Station. The approved CAP includes the modification to the Main Pumping Station as part of a WWTP upgrade project to be completed by HAWASA.

This CAP Update Report provides the status of the Tasks identified in the Implementation Schedule contained in the HAWASA CAP. This Report also summarizes any new connections to the portion of the HAWASA system which is tributary to the overloaded sewerage facilities.

Consent Order and Agreement

On January 10, 2018, a draft Consent Order and Agreement (COA) was issued to HAWASA by the Pennsylvania Department of Environmental Protection (PA DEP). The COA contains a schedule for Corrective Action (Section 3), a proposed Civil Penalty Settlement (Section 4) and Stipulated Civil Penalties (Section 5) in the event that HAWASA fails to comply in a timely manner with any term or provisions of the COA.

In response to the draft COA, HAWASA issued formal written comments to PA DEP via letter dated January 31, 2018. The January 31, 2018 HAWASA letter requested a time extension for the Completion/Submission Date contained in the CAP for the WWTP Alternatives Review, Design Engineer's Report and Uniform Environmental Report until December 31, 2018. The requested time extension will allow for the completion of an Act 537 Sewage Facilities Plan by Halifax Township which will be used by HAWASA to complete its evaluation of WWTP upgrade alternatives. The January 31, 2018 HAWASA response also clarified the current Implementation Schedule contained in the approved CAP and requested a reduction in the Civil Penalty Settlement and Stipulated Civil Penalties.

A copy of the draft COA and the HAWASA response dated January 31, 2018 are attached hereto.

On March 19, 2018, representatives of HAWASA, PA DEP and HRG met to discuss the HAWASA response to the COA. The March 19, 2018 meeting was also attended by a representative of the Halifax Township Board of Supervisors who provided additional information regarding the anticipated schedule for completion of the Township's Act 537 Sewage Facilities Plan. As a result of the March 19, 2018 meeting, a revised COA is anticipated to be prepared by PA DEP which will then be considered for execution by HAWASA at a regular monthly meeting.

Implementation Schedule – Update

The Implementation Schedule below is included in the HAWASA CAP. For the purpose of this Report, a new "Status/Update" column has been inserted to demonstrate HAWASA's compliance with the Implementation Schedule.

IMPLEMENTATION SCHEDULE FOR HAWASA WWTP UPGRADE		
TASK DESCRIPTION	*COMPLETION / SUBMISSION DATE*	*STATUS/ UPDATE*
Revised CAP Submission to PA DEP	By June 23, 2017	• Submitted by HAWASA on June 22, 2017 • Approved by PA DEP on August 8, 2017 *[Task Completed]*
Complete WWTP Upgrade alternatives review and Design Engineer's Report with the following key components: • Review previous HAWASA evaluation of WWTP improvement alternatives • Prepare existing and future flow and loading projections including flow metering study as required • Request and receive preliminary effluent discharge limits for WWTP Upgrade from PA DEP • WWTP Improvements alternatives review • Identification and selection of recommended improvements • User rates analysis for recommended improvements • Preparation of Design Engineer's Report • Preparation of Preliminary Engineering & Uniform Environmental Reports	April 17, 2018	• HRG has reviewed the previous HAWASA evaluation of WWTP improvement alternatives • The HAWASA WWTP operator installed three portable (3) flow meters in the HAWASA collection system to monitor the flow from each main portion of the system to the WWTP • The HAWASA WWTP operator is continuously collecting water quality data to assist in the basis of design for WWTP improvements; Additional influent sample analysis was performed from September to December 2017 to supplement current monitoring • HRG requested preliminary effluent discharge limits for an increased WWTP discharge on January 17, 2018; Preliminary effluent

IMPLEMENTATION SCHEDULE FOR HAWASA WWTP UPGRADE		
TASK DESCRIPTION	*COMPLETION / SUBMISSION DATE*	***STATUS/ UPDATE***
		limits were provided by PA DEP on March 8, 2018 • HRG has prepared a draft Design Engineer's for the WWTP upgrade project which evaluated alternatives for an increased WWTP discharge; Halifax Township flow contributions to be confirmed during the Township's Act 537 Plan preparation • HRG has begun preparing the Uniform Environmental Report; PNDI & PHMC notifications were completed in January 2018
Submit administratively and technically complete Uniform Environmental Report for WWTP Upgrade to PA DEP	April 20, 2018 **[January 31, 2018 COA response letter requested extension until December 31, 2018]**	
Begin Design Phase	Within 45 Days of PA DEP approval of Uniform Environmental Report	
Submission of administratively and technically complete Water Quality Management Part II Permit Application to PA DEP	Within 180 Days of PA DEP approval of Uniform Environmental Report	
Advertise for Construction Bids	Within 90 Days of PA DEP issuance of Water Quality Management Permit	
Construction Contract Award	Within 60 Days of Receipt of Bids **[January 31, 2018 COA response letter indicated PENNVEST funding will be pursued; additional time for this item may be required for PENNVEST award]**	
Complete Construction	Within 450 Days from Construction Contract Award	

IMPLEMENTATION SCHEDULE FOR HAWASA WWTP UPGRADE		
TASK DESCRIPTION	*COMPLETION / SUBMISSION DATE*	***STATUS/ UPDATE***
12-Month Compliance Monitoring Period	12-Month Period from Construction Completion	

Restriction on Connections Tributary to Overloaded Sewerage Facilities

Per the terms of the approved CAP, HAWASA will limit new connections within the area tributary to the Main Pump Station to a total of twenty-five (25) new EDUs (not otherwise meeting the definitions of 25 Pa Code §§ 94.55, 94.56 and 94.57) during the term of the CAP until the hydraulic overload condition is eliminated. There have not been any new connections within the CAP area as of the date of this Update Report.

There is no restriction on connections in the southern portion of the HAWASA collection system located in Halifax Township as this area is not tributary to the Main Pumping Station. New connections made to this portion of the system are further detailed in the HAWASA Chapter 94 Report for Calendar Year 2017.

Semi-Annual Reporting

HAWASA will continue to submit semi-annual CAP Update Reports to PA DEP. Unless otherwise modified by the COA, Update Reports will be submitted to PA DEP prior to March 31st of each year, concurrent with the HAWASA submission of its Annual Chapter 94 Report, and again prior to September 30th of each year.

If you have any questions or comments regarding the CAP Update Report, please do not hesitate to contact me at 717-564-1121. Thank you.

Very truly yours,

Herbert, Rowland and Grubic, Inc.

Justin J. Mendinsky, P.E.
Water & Wastewater Project Manager

JJM/rb
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cc: HAWASA Board
Jeffrey Grosser, Operator
Christian S. Daghir, Esq., Etzweiler and Associates, Solicitor
HRG File